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**Local governments and information systems in  
rural Thailand**

by

Chen-Hsiang Yeang

Submitted to the Department of Urban Studies and Planning  
in partial fulfillment of the requirements for the degree of

Master in City Planning

at the

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As part of the MIT-UNDP decentralized governance program, this thesis looks at the use of and needs for information and information systems in decentralized local governments – Tambon Authority Organizations (TAO) – in rural areas of Thailand. It examines various aspects of information and local governance, including the interaction between TAOs and people in terms of information exchange, TAO's decision-making processes, their use of national information systems, and the information needs of rural people. Recommendations are developed based on the observations and analysis of these aspects. The study is based on literature reviews, interviews with central government officers, and fieldwork at two local governments with different evaluations and geographical proximity.

Asymmetric information flow between the TAOs and their constituencies and low use of quantitative data characterize the information and decision-making processes currently. However, once the TAO members have acquired the skills for running local governments and their authority among villagers has been established, information could play a more important role if local and central governments take concrete actions. TAOs should disseminate more information about themselves to the public, and incorporate more quantitative data into their decision-making processes. The central government should improve the information processes and data formats of national information systems in order to let TAOs make better use of them. Finally, the lack of information about agriculture and employment is a common problem for rural people in terms of their economic activities. The provision of this information is beyond the capacity of TAOs given the current constraints in Thailand. However, TAOs have the potential to play important roles in delivering and managing information for rural people in the long term.

Thesis Supervisor: Paul Smoke

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# Chapter 1

## Introduction

### 1.1 Statement of problems

With the progress of computer and communication technologies, it is commonly accepted that the information age is upon us. People in academic and practical arenas argue that the use of information technologies will not only improve the efficiency and effectiveness of current work, but also drastically change the organizational structure, economic activities, social lives, spatial distribution and other important aspects of human existence. In reality, such outcomes are either speculations regarding future technologies or have only happened in developed countries which are equipped with state-of-the-art technologies that allow major qualitative changes. In developing countries, especially in rural areas, the nature of information and information use is more limited. Therefore, the declaration about the coming of the information age all over the world seems to be more of a hope than a reality.

On the other hand, decentralization has become a main theme of studies and programs of international development during the past several decades. Having seen the failure of central governments in many aspects – such as poverty alleviation and service delivery – politicians, academicians, and international organizations viewed decentralization as remedies of these problems. Recently, following the trend of democratization in ex-communist and authoritarian countries in Asia, Africa and Latin America, decentralization has been endowed with the new meaning of enhancing

democracy ([14]).

The results of decentralization programs, however, are not always fruitful. Although many decentralized entities perform excellently, there are many failure cases which lead to poorly performing local institutions, even worse than previous central governments. Being intrigued by the complexity of decentralization and recognizing the importance of this issue, United Nations Development Programme (UNDP) and MIT Department of Urban Studies and Planning initiated a research program studying decentralized governance. This program – abbreviated as UNDP-MIT decentralized governance program – is aimed at studying successful local governments in a sample of developing countries around the world. It tries to identify the conditions under which decentralization is likely (or not) to contribute to good governance in policy formulation, resource mobilization, and service delivery ([32]). Lessons learned from those studies can hopefully become useful for UNDP’s decentralized governance policy program.

As part of the decentralized governance program, this thesis studies information systems and information use of local governments in rural areas of Thailand. This topic fits both my interest of studying information systems in developing countries and UNDP-MIT program’s objective of investigating decentralized governments. I examined the interaction between local governments and rural people by looking at the exchange, sharing and use of information between them. I also studied the functioning of national information systems and information needs for rural people. Based on the investigations on those three aspects, recommendations pertaining to decision-making process and information systems are developed.

Thailand was chosen as the target country of case study for the following reasons. Firstly, Thailand is a country which has reached a turning point in decentralization. It has traditionally been a centralized country and just started its decentralization program a few years ago. It is interesting from an academic perspective to study the issues at an early stage of decentralization by looking at some cases in Thailand. Secondly, Thailand has a long history of using national information systems at the central level. It is interesting to investigate how the data from national information systems

is processed and used by newly decentralized local governments. Thirdly, Thailand is similar to some Southeast Asia countries in many aspects – culture, economy, politics, and society. The study of Thailand can help us to understand the conditions for decentralization and develop policy recommendations for those countries, too.

## 1.2 Objectives

This thesis research had three objectives.

- **Study the existing conditions of information processes of decentralized governments and rural people**
- **Develop recommendations about local governments' interaction with people, local decision-making procedures, national and local information systems, and information systems for rural people in order to achieve elements of good governance according to UNDP's definitions**
- **Point out the lessons about information processes and local government operations in a decentralization program**

The study about current conditions is based on both positive observations and normative concepts. The following questions are raised:

1. How do local governments interact with rural people in terms of information exchange? How does the interaction affect villagers' attitudes toward local governments? How does it affect the resolution of conflicts between local governments and people?
2. How do local governments make decisions in terms of both formal processes and implicit criteria? How does information affect decision-making?
3. How are the national and local information systems used at local levels? Are they useful?

4. What are rural people's needs for information? How do they acquire the information?

Recommendations on three topics – local government's information systems and decision-making, improvement of national and local information systems, and information systems for rural people – are developed. Those recommendations are targeted for resolving existing problems within the current constraints. The ultimate goal is to achieve elements of good governance according to UNDP's definitions ([33]).

Conclusions are drawn from the studies of current conditions in previous chapters. The merits and drawbacks of the current systems are depicted, providing the basis for the lessons which we can learn from this case.

## **1.3 Research framework and methodology**

### **1.3.1 Research framework**

The framework of this thesis research is depicted in the diagram of figure 1.1. It comprises 6 stages.

- The first stage is understanding the general issues about decentralization, political and organizational matters of information systems. It was done by literature reviews in these fields. The major purpose of this stage is to realize current theories and noteworthy issues which have been studied in other countries and cases. Those studies can help in clarifying questions and forming research questions.
- The second stage is understanding the background about decentralization and information systems in Thailand. This step is very important in determining what specific questions are important to ask. Relevant information obtained at this stage includes: Thailand's historical, political, economic and social background, Thailand's local administration systems, the formal processes of national information systems, limitations and controversies about recent decentralization program (TAO Act). Some information was obtained at MIT by

literature review and conversations with Thai people around Boston. However, most of the data was acquired by interviewing various civil servants at central government agencies and scholars at universities in Bangkok. Relevant documents were also acquired from those institutions as references for further studies.

- The third stage is the determination of target areas. I decided to choose two local governments to pursue the in-depth studies: one was a successful case according to the central government's evaluations, another was a control case with ordinary performance and similarity with the successful case in many aspects. After the target areas were chosen, the interviewees were determined and the questions were prepared.
- The fourth stage is the in-depth case study at target areas. The study was mainly based on interviewing people at local and higher levels: TAO officials and councilors, village heads, ordinary villagers, civil group members, line agency officers at local levels, and civil servants at district and provincial levels. From the results of interviews and document reviews, I acquired the information about how local governments and people exchanged and shared information, how they interacted with each other, how national information systems were used, and rural people's information needs in conducting their economic activities.
- The fifth stage is the reorganization of the findings in the field. After returning MIT, the data collected from various sources was digested; and the findings regarding the original questions were developed. In addition to self-thinking processes, discussions with faculty and student members within the UNDP-MIT program also helped me to develop those findings.
- The sixth stage is the development of recommendations. Those recommendations are based on several criteria: advantages and disadvantages of local governments and information system processes according to the findings from the previous stages, normative arguments about the elements for good governance

Table 1.1: Agencies visited during the fieldwork

<b>Central level agencies</b>	NESDB, DOLA, CDD, IPIED, GTZ
<b>Research institutes</b>	ITRD, Chulalongkorn University, AIT
<b>Provincial level agencies</b>	Provincial planning office of Suphanburi, Provincial CDD office of Suphanburi
<b>District level agencies</b>	District office of Samchook, District CDD office
<b>Subdistrict level agencies</b>	TAOs of Wang Luk and Krasieo
<b>Village level agencies</b>	Villagers, Social groups

Note: See appendix A for explanations of acronyms

according to UNDP’s definitions, and noteworthy issues about implementing information systems for public administration from literature survey. Discussions with faculty and students also helped me to develop the recommendations.

### 1.3.2 Research methodologies and information sources

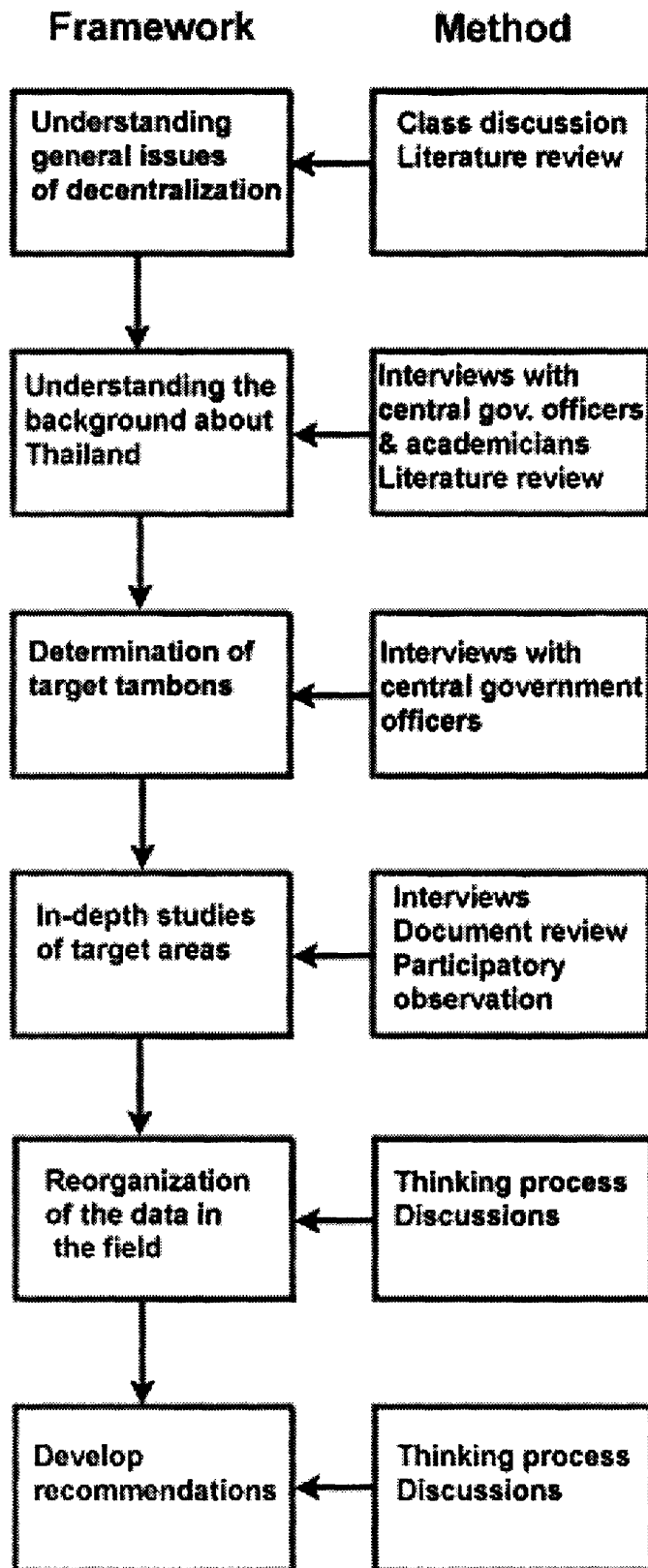
Three methods are adopted in this thesis research: interviews, document reviews and participatory observations. Interviewing people is a direct method of acquiring first-hand information. I used it most frequently at local levels in order to understand the operations of local governments, the processes of information systems, rural people’s information needs, and their comments about local governments. I also used it at central, provincial and district levels in order to understand the background information about decentralization program and different agencies’ attitudes toward local governments. Table 1.1 lists all the agencies I have interviewed during the fieldwork.

Interviews with government officials were mostly conducted by meeting individuals, whereas interviews with TAO members and villagers were conducted in groups. Due to the relatively small number of interviewees, the interviews are based on free conversations instead of survey questions with fixed formats. In the beginning interviewees gave brief introductions about the functions of their organizations and their roles in the organizations. Afterwards I asked specific questions to interviewees. Follow-up questions were raised in response to interviewees’ replies. Each session took from half an hour to two hours. Except the interview with officers at National Economic and Social Development Board (NESDB), all the sessions were conducted in Thai language with the help of an interpreter.

Document review is used to understand background information with regard to



Figure 1-1: Research framework of thesis



regulations, formal procedures, and statistical data. Three types of documents were acquired during fieldwork.

- Papers and theses about Thailand's local governments in rural areas and national information systems. For example, [4], [24], and [10].
- Official documents about regulations, planning processes, information flow procedures<sup>1</sup> and programs. These documents come from various central government agencies such as NESDB, DOLA, IPIED, and so on. For example, [25], [26], [12], and [13].
- Quantitative data about national and local conditions. It contains the demographic, economic, social data, and TAO's budget. These data come from both the national planning agency (NESDB) and local governments. For example. ([30]), [35], [34], [16], and [15].

During the visit at a tambon, the author had the opportunity to attend the TAO meetings about their budget planning of fiscal year 1998. With the help of the interpreter afterwards, the author acquired abundant information about the formal procedures and implicit criteria for making budget plans. The observation of these meetings turned out to be very useful in understanding the decision-making within local governments.

## 1.4 Literature review

There is a lot of literature about decentralization, Thailand's local administration systems, information technology and public administration. I do not intend to develop an exhaustive or comprehensive list of those materials. The articles, papers or reports listed in this section are the materials which are relevant to my work in pursuing the studies of local governments' information systems in rural Thailand.

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<sup>1</sup>Information flow procedures denote the procedures of information collection, delivery, processing, distribution, and use of information systems.

### **1.4.1 Decentralization in general**

Cohen and Peterson ([6])'s paper gave an overview about the ranges and scopes of decentralization literature during different periods. In the 1960s, research about decentralization was concentrated on administrative decentralization in post-colonial governments. In early 1980s, the focus was shifted to decentralization as a strategy to reduce urban and rural poverty. Recent literature since early 1990s is concentrated on the political aspect of decentralization. This paper also addressed various methodological problems encountered in decentralization research.

The bibliography developed by Commonwealth Secretariat of UK ([8]) provided a list of wide range of decentralization materials in English literatures. It divided those materials into four categories: conceptual definition of decentralization, role of decentralization, management of decentralization and its relationship, monitoring and evaluation of decentralization reforms. It was updated in 1986.

UNDP's document about decentralized governance programme ([31]) argued that decentralized governance should be used to achieve sustainable human development. Several elements of good governance mentioned in this paper are used in determining the objectives for the recommendations.

Manor's draft paper ([20]) for World Bank reviewed a broad range of decentralization cases in many countries. It gave an overview about the origins of the latest wave of decentralization in political economic aspect. It also stated various preconditions for successful decentralization.

### **1.4.2 Decentralization and local administration in Thailand**

Demaine's paper ([10]) examined the National Rural Development Programme (NRDP) during Thailand's 5<sup>th</sup> national plan period (1982-1986). NRDP is Thailand's first rural development program which adopted a bottom-up approach; therefore it can be considered as one of the earliest decentralization (or semi-decentralization) programs in Thailand. In this paper, the author criticized various problems of NRDP, including the vertical framework of traditional Thai bureaucracy, uncoordinated nature of

budgeting process, and inadequacy of the data base available for planning.

Nelson([24]) stated some countertendencies to Thailand's decentralization programs. He argued that the paternalistic relations between bureaucrats and peasants and technocratic approaches used by the central government were the primary hurdles for further decentralization.

Kroes and Villeneuve([17]) analyzed the financial structure of local governments in Thailand. Their analysis drew the pessimistic conclusion about Thailand's decentralization: decentralization of responsibilities without decentralization of attendant authority and fiscal power resulted in greater dependence upon the central government.

A report from World Bank Assessment Mission Team([36]) described the latest picture about the institutional and financial frameworks of municipal governments in Thailand. The problems of insufficient financial and human resource autonomy were also addressed in this report.

Chayabutra([4]) provided detailed descriptions about aspects of Thailand's local government systems, including legal responsibility, financial and human resource management, and other aspects. It is a good reference for Thailand's local administration systems.

### **1.4.3 Information technology, local administration, and decentralization**

Reschenthaler and Thompson ([27]) recommended to use a free market approach in public administration. This recommendation is based on the argument that information technology will drastically reduce the information costs associated with market transactions, thus market approach is more easily adopted even in public sector.

Cast-Baril and Thompson([3]) used the case of State of Vermont Human Resource Management System to illustrate the pitfalls which might be encountered during the implementation of information systems for public administration.

Bruns([2]) depicted the then status quo and development potential for various

information technologies in rural Thailand. The technologies been discussed include: telephone, radio, computer networks, and database systems.

Madon([19]) used the cases in India to study the learning curve for introducing information systems in local administration. His study demonstrated an interesting pattern: the efficiency of local administration after the introduction of computer systems declined in the first few years and then rose. He argued this was probably due to the time lag for acquiring the flexibility to direct technology to fulfill their requirements.

Moussa and Schwere([22]) analyzed major problems encountered during the implementation of information systems in developing countries. The analysis was based on case studies of seventy six World Bank projects in Africa which contained the pieces of information systems.

Masser([21]) stated various necessary and generally sufficient considerations for effective utilization of computers in local governments. The conclusions were based on observations from three cases in local governments of Malaysia.

Amirahmadi and Wallace's paper ([1]) argued that information technology will change the mode of production, thus will also decentralize spatial distribution of firms and human activities.

Shani and Sena ([29]) took information systems as part of the socio-technical systems. In order to make better use of information technology, it should be integrated with the organizations.

## **1.5 Background about Thailand's decentralization program**

Thailand is traditionally a centralized country throughout its modern era. The local administration system was established in the late nineteenth century during the reign of King Chulalongkorn (AD 1868-1910). Due to the threat of colonization from Britain

Table 1.2: Economic growth and structure of Thailand

	1960s	1970s	1979-86	1987-90	1991-94	1994	1995
<b>1. Real growth of GDP (in %)</b>							
<b>Agriculture</b>	5.5	4.3	4.1	3.2	3.5	4.2	3.3
<b>Industry</b>	10.9	9.3	5.1	15.8	9.1	11.2	11.3
<b>Service</b>	8.4	7.3	6.3	12.0	9.0	8.1	7.8
<b>Total</b>	7.9	6.9	5.5	11.6	8.3	8.8	8.7
<b>2. Economic structure (in %)</b>							
<b>Agriculture</b>	34.8	28.3	18.7	15.2	11.4	10.4	10.3
<b>Industry</b>	13.7	14.1	30.7	34.5	36.5	37.0	37.6
<b>Service</b>	46.5	52.6	50.6	50.3	52.1	52.6	52.1

Source: NESDB

(invading from India) and France (invading from Indochina), and due to the fact that Thailand just departed from the feudal system at that time, the central government exerted tight control over local administration ([24]). Decentralization was not undertaken after World War II. Like most Southeast Asia countries, military governments adopted the policy of mixing market economy with authoritarian regime. A series of five-year plans (started from 1962) were implemented, which converted Thailand's economy from import-substituted, agriculture-based mode into export-oriented, industry and service-dominated mode ([23]). Such change leads to tremendous growth of economy. From 1961 to 1995, Thailand's GDP has grown 32.4 fold, with average annual rate 7.8% (Table 1.2). Nevertheless, the political development was characterized by instability. Elections were frequently called off by a series of coups d'etats, and cabinets were often dismantled due to conflicts among multiple parties or military coups' intervention. The influence of soldiers has phased down after the last military coup was put down in 1992, and democracy has gradually risen afterwards. However, instability still remains due to the conflicts among multiple parties and factions in the political arena.

In rural areas, there were no so-called "local governments" in modern definitions -- the entities which have the autonomy in various power and resources. Local administration was broken down into four hierarchical levels: provinces, districts, subdistricts and villages. Civil servants at all levels were directly appointed by Department of Local Administration (DOLA) of Ministry of Interior (MOI). Subdistricts (tambons) are the units equivalent to municipalities in urban context. At this level, there were Tambon Councils (TC). Tambon councils were consultative organizations which provided

information about local needs and proposed local projects to the central government. TC members came from elections (village heads) or appointments (tambon physicians, tambon education staff, and the deputy district officers). The leader of the council (kamnan) was appointed by the district office. TCs could not manage their budget, personnel, and the implementation of projects. Therefore they were not autonomous entities ([4]). Under the National Rural Development Program (NRDP), TCs needed to submit project proposals every year. However, the process of the examination and approval of proposals was very lengthy, and the final decision was made by MOI and other ministries rather than themselves.

Line agencies delegating various ministries are the major actors on local issues. Active ministries in rural areas include: MOI (DOLA and Community Development Department (CDD)), Ministry of Agriculture and Cooperatives, Ministry of Public Health, Ministry of Education. They have full control over their budget and personnel, and implement their own projects.

Over-concentration of power and resources at central level and the failure to incorporate local voices within the planning process may partly explain serious regional and urban-rural disparity. Table 1.3 illustrates the average household income per capita among all regions. It shows that the income gap between the richest (Bangkok Metropolitan Area) and the poorest (Northeast) regions has enlarged over the past decade. The disparity has already resulted in many serious problems including rural-to-urban migration, poverty in backward regions or provinces, environment degradation in urban areas, and insufficient infrastructure in capital. Past efforts by using top-down approaches – including the National Rural Development Program, the Poverty Eradication Program, the Regional Cities Program, and so on – were not able to solve these problems. Therefore, the government started considering decentralization as an alternative approach. Decentralizing financial and administrative autonomy was firstly addressed in the 7<sup>th</sup> national economic and social development plan (1992-1996) ([25]). The moves of decentralization were pushed forward by launching the Tambon Authority Organization Act in 1994. The idea of encouraging people to get involved in local development was further extended in the 8<sup>th</sup> national plan (1997-

Table 1.3: Per capita household income by region at current prices

Units: baht/person/year

	North	Northeast	Central	South	Bangkok	Whole kingdom
1962/63	1075	993	1174	1822	2346	1601
1968/69	1830	1580	2790	2056	3993	2490
1975/76	3686	3030	5195	4048	7246	4206
1981	8447	5910	10228	8880	17063	9008
1986	9557	6257	11445	10448	21944	10133
1988	11158	7804	12739	11228	28098	12766
1990	16032	10909	18788	16870	40877	18654
1992	19817	14698	25715	23045	59783	25560

Source: National Statistical Office

2001) by promoting public participation and community organizations at local level ([26]).

Decentralization was also pushed by the demands for more democracy. In 1992, thousands of people gathered in front of the Democracy Monument in Bangkok to demand democracy from the military government led by General Suchinda. Although it turned out miserably – hundreds of people were massacred by troops – it also led to the subsequent overthrow of the military government and the resumption of an elected cabinet. The request for democracy also occurred at rural areas, where people had few resources and little say in their own affairs. The recently enacted decentralization program was the first step of incarnating democracy from both local and central perspectives. From the local perspective, decentralization places the utilization of resources and decision-making under better monitoring and control by local people. Therefore, it is conceived more democratic. From the central perspective, decentralization program is an incubator for training local people to exercise democratic processes such as voting, public meeting, and planning<sup>2</sup>.

The third reason for Thailand's decentralization program is – like many originally centralized or deconcentrated countries – to alleviate local people's dissatisfaction without making drastic reforms. The central government establishes the institution of self-governments and diverts small amount of budget to them in order to generate the perception that local governments are democratized and decentralized. However, their influence at local levels is insignificant compared to line agencies. Table 1.4

<sup>2</sup>The concept of using decentralization program as a testbed to incubate capability for operating democracy is explicitly addressed by DOLA ([4], pp.7-14).



Table 1.4: Local revenue proportion during B.E. 2528-2538 (AD 1985-1995)

Units: million baht

Year	GDP	Gov. budget	Local revenue	Rate of change	Prop. GDP	Prop. Gov. budget
1985	1014399.00	209000.00	13167.40	-	1.30%	6.30%
1986	1095368.00	211650.00	14374.40	9.17%	1.31%	6.79%
1987	1253147.00	227500.00	15590.20	8.46%	1.24%	6.85%
1988	1506977.00	243500.00	17228.20	10.51%	1.14%	7.08%
1989	1856992.00	285500.00	20839.00	20.96%	1.12%	7.30%
1990	2191094.00	336507.00	26553.20	27.42%	1.21%	7.89%
1991	2505629.00	387500.00	32266.90	21.52%	1.29%	8.33%
1992	2804935.00	464400.00	38132.00	18.18%	1.36%	8.28%
1993	3163914.00	560000.00	44971.70	17.94%	1.42%	8.03%
1994	3597355.00	6625000.0	57469.97	27.79%	1.60%	9.20%
1995	4162191.00	715000.00	62458.77	8.68%	1.50%	8.74%

Source: Chayabutra 1997

demonstrates the budget of local governments compared to entire government budget from BE 2528 to 2538 (AD 1985-1995). It shows less than ten percent of budget is allocated to local governments. Although in general the proportion of local government budget grows steadily over the past ten years, it also demonstrates fluctuations due to business cycles.

The first regulation for establishing autonomous rural governments – Tambon Authority Organization (TAO) Act – was enacted in 1994 ([11]). According to the law, tambons whose annual revenues exceed 150,000 baht/year will upgrade their tambon councils into TAOs. Different from TCs, TAOs are considered as self-governments. All the TAO members (except the deputy officer) are directly elected; each village selects three members (one village head, two village representatives). The TAO is divided into executive (TAO Administrative Committee, TAOAC) and legislative (TAO Council, TAOC) branches. The TAOAC is in charge of proposing annual budget and project plans, executing projects, and handling TAO's administrative operations. The members of the TAOAC are elected by TAO members among themselves. Other members form the TAOC, which is in charge of budget and project approval, auditing, and inquiring administrative committee about TAO's operations and performance. All the TAO members have office term of four years.

Unlike the previous scenario, district offices cannot directly intervene with TAO's matters. They supervise TAOs and provide technical support for them. For example, district offices send delegates (usually deputy district officers) to attend TAO meet-

ings to make sure the processes and the TAO's policy follow the national guidelines. District offices receive and endorse budget plans from TAOs. They have the discretionary power on these plans when conflicts between TAOs and TAOACs occur and the disputes cannot be settled. District officers also appoint TAOAC leaders (kannan) according to the election result, and dismiss elected members only when they violate the codes for TAO members (for example, commit crimes).

According to regulations, TAOs have the following mandatory and optional responsibilities.

*Mandatory functions:*

- *Maintain law and order*
- *Provide/maintain roads and waterways*
- *Keep roads/sidewalks and public places clean - refuse and garbage disposal*
- *Prevent and suppress communicative diseases*
- *Provide fire fighting services*
- *Provide educational services*

*Optional functions:*

- *Provide market, ferry and harbor facilities*
- *Provide cemeteries and crematoria*
- *Promote employment*
- *Engage in commercial activities*
- *Provide clean water*
- *Provide slaughter houses*
- *Provide/maintain drainage*
- *Provide/maintain public toilets*

- *Provide/maintain lighting*
- *Other services approved by DOLA*

The actual functions performed by TAOs depend on local conditions. Some functions are inherently difficult to perform due to limited resource and power allocated to TAOs. For example, they cannot maintain law and order since they do not control any law enforcement forces. Education services and communicative disease prevention are taken care by Ministries of Education and Public Health; TAOs are rarely encouraged to do these jobs.

With regard to financial resources, the budget allocated to TAOs is small compared to line agencies. Although the management of expenditure side is fairly autonomous (TAOs can freely allocate budget except special grants which are dedicated to specific projects), the maneuvering space of revenue side is very tight. Table 1.5 lists the sources of income and their percentages in TAO budget over 135 TAOs ([36]). It shows surcharges<sup>3</sup> and central grants<sup>4</sup> comprise the major sources of income. The amount of these two items is entirely decided by the central government. Even for local taxes<sup>5</sup>, the restrictions are tight. TAOs cannot increase their revenue by either adjusting tax rate or improving tax collection efficiency.

Restrictions are also imposed on TAO's human resource management. Division directors such as TAO deputy officers, financial officers and civil work technicians are recruited and dispatched by DOLA or provincial governments. TAOs can recruit civil servants only up to C3 level (clerical staff; civil servants are categorized up to C9 level). The turn-over period of civil servants is about 2 to 4 years. After this period

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<sup>3</sup>Surcharges are shared taxes. The central government collects those taxes and redistributes them to local governments. The allocated amount of shared taxes does not necessarily depend on the amount of revenue levied on localities. Items of surcharges include liquor tax, excise tax, value-added tax, and other items.

<sup>4</sup>Grants are the subsidies allocated by upper level governments. General grants are usually based on some formulas relating to population, area, and other attributes, for example, 12 baht/capita. Specific grants are targeted for specific uses, for example, irrigation projects.

<sup>5</sup>Local taxes include the items which are entirely levied and used by local governments, such as land tax, land development tax, signboard tax, slaughter tax, and other items. However, in Thailand's case, most local tax items of TAOs are collected by Provincial Authority Organizations, and the tax rates are determined by the central government.

Table 1.5: Income sources of TAOs

Category	Share
Shared taxes	50%
Direct subsidies from grants	25%
Property related taxes	12%
Income from assets	6%
Fees and fines	4%
Others	3%

Source: World Bank Assessment Mission 1997

they will be transferred to other units. This fact gives TAOs low incentives to invest in training or promoting their staff for long terms ([36]).

Line agencies are usually not conceived by TAOs as their competing organizations. There are two major reasons. Firstly, they are differentiated in project scales. TAOs undertake small-scale projects which require low skills and capital at village or tambon levels, and line agencies usually implement larger-scale projects which require high skills and capital at district or provincial levels. Secondly, TAOs are too small to be qualified as competitors of line agencies. Most TAOs are not willing to step into the matters which are within line agencies' jurisdictions since they will be discouraged explicitly or implicitly by making such moves. However, if further decentralization is the goal of the Thai government, expanding resources and functions allocated to local governments may result in conflict and competition between local governments and line agencies.

There are also various drawbacks about decentralization. Some of them include: local elite controls the decentralized resources instead of sharing power to the public. lack of coordination among decentralized bodies leads to duplication of works and delay of official processes, and near-sighted policy measures are conducted by local politicians due to their short period of office terms. In Thailand's case, since the decentralization program was launched recently and the central government still controls most resources, these drawbacks are not emerging yet. Nevertheless, traces of some problems have already been reported. For example, some tambon leaders refused to open the financial records for public access. Those issues need to be considered when pushing decentralization forward.

## 1.6 Fieldwork at tambon level

Fieldwork at tambon level comprises an important portion of this research. The author visited two tambons during the summer of 1997. Information gathered from the interviews, participatory observations and documents reviews during the fieldwork has helped in understanding local government's information systems and decision-making.

### 1.6.1 Selection of target tambons

The objective of MIT-UNDP decentralized governance project is to identify factors which drive successful local governments in policy formulation, service delivery, and resource mobilization. ([32]). Based on this philosophy the target case should be the tambon which was successful in either of those aspects. In addition, another set of "control case" – the case which the local government's performance was normal – was chosen in order to identify the factors which make them different. Due to the constraint of time and budget, only two local governments were selected – one successful case and one control case.

"Successful" is a relative term. Tambon Wang Luk was chosen as the target following DOLA's recommendations in *Model TAO Program*. *Model TAO Program* is a pilot project held by DOLA. The members of selected TAOs received intensive training from DOLA about (1) how to conduct routine process in TAO affairs (2) how to form the vision about tambon development (3) how to formulate development plans to accomplish this vision. Performance of these tambons was constantly monitored; and people from other TAOs were invited to visit model TAOs to learn their experience. Three objectives were highlighted by the program: to make TAOs operate according to regulations, to enlarge the vision and capacity of TAOs for development, and to enhance people's participation ([12], [13]). Table 1.6 lists the TAOs in the *Model TAO Program* of 1996. They were enlisted within the program for various reasons.

TAO Wang Luk was chosen as the case for the fieldwork due to several reasons.

Table 1.6: List of TAOs in Model Tambon Program 1996

Tambon	District	Province	DOLA's comments
Wang Luk	Samchook	Suphanburi	Outstanding in spite of medium income
Phochai	Muang	Nong Khai	Outstanding in spite of medium income
Kham Ta Khla	Kham Ta Khla	Sakol Nakorn	
Mae Moh	Mae Moh	Lam Pang	Sufficient income & natural resource
Vichit	Muang	Phuget	Abundant local revenue
Choeng Thalaie	Thalang	Phuget	Abundant local revenue

Source: DOLA 1996

Firstly, since DOLA is TAO's supervisory institution, its evaluation about TAO performance should be fair enough to reflect their capacity. Wang Luk was listed by DOLA as a model TAO because of its remarkable performance with limited budget. In spite of its medium local revenue, TAO Wang Luk ranked high since it (1) could conduct TAO operations smoothly following regulations (2) had high level of local participation (3) was very good in mobilizing external resources. Secondly, it also ranked high according to the evaluation by Community Development Department (CDD) for its high level of participation by social groups. Thirdly, according to the NRD 2C database, Wang Luk demonstrated significant improvement in several indicators between 1994 and 1996<sup>6</sup>, including the composite indicators which denotes the overall performance of development. In 1994, 10 out of 13 villages were in ordinary status (in composite development indicator); whereas in 1996, all the 15 villages became advanced (Table B.1).

Tambon Krasieo was chosen as the control case because it was located in the same district of Wang Luk (Samchook District) and the size of those two tambons were similar. It was selected following the recommendations of Samchook District Office.

### 1.6.2 Profiles of Tambons Wang Luk and Krasieo

Wang Luk is located at Province Suphanburi, District Samchook. Suphanburi is a province at the central region of Thailand. It is a relatively wealthy province due to the abundant agricultural production. ([28])

Wang Luk is one of the seven tambons of District Samchook. It has 15 villages

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<sup>6</sup>Those indicators are: agriculture productivity, migration for work, security on health treatment, health and sanitary, and clean water.

with the total area of  $70km^2$ . According to 1996 statistics, it had 13,335 population with 2,704 households. Agriculture is the major economic activity. Paddy rice, upland crops (mainly sugarcanes), and livestock are the major products. The average annual household income is 85,000 baht/household-year ([35]).

The TAO of Wang Luk was established in 1995. It comprises 46 members (45 elected members and the deputy officer of TAO). The TAO contains the council and the administrative committee. The administrative committee is divided into 3 sections: office of TAO deputy is in charge of general administration, civil work division is in charge of construction works, and financial division is in charge of financial management. The annual expenditure of TAO Wang Luk was 5,933,492 baht/year in FY 1997.

Tambon Krasieo is located at the northwest of District Samchook. It has 10 villages with total area of  $56km^2$ . According to 1995 statistics, it had 4,298 population with 1,151 households. Major economic activities and major crops are the same as Wang Luk – agriculture, especially paddy rice and sugarcanes.

The TAO of Krasieo was established in 1996. It comprises 31 members. The organization structure of the TAO is the same as that of Wang Luk. The annual budget of TAO Krasieo was 2,583,868 baht/year in FY 1997, less than half of the budget of Wang Luk. Therefore, the TAO handles less projects than that of Wang Luk ([16]).

More detailed descriptions about the profiles of Wang Luk and Krasieo are addressed in appendix B.

### **1.6.3 Processes of fieldwork at tambons**

The following processes were gone through sequentially in the fieldwork at tambons Wang Luk and Krasieo during the summer of 1997.

1. At the start of the fieldwork, I visited the district office of Samchook to understand district conditions, their points of views and comments about the strength and weakness about the two TAOs.

2. Then I visited the district CDD office to understand data collection processes of national information systems, the use of those data at local levels, and the activities of social groups.
3. Then two group meetings with TAO members of Wang Luk and Krasieo were held separately. During those meetings, information about general background of tambons, the problems they encountered and their comments about the strength and weakness was acquired.
4. After the group meetings were conducted, I interviewed individuals within the TAOs. The interviewees included kamnans, deputy officers, TAOAC members, financial officers and civil work technicians. The questions addressed to kamnans, deputy officers and TAO members were about TAO's decision-making, interaction with people, and the use of information. The "stories" about several interesting projects (either success or failure) were traced in more details in order to elaborate the interactions with people and decision-making of TAOs. Kamnans, TAO members and deputy officers were consulted in identifying those projects and to describe the stories of these projects. TAO staff – financial officers and civil work technicians – were asked questions regarding their ordinary jobs, TAO operations, and the stories about those projects.
5. Afterwards I visited villages to trace these projects. I interviewed village heads and village representatives to ask about the stories during the planning, implementation or evaluation of these projects. Questions relating to information exchange between TAOs, people and village leaders, formal processes for proposing village projects and the use of quantitative information were also covered. I interviewed ordinary villagers about their attitudes toward and the interaction with TAOs and village committees, and the ways they conducted their economic activities. I interviewed members of two types of social groups – rotational crop groups and women groups – in a few villages about their activities of income generation and the needs for information.



6. I participated in the TAOAC and TAOC meetings for annual budget planning of FY 1998 at Wang Luk. I observed the formal processes and implicit criteria for the TAO to make decisions about budget allocation.

## **1.7 Outline of chapters**

The rest of the chapters of this thesis are outlined as follows.

Chapter 2 depicts current status of local governments' interaction with people and decision-making. The knowledge about the interaction between TAO and people and TAO decision-making is obtained from the fieldwork studies in the target tambons. As for TAO-people interaction, the content and channels of information flowing in both directions (from people to TAO and from TAO to people) will be discussed. People's attitudes toward TAOs from the field observation are addressed subsequently. Then local governments' measures of resolving conflicts will be discussed and elaborated with concrete examples.

Chapter 3 focuses on two national information systems for rural development – NRD 2C and BMN, and information systems at tambon levels. It starts at describing the information processes of those systems – indicator design, data collection, delivery, and processing, and use at both central and local levels. Subsequently it criticizes those systems. Current status of information technology at local levels – computers and communication facilities – is depicted. The concerns for using information technology in terms of physical and human environment are discussed.

Chapter 4 depicts the information use and needs for rural people. It contains the discussions about two major categories of information: information about agriculture and information about supplementary occupation. Descriptions about the content of information available, the sources of information, the communication channels for exchanging information, and the types of information in need will be discussed in this chapter. Concrete cases about the activities of social groups are used to elaborate how villagers use this kind of information to improve their lives and the constraints of current information use.

Chapter 5 develops recommendations regarding the three aspects depicted in previous chapters – local government’s information systems and decision-making, national information systems for rural development, and information systems for rural people.

Chapter 6 extracts the lessons from the observations and analysis of previous chapters. Those lessons can be referred as noteworthy experiences while executing further decentralization in Thailand or implementing decentralization programs in other countries. It also speculates the research works which are worth pursuing for further understanding the decentralization issues in Thailand.

# Chapter 2

## Local governments' interaction with people and decision-making

### 2.1 Interaction between TAOs and people

The discussions about the interaction between TAOs and people in this section are mainly focused on information exchange. In the first part the channels and content of information flows from villagers to TAOs are depicted. In the second part the same discussion will shift to the information flows from TAOs to villagers. Villagers' attitudes toward local governments and conflict resolution between TAOs and people are addressed in the third and the fourth subsections.

#### 2.1.1 Information flows from villagers to TAOs

There are various channels for TAOs to obtain information about village conditions, problems and needs. They include: village heads, TAO members representing villages, village committees, the TAOAC, village meetings, household level surveys for national information systems, and direct contacts between TAOs and villagers.

Village heads are the first persons that villagers come to when they encounter problems. People complain about their problems to village heads regarding public issues; for example, the irrigation ditch is silted such that their fields cannot get

water. In responding to villagers' complaints, village heads either report problems and propose resolutions to TAOs, or mobilize their own resources and connections to resolve the problems. Which approach they adopt depends on their confidence on TAOs and other external connections they have.

TAO members are also intermediaries who bring village information to TAOs. There were no cases in the fieldwork in which individual TAO members made village complaints directly to the TAOAC. Although the possibility of such case should not be excluded, it is more common that TAO members reflect village information to TAOs by participating the village meetings or speaking up in the council meetings.

Village committees are consultative organizations comprised of village heads, TAO members, and other village leaders. In addition to villagers' active reports or complaints about problems, village committees may also conduct active investigations to identify problems. For example, the project of canal dredging at village 7 of Wang Luk was proposed actively by the village committee in order to resolve the water shortage problem they found in the survey.

The TAOAC also undertakes investigations. These investigations are mainly conducted by the deputy officers and the civil work technicians. The investigations are carried out in order to satisfy the following purposes. (1) When the TAOAC wants to verify the importance of village-proposed projects; i.e. to verify if those projects are targeted for real problems. (2) When the TAOAC needs to assess the feasibility of projects. (3) When the TAOAC needs to determine technical specifications. Investigations usually cover the following items (1) Questions to a sample of villagers and on-site investigations about the problems. (2) Estimation of project costs and potential problems. Most problems been considered are social or political instead of technical difficulties; for example, the project area covers private land. (3) Physical conditions and specifications of old projects. These data are used for determining specifications of new projects. For example, in the canal dredging project at Krasieo, the depth and width of the dredged canal was set identical as the original specification before siltation.

Village meetings provide alternative channels to allow villagers to speak up their

problems/opinions and propose projects directly. Each year before the TAO budget planning period, villages are supposed to hold meetings to discuss the projects they want to propose to the TAO. They need to hand in a proposal which contains the list of projects and the priorities among them. The process of generating this proposal is flexible, but it needs to go through public meetings. During the meetings, preliminary proposals are raised by village heads, village committee members or ordinary villagers. A few among them are selected, and their priorities of preferences are designated based on the discussion and voting during the meeting. The process of deciding proposed projects and priorities varies among villages. For example, at village 7 of Wang Luk, the selection of projects and determination of priorities are decided by villagers' voting in the meeting. In contrast, at village 9 of Krasieo, the village committee selects a few projects among all proposals and let villagers to determine their priorities by voting; village committees can also use their discretion to change the priorities afterwards. Basically there are no objective criteria for choosing projects and determining their priorities.

Household or village level surveys are conducted in order to meet the requirement of national information systems for rural development. Although such surveys provide systematic information on many aspects for rural development, the data are rarely used by either villages or TAOs in problem identification.

Villagers rarely reflect their problems by directly complaining to TAO offices or district offices. They usually came to district offices when the conflicts between TAOs and them occurred.

### **2.1.2 Information flows from TAOs to villagers**

Information flowing from TAOs to villagers is passed via the following channels.

- *Villages' TAO members.* TAO members are the primary messengers to bring information to people. They usually deliver TAO's notifications by visiting individual households or by announcing the news in the village meetings.

- *Broadcasting speakers.* In rural Thailand, most villages are equipped with at least one broadcasting speaker. It broadcasts national news, TAO messages, or popular music to every corner of the village.
- *Bulletin boards in front of the TAO office and village centers.* Official commands and regulations are often posted on bulletin boards in front of the TAO office and village centers.
- *Radio equipment.* The radio equipment is used as a substitute for telephones in many places. Both TAO offices and many members are equipped with radio communication instruments thus they can communicate with each other without using telephones. They also use the radio equipment to communicate with district offices.

The content of the most frequently transmitted information from TAOs to people is listed as follows. It shows that most of the information is related to commands, notifications and requests from local governments.

- *Commands and notifications from upper level governments.*

TAO is mainly responsible for relaying commands and notifications from upper level governments to villagers. For example, if public health officers are coming to give vaccination, the TAO will remind parents to bring their children to the public school next week.

- *TAO's requests to village committees.*

They are either the obligations that village committees need to fulfill or the noteworthy issues that TAOs want village committees to pay attention. For example, during the TAO meeting, the deputy officer reminds village heads to finish the data collection of BMN next week, or to ask village committees not to propose projects which lead to land dispute.

- *Help wanted from villagers.*

TAOs sometimes ask for voluntary helps and participation for public matters.

For example, TAO Wang Luk asks villagers to participate the traditional festival Loi Krathong<sup>7</sup> by attending sports tournaments, providing food to performers, and donating money.

### 2.1.3 Villagers' attitudes toward TAOs

It is difficult to describe the big picture about villagers' attitudes toward TAOs due to the short period of my stay, limited number of people interviewed, language difficulty and my identification as an outsider. Past study ([24]) argues that the traditional relationship between bureaucrats and people in Thailand – like most East and South-east Asia countries – imitates the parent-son relationship in a patriarchal society. Under such context, politicians and bureaucrats are perceived as parents who need to actively take care of people, instead of civil servants who need to serve stakeholders in response to their requests. I did not find this kind of relation been explicitly expressed during the fieldwork. Although I perceived some facts which could be considered as hints to this statement<sup>8</sup>, these evidences are not strong enough to support it.

The responses I got from villagers about their attitudes toward TAOs demonstrate interesting characteristics. Some people clearly expressed their indifference about TAO's moves. In both tambons, most people I interviewed told me that they were pretty satisfied with their TAOs. The strengths of the TAOs they mentioned included *willingness to serve people, readiness to develop their tambons, and strong leadership*. As for the weakness, they either expressed no problems at all or said only limited budget and personnel were the factors which restricted TAO's performance. However, high value of appraisal from villagers was accompanied with low level of understanding about the TAO. When I asked villagers to compare TAOs and TCs, some of them could not tell the difference. Some had the ideas that TAOs handled their budget more freely than TCs, but the notion which DOLA wants to propagate

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<sup>7</sup>Loi Krathong is a traditional festival which is held during the full-moon day of November in order to worship the gods of rivers

<sup>8</sup>For example, the wording in official documents usually stresses that government needs to take care of people. During the group meetings with villagers, village heads and other leaders were usually the only speakers, whereas ordinary villagers rarely talked

about TAOs – an autonomous self-government – was not mentioned.

Another stereotype they recognized about TAOs is the provider of small-scale infrastructure. Although regulations do not prohibit TAOs from engaging with other types of services, villagers seemed to filter out non-infrastructure projects in their proposals to TAOs. Table C.4 in appendix C lists the projects proposed by villages at Wang Luk for the budget plan in FY 1998. It can be seen that most of proposed projects are either road maintenance or irrigation canal maintenance.

#### **2.1.4 Conflict resolution**

Conflicts between the TAO and people are reported in some cases at Wang Luk. They occurred when TAO projects covered the areas of private properties. Since the TAO does not have sufficient budget to purchase the properties, it needs to come up with a way to get property owners to contribute their lands for the sake of projects. Otherwise the projects need to be canceled or redesigned in order to bypass contentious areas.

Three examples occurred at Wang Luck can elaborate how TAOs deal with conflicts during project implementation. The first case is the irrigation canal dredging project at village 6 of Wang Luk. Disputes occurred when the TAO left the dredged silt on the banks of canal. The land on the banks belonged to ten households. The TAO deputy officer and the civil work technician came to the households to convince them to allow the TAO to leave silt on their properties. Nine of them agreed but one declined. Finally the TAO needed to narrow the canal at the section which passed through the opponent's property, in order to pile up silt on public land which was originally part of the canal.

The second case is another irrigation canal dredging project at village 7 of Wang Luk. The dredging of the main channel worked smoothly, but the problem occurred at a branching ditch. The bottom of the ditch was higher than that of the main channel. After the main channel was cleared, the elevation difference became larger. Such gap prevented water flowing from the main channel to the branching ditch during the dry season, since the water level in the main channel was lower than the bottom of



the branching ditch.

There were two households whose fields relied on the branching ditch. Their fields were dried up when the project finished. Therefore, they complained to the TAO. Unfortunately, the planned budget for this project did not contain funds for dredging the branching ditch, neither did the TAO have extra budget to work on it. Therefore, it contacted the district office for help. The district office agreed to allocate budget for dredging the branching ditch. However, the amount of budget and the time for its arrival were uncertain.

The TAO came up with an innovative solution. TAO officials came to the two households to convince them to pay for the project in advance. They would dredge the ditch for the two households and promised to pay them back when the budget arrived. Convinced by their promise, and threatened by the water shortage, eventually each household paid the TAO 20,000 baht for the project. Now their fields are irrigated during the dry season. However, the promised budget had not arrived yet when I visited there.

The third case is the road construction project at village 4 of Wang Luk. The road right-of-way passed through a wall belonging to a private property. TAO officials tried to convince the property owner to demolish that wall, but he refused. The case was sent to district office for mitigation.

From the cases stated above, TAO Wang Luk adopted four measures to resolve conflicts.

- *Convince constituencies to sacrifice for the projects.*

They may either use moral encouragement (to tell them how important this project is and how appreciative the public will feel about their sacrifice) or incentives (promise to reimburse them in the future). The success or failure of the persuasion mainly depends on TAO's credibility and the innovative approaches used in persuasion.

- *Avoid project areas covering private properties.*

This is the rudimentary way of avoiding conflicts in the beginning. Having

experienced the frustration in persuasion, TAO Wang Luk now prefers to adopt this approach to prevent trouble. Therefore the deputy officer warned village representatives that the TAOAC would not approve any village projects which would lead to conflict according to their investigations.

- *Redesign the projects.*

This approach is used when conflicts already occur and the TAO fails to convince villagers to sacrifice for the projects. Project specifications are modified in a way such that they do not get into the troubles of conflicts. For example, reroute the new roads, narrow the width of dredged irrigation ditch, or switch the project from road widening to pavement of asphalt.

- *Appeal to higher levels.*

This is the last resort for TAOs. They can appeal to district offices or provincial governments if they insist the projects to be implemented. District offices can entitle TAOs to enforce the laws or orders if necessary (for example, tear down the walls, evict squatters). This method was rarely used by TAOs.

## **2.2 TAO's decision-making**

One of the most important matters for TAOs is its annual budget planning. It determines how much resource is allocated to villages and what projects are approved or disapproved. Furthermore, it is one of the few processes in which the entire body of the TAO rather than only administration committee members participate. This section will focus on discussing the decision-making for the annual budget planning of TAOs. Both official processes and explicit/implicit criteria for making decisions will be depicted.

### **2.2.1 Formal process of TAO's decision-making for budget planning**

TAO's budget planning is a three-stage process. Each village is supposed to submit a project proposal to the TAO one month prior to the beginning of TAO annual budget meetings. The content and the process of proposing village projects have been explained in section 2.1.

The TAOAC drafts the annual budget plan according to the estimation at both expenditure and revenue sides. TAO's annual expenditure is categorized into operational expenditure and project expenditure. The operational expenditure is the cost of running TAO offices. It includes the items of staff salary, member premium, material costs, utility charge and so on. The estimation of operational expenditure is done by financial officers and deputy officers. Project expenditure includes the costs of all village projects. After village proposals are submitted to the TAO, the administrative committee examines those proposals to come up with the estimation. The TAOAC will conduct feasibility studies before selecting projects. TAO staff (mostly the deputy officer and the civil work technician) will visit the sites to investigate the necessity of projects and determine the specification of projects. The cost of projects is estimated after the specifications are determined. They will also identify potential problems which may occur during project implementation. All the information is brought to the TAOAC to help the decision-making.

As for the estimation at revenue side, since most income is directly distributed by the central government, TAOs are not able to know the amount until receiving notifications. What they do beforehand is to roughly predict the amount of subsidies based on the records of previous two years. They also estimate a few items of local taxes; for example, count the number of shops to calculate the signboard tax.

The TAOAC leader (kamnan) holds meetings to discuss village projects. The members decide which projects are to be selected. The selection of projects does not necessarily follow the priorities proposed by villages. The TAOAC can also change the specification of projects; for example, switch the project of road extension to asphalt

pavement. A draft for the budget plan which contains all revenue and expenditure items is prepared by TAOAC after they finish discussing village proposals.

Each year the TAOC holds meetings in early and mid August to discuss the draft for budget plans. Council members can inquire the administrative committee and propose modifications about the budget plan. The final version of the budget plan needs to be approved by the majority of TAOC members. The passed plan is sent to the district office for endorsement.

This process is not entirely unfamiliar to tambon leaders. In fact, such a bottom-up process was also used in the National Rural Development Program (NRDP) during the Tambon Council (TC) period. Nevertheless, for most TAO members – especially elected representatives – this process is still new to them. They did not have the experience of participating in tambon affairs before, and the local governments were just established one or two years ago. It is essential to teach them basic skills to conduct planning process in order to make sure the TAO run smoothly.

Various agencies – including DOLA, CDD, UNDP, and many other NGOs – are involved with training programs for TAO members. The content of those training programs is more or less similar: introduction about TAOs, basic management skills, and planning processes. Due to the large number of tambons, the quality and quantity of training programs TAOs receive are uneven. Some tambons are covered by the programs conducted by those agencies, thus they receive more attention than others. For example, Wang Luk is within the model TAO program. The intensity of training and monitoring from DOLA may explain the relatively good performance of TAO Wang Luk in conducting the official processes smoothly.

### **2.2.2 The concern of budget constraint**

The annual budget allocated to TAOs varies from the lower bound of 150,000 baht to tens of millions baht per year across tambons. The amount of budget directly affects the quantity and quality of the services TAOs can provide.

According to the comparisons between the budget plans of Wang Luk and Krasieo, the biggest variations of TAO revenues occur at items of land taxes, liquor taxes, ex-

cise taxes, and registration fees. According to the comments from DOLA and the district office, land values and tourism income are important items which lead to great revenue differences. Tables C.2 and C.3 in appendix C show the annual revenues and expenditure of TAOs Wang Luk and Krasieo in FY 1997. Wang Luk had total budget of about 5.9 million baht, while Krasieo only had 2.5 million baht. Such difference allowed Wang Luk to launch more development projects at villages than Krasieo.

Compared to the revenue side, TAOs have much more autonomy at the expenditure side. Basically they can freely allocate the budget with only a few restrictions. Except specific grants which are dedicated to certain projects, at least 65% of general grants must be used for development projects, and 35% can be used for TAO operations. Two percent of total revenue must be kept as reserve fund. Salaries of TAO staff (deputy officer, financial officer, civil work technician, and all other clerks) are fixed according to regulations about civil servants. However, fees and premiums paid to TAO members vary with available revenue.

The expenditure for TAO operations is usually set at higher priority than the expenditure for development projects. The number and type of projects depend on the budget remaining after operational expenditure. From tables C.2 and C.3, both the expenditure for TAO operations and the expenditure for projects are proportional to the amount of revenues.

### **2.2.3 Infrastructure preference**

The preference for small-scale infrastructure projects is evident from my fieldwork observations at two tambons. Table 2.1 lists the types of projects carried out by Wang Luk and Krasieo in FY 1997. It is clear that most of projects are roads, irrigation canal dredging, and water tank installation.

Such preference is not only revealed by quantitative data but is also explicitly addressed by TAO members. During the TAOAC meeting for budget planning at Wang Luk, the kamnan declined all projects other than road construction/maintenance and irrigation canal dredging. He used various reasons, such as "too costly" or "does not

Table 2.1: The types of projects carried out by TAOs Wang Luk and Krasieo in FY 1997

<b>Wang Luk</b>			
<b>Project type</b>	<b>No. of projects</b>	<b>Budget (baht)</b>	<b>Budget proportion (%)</b>
Gravel road maintenance	24	1942517	61.40
Irrigation ditch maintenance	11	507766	16.05
Village information center	2	124034	3.92
Village water supply	2	123503	3.90
Concrete road construction	1	385200	12.18
Barn construction	1	80372	2.54
<b>Krasieo</b>			
<b>Project type</b>	<b>No. of projects</b>	<b>Budget (baht)</b>	<b>Budget proportion (%)</b>
Water containers	9	616500	43.68
Gravel road maintenance	8	488990	34.64
Irrigation ditch maintenance	4	37562	2.66
Crop-drying yard	1	224999	15.94
Roadside pavilion	1	43386	3.07

Source: Budget plans of TAOs Wang Luk and Krasieo

meet urgent needs” to justify his decisions. Nevertheless, some road projects with even higher costs or lower priorities were approved with either full or partial budget. For example, the village center project proposed by village 14 (cost 215,070 baht, first priority) was rejected; whereas the concrete road construction project proposed by village 11 (cost 475,080 baht, second priority) was approved with the budget 365,017 baht (Table C.4).

## 2.2.4 Equalization principle

The principle of treating each village equally in terms of budget allocation was explicitly addressed during the TAOAC meeting. In planning the budget for the next fiscal year, the projects of the villages which were allocated less budget last year would be discussed first and considered to be approved more likely. The projects covering areas of multiple villages were not preferable since the benefits to particular villages were difficult to distinguish. In other words, the TAO tried to give every village a similar amount of money to make village representatives feel that they were treated fairly. Table 2.2 lists the budget distribution across villages at Wang Luk for the fiscal years 1997 and 1998. It also shows the budget distribution per capita across villages.

Table 2.2: Budget allocation among villages of Tambon Wang Luk in FY 1997 and 1998

1997			1998		
Village number	Allocated budget units: baht	Per capita allocated	Village number	Allocated budget	Per capita allocated
1	214945	268	1	322879	403
2	233120	150	2	284763	183
3	84326	95	3	133644	150
4	114169	130	4	353073	401
5	430595	382	5	297976	264
6	406700	483	6	264038	314
7	531756	677	7	243102	310
8	354174	412	8	211122	246
9	141240	206	9	200532	293
10	100633	160	10	227642	361
11	103201	77	11	372400	279
12	153363	424	12	213144	589
13	300081	313	13	200000	208
14	89526	134	14	151351	226
15	259673	272	15	196813	206

Source: Budget plans of TAOs Wang Luk

## 2.2.5 Mobilization of external resources

Mobilization of external resources is mostly accomplished by getting external institutions to carry out development works. This happens when the cost of a specific project is beyond the affordability of a TAO's budget. Since the equalization principle is more or less followed, it is not possible to concentrate on one or two large-scale projects. Therefore, the money allocated to each project is very limited.

Several factors affect the success of external resource mobilization. The connection with relevant persons is the most crucial one. If tambon leaders have strong connections with line agency officers or other high rank civil servants, they have higher chance to mobilize external agencies to implement projects. For example, Tambon Wang Luk successfully mobilized Accelerated Rural Development Department (ARD) to implement a road construction project. The application for this project was in the very back of the queue in 1996. Due to the influence of a parliament member, the examination of this proposal was accelerated and was approved in early 1997. Conformity with the policy guidelines of external agencies is another important factor. Usually poor tambons or tambons deficient in specific services have higher chance to get their projects approved. For example, the project of dredging the royal irrigation canal at village 9 of Krasieo was approved by DOLA because the provincial irrigation

project last year did not cover this tambon. Finally, tambons need to "clear troubles" for line agencies in advance, which means to solve potential disputes during project implementation.

Village leaders sometimes also use their influence to mobilize external resources. A remarkable example occurred at village 5 of Wang Luk. The village head had good friendship with high rank military officers nearby; therefore his village obtained a lot of support from military units, which included construction materials, sewing machines, cloths for apparel-making, and direct subsidy in cash. Since the village head was quite capable of finding support, their reliance on the TAO diminished, and they did not really care about TAO's works.

### **2.2.6 Quantitative information for decision-making**

The most frequently used quantitative information is the amount of budget. As stated previously, TAOs spent considerable effort and time in the planning processes to figure out the budget right, but they rarely used the data of national information systems in making decisions. They used BMN occasionally for supplementary purposes, but never used NRD 2C (The two national information systems for rural development will be introduced in the next chapter). Detailed discussions about Thailand's national information systems for rural development will be presented in chapter 3.

## **2.3 Explanations and critiques about findings**

This section elaborates the findings in previous sections regarding local governments' interaction with people and decision-making. While the findings in previous sections are solid records based on interviewees' statements and concrete data, the explanations and critiques in this section are based on my understanding about the conditions at national and local levels, my knowledge about general issues of decentralization, and the arguments about *good governance* according to UNDP's definitions and other literature.



### 2.3.1 Interaction between TAOs and people

There exists an *unbalanced* information flow between TAO and people. In the one direction, TAOs have multiple channels to acquire information about village problems and village needs. Even if some channels fail, they can still gather such information via other channels. And the information passed to TAOs is sufficient to reveal villagers' problems and needs. In the other direction, most information passed from TAOs to people is in the form of commands, notifications and requests to villagers. Little information about TAO's operations, rationales for making decisions, and their performance is disseminated via existing channels. According to UNDP's definition ([33]), transparency means "*sharing information and acting in an open manner*". It "*allows stakeholders to gather information that may be critical to uncovering abuses and defending their interests*". Transparency, according to this definition, is a crucial component for good governance. Information about TAO's operations, rationales for decision-making and performance is essential for a transparent government. If people are not able to know how the decisions are made and how well (or bad) local governments perform, it is not possible for them to check if government officials abuse their power to do something wrong. Similarly, if people are not able to know what are going on in governments, their interest may be deterred due to the unawareness of their benefits or disadvantages caused by governments' moves.

The discrepancy between villagers' evaluations about TAOs and the knowledge about them reveals the lack of information about TAOs and villagers' indifferent attitudes toward them. Vague terms – such as *willingness to serve people, readiness to develop their tambons* – are used to describe their TAOs. This may be common when people are satisfied with the services TAOs provide but do not have much concrete data to support their satisfaction. However, when none of the interviewees expressed negative aspects of the services they received, it is doubtful that they treated these services seriously.

Three possible causes may lead to the indifferent attitudes. Firstly, villagers concentrate most of their energies and time in conducting economic activities. Adult

males work in either farm fields at villages or factories in cities. Women and elderly work on supplementary occupations. Their business keeps them from paying attention to TAOs. Secondly, villagers' willingness to participate in TAO affairs is discouraged when little information relating to TAO's decision-making and performance is passed to them. Thirdly, when TAO's impacts are small compared to its competitors, people will usually come to other entities instead of TAOs for help. Major competitors are line agencies; sometimes influential village heads also compete with TAOs for the services provided at village level. For example, village 5 of tambon Wang Luk.

Not only do villagers feel indifferent about TAOs, but they also have the pre-conception about the services TAOs can deliver for them. In spite of the demands for other services, most projects villages propose to TAOs are small-scale infrastructure works – especially roads and irrigation canal maintenance (table C.4). Villagers' preference for small-scale infrastructure is probably due to the TAO's preference for these projects. Projects in other sectors are difficult to get approved, thus discourage villages to propose projects in these fields. Moreover, services in other sectors are mostly taken care of by line agencies. Since they (line agencies) own the resources, experience, technology and prestige in these services, it is difficult for TAOs to compete with them.

Conflicts between TAOs and people are more likely to occur under two conditions: when the land values at controversial areas are higher, and when people are more aware of their own rights. According to the comments from the deputy district officer of Samchook, Wang Luk had problems of conflicts because both conditions existed there. The land value at Wang Luk is higher due to its high agricultural productivity and closeness to major roads. Therefore, people are less willing to contribute their lands for public interests. Furthermore, people at Wang Luk are also more aware of their rights and more active in defending their rights. They complain to the TAO or even appeal to higher level authorities more frequently. They are less easily *tamed* or convinced by TAOs.

The determining factor for successful persuasions is TAO's credibility among villagers. Again, information about TAOs helps them to build such credibility. When

people understand the importance of the projects and the common benefits themselves and other people will get, they may be more willing to make concessions. Successful persuasions also depend on innovative approaches to mitigate the needs of projects and affected households' interests. The promise of later reimbursement stated in the previous case is a good example.

### **2.3.2 TAO's decision-making**

Budget constraint is one of the most important concerns for TAOs in making decisions about budget planning. According to the interview results, the notion that performance is proportional to allocated budget was widely believed by both TAO members and villagers. Many people told me that their TAO's only weakness was lack of funds. TAO members of Krasieo mentioned the only reason Wang Luk was relatively more successful was its greater amount of revenue.

According to the my observations, although the wealth of Wang Luk contributed to the better services by delivering more projects to villages, it could not explain the other strengths, such as smoothness of TAO operations and the existence of active social groups. Furthermore, in spite of the fact that some other tambons within the *model TAO program* have greater revenues than Wang Luk<sup>9</sup>, their performance is not as good according to DOLA's evaluations. The intricate relations between revenues and local governments' performances are worth pursuing through in-depth studies but are beyond the scope of this thesis.

Lack of vision about development in other aspects is the central government's common explanation about TAO's infrastructure bias. However, lack of vision is the outcome instead of the cause. This results from multiple causes.

- Restrictions of TAO's functions may be the most important cause to explain why they usually stick to infrastructure. TAOs are not allowed to engage with certain services, such as primary education and agricultural extension. They are not encouraged to deliver many other services, although some are not en-

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<sup>9</sup>For example, tambons Vichit and Choeng Thalaе at Phuget Island

tirely prohibited, such as community development, public health, and income generation programs.

- Existence of line agencies at local levels constrains TAOs for performing certain functions. Although line agencies are not perceived by TAOs as major competitors, they do limit the type of services and resources allocated to TAOs. Therefore, the space left for TAOs to maneuver is narrow.
- Many TAOs have accumulated a significant amount of experience and knowledge about infrastructure projects. They can perform those projects smoothly and efficiently. Thus they prefer to work on these types of projects. The road construction/maintenance at Wang Luk is a good example. The civil work technician was a civil engineer. He had sufficient knowledge to design the specifications of roads and monitor the progress of the construction works. The tambon worked on many similar projects before. They could estimate the costs of materials and labors by contacting familiar contractors and line agencies. The TAO could even mobilize villagers to participate in construction works if necessary. These advantages make infrastructure projects highly preferable to TAOs.
- TAOs lack adequate channels to obtain information with regard to development in other aspects. The only technical worker is a civil engineer. Knowledge and experience about agriculture, public health, education and community development are grasped by line agencies. Facilities for information access – such as libraries and on-line databases – are rarely available in rural areas.

Focus on infrastructure projects makes TAOs concentrate their limited resources on specific matters which they can perform better. However, sticking to road construction and irrigation canals may lead to a mismatch between actual needs and services delivered if those two projects are not of the highest priorities for villagers. The case of village 7 of Wang Luk exemplifies this possibility. The village proposed projects of irrigation canal dredging, small dam construction, and a public telephone

booth at the village center. The canal dredging project was approved while the other two were rejected, although flooding was considered a serious problem in Samchook district, and many villagers complained they could hardly communicate with outside. The mismatch between actual needs and services delivered will be aggravated when the communication link between local governments and people is weak. Under this condition, the subjective judgment of tambon leaders weighs more than the voices from villagers demanding services.

Equalization of budget distribution is common in many decentralization cases. When the base of stakeholders is enlarged, everybody needs to be satisfied to some extent rather than allowing only a few enjoy all the fruitful outcomes. There are many ways of defining equity; one of the most direct definitions is to give each village similar amount of money. This method was used by Wang Luk to allocate budget for development projects. Other considerations – such as population, areas and average income – were not addressed during the budget planning meetings.

Inequity still exists among villages (table 2.2). This is mostly due to the characteristics of proposed village projects rather than political factors. For example, village 3 was allocated the smallest budget in the plan for FY 1998 because the second project it proposed was beyond the limits each village could get (385,200 baht). All three other projects proposed by village 3 were approved, and the sum of the costs for these three projects was the smallest among the budget allocated to all villages (table C.4).

Equalization of budget distribution has advantages during the early stage of decentralization. It helps in building local governments' credibility since they generate impacts on all stakeholders (in this case, villages), even though these impacts are small. Each villager will feel he/she at least obtains some benefits from the TAO; thus the local government is helpful and credible to some extent. It also encourages participation from local people. Since people recognize the effectiveness of local governments and broadly share in benefits, they are more willing to participate in TAO activities.

However, equalization also has the weakness of reducing the intensity of impacts by diluting money into multiple projects. Guided by the equalization principle, TAOs

always generate marginal effects to all villages instead of improving the conditions significantly at limited areas. Which strategy to adopt – equal but small improvement throughout the entire areas or concentrated but substantial progress in limited areas – during the course of development has long been a contentious subject. I do not intend to tackle this dilemma. However, when local governments gradually develop their capacity in handling the operations, service delivery, plan formulation, and vision for the future, they should be able to choose the strategy according to their needs and analysis. Therefore, the equalization principle should be replaced with more sophisticated and higher impact strategies during later stages.

Due to the constraints from fiscal regulations, TAOs can not mobilize their financial resources by improving the efficiency of tax collection or adjusting the taxation rate. The most common mode for mobilization of external resources is to lobby external agencies to carry out the projects through formal proposals and informal connections. This is a convenient way for TAOs to get more projects implemented within their areas, but is not equally beneficial to every tambon. Some local entities (villages, tambons) obtain extra support only because their leaders are better connected with high rank officials or legislatives. It may also generate the problems of corruption since local leaders can use the same channels to facilitate the projects which only satisfy their interests. Furthermore, reliance on line agencies to take care of most services will prevent TAOs from acquiring the capacity to perform these tasks, thus reduce their effectiveness.

Mobilization of human resources includes the measures of training TAO staff and members and borrowing civil servants from other government agencies. Such mobilization is less problematic compared to project mobilization. Equity issues still exist since the quality and quantity of training received are not identical all over the country. However, the problems of corruption can be reduced, since it does not directly involve money. This kind of mobilization also helps TAOs to establish their capacities rather than just getting projects done in a short term.

The lack of use of quantitative information – especially national information systems – is mainly due to TAO members' confidence in their understanding about local

conditions and the flaws of national information systems. Their understanding about local conditions comes from villagers' voices reflected to them and their subjective perception about the importance and seriousness of problems. Their wisdom and instincts should be trusted and respected. However, quantitative information should not be excluded from decision-making, either. Quantitative data may reveal same information which is difficult to recognize; for example, the growth rate of household income over the past ten years. It can also help in making the concepts and statements clearer and comparable, thus easier for public discussions.

# **Chapter 3**

## **National and local information systems for rural development**

Thailand has two national information systems for rural development – NRD 2C and BMN. Those systems provide comprehensive information about local conditions covering many sectors in rural development. However, they are rarely used by local governments for various reasons. In this chapter, the information processes of both systems and explanations for the lack of local use will be discussed. The observations and analysis in this chapter are the basis for the recommendations about information systems in chapter 5.

### **3.1 Information processes of NRD 2C and BMN**

#### **3.1.1 Introduction**

NRD 2C is a database which was created in 1982 for the National Rural Development Program (NRDP). Derived from the Rural Poverty Eradication Program, the major purpose of NRDP was to alleviate poverty of the poorest areas in the country. Based on this strategy, NRD 2C was created to indicate development status at village level. For each indicator, each village is ranked as either advanced, normal or backward



status. The performance of all indicators is synthesized into one composite indicator.

The Basic Minimum Needs (BMN) database was initiated during the 4<sup>th</sup> national plan (1977-1981). Originally it was used solely for public health programs. Later it became a comprehensive database covering many aspects of development. Unlike NRD 2C, BMN is collected at household level every year. All the data are represented as absolute numbers and percentage rates. The national target (in percentage forms) of each indicator is set at the beginning of each national development plan period. Villages, tambons, districts or provinces can review their aggregated BMN indicators to see if they have achieved the national target.

### **3.1.2 Indicator design and revision**

Indicator design is a process to determine what information to be incorporated within the systems, what kind of processing is required, and what forms the data are represented.

Every two years, a committee with delegates from CDD, DOLA, NESDB, Ministry of Public Health, and Ministry of Education is organized in order to revise the NRD 2C indicators. Indicators are revised in order to conform with the objectives and strategies of national plans. For example, during the 6<sup>th</sup> national plan period, NRD 2C incorporated more indicators about natural resources in order to follow the strategy of environmental conservation. The indicators are uniform across the nation. Provincial/local institutions are excluded from the decision process of indicator design and revision.

Currently NRD 2C contains 37 indicators covering 6 categories: basic infrastructure, production, public health, water resources, knowledge, and natural resources. Table 3.1 lists the content of those indicators.

The design and revision process of BMN is very similar to NRD 2C. Indicator revision and target setting are conducted every 5 years by the same committee for NRD 2C indicator design. As the name suggests, those indicators reflect basic minimum needs for living, such as nutrition, sanitation, security and education. Indicators about community participation and morality are incorporated for the interests of

Table 3.1: the NRD 2C indicators

<b>Basic infrastructure</b> 1. Land title 2. Electricity 3. Transportation 4. Business in villages 5. Sources of woods and fuel 6. Animal source 7. Land ownership	<b>Water resources</b> 24. Clean water 25. Sources of drinking water 26. Domestic water supply 27. Water for agriculture
<b>Production</b> 8. Occupation and employment 9. Wage 10. Productivity 11. Upland crop production 12. Supplementary occupation 13. Migration for work 14. Farmer cohesion 15. Credit for agriculture 16. Dry season agriculture	<b>Knowledge</b> 28. Education level 29. Secondary education ratio 30. Government & academic support 31. Knowledge about life quality 32. Knowledge center 33. Information center 34. Religion, culture & sport activity
	<b>Natural resources</b> 35. Forest 36. Soil 37. Water
<b>Public health</b> 17. Village health services 18. Security of health treatment 19. Home sanitary 20. Health & sanitary 21. Birth weight 22. Nutrition of 0-5 years children 23. Family planning	<b>Overall development level</b>

Source: IPIED

CDD and other users. If the national target of a specific indicator is achieved by most communities in the country, this indicator will be "graduated" from the database and new indicators will be incorporated. Table 3.2 shows current indicators of BMN.

### 3.1.3 Data collection and delivery

NRD 2C data is collected by teams comprised of Tambon CDD officers, public health officers, education officers, TAO deputy officers, and tambon teachers. Every two years it is conducted by interviewing village leaders and relevant line agency officers. A questionnaire book published by NRDC (National Rural Development Committee) is given to tambon teams in advance. The team members fill the book by asking questions to the interviewees. It usually takes a half day to finish the data collection of one village.

Tambon CDD officers compile the collected data and fill it in standard forms. The forms are sent to provincial CDD offices to check the accuracy; then they are

Table 3.2: BMN indicators

<p><b>Household nutrition</b></p> <p>1. Pregnancy            2. Normal nutrition of 0-5 years old child            2.1 Malnutrition level 1 child            2.2 Malnutrition level 2 child            2.3 Malnutrition level 3 child            3. 6-14 years old child receives all nutrients            4. Eating well-done meat            5. Consuming qualified food</p>	<p><b>Security &amp; property</b></p> <p>23. Security in life &amp; property            24. Security in accident</p>
<p><b>Housing &amp; environment</b></p> <p>6. At least 5 years durability of house condition            7. House sanitation            8. Sanitation toilet            9. Drinking water sufficiency            10. Non-pollution</p>	<p><b>Income</b></p> <p>25. 15000 baht/year/household income</p> <p><b>Family planning</b></p> <p>26. Birth control receive accessibility            27. No more than 2 children in family</p>
<p><b>Accessibility to basic public services</b></p> <p>11. Pregnant care            12. Assistance during delivery            13. Vaccination reception under 1 year old child            14. Vaccination reception of primary school child            15. Knowledge about AIDS            16. Knowledge about AIDS protection            17. 3-6 years old child brought up and prepares for school            18. Child receiving primary education            19. Primary school graduates enter secondary school            20. Primary school graduates without entering secondary school receive job training            21. Literacy of 15-20 years old people            22. People receiving useful information</p>	<p><b>Participation in community</b></p> <p>28. Group membership            29. Using right to vote            30. Public asset preservation/participation</p> <p><b>Mental development</b></p> <p>31. Take part in religious activity            32. Without alcoholic drinking            33. Without smoking            34. Local cultural activity participation            35. Respecting people older than 60</p> <p><b>Environment development</b></p> <p>36. Natural resource conservation            37. Environmental protection</p>

Source: Community Development Department, Ministry of Interior

compiled and sent to regional CDD offices. Finally all the data in paper form are delivered to Information Processing Institute for Education and Development (IPIED) at Thammasat University in Bangkok for processing.

The processed NRD 2C data are distributed to tambons in the same manner: from the regional unit to provincial, district and tambon units. Computerization is achieved only above provincial level. The floppy diskettes are sent to provincial CDD offices. They print out the data and distribute the hard copies to districts, then to tambons.

Data collection of BMN needs more resources than NRD 2C since it is a household-based survey. The collection is conducted every year by village teams comprised of volunteers and headed by tambon CDD officers. The volunteers receive training about data collection (what do the questions mean, how to fill the questionnaire, and so on). A book covering detailed questions (BMN1) is used for interviewing households. Each volunteer is responsible for interviewing 10 households.

Tambon CDD officers summarize the data from household level (BMN1) and calculate the percentage rate for each indicator at village level. They fill the aggregated results in another BMN book (BMN2). They send BMN2 books to provincial CDD offices and keep BMN1 books at district CDD offices. Provincial CDD offices enter the data in computers and send the floppy diskettes to central CDD office for processing. The processed data is distributed to tambons in hardcopies via provincial and district CDD offices.

### **3.1.4 Data processing**

NRD 2C is processed solely at central level (IPIED). The raw data collected all over the country are sent to IPIED. The institute enters the data in computer files. Sub-questions are combined to calculate the development levels of the 37 indicators. The development level can be either *advanced* (3 point), *normal* (2 points), or *backward* (1 point). Excerpts of the data processing for a sample of NRD 2C indicators are listed in table C.1 in appendix C.

A composite development indicator is calculated from the scores of individual indicators. A village is categorized as *advanced* in overall performance if 5 or fewer indicators are in backward status. 6-10 indicators in backward status will be categorized as *normal*, and more than 10 indicators in backward status will be categorized as *backward*.

Finally individual and composite indicators are aggregated at tambon, district and province levels. The final product distributed to tambons is a table showing the number of villages at each level for all the indicators.

BMN data is partly processed at local levels. CDD officers at tambon levels convert BMN1 questionnaire books into BMN2 forms by summing up household statistics and calculating the percentage numbers divided by specific base numbers<sup>10</sup>. The BMN2 data are entered in computers by provincial CDD offices and submitted to the CDD headquarter at Ministry of Interior. Percentage rates of indicators are aggregated at various levels for different purposes. "Pass" or "fail" is determined by comparing actual data with the national target. The CDD headquarter sends floppy diskettes to provincial CDD offices; and they print out the hardcopies to distribute to district CD offices and TAOs.

### **3.1.5 Information use**

The data of NRD 2C and BMN are mainly used by the central government and line agencies. They use these data for both central and local projects. For the central projects, they use NRD 2C and BMN to identify problems and set priorities for budget allocation. For example, when the Ministry of Education intends to improve school sport facilities, it will choose the places (provinces, districts, tambons, or villages, depend on level of aggregation preferred) with low rank (1 point) of the *religion, culture and sport activities* indicator of NRD 2C. Those data are also used as criteria

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<sup>10</sup>The base number can be the total number of households, population, people of 15-50 years of age, new-born babies, or other number relevant to the indicator. The percentage can be calculated at various levels. The rate at village level is the most commonly used.

for approving and allocating the budget for projects proposed by local governments.

Although TAOs are the major organizations which are responsible for data collection at local levels, they demonstrate low interest in using these data. From the fieldwork results, NRD 2C was never used by TAOs in making decisions. The primary reason stated by TAO leaders is they thought they already understood local conditions without reference to the data. Another reason is the high aggregation level of NRD 2C (at village level) made the data less useful for understanding villagers' conditions. BMN was used for ancillary purposes due to its detailed depictions at household level.

## 3.2 Critiques about NRD 2C and BMN

### 3.2.1 Indicator design

There are problems associated with indicators themselves and their design processes. First of all, identical or similar indicators appear at both NRD 2C and BMN. The existence of two separate systems is primarily due to historical reasons rather than functional necessity. For example, the item *education level* in NRD 2C contains a question regarding the percentage of villagers fulfilled primary education. A similar question about *children's attendance rate for primary education* also appears in BMN. Other examples include: *wage* in NRD 2C versus *household income > 15000baht/year* in BMN; *home sanitary* in NRD 2C versus *house sanitation* in BMN; *family planning* in both NRD 2C and BMN; *source for drinking water* and *domestic water supply* in NRD 2C versus *drinking water sufficiency* in BMN; *natural resources* in NRD 2C versus *natural resource conservation* in BMN. Duplicated indicators lead to the wastage of resources spent on data collection and processing.

Secondly, lack of participation from local governments in the indicator design process makes those systems less useful to them. Currently the primary function of NRD 2C and BMN is to serve the central government in determining budget allocation. Since the central committee dominates the design and revision of indicators,

local and provincial institutions' needs are not well addressed. The notion of "development level" at NRD 2C is a prominent example. Villages are categorized as *advanced*, *normal* or *backward* levels according to their positions in national statistics. For the central point of view, the purpose of this label is to make comparisons among all villages across the country such that they can allocate more budget on *backward* communities. But from TAOs' perspective, such a comparison is not particularly useful. They are more interested to know the comparisons among villages and sectors within their tambons and the change of indicator values over time in their communities. Rigidity of indicators due to the lack of local participation in the designing process is another problem. The central government wants those indicators comparable among all villages; therefore the question books are uniform across the country, no matter how different local conditions are. In fact, some indicators are meaningless under certain local conditions. For example, many villages do not have forests, but the data collectors still need to fill out this column at the questionnaire book. Many data collectors just leave those items blank without following the nomenclature for dealing with exceptions. Uniformity of indicators also prevents local governments from collecting the data which fits their conditions and needs.

Inadequate aggregation level for NRD 2C indicators was frequently mentioned by TAO members. NRD 2C aggregates the data at village level, which is not sufficient for TAOs and village committees to understand household conditions.

### **3.2.2 Data collection and delivery**

TAOs and district CDD offices are data collectors and compilers at local levels. Duplicated jobs of data collection for NRD 2C and BMN make those organizations spend extra time and effort on data collection. For TAOs, although NRD 2C and BMN data collections are conducted by different teams, they still need to oversee both teams and monitor their jobs. TAOs fulfill data collection responsibility only because they are assigned these jobs. There is little incentive for them to improve the quality of collected data and the efficiency of the collection process because they do not use the data. For tambon CDD officers, they need to handle the compilation of both

databases in different forms. Such work occupies their time several months per year, thus the time and effort they can spend on community development is reduced.

The collection process of BMN makes the data more reliable than NRD 2C. BMN is collected by household surveys. Sampling error is reduced since both interviewees and collectors are diversified. NRD 2C, on the other hand, is conducted primarily by interviewing local officers. They may be quite familiar with general conditions and public facilities of local communities. However, their estimations about household conditions at specific indicators are subject to more significant error.

A few problems associated with the quality of collected data were frequently reported to CDD offices. Inaccuracy of data was not considered as a serious problem. Collected data is checked at various levels for accuracy and consistency. If serious problems are found, upper level CDD offices (national, regional or provincial units) may ask for recollection. The central committee will also send teams to inspect the collection process when error is reported by data users – mostly line ministries. Data fabrication may occur for political reasons since the data are used for budget allocation: tambons may exaggerate local problems in order to get higher budget allocated. It may also occur due to the lack of collection: collectors just make up the data and hand it in. These problems were reported to CDD offices.

Data inconsistency was the major problem with data quality noted by the provincial CDD officer of Suphanburi. Calculation error was the most frequently reported. Inconsistency occurs when the same sets of data does not lead to identical results. For example, the sum of male and female population is not equal to the total population. Another inconsistency is about dealing with exception items. When the data in a specific item is blank, there should be a set of nomenclatures to explain what happens. For example, 1: no such conditions, 2: not collected, 3: incomplete data set, and so on. But in many cases collectors just leave items blank without making any explanations. This adds to the difficulties of data processing.

Finally, the documents are poorly archived such that it is difficult to retrieve old data in useful forms. All the questionnaire books come to district CDD offices. They need to leave original files in their offices and send copies to provincial CDD offices.



Accumulated documents pile up at the corner of the office. It is difficult to retrieve useful information from the big piles. At provincial CDD offices, although the data are stored in computers, they only keep the most recent data.

### **3.2.3 Data processing**

Currently almost all the data processing jobs are concentrated at central level. For NRD 2C, IPIED takes care of all data processing jobs from data entry to calculation of development levels. For BMN, provincial CDD offices are supposed to handle data entry and percentage calculation. But many provinces still rely on the central CDD office to perform these functions. Concentration of data processing adds to the burdens of central units. Simple functions – such as data entry – can be managed at provincial or even local levels as long as computers and trained users are available. Concentration also disables provincial or local entities to process data in a flexible manner which can satisfy diversified demands. A central unit located in Bangkok is not able to fulfill the requests from 7,000 tambons in the country. Establishment of provincial data processing centers has been planned under the improvement program for NRD 2C. However, given the difficult financial conditions of Thai government, it is not likely to be implemented in the near future.

## **3.3 Information technology at local levels**

### **3.3.1 Computer uses at TAOs**

According to regulations, each TAO should be equipped with one computer. However, neither one of the two TAOs I visited had computers at the time when I was in the field (summer of 1997). Both of them planned to purchase computers in the next fiscal year (1998).

Neither TAO had concrete plans about computer uses and management when they would get the new equipment. According to the comments from several TAO

officers (deputy officers and financial officers), they planned to use computers for the following tasks.

1. Archiving the records about TAO projects. Such records contain the documentation about village needs, problems that occurred during the planning and implementation stages, and the resolutions the TAO has used to tackle these problems.
2. Producing various forms for official – especially financial – uses. For example, various forms for purchasing different types of goods.
3. Accounting and other financial management.
4. Word processing of documents.

In addition to high expectations, they also expressed concerns and worries about various potential problems of computer uses.

1. Local staff's lack of training and experience in using computers was the most crucial concern they cared about. Very few persons at TAO level knew how to do word processing (in Thai language), not to mention more complicated functions. Therefore, they need either intensive training of local staff or introduction of new personnel for computer processing.
2. The physical environment which supports computer operation is as important as computers themselves. The installment a computer requires space and furniture to accommodate it, an air conditioner to control the temperature to prevent over-heating, and a relatively stable power supply. Those conditions are not available for all tambons.
3. Local staff hold different attitudes toward the use of computers. Some thought computers could really reduce their troubles and speed up their jobs, thus would like to learn them. Others did not want spend time learning the new technology because they thought they could handle their jobs manually. The reluctance to use computers needs to be overcome if they are to be extended to TAOs.

### 3.3.2 Voice and data communication networks

The telephone connection rate in rural areas is still low in Thailand. According to the statistics in 1992, only 5,000 out of 60,000 villages were connected ([2]). At the installation rate for 4,200 stations per year from the estimations in the seventh national plan, complete coverage of public telephone services would not occur until the year 2061. Given the hardship of Thailand's economy, the speed of installation will be reduced, thus the expected date for complete coverage will be further delayed.

None of the TAO offices I visited were equipped with telephones. They used radio equipment to communicate with TAO members and the district office. Interestingly, village 5 of Wang Luk had a very high connection rate (full coverage of every household according to village head's claim). The high connection rate, according to village head's comments, was due to the higher household income.

Data communication links are even fewer than telephone lines. They were not found in the places I visited. Several tambons were connected to Internet via telephone lines within the *Rural Intranet Project*. The purpose of this project was to provide agricultural information to rural people via Internet. Detailed discussion about this project will be discussed in chapter 4.

Cable connections for voice and data communication are expensive in rural areas due to the low density of population distribution. In addition to policy measures (for example, cross-subsidization of rural communities by charging more on urban users), new technology may also overcome this problem. Wireless communication is a highly probable candidate since it does not need wires, thus is cheaper and more portable.

## Chapter 4

# Information use and needs of rural people

Although the services that TAOs provide currently are important for rural people, those services cannot satisfy their entire needs. In addition to physical infrastructure, such as roads and irrigation ditches, the acquisition of relevant information is also very crucial for villagers to conduct their daily economic activities. From my field observation, I found that two types of activities relating to information exchange were important in rural areas: the acquisition of agricultural information and activities of supplementary occupation.

Currently these activities are organized by village social groups with aid from line agency officers. However, TAOs have advantages to provide services to help these activities. Firstly, provision of information on these aspects will make TAO's services cover more demands, thus TAOs will become more effective in rural areas. This is consistent with the goal of decentralization. Secondly, diversion of resources and efforts into information provision will alleviate the concentration of infrastructure projects, thus improving the TAO's capacity to conduct multiple services. Thirdly, currently these activities rely solely on line agencies and intermediary persons in cities. If they are not able or willing to help, the activities will fail. It is safer for villagers to engage with these activities if they can get regular aid from TAOs.

This chapter discusses information provision for these two activities. In addition

to characterizing the providers, content, channels and uses of such information, it also evaluates the current conditions related to these aspects. In chapter 5, recommendations about TAO's moves to bring information for these two fields to rural people will be developed.

## **4.1 Agricultural information**

People acquire agricultural information from diversified sources. They obtain experience inherited from their families and knowledge from extension officers. This includes two types of information: agricultural production and product market.

### **4.1.1 Agricultural production**

Information about agricultural production includes knowledge about crops and growing crops, instructions about using fertilizers, pesticides and machinery, and information about market prices for inputs. As previously mentioned, old experience and new knowledge are mixed. Paddy rice and sugarcane are primary crops in the central plain. Farmers have accumulated remarkable experience in these crops from generation to generation. People usually get the knowledge about growing these crops from their families or neighbors.

When new crops or technologies are introduced, villagers usually rely on external persons to teach them how to grow new crops or use new technologies. This is achieved via several channels: agricultural extension officers, mass media, and Internet.

Agricultural extension officers are the major resource persons who bring information to villagers from outside. In addition to teach people how to grow new crops or how to use new tools, they also distribute seeds, fertilizers or pesticides to villagers. They can also mobilize villagers to form groups to facilitate information sharing and cooperation. TV and radio are also their major channels for receiving information about new knowledge for agriculture production.

Internet is the most recent channel for delivering agricultural information. Although Internet connection in rural area is scarce, a pilot program held by various institutions has started in 1997 toward this direction<sup>11</sup>. This project, which is called *Rural Intranet*, established connections between rural communities and information resources in urban areas in order to facilitate information exchange. A server was set up at Institute of Technology for Rural Development (ITRD) in Bangkok. It posted messages from all users on electronic bulletin boards (BBS). Various resource persons and organizations that could bring agricultural information were invited to participate in the project. They were supposed to submit updated information about agricultural product prices and cultivation technology to the BBS periodically. Rural organizations (mostly TAOs, some NGOs) were given modems, communication software, and free telephone connections to the server. Within the organization, in each tambon a person was in charge of delivering the information posted on BBS to villagers.

*Rural Intranet* is a pioneering project; thus it covers only a few tambons. The implementation result at early stages was not successful, since rural people have not adapted to use this channel to acquire information yet. The segment of the information chain after computers – the link between computer operators and ordinary villagers – is the crucial part. Various problems at the human-computer link were reported. For example, the persons in charge of information delivery failed to pass the information from the intranet to villagers; or conflicts of computer uses occurred between this project and other purposes (since it shared computers with TAO offices). Nevertheless, the failure at early stage does not preclude the opportunity of eventual success. As the study of Madon ([19]) indicates, users need a certain period of time to adjust themselves to use the information systems; the performance during the adjustment period is typically lower than in later periods. For most rural communities which the *Rural Intranet Project* does not cover, the information about

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<sup>11</sup>Participant institutions of this program include Institute of Technology for Rural Development (ITRD) at Chulalongkorn University, Ministry of Agriculture, Bangkok central market for agriculture products, and agriculture experts from various universities and research institutes.

input prices mainly comes from familiar markets and agricultural extension officers. They can only compare the prices among a few markets which are accessible to them.

#### **4.1.2 Product market**

Information about the product market comprises three different types: market locations, prices of the same crop across markets, and prices among different crops. This is the primary information farmers use to decide where to sell their products, and what to grow for the next season.

The choice of product markets is usually limited. They are determined by transportation costs and transaction costs – i.e. the acquaintance of wholesalers and retailers in specific markets – of selling their products. Villagers usually transport their products to their familiar markets close by. For example, people at village 7 of Wang Luk usually sold their rice to the market in Singburi, a neighboring province of Suphanburi. Sometimes they carried the crops to travel around several familiar markets and sell them at the one with the highest price. An example is the paddy rice selling of village 9 in Krasieo.

Information about prices among different crops is usually acquired from external resources, such as agricultural extension officers, media and rural intranet. Within the central region of Thailand, paddy and sugarcane cover most of the agriculture fields. The Thai government wants farmers to diversify their crops in order to reduce the risk of price fluctuation and maintain the environmental quality of fields. The rotational crop group is one project at Wang Luk targeted for this purpose. With the help of the agricultural extension officer, farmers at village 7 of Wang Luk organized a rotational crop group in order to diversify their crops. The agricultural extension officer provided information about prices among various products and suggested to them what to grow for the next season. Fruits and vegetables were usually preferred due to their high values and short growth period. The agricultural extension officer also distributed seeds, fertilizers and pesticides to villagers and taught them how to grow those plants which they had no experience before. The rotational crop group generated great impact for the village. Most villagers diversified their crops: 50%

of average household income came from alternative crops and 50% came from paddy and sugarcane.

### **4.1.3 Critiques about agricultural information channels and sources**

There are both advantages and disadvantages in the current status of agricultural information exchange. In terms of its advantages, social network is still a very effective way for information exchange. The linkage inside villages helps in disseminating knowledge and experience about agricultural production. The connection with outside resources helps in acquiring information about market prices and helps in increasing villagers' income. Secondly, villagers are eager to learn new knowledge and are easy to mobilize if the activities are related to agriculture. Thirdly, literacy rate in Thailand is relatively high (93.8% nationwide according to 1995 estimation) ([5]). Thus it is easier to disseminate information via text media, such as newspapers and electronic communication. In terms of its disadvantages, each type of information usually relies on a single channel. Acquisition of new knowledge and technology heavily depends on agricultural extension officers. If they do not commit a substantial amount of time and energy in collecting and disseminating the information, villagers will not be able to benefit from new technology and information. A strong contrast in terms of the evaluation for agricultural extension officers appears in the two villages I have visited. At village 7 of Wang Luk, villagers applauded the agricultural extension officer since he actively organized the rotational crop group and constantly provided information about cultivation technologies and market prices of crops. Conversely, people at village 9 of Krasieo were not satisfied with their agricultural extension officer. The village head told me that the officer showed up once every few months and rarely replied to villagers' requests.

A similar problem occurs regarding information about markets. Villagers rely on their acquaintance with a few markets to sell their products. Even though other markets offer higher prices, they are unlikely to abruptly switch there. Secondly,



lack of communication and transportation infrastructure adds difficulties for ordinary villagers to acquire information via channels other than personal acquaintance. Therefore, the information they get is very limited and possibly outdated.

## **4.2 Information about supplementary occupation**

Two cases regarding income generation activities of women's groups will be examined to elaborate the process for collecting and using relevant information to acquire supplementary occupation. Characteristics about the information channels and needs for supplementary occupation are extracted from the examples. Finally, I criticize this process.

### **4.2.1 Case examples**

Women groups are income-generation groups at local levels. Major participants are women, children and the elderly. They usually work on handicrafts or light industries, such as flower gallant-making or apparel-making. The duration of the group activities is usually one year. After one year group leaders decide whether they can keep going. Members are paid on a daily basis. The amount of wage depends on the revenue the groups get by selling their products.

Village 9 of Krasieo had two women groups last year: a flower gallant-making group and an apparel-making group. The idea of the flower gallant-making group was initiated with the contact between a wholeseller and village leaders via an intermediary person (who is living in city of Suphanburi now). The wholeseller needed labor to produce the flower gallants, whereas the village needed jobs. Therefore, village leaders (including the village head and another rich person) organized the group. They picked up flowers from the wholeseller, made the gallants and then sold the flower gallants to the wholeseller. This deal turned out to be profitable, thus they were thinking of making more profits by selling the gallants by themselves. The village leaders and the intermediary person invested on materials and the "factory"

(a shelter provided by an investor). They purchased flowers, hired villagers to make flower gallants, and transported the products to the market in Suphanburi for sale. In the end, they earned more than before.

The women group on apparel-making, however, was not as lucky as the flower gallant-making group. The early stage of that group was similar to the flower gallant-making group. Through the introduction of an intermediary person, village leaders made a deal with an apparel-making factory in Bangkok to produce clothes for them. The factory brought materials and the villagers made clothes for it. However, after the factory received the clothes, it refused to pay the wage by denying that they had made this deal. Villagers could not sue the factory since they did not sign a contract in the beginning. In the end, the members of this group did not get any compensation.

The apparel-making group at village 5 of Wang Luk received strong support from military units. The village head had a close friendship with a high-rank officer of the military base nearby; therefore, the military units subsidized the village by donating sewing machines and material cloth for practicing. The village head also asked the district CDD office to bring trainers from outside to teach villagers clothes-making. Thus the group had many more advantages than its equivalent at Krasieo.

#### **4.2.2 Characteristics about information for supplementary occupation**

From the case examples, it can be inferred that three types of information is needed in order to engage with supplementary occupation activities: information about potential employers and markets, information about production skills, and information about doing business.

Information about potential employers and markets denotes the knowledge about how to find employers and markets. Job opportunities are mostly located in cities, whereas the supply of labor is in rural areas. Connecting the two mainly depends on intermediaries who are familiar with persons on both sides. Those intermediaries

are usually villagers who have migrated to cities for work. They are still connected with their homelands by having relatives, friends and even families there. On the other hand, they are also connected to wholesalers, factory owners, and all other job providers if they are "active" enough in cities. Without the introduction of intermediaries, it is very difficult to connect urban businesses which need labor and rural communities who can provide off-site labor.

Information about production skills and technology is usually brought by village leaders and local officers from outside. They are the intermediaries who bring teachers and trainers to teach villagers how to make products. Skilled villagers who have the experience are internal resource persons. The industries brought to villages are all labor-intensive. They require the least sophisticated training and the least machinery.

Information about doing business is usually not available in rural areas. This involves knowledge about legal issues in doing business, for example, how to make a contract, how to determine wage, how to sue the case if the other side breaks the promise. Also relevant is knowledge about accounting, financing and taxation. Without having this information, villagers have difficulties working with urban businesses.

### **4.2.3 Critiques about supplementary employment information channels and sources**

Cohesion of migrant villagers in urban areas is the key for the success of such activity. Those intermediaries are willing to bring jobs to their villagers (for their own profit, too). They act both as sources of such information and agents who bargain with job providers.

The disadvantages of this situation, however, are evident, too. Connections between villages with urban businesses and external trainers are not easy to find. As mentioned, they rely mostly on personal relationships. If the village does not have an influential chief or active ex-villagers in cities, it is almost impossible for them to develop such activity. Secondly, due to the lack of production technology and equip-

ment, villagers can only work on labor-intensive, low value-added goods. Thirdly, lack of knowledge about legal issues of doing business leads to frequent deception cases, and villagers are usually the victims.

### **4.3 TAO's role in provision of information about agriculture and supplementary occupation**

Currently TAOs play no role in information provision for these two aspects. Individual members (village heads and representatives) may act as intermediary persons to connect with external trainers, military supporters, wholesalers and factory owners. Nevertheless, the TAO as an organization is generally not involved.

As stated in the beginning of this chapter, both TAOs and rural people can benefit if TAOs start providing such services. Nevertheless, various constraints should be expected to hinder TAOs from providing these services in the immediate future. The biggest constraint is the lack of trained personnel in these fields. Most TAOs do not have persons who are familiar with information systems, have knowledge in specific domains of agriculture or supplementary occupation, or connect with information sources. Investment in training and expansion of personnel are required to fill this gap, which is not likely to happen now given the financial condition of the Thai government. The second constraint is the discouragement and competition from line agencies. Due to their influence, some types of services are forbidden to TAOs. Even though there is no legal prohibition, line agencies are still not likely to share their information and resources with TAOs.

# Chapter 5

## Conclusions and recommendations

### 5.1 Summary and conclusions of the main findings

From the findings described in chapters 2, 3 and 4, we are able to depict a broad picture about the development of TAOs since the establishment of the new institutions. With intensive training and support from the central government, some TAOs have gradually been forming the prototypes of self-governments, although they are still far from having full-fledged autonomy. TAO members in these tambons gradually acquire the capacity to conduct the new institutional processes through learning from training programs and continuously practicing those processes. TAO staff also obtain a great deal of management and administrative skills through training and practicing. Therefore, they can now handle ordinary affairs, such as project planning, budgeting, meetings, voting and administration, with smoothness and efficiency. This in itself is a great achievement since villagers did not have opportunities to operate in this manner before. But such achievements are only limited to certain tambons which received better training, supports and opportunities for various reasons. Since many TAOs were established very recently (after 1996), most of them are still in an elementary stage of adapting and learning.

Although the capacity to run official processes varies among TAOs, the ways

they make decisions about budget distribution and project planning are similar. The decisions for budget distribution are limited by political, technical and financial conditions. Small-scale infrastructure is preferable due to its manageable size and technology, cheap costs, high visibility to the public and restrictions imposed by the central governments on providing other services. Also, an equalization principle is more or less followed, such that the TAO representatives from each village feel they are fairly treated. Such criteria for making decisions are common in the decentralized local authorities of many developing countries. Although they do not immediately result in the improvement of service quality, they do help to build a local authority's credibility. People recognize that TAOs can conduct their own projects even if they are small. This is an essential move to make a fuller decentralization that involves a greater variety and better quality of services.

If the purpose of decentralization is to ease the dissatisfaction about the uneven resource distribution between central and local governments and the feelings of powerless among rural people, the performance of operationally skillful TAOs is satisfactory. However, if the goal is to improve the quality of services, to alleviate poverty, and furthermore, to achieve accountability and democracy, the current progress can only be seen as a starting point. Fundamental flaws exist in the decision-making processes and the public-private interactions, which prevent further development of TAOs. The lack of information delivery and use is crucial among these drawbacks. Asymmetric information flows between TAOs and villagers lead to various problems, such as the lack of participation, indifferent attitudes toward TAOs, and difficulties in resolving conflicts about land properties. Ignorance of quantitative information makes it difficult to incorporate sophisticated concerns in decision-making, thus reducing the positive impacts that the projects can generate and the better quality of services that the TAO can potentially achieve. In order to attain to a greater extent the elements of *good governance* according to UNDP's definitions ([33]) – transparency, accountability, participation and efficiency – these drawbacks need to be improved.

Ironically, a considerable amount of information about local conditions is available but rarely used by local governments. The indicators of the two national informa-

tion systems (NRD 2C and BMN) cover many aspects of development in rural areas at village or even household levels. Those data – although collected by TAOs and distributed to them – are at best used by them for ancillary purposes only. There are several reasons for the lack of TAO use of national information systems. Local people are typically confident about their judgement and perceptions of local conditions, and thus consider the quantitative indicators redundant. They fail to recognize the possibility that such data can be used in a manner that complements subjective perceptions. In addition, the data formats and indicators are designed for central purposes, and are not particularly useful to local governments. By overcoming these difficulties, quantitative data will be useful both in the planning process to identify the sectors which are worth investing in and in the process of evaluating the performance of TAOs over the past few years.

Computers and other information technologies are helpful but not essential for the operations of decentralized local governments. They are crucial only when a large amount of data, sophisticated analysis and frequent communications are required in making decisions. For the TAOs at an early stage of development, the adoption of computer systems may consume more resources than the benefits it yields. For the *advanced* TAOs, computers can be integrated with the existing national information systems to process the data in a way that makes them more useful to local people. Therefore, computerization efforts should start at those tambons who are more likely to benefit more from using computers.

Since there is a significant difference between the *advanced TAOs* which are familiar with the processes and skillful in the operations and the *novice TAOs* which are just adapting the new processes, the policies for each need to be differentiated. For *novice TAOs*, the current policies about training and support are appropriate to equip them with the skills to become efficient in routine operations. The central government can also exert incentives on *novice TAOs* in order to encourage them to promote themselves into the *advanced* tambons. For example, they can award more resource and personnel to the TAOs which can conduct the ordinary processes smoothly according to the evaluations conducted by central government agencies. For

*advanced TAOs*, however, current policies need to be modified in order to upgrade their tambons into higher levels. Several strategies can be adopted in order to achieve this goal. TAOs can improve the quality and quantity of current services, diversify the types of services to generate broader impacts, or shift the services into other sectors in which the TAOs have an advantage compared to other public entities. Which strategy to adopt depends on specific conditions and TAO's decisions. The provision of information for rural people is an example of the possible service that a decentralized local government can provide. It is desirable for TAOs to provide such a service for various reasons. Firstly, information about agriculture and employment is important for people's economic activities. Secondly, so far no other public entities are officially responsible for providing both types of information, thus TAOs can gain a "niche" by providing such services. Thirdly, these services do not require large capital investment, thus are appropriate for TAO's financial conditions. Fourthly, not only can these services improve the physical conditions of villagers' living standards, but also can they increase the education and knowledge. However, given inherent limitations for TAOs to conduct this service and the various difficulties that Thailand is encountering at this moment, the provision of such services should be expected only in the long term.

The recommendations in the following sections focus on three aspects: TAO's interactions with people and decision-making, national and local information systems, and information systems for rural people. They are mostly targeted for more advanced TAOs. These recommendations are based on the analysis and critiques in previous chapters. Concrete steps for implementing them are not addressed in this thesis due to my lack of detailed knowledge about Thailand's institutional context and inexperience in policy formulation. However, I try to make these recommendations practical by minimizing the focus on the long-term moves which require restructuring current organizations or a significant amount of resources. Generally speaking, they are vehicles to encourage more thinking about this subject rather than commandments that should be followed strictly.



## **5.2 Recommendations about TAO's interactions with people and decision-making**

Two moves are proposed in order to improve TAO's interaction with people and their decision-making: to release information about TAO's operations and performance to public, and to differentiate training programs for tambons according to their development levels.

### **5.2.1 Release TAO information to the public**

As mentioned in chapter 2, unbalanced flow of information is the major problem with respect to TAO's interaction with people. A lot of information about village conditions and problems flows to TAOs, whereas little information regarding TAO's decision-making and performance flows back to villagers. Under this condition, it is difficult for villagers to understand what the TAO is doing and how well it performs, thus difficult to monitor, evaluate and participate its affairs. The direct approach to resolve this problem is to release selected TAO information to villagers. According to my fieldwork and literature review, the following types of information are crucial for public-private interactions.

- Information about TAO's financial accounts and activities
- TAO's decisions about village issues and the rationales for making such decisions
- Quantitative information about local conditions as a measurement for TAO's performance and impacts

Revelation of information about TAO's financial accounts and financial activities is a crucial step to make governments more transparent and to avoid corruption. According to the comments from interviewees at non-government sectors, some TAO leaders refused to release such information to the public. While I have no evidence that anyone was using money improperly, the lack of disclosure provides a possibility of the appearance of something to hide. Although the central government audits

TAO's financial accounts via district offices and the National Auditing Office, it still should be under local people's review and control. According to the purpose of decentralization, local governments need to be more responsive and accountable to their constituencies than to the central government. Therefore, it is necessary to incorporate the responsibility of releasing TAO's financial information within regulations about TAO operations.

Information to villagers about TAO's decisions and the rationales for making such decisions is an essential but missing piece in TAO-people interaction. In order to make TAO's moves accountable to people, they need to know if their requests and opinions are taken into consideration by TAOs. In order to encourage people to participate in TAO affairs, they need to know what the TAO is doing such they can figure out what requests/suggestions they will raise to the TAO and what efforts they can contribute to it. Moreover, revelation of such information can also help in resolving conflicts between TAOs and people. People are more likely to be convinced by reasonable explanations about the importance of TAO projects. Even when persuasion fails at an early stage, TAOs can still redesign projects in advance to avoid conflicts instead of tackling them during implementation stage.

Quantitative indicators in national information systems for rural development (NRD 2C and BMN) are reasonable measurements of local conditions and TAO's impacts and performance. These indicators can be used not only by line agencies or local governments for technical purposes during the planning stage. With modifications of their formats, they can also be used by local people to understand their needs and evaluate public entities.

In addition to technical problems associated with the implementation, the major obstacle to overcome is to make people understand the meaning of information and pay attention to their local governments. Original formats of such information -- especially financial accounts and quantitative indicators -- are designed for technical purposes, so that they are too sophisticated for ordinary people. On the other hand, as mentioned in section 2.1.3, indifference is villagers' common attitude toward TAOs. If people think they can do nothing about the local government or local government's

impacts are insignificant, even the release of information does not make a great difference. The former problem can be overcome to some extent by modifying the formats of information to make them more friendly to ordinary people. Appropriate formats for data will be discussed in the next section. The following moves are proposed in order to release TAO information to the public.

1. *Release information about TAO's budget plans, balance books and auditing results*

The TAO budget plan is a summary table listing the items of revenues and expenditures planned for the next fiscal year, as well as their explanations. It is the final product of TAO annual budget planning meeting after the TAOC passes the plan and submits it to the district office for endorsement. The format of the TAO budget plan is similar to tables C.2 and C.3 in appendix C except there are more detailed items under each category. For example, under the category *expenditure for development projects*, the costs of individual projects are listed in separate items.

The TAO budget plan is an official document accessible by TAO members, upper level government units, or even outside visitors (like the author). There is no reason why it can not be opened to the public.

At the beginning of each fiscal year, the budget plan should be ready for public access. Each village should be given one copy of the plan; and village heads should leave the plan at village centers or post it on the bulletin boards for open access from villagers. TAOs should also leave one copy at their offices for open access, too.

TAO's balance book is much more complicated than its annual budget plan since it lists every single item of revenue and expenditure during the course of the fiscal year. We should not expect ordinary villagers able to acquire information about TAO's financial performance from reading the balance book since they have no training in accounting or finance. A preferred format for the data about TAO's financial activities is one similar to the format of the annual budget plan. By using the same format, villagers can compare the plan with the

de-facto records to check if the actual records conform with the original plans. At the end of each fiscal year, TAOs should check their financial accounts and reorganize the results to make a table with the same format of the annual budget plan. Items in the annual budget plan should also appear in the table of account balance. Copies of the account balance table are distributed to villages for open access and posted on the bulletin boards side by side with the annual budget plan. TAO offices should also leave one copy for open access.

TAO's financial account is audited by both district offices and the National Auditing Office. District offices check TAO's financial account at the end of each fiscal year, whereas the National Auditing Office goes to a random sample of TAOs to conduct detailed auditing. The auditing results reported by both agencies should not only be used by the central government to monitor TAOs, but also be passed to local people for their evaluations of local governments. The original format of auditing reports is usually too technical and detailed for local people. Therefore, these results should be simplified to an understandable form. For example, list only problematic items, compare the costs of similar types of projects per unit with other tambons, and address the evaluation results about the entire financial performance. I did not have a chance to read the auditing reports, and I am not trained in finance or accounting. Therefore the recommendations about detailed formats with this respect are left to experts in this field.

2. *Disseminate information about TAO's decisions and rationales for making decisions via existing channels*

As mentioned at section 2.1.2, TAOs pass information via multiple channels to villagers: TAO members, broadcasting speakers, and bulletin boards. The problem of information flow from TAOs to villagers is not the dysfunction of existing channels – in fact these channels work very well in passing commands and notifications down. Instead, the problem is the lack of initiatives to disseminate information about TAO's decisions and rationales for making such decisions.

The same channels can be used to deliver this kind of information, too.

The willingness to disseminate information about decisions and the rationales for making decisions varies with tambons. A crucial factor is the tambon leader's willingness. An NGO member told me of a case she saw at one tambon (not Wang Luk or Krasieo): the kamnan organized monthly meetings with villagers. During the meetings he announced the TAO (and other government agencies) decisions about village matters. The meetings also included open sessions to allow discussions about local problems.

Another important factor is the need to communicate with people. TAO Wang Luk contacted villagers more frequently because more land conflicts between the TAO and people occurred. TAO members and officers needed to visit the affected households to convince them to sacrifice for the projects.

Solely relying on tambon leaders' willingness or pressures for requesting such information from the bottom may not work well since neither condition is common in rural areas of Thailand. Therefore, it is necessary to formalize an obligation to release information about TAO decisions and rationales for making decisions within TAO regulations.

Villagers should be informed about TAOs' decisions about village proposals they submit to the TAO. If the proposal for a specific project is declined, modified or reduced, the TAO should address its explanations about such decisions concomitantly with the positive decisions to villagers. The TAO should also inform villagers about the help and cooperation it requests when it replies to villages about their proposals.

If, after TAOC discussions, the projects are *problematic*<sup>12</sup>, then councilors can propose to hold public hearings to discuss these projects during the annual budget planning period. During the public hearings, ordinary villagers, TAO members and other civil servants are brought together to state the positive and

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<sup>12</sup>I use this word on purpose because it is difficult to delineate all conditions that will raise contention and debates during the council meetings. It is better to let council members to determine which subjects are worth further studying and bringing villagers in public hearings.

negative sides of the projects and to discuss resolutions.

Existing channels of information dissemination should be utilized to pass this kind of information. TAO members need to pass information about TAO decisions during the administrative committee or council meetings. They should announce this information during village meetings or other occasions. Broadcasting speakers are appropriate only for disseminating brief information, such as notifications or announcements. Bulletin boards are appropriate for publishing lengthy and descriptive information, such as annual budget plan and financial record statement.

In addition to existing channels, documents published by TAOs which are targeted for villagers – such as newspapers or reports – are useful in informing villagers about TAO's operations/decisions and maintaining public relations. They can be published with short intervals (bi-weekly or monthly) containing brief but updated information, or be lengthy documents with long intervals (annually) containing comprehensive and detailed reports about TAO's policy and accomplishments during the last period.

3. *Provide villagers with quantitative data about local conditions*

Quantitative data about local conditions can be used by local people for two functions: (1) to indicate the weak sectors which need more improvement, thus provide suggestions about village projects (2) to indicate local governments (and other public entities) impacts and performance by looking at the progress of local conditions during the past few years. Thus they can use this data to exert pressure on local governments and as a reference for electing TAO members. Existing national information systems (NRD 2C and BMN) provide comprehensive information about local conditions. They are hardly used by local governments partly due to the formats which are ill-designed for local uses. Similarly, the idea of expanding the use of such information to the public has rarely been mentioned.

By improving the data representation of national information systems and

bringing the data to villages, local people can make better use of such information. The discussion about improvement of national information systems will be addressed in the next section. The modified data should be distributed to each village. The village head should keep the village data and he/she should allow villagers to access the data. Furthermore, the data should be represented in charts and posted on the walls of village centers or bulletin boards.

### **5.2.2 Differentiate TAO's training programs**

There are many training programs for TAOs conducted by various agencies – DOLA, CDD, UNDP, NGOs, and so on. Due to the large number of TAOs, none of the training programs can cover the entire country. They only select a sample of tambons in several provinces. For example, DOLA's Model TAO Program covered 6 tambons in 1996 and incorporated 4 more tambons in 1997.

In spite of being carried out by different agencies, the contents of these training programs are more or less similar. The following lists the contents of three training programs conducted by different agencies.

1. DOLA's Model TAO Program ([12])

The training courses include the following topics.

- TAO administration structure
- TAO's authority
- TAO council meetings
- Budget, revenue and property of TAO
- TAO personnel administration
- TAO accounting

2. CDD's training program on development planning, plan coordination and management by participation ([9])

This program focuses on teaching the procedures of development project cycles. It contains the following topics.

- General knowledge about plans
- TAO and planning
- Procedures for making plans and plan coordination
- Project administration by participation
- Achievement evaluations

### 3. UNDP's training program for strengthening tambon capacities ([7])

This program is done in cooperation with various government agencies (NESDB, DOLA and others) and international organizations (UN Economic and Social Commission for Asia and Pacific, UN Food and Agriculture Organization, UNDP, and others). The training courses include the following topics.

- Knowledge of rules and regulations
- Technical management skills for budgeting, planning and accounting, as well as personnel management, inventory management, etc.
- Behavioral abilities to represent, to negotiate, and to view their tambon development and the stakeholders strategically, as well as team-building

It can be seen that all these programs are for the people who are new to TAOs. A considerable amount of time and effort in these programs is spent on teaching general knowledge about TAOs<sup>13</sup> and basic management skills for operating local governments<sup>14</sup>. It is reasonable to teach such knowledge to the people who are unfamiliar with TAO processes. Given the fact that TAO Act was initiated in 1994 and many TAOs were not established until 1996, these training programs are worth pursuing for many tambons. However, there are also some tambons which were established earlier, thus are familiar with this kind of knowledge and fluent in the processes, for example, TAO Wang Luk. These tambons need *advanced* training programs in order

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<sup>13</sup>The general knowledge about TAOs means their structure, authority, obligations, and so on.

<sup>14</sup>Basic management skills denote various skills needed for conducting routine operations and development projects. For example, budgeting, planning, implementation, evaluation, accounting and so on.



to help them to move forward to the next level of development.

I learned from my field experience at Wang Luk that although the TAO can conduct processes and operations very smoothly, their development is limited by several factors.

1. Due to various reasons mentioned previously, their services are restricted to small-scale infrastructure only.
2. Lack of use of quantitative information circumvents sophisticated planning, thus restricts the impacts and quality of services delivered.
3. TAO staff's inexperience in computer uses will make them face serious difficulties in taking advantage of the development of information technology.

Although political aspects play important roles in these factors (especially in the first one), most related problems can be mediated by training. If decentralization is the national goal and more resources and authorities will be delegated into local governments, TAOs will have a chance – or will even be required – to provide other types of services. Under this assumption, to provide training to enable TAO members/staff to deliver services in other sectors is crucial for further decentralization. If local governments want to provide the services which are the most needed and to optimize projects to generate most benefits and the least costs, analysis, investigation and prediction of problems based on quantitative data are unavoidable. Thus they will need training in these aspects. Furthermore, it is foreseeable that in the next century most information will be available only in computers. If local government staff cannot use computers, they will not only lose the opportunity to take advantage of information technology, but also be crippled by even more inconvenient manual work in the future. Therefore, training about computer knowledge and use is essential.

To sum up, two sets of training programs should exist for different groups of TAOs – one for *novice* TAOs which are still learning and practicing basic operations, the other for *advanced* TAOs which are already fluent in these basic processes.

The recommendations about these two types of training programs are listed as follows.

1. *Training programs for novice TAOs*

The training programs for *novice* TAOs should be similar to previous training programs carried out by various agencies. They should cover the subjects about (1) general knowledge about TAOs (2) ordinary operations of local governments – budgeting, accounting, public meetings, voting, and so on (3) procedures of project cycles – planning, implementation, monitoring and evaluation. The way of delivering these programs should also be similar to old ones. The objective of these programs is to get people familiar with the processes and operate TAOs smoothly. The impacts of TAOs and the quality of the services they provide will be considered at a later stage of development.

2. *Training programs for advanced TAOs*

The training programs for *advanced* TAOs should incorporate the three subjects mentioned previously: the concepts and capacity for delivering multiple types of services, the ability to conduct analysis and planning by using quantitative data, and knowledge and use about computers. Detailed design of curriculum is beyond the scope of this thesis. The author only points out some topics which are important and necessary to put into courses.

- *Concepts and capacity for providing multiple services*

It is better to start with introducing the concepts about multiple services. It should include the topics of the notion of development, how to probe people's needs, and how to compare the costs and benefits among different types of projects.

The content of the training program for building capacity in delivering other services depends on specific sectors of these services. Training courses for different services should be undertaken at different sessions. For example, in the course about community development, the notion of community development, how to mobilize social groups, how to encourage participation, and how to find relevant information should be taught.

- *Ability to conduct analysis and planning by using quantitative data*

Some existing training programs teach TAOs to conduct planning by using NRD 2C and BMN ([18]), but these programs mainly focus on the procedures. In addition to the procedures, the courses should also teach people how to find meaning behind the data. The skills for selecting projects by using quantitative data – such as estimation of benefits and costs by looking at quantitative data, identification of weak sectors, estimation of the progress of local conditions by looking at time-series data – should be incorporated in the courses. Furthermore, the skills for conducting quantitative data collection other than NRD 2C and BMN should also be incorporated.

- *Knowledge and use about computers*

Existing curriculum and materials for teaching beginners to use computers are abundant. The only extra emphasis should be the relation between computers and local development. This topic should be stressed in the training courses in order to give TAO members/staff a picture about what computers can do for local development. The in-depth technical training should be given once local people have more interest and concrete ideas about computers and would like to use them for specific purposes.

From the discussions above it can be seen that the training programs for *advanced* TAOs are more flexible and versatile than basic training programs for *novice* TAOs. They include basic introduction about new concepts and new technologies for all recipients, and courses on specific skills/technologies for specific groups of TAOs. In order to conduct training in this manner, major agencies in charge of training should be differentiated, such that each agency is responsible for a specific part. For example, NESDB is in charge of new concepts of development, CDD is in charge of community development, and DOLA is in charge of quantitative data analysis.

## 5.3 Recommendations about national and local information systems

### 5.3.1 Modify the formats of NRD 2C and BMN to fit local needs

From the discussions in section 3.2, it is clear that there is a lot of space for improvement of NRD 2C and BMN. However, many of these problems need to be resolved by fundamental reforms to the institutions and processes. For example, the two systems need to be integrated and local communities need to be brought into the indicator design/revision process. The issues associated with those moves are too complicated to be tackled in the short term. Therefore, in this section only two incremental moves are discussed in more detail – to modify NRD 2C and BMN data formats and to make better use of computers.

Inappropriate data formats of NRD 2C and BMN is one of the major reasons for the lack of local uses. Both systems are designed for central government agencies to understand local conditions and allocate funds. These functions do not fit local needs very well. NRD 2C uses 3-level scores to represent the development levels of villages. These scores are calculated by comparing the conditions of all villages in the country. But for local governments such scores are not very meaningful since comparisons with other tambons are not their major concerns. NRD 2C is collected by querying officers about local conditions, thus is too broad to depict household conditions, which are more crucial for village uses. For BMN, the notion of *national target* is similar to *development level* at NRD 2C. Both try to demarcate standards of development levels all over the country, and are thus less useful for local authorities. But the format of national target (percentage rate) is more understandable than the abstract notion of 3-level score at NRD 2C. Therefore BMN is more widely used by TAOs.

Both systems lack time-series representation of indicators. This representation is very useful for TAOs since it can depict what happens at local places over time. It can be used for both technical purposes – to indicate weak sectors which experience

degradation – and public purposes – to reveal the impacts and performance of local governments over the past few years.

The recommendations here are not to substitute for current formats. On the contrary, new formats form another *layer* built on top of existing data formats. Old formats are still used by the central government, whereas new formats are mainly used by local governments. The data collection process and collected data are the same as previous settings.

The following moves are proposed to improve the data formats of NRD 2C and BMN.

1. *Improvement of NRD 2C formats*

NRD 2C indicators should be divided into two categories: household level data and village level data. Table 5.1 lists the indicators belonging to each category. Collect the household level data by conducting household level surveys (similar to the collection of BMN indicators). Collect the village level data by interviewing local officers (similar to the data collection of original NRD 2C indicators). Convert the household level data into percentage rates; and leave the village level data the same formats as in the original question.

Three tables from the percentage rates data should be generated by comparing (1) a specific indicator among all villages (2) all indicators of a certain village, and (3) all indicators among all villages within the tambon. Details about generating comparison tables are stated in appendix D.

Time-series data of indicators should be provided to TAOs and villages. TAOs or village committees are responsible for representing these data into charts and post them on bulletin boards or village centers for public access.

2. *Improvement of BMN formats*

The formats of percentage rate and level of details for BMN are adequate for local uses, thus the local formats can remain the same as originals. Comparison tables should also be generated from the percentage rate data of BMN indicators in the same manner as NRD 2C. Time-series data of indicators should processed

and given to TAOs. Similar to NRD 2C, TAOs or village committees should draw the data on charts and publish them for open access.

### 3. *Allocation of responsibilities*

Because of the new arrangement of NRD 2C and BMN, there are extra working loads added to original processes. Considering the spirit of *beneficiaries pay* and the capacity constraints of TAOs, the following arrangement of new responsibilities is proposed.

Central data processing units (IPIED, CDD headquarter) are responsible for calculating statistics of village indicators all over the country. They are also responsible for providing time-series data in table formats for TAOs. In order to do both jobs, data processing software needs to be modified or rewritten to incorporate new functions.

Provincial data centers should be responsible for generating time-series tables of all tambons in the province and distribute those tables to them.

TAOs should be responsible for organizing and overseeing data collection teams to conduct both household level and village level data collection for new NRD 2C formats. They should be also responsible for converting household level data of NRD 2C and BMN into percentage rates. They should generate the tables of comparison scores and distribute them to villages. They should take care of converting time-series data into charts by using computers, distributing them to villagers and making sure they publish the charts. They also need to distribute the tables of time-series data to village committees and make sure they open the data for public access.

Village committees should be responsible for posting the charts of NRD 2C and BMN time-series data on bulletin boards or leaving the copies at village centers for public access.

Table 5.1: Village and household level data of NRD 2C indicators

Household level indicators	Village level indicators
Land title	Transportation
Electricity	Business in villages
Animal sources	Sources of woods and fuel
Land ownership	Farmer cohesion
Occupation and employment	Village health services
Wage	Security of health treatment
Productivity	Health & sanitary
Upland crop production	Sources of drinking water
Supplementary occupation	Water for agriculture
Migration for work	Secondary education ratio
Credit for agriculture	Government & academic support
Dry season agriculture	Knowledge about life quality
Home sanitary	Knowledge center
Birth weight	Information center
Nutrition level of 0-5 years children	Religion, culture & sport activity
Family planning	Forest
Clean water	Soil
Domestic water supply	Water
Education level	

### 5.3.2 Make better use of computers

Most recommendations proposed in previous sections can be achieved without computers; but they would generally be facilitated by using computers. Furthermore, it will become more and more advantageous to use computers since more and more information is available on line. With the progress of technology, the price of computers drops quickly. Considering these advantages, the target set by DOLA to equip every TAO with one computer is not unreasonable. However, it is not a good strategy to synchronize this move by computerizing all tambons simultaneously. Two reasons can support this argument. Firstly, to integrate computers within the organization is not simply installing the hardware and software. Various physical and human conditions must be tuned to make it work. Several conditions mentioned in section 3.3.1 include: training local staff to use and maintain computers, physical environment which supports computer systems such as air conditioners and stable power supply, to overcome staff's resistance to learn computers. In other words, the *overhead costs* associated with computer systems are much higher than the prices of hardware and software only. It is not possible for every tambon to pay for these costs currently. Secondly, computer systems generate greater benefit to the *advanced tambons* which are already familiar with operation processes and have more resources. For *novice tambons*, it is more important is to familiarize them with the process than to improve

it. A complicated information system may add confusion and difficulty to the process. As Madon[19] indicates, the initial effect of implementing information systems in the public sector is the degradation of performance. Therefore it is not appropriate to bring computers to beginning TAOs.

The following moves are proposed for TAOs to make better use of computers.

1. *Start the computerization program with a number of tambons*

Choose the tambons which are more likely to make good use of computers and incorporate the systems well within the organizations. They should have the following characteristics.

- They should be *advanced TAOs* which conduct ordinary processes smoothly.
- Revenues should be relatively high such that they can afford the operation costs of computer systems (purchasing new software, maintenance and repairment, air conditioners and stable power supply, telephones, other peripheries, and system upgrade).
- The education level of TAO members and staff should be relatively high in order to accept and learn computers more quickly.
- They should be close to cities to acquire information about computer knowledge and use more conveniently.

2. *Start the training programs in those TAOs for computer uses*

These programs are part of the training courses for *advanced TAOs* mentioned in section 5.1.2. In addition to a general introduction about computers, they should also incorporate courses for specific applications – word processing, database, accounting, Internet, and so on.

3. *Set up tambon computer technicians*

Tambon computer technicians should play the role of both information consultants and trainers. They should be in charge of the following works.

- Set up the hardware and software of computers and data networks for TAOs



- Train TAO staff how to use and maintain computers
- Answer questions raised by TAO members or staff regarding computers and solve problems of TAO computer systems when TAO staff cannot handle them

Tambon computer officers are located at district offices since they are shared by all tambons within the district. However, they are directly accountable to TAOs rather than district officers. Training programs should be set up to encourage civil servants to become tambon computer officers.

## 5.4 Recommendations about information systems for rural people

The needs for information about agriculture and supplementary employment impress me in such a way that I think provision of such information is a necessary and feasible service which TAOs can deliver. However, considering the financial, technical and political constraints, an information system for rural people in these two aspects is difficult to fulfill in a near future. The most feasible strategy in the short term is to improve the existing systems to cover more areas and service types.

The *Rural Intranet Program* is a project which provides rural communities with agriculture information via Internet. A detailed introduction to the program has been provided in section 4.1. In this section, recommendations about the improvement of *Rural Intranet Program* will be proposed.

Compared to personal contacts, using Internet to exchange information has the following advantages. Firstly, it does not rely on personal relations with information sources, thus isolated communities will benefit. Secondly, it allows establishing connections among distant communities/organizations. They can hardly get in touch via traditional channels. Thirdly, much more information can be acquired on line via Internet.

However, difficulties need to be overcome in order to make better use of this chan-

nel. Few participants within the program lead to under-utilization of the channels. Network has the nature that the more users that are connected, the more valuable it is. It is difficult to promote use if the critical mass is not achieved. Technical difficulties for rural people to handle computer systems were mentioned in section 3.3.1. Finally, since the program is outside the official obligations of TAOs but require their staff to disseminate the information and share computers with TAO's official uses, TAO's incentives to work on the project is low. According to evaluation reports, many persons in charge of information dissemination at tambons failed to read the information from the BBS and post it to the public.

The following moves are proposed to improve the *Rural Intranet Program*

1. Cooperate with DOLA to incorporate the work of information provision from Internet within the official obligations of some TAOs.
2. Extend the services into information provision in other aspects. For example, supplementary occupation opportunities, experience of operating TAOs, information and knowledge about computers.
3. Enlarge the number of participants within the program. It needs to cover both rural and urban communities in order to facilitate the communication between the two sides.

# Chapter 6

## Implications and future research

### 6.1 Lessons from the observations

The findings in this thesis research are mainly based on cases which are somewhat unique in the Thai context. However, after discussions with central government officers and scholars, I discovered that some of these issues that emerged from my research are also relevant in other developing countries. In this section, I would like to extend the findings into a broader context, such that they can be referred to as lessons on the relations between information and rural development under the umbrella of decentralization.

As mentioned in the introductory note, it is widely conceived that information technology will improve the efficiency and effectiveness of decision-making, and furthermore, change the structure and behavior of organizations. From the case studies in this thesis research, we know such good things do not always happen easily. Although Thailand has national information systems covering many aspects of rural development at detailed levels, such systems play marginal roles in the decision-making and operations of local governments in rural areas.

There are two particularly noteworthy issues about using information technology/systems to facilitate decentralized governance. Firstly, the quality of services, (socioeconomic) impacts of projects, and efficiency of decision-making are not necessarily the main issues for decentralized local governments during the early stage

of their development. As we can see from previous discussions, the decision-making, budget planning, project implementation and other operations are a means to get the TAO members familiar with formal processes and to establish TAOs as viable authorities. Therefore, early decisions are mainly based on political concerns and feasibility of projects (such as on the basis of the equalization principle, infrastructure preference and avoidance of land conflicts) rather than evaluations about the performance, outcome or impacts. Under such conditions, subjective perceptions are the main source of information. Quantitative data are considered as redundant, and the sophisticated planning required to optimize the use of resources according to neoclassical economic theory is not adopted. Therefore, the extension of information technology/systems into newly established local authorities in many developing countries may be an irrelevant move. Information and information systems will be useful only after the organizations establish their authority and start operating smoothly. At this stage they will think about improving the quality of services and increasing the impacts to constituencies, at which point quantitative information will play a crucial role in support decision-making.

Secondly, even when the performance and outcome become important, local governments are still unable to make good use of quantitative data if the information systems are not integrated with the organizations. In order to make information technology and organization compatible, efforts need to be harnessed on both system and human sides. On the system side, the formats of data, the content of indicators, and data processing need to match the specific requirements of local needs. A centralized scheme for indicator design and data processing probably will not work unless modifications are made to the original data formats and processing jobs. Facilities supporting the physical environment should be prepared in addition to computer hardware and software, for example, air conditioners, stable power supply, and telephone lines for network connections. On the human side, education needs to be developed in order to change people's preconception about quantitative data. Various training programs need to be launched in order to teach local staff how to use computers. Information about computer knowledge should be available and easily

accessible by local people. Furthermore, policy incentives/disincentives need to be implemented in order to encourage the appropriate use of computers and discourage the resistance to learn computers.

Governments tend to pass commands, notifications and requests to the public rather than the information about their decisions, rationales for making decisions, and performance. We can examine the lack of such information flow on both supply and demand sides. On the supply side, local governments do not receive strong pressure from top (the central government) and bottom (people) to urge them to release the information. During the early stage of the institutional development, it is more important for them to earn support from local leaders (village heads, village representatives) than from the broader population. Local leaders are the stakeholders of decision-making (They are members of the councils), and they have authority and leadership among villagers. Therefore, the interactions between the *public sector* and the *civil society* are mainly the interaction between the *executive branch* and the *legislative branch* of local governments. In this context, the revelation of information about governments directly to the general population is considered unimportant. On the demand side, people do not have a strong predisposition to acquire information about governments either. They are still accustomed to the traditional relationship with the public sector: passively receiving government's intervention rather than actively taking initiatives. Their interactions with governments are mainly through local leaders. Under this circumstance, local governments' information does not appear particularly relevant to them.

After the institutional infrastructure has been laid out and is operating smoothly, major objectives of decentralization – to improve the quality of services, to achieve more substantial democracy, and so on – should be brought to the guidelines of local government operations. The dissemination of government information is an essential move to achieve further decentralization. With proper forums established, this invites participation from people, reduces the misunderstanding about governments and the indifferent attitudes toward them, helps in resolving public-private conflicts via communications, and reduces opportunities for corruption or misuse of power.

Many decentralization programs have the mechanisms of monitoring and evaluation conducted by central level agencies in order to make sure local governments are not doing things improperly. However, as the performance of local governments and the awareness of people move forward, the central government should gradually delegate the monitoring and evaluation functions to local people, the constituency of the TAOs.

## 6.2 Future work

The evaluations of TAOs' performance and the impacts of information technology in rural areas are worth pursuing since both the establishment of TAOs and the adoption of information technology started pretty recently in Thailand. By tracing the development of TAOs in the next few years, it may give us a clearer picture about how the local institutions can incorporate information technology within their organizations, and how the interaction between local governments and people evolves over time. Such study will be very useful for the developing countries which intend to use information technology to harness public administration reforms and to help achieve democracy.

In addition to a longitudinal study in the future, there are several points in this thesis which are worth further development by either extending the observations of current conditions or more detailed considerations of the existing materials I have collected.

- The unbalanced flow of information between TAOs and villagers is observed and well depicted in the thesis, however, the causes for the unbalanced information flow are not clear. It can be divided into two questions: why did TAOs not take the initiative to release their information to the public, and why did people not exert pressure on TAOs to request more information? I made some speculations in section 6.1, but there is not sufficient evidence to support my argument definitively. Therefore, further study of the causes for asymmetric information flow is worth pursuing in order to fill this gap in my thesis. The research would

also be valuable in formulating the strategy and tactics for implementing the above policy recommendation about information dissemination.

- The interaction between TAOs and villagers is mainly conducted via village heads as intermediaries. Therefore, village heads play very important roles in the system of local administration. Village heads' roles in TAO operations are examined in this thesis. However, the data about the interaction between village heads and villagers is scarce. As mentioned chapter 2, villagers rarely spoke during the group interviews when village heads were present. This may imply that village heads are authoritative and function as the "communication channel" with outsiders – either TAOs or alien visitors like me. Previous study also demonstrates a parent-child relationship between local bureaucrats and villagers. In order to verify (or disprove) these hypotheses, more fieldwork needs to be conducted to acquire the data about village head-village interaction.
- The preference for infrastructure is evident at the two tambons I visited. However, they may not represent all the cases of TAO's services. It would be useful to visit other TAOs which conduct services in different sectors, observe how those services are delivered, and how local authorities acquire the capacity for running these services, especially the services of information provision.
- The recommendations about modifying national information systems are addressed only in a general manner. It would be necessary to pursue possible improvement, such as modifying indicator design and data processing. It would also be important to design and develop a software system that accommodates the original information systems and brings new formats and processing functions for local use.

Although these ambitious undertakings could not be fulfilled in this thesis, I believe it is necessary for them to be done by either people in Thailand or others who are interested in bringing information technology to rural areas of developing countries.

# Appendix A

## Glossary

**AIT** – Asian Institute of Technology

**BMN** – The database for Basic Minimum Needs

**BMA** – Bangkok Metropolitan Area

**CDD** – Community Development Department, Ministry of Interior

**DOLA** – Department of Local Administration, Ministry of Interior

**IPIED** – Information Processing Institute for Education and Development

**ITRD** – Institute of Technology for Rural Development

**Kamnan** – The director of TAOAC

**MOI** – Ministry of Interior

**NESDB** – National Economic Social Development Board

**NRD 2C** – The database for National Rural Development Program

**NRDP** – National Rural Development Program

**PAO** – Provincial Authority Organization

**PDC** – Provincial Data Center

**TAO** – Tambon Authority Organization

**TAOAC** – TAO Administrative Committee

**TAOC** – TAO Council

**TC** – Tambon Council

**UNDP** – United Nations Development Programme



## Appendix B

# Profiles of Tambons Wang Luk and Krasieo

Figure B.1 shows the location of Province Suphanburi. It is about 300 kilometers northwest of Bangkok. Figure B.2 shows the map of Suphanburi. District Samchook is at the northeast side of the province.

Samchook district is located at the northeast side of the province. Ta-Chin River passes through the district, and most areas of the district are alluvial plains of the river. In addition to the river, Samchook is also abundant of interconnected irrigation canals. Most people in Samchook are engaged with agriculture, especially paddy rice farming.

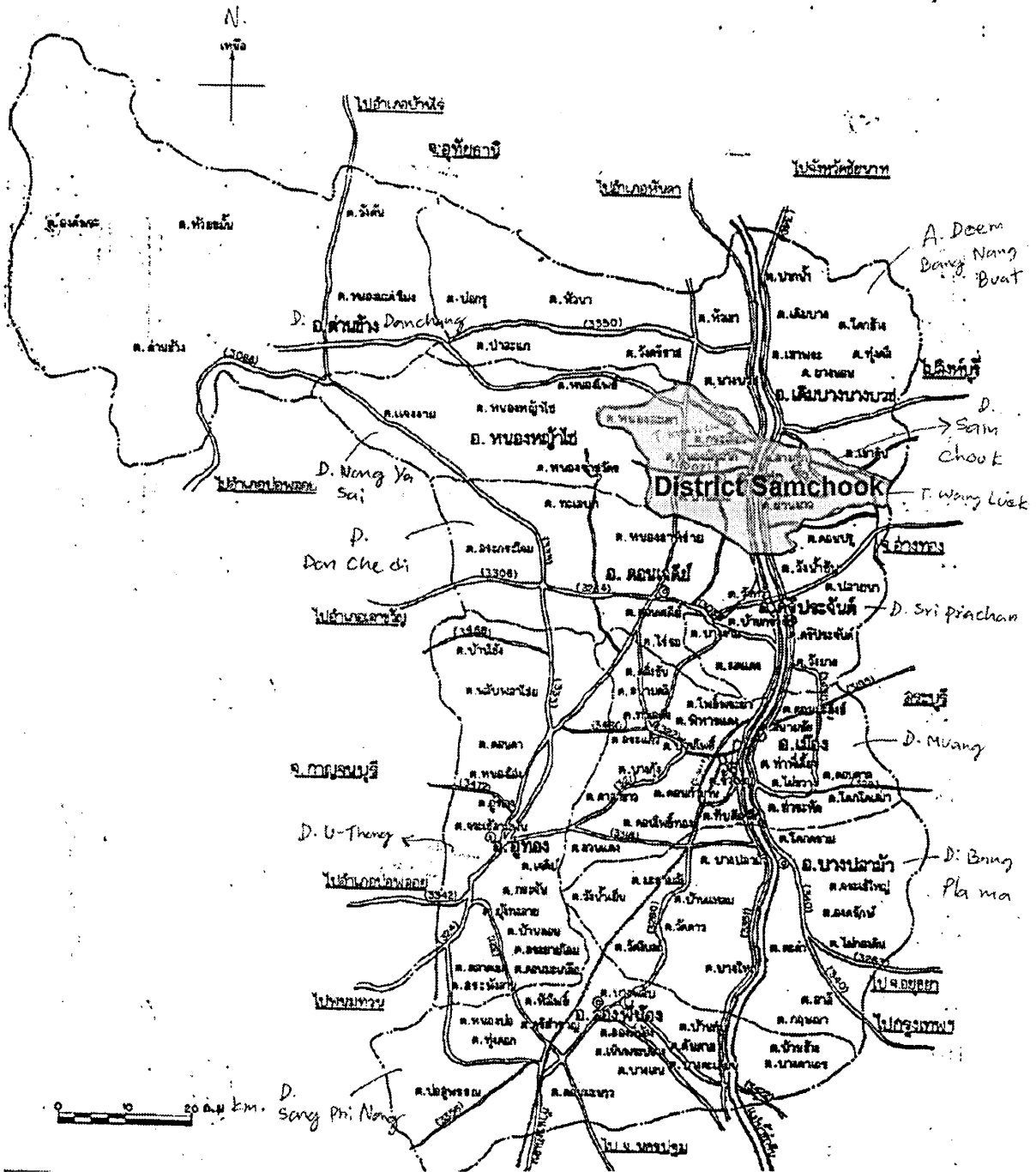
Flood is a big problem during the rainy season since its topography is relatively low and it is close to rivers and canals. Insufficient water supply for domestic uses during the dry season is another problem. This is due to the lack of water storage and processing facilities. Fluctuating price of rice and the high cost for cultivation lead to low and unstable income for households engaging in agriculture. Substantial percentage of sharecroppers further aggravates this problem. Insufficient infrastructure is also frequently reported. ([28])

Figure B.3 demonstrates the map of district Samchook. Tambon Wang Luk is lo-

Figure B-1: Location of Province Suphanburi



Figure B-2: Map of Province Suphanburi



cated at the southeast side of the district. Tambon Krasieo is located at the northwest side.

The active social groups at Wang Luk include agriculture promotion groups (3 groups, 136 members) and women groups (6 groups, 310 members). They are mainly engaged with agriculture promotion or income generation activities.

From the comments of TAO members, Wang Luk experience 3 major problems:

1. *Lack of land for economic activities*

Small area of agriculture fields leads to insufficient income to support basic consumption. This is why many households need to rent fields from landlords and engage in secondary occupations. Most of the estates are agricultural fields, therefore no vacant land for public, industrial and commercial uses. TAO can do very little about this problem. They have no power to conduct land reform programs or expand their administrative boundaries. They have no budget to purchase land and redistribute it, either. They can only help households to raise their income by increasing the productivity and diversify crops.

2. *Insufficient water supply for domestic consumption*

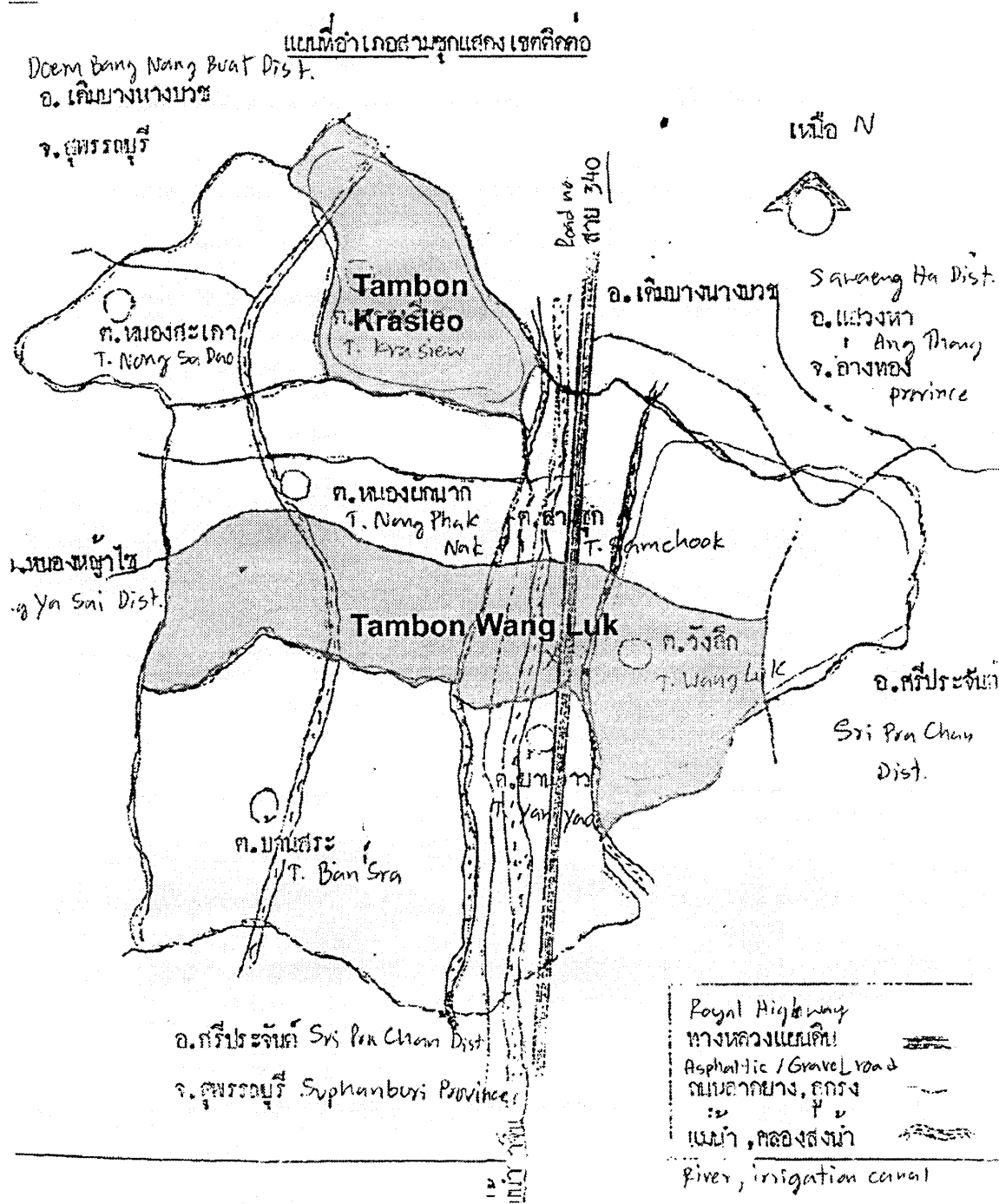
Although flood is a big problem for Samchook during the rainy season, insufficient water supply is another problem during the dry season. Flood runoff can not be used due to the lack of water storage and processing facilities. Water problems in Wang Luk are already resolved by various projects for water supply facilities such as ground water pumping and deep well drilling.

3. *Low quality of roads*

Most roads at Wang Luk are paved with gravels. They are subject to damage during the rainy season. The TAO has spent considerable efforts in mobilizing resources to construct roads.

Tables B.1 and B.2 demonstrate the NRD 2C and BMN data of Wang Luk between 1994 and 1996. From the data of NRD2C, Wang Luk achieved significant

Figure B-3: Map of District Samchook



improvement from 1994 to 1996. In 1994, there are 3 villages at progressive level and 10 villages at normal level in terms of the composite index for development. In 1996, all the 15 villages became progressive. The indicators in which Wang Luk achieved significant improvements include: agriculture productivity, migration for work, security on health treatment, health and sanitary, and water for agriculture. The only two degenerated indicators are supplementary occupation and government support. In terms of BMN data, most of the indicators at Wang Luk already achieved the national target in 1995. The only indicator which achieved significant improvement between 1995 and 1996 is the percentage of households with annual income greater than 15,000 baht (from 52% to 98%). The improvement of this indicator come hand by hand with the improvement of agricultural productivity in NRD2C.

Krasieo experiences more physical problems in its agricultural activities. Similar to Wang Luk, it also has problems of poor road quality. So far there is only one concrete road at village 2; all other roads are gravel roads. Lack of irrigation water during the dry season is another big problem. The provincial government provided them water pumps to pump water from the royal irrigation canal. In contrast, flooding during the rainy season is as serious as the drought in dry season. Krasieo is located at the low land, thus is subject to flood. Projects about constructing ponds or water tanks to store water during flood season and using it in dry season are not preferred due to their high cost. The major social problem is migration of villagers to Bangkok or other cities due to the low income of agriculture activities ([16]).

Tables B.3 and B.4 demonstrate the NRD 2C and BMN data of Krasieo between 1994 and 1996. According to the NRD2C data, however, Krasieo was already well developed in 1994 – all its 9 villages were in progressive status at that year. The weak indicators include: business in villages, land ownership, migration for work, security of health treatment, water for agriculture, knowledge about life quality, information center, and natural resources. The comparison between Wang Luk and Krasieo by looking at quantitative data from NRD 2C is inconsistent with the qualitative comments from government agencies. This may imply that either government officers'

Table B.1: NRD 2C Data of Wang Luk in 1994 and 1996

Indicators	1994			1996		
	No. of level 1 villages	No. of level 2 villages	No. of level 3 villages	No. of level 1 villages	No. of level 2 villages	No. of level 3 villages
<b>Basic infrastructure</b>						
1. Land title	0	13	0	0	9	1
2. Electricity	0	0	13	0	0	15
3. Transportation	0	2	11	0	0	15
4. Businesses in village	6	6	1	5	5	5
5. Sources of woodland & fuel	0	0	0	0	0	0
6. Animal source	0	0	0	0	0	0
7. Land ownership	12	1	0	13	2	0
<b>Product</b>						
8. Occupation & employment	1	6	6	8	2	5
9. Wage	0	0	13	0	0	15
10. Productivity	3	4	2	0	0	9
11. Upland crop production	2	0	11	1	0	14
12. Supplementary occupation	0	0	6	1	3	0
13. Migration for work	12	0	1	3	0	9
14. Farmer cohesion	0	0	13	0	0	15
15. Credit for agriculture	0	0	13	0	0	15
16. Dry season agriculture	0	0	11	0	0	7
<b>Public health</b>						
17. Village health services	2	0	9	2	0	13
18. Security on health treatment	13	0	0	0	7	8
19. Home sanitary	1	5	7	0	1	14
20. Health & sanitary	0	13	0	0	2	13
21. Birth weight	0	2	11	0	0	15
22. Nutrition of 0-5 yr children	0	0	13	1	0	14
23. Family planning	0	0	13	1	0	14
<b>Water resources</b>						
24. Clean water	0	8	5	0	1	14
25. Sources of drinking water	0	0	13	0	0	15
26. Domestic water supply	1	2	10	0	0	15
27. Wtare for agriculture	10	0	3	0	0	15
<b>Knowledge</b>						
28. Education level	0	2	11	0	5	10
29. Secondary education ratio	0	4	9	0	8	6
30. Government & academic support	1	2	10	0	2	3
31. Knowledge about life quality	13	0	0	6	3	6
32. Knowledge center	0	6	7	0	5	10
33. Information center	1	9	3	0	9	6
34. Religion, culture & sport	0	0	13	0	1	14
<b>Natural resources</b>						
35. Forest	1	11	1	0	15	0
36. Soil	0	11	2	1	13	0
37. Water	6	7	0	3	9	2
<b>Overall development level</b>	0	10	3	0	0	15

Source: CDD headquarter

Table B.2: BMN Data of Wang Luk in 1995 and 1996

Indicators	Target (%)	1995 Total #	Achieved	Rate (%)	Pass	1996 Total #	Achieved	Rate (%)	Pass
<b>Household nutrition</b>									
1. Pregarancy	70	107	93	86.92	Pass	119	95	79.83	Pass
2. Normal nutrition of 0-5 years old children									
2.1 Malnutritional level 1 child	10	660	34	5.15	Pass	652	42	6.44	Pass
2.2 Malnutritional level 2 child	1	660	4	0.61	Pass	652	2	0.31	Pass
2.3 Malnutritional level 3 child	0	660	0	0	Pass	652	0	0	Pass
3. 6-14 yrs child receive nutrients	93	2141	2139	99.91	Pass	2120	2088	98.49	Pass
4. Eating well-done meat	60	2574	2574	100	Pass	2761	2708	98.08	Pass
5. Consuming qualified food	75	2574	2574	100	Pass	2761	2733	98.99	Pass
<b>Housing &amp; environment</b>									
6. >= 5 yrs durability	90	2574	2545	98.87	Pass	2761	2735	99.06	Pass
7. Housing sanitation	90	2574	2465	95.77	Pass	2761	2761	100	Pass
8. Sanitation toilet	95	2574	2494	96.89	Pass	2761	2761	100	Pass
9. Drinking water sufficiency	95	2574	2510	97.51	Pass	2761	2711	98.19	Pass
10. Non-pollution	80	2574	2574	100	Pass	2761	2752	99.67	Pass
<b>Accessibility to basic services</b>									
11. Pregant care	75	107	107	100	Pass	119	119	100	Pass
12. Assistance during delivery	80	107	107	100	Pass	119	119	100	Pass
13. Vaccination recipient under 1 year old children	95	107	107	100	Pass	119	119	100	Pass
14. Vaccination recipient of primary school children	99	170	170	100	Pass	171	171	100	Pass
15. Knowledge about AIDS	80	2574	2574	100	Pass	2761	2746	99.46	Pass
16. Understanding of AIDS protection	80	2574	2574	100	Pass	2761	2742	99.31	Pass
17. 3-6 yrs old child survivorship	60	610	610	100	Pass	726	725	99.86	Pass
18. Primary school attendance	99	1944	1944	100	Pass	1759	1759	100	Pass
19. Secondary school attendance	73	143	143	100	Pass	202	181	89.60	Pass
20. Primary school graduates without entering secondary school receive job training	80	0	0			21	20	95.24	Pass
21. Literacy rate of people 15-20 years old	99	7589	7589	100	Pass	7201	7180	99.71	Pass
22. Useful information reception	85	2574	2574	100	Pass	2761	2761	100	Pass
<b>Security in life &amp; property</b>									
23. Security in life & property	100	2574	2574	100	Pass	2761	2761	100	Pass
24. Security in accident	60	2574	2532	98.37	Pass	2761	2698	97.72	Pass
<b>Income</b>									
25. 15000 baht/yr/head income	70	2574	1335	51.86	Fail	2761	2723	98.26	Pass
<b>Family planning</b>									
26. Birth control accessibility	77	1386	1316	94.45	Pass	1495	1395	93.31	Pass
27. Less than 2 children	75	1386	1303	94.01	Pass	1495	1367	91.44	Pass
<b>Community participation</b>									
28. Group membership	60	2574	2200	85.74	Pass	2761	2702	97.86	Pass
29. Using right to vote	90	6782	4598	67.80	Fail	6115	5007	81.88	Pass
30. Public asset preservation	80	2574	2382	92.54	Pass	2761	2605	94.35	Pass
<b>Mental development</b>									
31. Participate religious activity	90	2574	2574	100	Pass	2761	2652	96.05	Pass
32. Without alcoholic drinking	90	9504	9299	97.84	Pass	9238	9069	98.17	Pass
33. Without smoking	90	2574	2574	100	Pass	2761	2716	98.37	Pass
34. Cultural activity participation	90	2574	2574	100	Pass	2761	2716	98.37	Pass
35. Oaring on elder people	90	1275	1226	96.16	Pass	1182	1182	100	Pass
<b>Environmental development</b>									
36. Natural resource conservation	90	2574	2363	91.80	Pass	2761	2661	96.38	Pass
37. Environmental protection	90	2574	2363	91.80	Pass	2761	2664	96.49	Pass

Source: CDD headquarter



perceptions about local conditions are inaccurate or the quality of quantitative data is dubious.

Table B.3: NRD 2C Data of Krasieo in 1994 and 1996

Indicators	1994			1996		
	No. of level 1 villages	No. of level 2 villages	No. of level 3 villages	No. of level 1 villages	No. of level 2 villages	No. of level 3 villages
<b>Basic infrastructure</b>						
1. Land title	0	4	5	0	6	4
2. Electricity	0	0	9	0	0	10
3. Transportation	0	0	9	0	0	10
4. Businesses in village	5	2	2	6	2	2
5. Sources of woodland & fuel	0	0	0	0	0	0
6. Animal source	0	0	0	0	0	0
7. Land ownership	9	0	0	10	0	0
<b>Product</b>						
8. Occupation & employment	0	0	9	0	0	10
9. Wage	0	0	9	0	0	10
10. Productivity	0	4	5	0	5	4
11. Upland crop production	0	0	5	0	0	7
12. Supplementary occupation	0	0	7	0	0	7
13. Migration for work	1	3	5	1	3	6
14. Farmer cohesion	0	0	9	0	0	9
15. Credit for agriculture	0	0	9	0	0	10
16. Dry season agriculture	0	0	9	0	1	9
<b>Public health</b>						
17. Village health services	0	0	9	0	0	10
18. Security on health treatment	0	5	4	1	7	2
19. Home sanitary	0	0	9	0	0	10
20. Health & sanitary	0	8	1	0	5	5
21. Birth weight	0	0	9	0	0	10
22. Nutrition of 0-5 yr children	0	0	9	0	0	10
23. Family planning	0	0	9	1	0	9
<b>Water resources</b>						
24. Clean water	0	0	9	0	2	8
25. Sources of drinking water	0	0	9	0	0	10
26. Domestic water supply	0	0	9	0	0	10
27. Water for agriculture	9	0	0	10	0	0
<b>Knowledge</b>						
28. Education level	0	2	7	0	3	7
29. Secondary education ratio	0	8	1	0	1	9
30. Government & academic support	0	2	7	3	0	7
31. Knowledge about life quality	0	3	6	0	8	2
32. Knowledge center	0	8	1	2	6	2
33. Information center	0	4	6	0	7	3
34. Religion, culture & sport	0	0	9	0	0	14
<b>Natural resources</b>						
35. Forest	0	6	3	0	9	1
36. Soil	0	1	8	0	4	6
37. Water	0	0	9	0	0	14
<b>Overall development level</b>	0	0	9	0	0	10

Source: CDD headquarter

Table B.4: BMN Data of Krasieo in 1995 and 1996

Indicators	Tar- get (%)	1995				1996			
		Total #	Achi- eved	Rate (%)	Pass	Total #	Achi- eved	Rate (%)	Pass
<b>Household nutrition</b>									
1. Pregarancy	70	51	47	92.16	Pass	41	41	100	Pass
2. Normal nutrition of 0-5 years old children									
2.1 Malnutritional level 1 child	10	230	35	15.22	Fail	227	19	8.37	Pass
2.2 Malnutritional level 2 child	1	230	35	15.22	Pass	227	1	0.44	Pass
2.3 Malnutritional level 3 child	0	230	0	0	Pass	227	0	0	Pass
3. 6-14 yrs child receive nutrients	93	557	540	96.95	Pass	653	632	96.78	Pass
4. Eating well-done meat	60	871	871	100	Pass	920	920	100	Pass
5. Consuming qualified food	75	871	871	100	Pass	920	920	100	Pass
<b>Housing &amp; environment</b>									
6. >= 5 yrs durability	90	871	865	99.31	Pass	920	918	99.78	Pass
7. Housing sanitation	90	871	860	98.74	Pass	920	917	99.67	Pass
8. Sanitation toilet	95	871	865	99.31	Pass	920	918	99.78	Pass
9. Drinking water sufficiency	95	871	865	99.31	Pass	920	918	98.78	Pass
10. Non-pollution	80	871	852	97.82	Pass	920	920	100	Pass
<b>Accessibility to basic services</b>									
11. Pregant care	75	66	66	100	Pass	50	50	100	Pass
12. Assistance during delivery	80	51	51	100	Pass	42	42	100	Pass
13. Vaccination recipient under 1 year old children	95	51	51	100	Pass	41	41	100	Pass
14. Vaccination recipient of primary school children	99	84	84	100	Pass	67	67	100	Pass
15. Knowledge about AIDS	80	871	871	100	Pass	920	920	100	Pass
16. Understanding of AIDS protection	80	871	871	100	Pass	920	920	100	Pass
17. 3-6 yrs old child survivorship	60	183	131	71.58	Pass	207	187	90.34	Pass
18. Primary school attendance	99	507	507	100	Pass	576	576	100	Pass
19. Secondary school attendance	73	52	44	100	Pass	67	67	100	Pass
20. Primary school graduates without entering secondary school receive job training	80	8	5	62.50	Pass	0	0		
21. Literacy rate of people 15-20 years old	99	1994	1994	100	Pass	2123	2123	100	Pass
22. Useful information reception	85	871	871	100	Pass	920	920	100	Pass
<b>Security in life &amp; property</b>									
23. Security in life & property	100	871	871	100	Pass	920	920	100	Pass
24. Security in accident	60	871	838	96.21	Pass	920	891	96.85	Pass
<b>Income</b>									
25. 15000 baht/yr/head income	70	871	627	71.99	Pass	920	686	74.57	Pass
<b>Family planning</b>									
26. Birth control accessibility	77	467	417	89.29	Pass	474	421	88.82	Pass
27. Less than 2 children	75	467	427	91.43	Pass	474	444	93.67	Pass
<b>Community participation</b>									
28. Group membership	60	971	646	66.53	Pass	920	920	100	Pass
29. Using right to vote	90	2336	1873	80.18	Fail	2364	2099	88.79	Fail
30. Public asset preservation	80	871	866	99.43	Pass	920	920	100	Pass
<b>Mental development</b>									
31. Participate religious activity	90	871	871	100	Pass	920	920	100	Pass
32. Without alcoholic drinking	90	2869	2869	100	Pass	3302	3302	100	Pass
33. Without smoking	90	2869	2741	95.54	Pass	3302	2953	89.43	Fail
34. Cultural activity participation	90	871	871	100	Pass	920	920	100	Pass
35. Oaring on elder people	90	421	421	100	Pass	438	438	100	Pass
<b>Environmental development</b>									
36. Natural resource conservation	90	871	871	100	Pass	920	920	100	Pass
37. Environmental protection	90	871	871	100	Pass	920	920	100	Pass

Source: CDD headquarter

# Appendix C

## Miscellaneous tables

Table C.1: Selected data processing procedures of NRD 2C indicators

Indicator	Preliminary data from questionnaire	Data analysis process	Final score
Transportation	1. Roads connect to district center? 2. In case (1) is true, how long does it take to travel to district center 3. Taxi availability 4. Consistency of taxi service during rainy season	((1) is true) and (takes <= 10 minutes to travel to district center ) and ((3) is true) and ((4) is true)	3
		(1) is true and ((takes <= 15 minutes to district center) or ((3) is true) and ((4) is false))	2
		Other cases	1
	When roads connecting to district center available	> 60%	3
	5. No. households with motorcycles / total households	40% - 60%	2
		< 40%	1
	When roads connecting to district center not available 6. Travel time to district center via boats, trains or other modes	(< 15 minutes by boat or train) or (< 20 minutes by other modes) (15-30 minutes by boat or train) or (20-40 minutes by other modes) (> 30 minutes by boat or train) or (> 40 minutes by other modes)	3 2 1
Occupation and occupation	1. Employed households with income > 30000 baht/hh/year	(3) > 70%	3
	2. Households with more than one occupations	(3) 50%-70%	2
	3. ((1)+(2))/Total households	(3) < 50%	1
Public health service service	1. Has basic public health center or volunteer health center or services?	3 services are provided	3
	2. If (1) is true, the services include: a. Diagnostics	2 services are provided	2
	b. Village information center c. Knowledge transfer	1 service is provided	1
Clean water	1. Households with clean drinking water around the whole year	(2) > 95%	3
	2. (1)/Total no. households	(2) 64%-94%	2
		(2) < 64%	
Education level	1. (no. of over 14 yr people who finished junior high school but not continue to study)/(total no. of over 14 yr people)	(1) > 10% (1) 5%-10% (1) < 5%	3 2 1
	2. (no. of over 14 yr people who finished primary education)/(total no. of over 14 yr people)	(2) > 20% (2) 2%-5%	3 2
	3. (no. of illiterate 14-50 yr people)/(total no. of 14-50 yr people)	(2) < 10%	1
		(3) < 2%	3
		(3) 2%-5%	2
		(3) > 5%	1
Forest	1. Village in reserved forest area	(1) is false and (2) is true	3
	2. Community forest available	(1) is false and (2) is false	2
		(1) is true	1

Source: IPIED

Table C.2: The budget of TAO Wang Luk in fiscal year 1997

<b>Revenue</b>	
<b>Local taxes</b>	
Local tax	165900
Land and property tax	9000
Signboard tax	1400
Slaughter tax	448
Fishery tax	306
<i>Subtotal</i>	177054
<b>Shared taxes</b>	
Liquor tax	633801
Excise tax	2210550
Value-added tax	200000
Specific business tax	100000
Vehicle tax	200000
<i>Subtotal</i>	3344351
<b>Fees, fines and property income</b>	
Slaughter fees	468
Animal house fees	114
Juristic & registration fees	1942937
Announcement fees	960
Interest from deposit	93464
Rental fees for slaughter house	4500
<i>Subtotal</i>	2042443
<b>Subsidies</b>	1780200
<b>Total</b>	7344548
<b>Expenditure</b>	
<b>Regular expenditure</b>	
Reserved fund	40000
Salary	195000
Temporary wages	170000
Monetary for TAO members	1270000
Material cost	67000
Public utilities	29000
Donation	10000
Miscellaneous	183700
<i>Subtotal</i>	1964700
<b>Expenditure for development</b>	
Cost of durable objects	105400
Cost of land, property and construction	3763392
<i>Subtotal</i>	3868792
<b>Total</b>	5833492

Source: Budget plan of TAO Wang Luk, FY 1997

Table C.3: The budget of TAO Krasieo in fiscal year 1997

<b>Revenue</b>	
<b>Local taxes</b>	
Local tax	109898
Land and property tax	2355
Signboard tax	200
<i>Subtotal</i>	112453
<b>Shared taxes</b>	
Liquor tax	30092
Excise tax	358455
Value-added tax	28723
Vehicle tax	38767
<i>Subtotal</i>	456037
<b>Fees, fines and property income</b>	
Juristic & registration fees	168074
Announcement fees	360
Interest from deposit	30845
<i>Subtotal</i>	199279
<b>Subsidies</b>	1932200
<b>Total</b>	2699969
<b>Expenditure</b>	
<b>Regular expenditure</b>	
Reserved fund	20000
Salary	195000
Temporary wages	112800
Monetary for TAO members	308500
Material cost	50000
Public utilities	17000
Donation	10000
Miscellaneous	245510
<i>Subtotal</i>	958810
<b>Expenditure for development</b>	
Cost of durable objects	105400
Cost of land, property and construction	979938
<i>Subtotal</i>	1085338
<b>Total</b>	2044148

Source: Budget plan of TAO Krasieo, FY 1997

Table C.4: The proposed and approved village projects during the TAOAC meeting for the budget plan of FY 1998, Wang Luk

Village no.	Priority	Detail of projects	Proposed budget	Approved budget
1	1	Gravel road maintenance	210415	210415
	2	Gravel road maintenance	64601	-
	3	Gravel road maintenance	22149	22149
	4	Irrigation ditch maintenance	65403	-
	5	Irrigation ditch maintenance	35420	35420
	6	Irrigation ditch maintenance	54891	54891
	7	Irrigation ditch maintenance	13772	-
2	1	Concrete road construction	513600	256800
	2	Gravel road maintenance	27653	27653
3	1	Irrigation ditch maintenance	47572	47572
	2	Concrete road construction	385200	-
	3	Irrigation ditch maintenance	27008	27008
	4	Gravel road maintenance	59064	59064
4	1	Concrete road construction	321000	303024
	2	Irrigation ditch maintenance	10673	10673
	3	Gravel road maintenance	39376	39376
5	1	Concrete road construction	513600	258600
	2	Gravel road maintenance	39376	39376
6	1	Gravel road maintenance	98932	98932
	2	Gravel road maintenance	73830	73830
	3	Irrigation ditch maintenance	16264	16264
	4	Irrigation ditch maintenance	75012	75012
	5	Water container	-	-
7	1	Irrigation ditch maintenance	7623	7623
	2	Irrigation ditch maintenance	36594	36594
	3	Concrete road construction	385200	171200
	4	Gravel road maintenance	3691	3691
	5	Gravel road maintenance	23994	23994
	6	Small-scale weir	427916	-
8	1	Gravel road maintenance	84904	84904
	2	Gravel road maintenance	92287	92287
	3	Irrigation ditch maintenance	22931	33931
9	1	Gravel road maintenance	68908	68908
	2	Gravel road maintenance	86735	86735
	3	Irrigation ditch maintenance	18489	18489
	4	Irrigation ditch maintenance	16207	-
	5	Irrigation ditch maintenance	36594	27005
10	1	Gravel road maintenance	215337	172270
	2	Gravel road maintenance	55372	55372
	3	Loudspeaker	-	-
11	1	Gravel road maintenance	7383	7383
	2	Concrete road construction	475080	475080
12	1	Concrete road construction	154080	154080
	2	Gravel road maintenance	24610	24610
	3	Gravel road maintenance	34454	34454
13	1	Concrete road construction	419440	-
	2	Concrete road construction	445120	200000
14	1	Village center	215070	-
	2	Gravel road maintenance	77521	77521
	3	Gravel road maintenance	73830	73830
15	1	Gravel road maintenance	90441	90441
	2	Irrigation ditch maintenance	30495	30495
	3	Irrigation ditch maintenance	26964	26964
	4	Irrigation ditch maintenance	32141	32141
	5	Irrigation ditch maintenance	16772	16772



# Appendix D

## The generation of comparison tables from NRD 2C and BMN

The comparison tables allow TAO planners to compare the percentage rates of indicators in three different manners.

- Compare the percentage rates of a specific indicator among all villages within the tambon
- Compare the percentage rates of all indicators within a specific village
- Compare the percentage rates of all indicators among all villages

These three comparisons match the requirements for making decisions according to different criteria. Take the example of project budget allocation, the decision makers may want to follow either one of those criteria in determining which project to be approved.

- The TAO decides to implement the project about irrigation ditch dredging and wants to allocate the budget to the village with the worst condition of agricultural water supply. In this case, the comparison table of the first category will be applicable.

Table D.1: The percentage rates for a few BMN indicators

	Vill. 1	Vill. 2	Vill. 3	Vill. 4	Vill. 5
House sanitation	90	92	95	89	93
Drinking water	97	90	93	92	87
Vaccination	98	100	92	95	99
Primary education	100	98	99	97	96
Birth control	80	78	91	85	83

- The TAO decides to give each village equal amount of money, but wants to know which types of projects are needed the most. In this case, the comparison table of the second category will be applicable.
- The TAO decides to implement a number of projects which are targeted at the villages in the poorest conditions at the poorest sectors. In this case, the comparison table of the third category will be applicable.

The following paragraphs illustrate how to generate those three types of comparison tables from NRD 2C and BMN.

Firstly, convert the values of indicators into percentage rates by dividing them by the *base numbers* at village levels (for example, the total households at villages, the entire population at villages). The purpose of using percentage rates is to make the data comparable across villages and indicators. The indicators which cannot be converted into percentage rates – for example, the total length of roads and the number of schools – are excluded from the comparison tables. The outcome of this process is a table listing the percentage rates of all indicators among all villages. Table D.1 demonstrates an example of such table.

The comparison table of the first category is calculated by listing the orders of the entities in table D.1 along each row. 1s represent the highest values along specific rows, denoting the best villages with respect to specific indicators. Table D.2 demonstrates an example of such table.

It is questionable to compare the percentage rates between different indicators directly since their importance (or seriousness) is different. For example, 82% of households can access drinking water is a much worse condition than 82% of households receive birth control. The better approach is to multiply the percentage rates of each indicator with a weight number to make them comparable. For BMN data,

Table D.2: The category 1 table generated from table D.1

	Vill. 1	Vill. 2	Vill. 3	Vill. 4	Vill. 5
House sanitation	4	3	1	5	2
Drinking water	1	4	2	3	5
Vaccination	3	1	5	4	2
Primary education	1	3	2	4	5
Birth control	4	5	1	2	3

Table D.3: The percentage rates of D.1 weighted by national targets

	Vill. 1	Vill. 2	Vill. 3	Vill. 4	Vill. 5
House sanitation	100.00	102.22	105.56	98.89	103.33
Drinking water	102.11	94.74	97.89	96.84	91.58
Vaccination	103.16	105.26	96.84	100.00	104.21
Primary education	101.01	98.99	100.00	97.98	96.97
Birth control	103.90	101.30	118.18	110.39	107.79

the national targets for indicators are appropriate candidates for weight numbers. If the national target is set as 100%, it means this indicator is so important that all households (or population) need to pass the qualification. Similarly, national targets for NRD 2C can be assigned by the central government.

Divide the percentage rates of each row by the national target of the specific indicator. Table D.3 is obtained.

The comparison table of the second category is calculated by listing the orders of the entities in table D.3 along each column. Table D.4 demonstrates the result of such table.

The comparison table of the third category is calculated by listing the orders among all entities in table D.3. Table D.5 demonstrates the result of such table.

Table D.4: The category 2 table generated from table D.3

	Vill. 1	Vill. 2	Vill. 3	Vill. 4	Vill. 5
House sanitation	5	2	2	3	3
Drinking water	3	5	4	5	5
Vaccination	2	1	5	2	2
Primary education	4	4	3	4	4
Birth control	1	3	1	1	1

Table D.5: The category 3 table generated from table D.3

	Vill. 1	Vill. 2	Vill. 3	Vill. 4	Vill. 5
<b>House sanitation</b>	14	10	4	18	8
<b>Drinking water</b>	11	24	20	22	25
<b>Vaccination</b>	9	5	22	14	6
<b>Primary education</b>	13	17	14	19	21
<b>Birth control</b>	7	12	1	2	3

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