Sida Supported Projects in Thailand 1986-1998

Contract Financed Technical Assistance and Concessionary Credits in Energy, Environment, Transport, Public Administration and Finance

Leif Grahm
Ann Charlotte Bauer
Gösta Eléhn
Nils-Gunnar Hasselberg
Lars-Olof Eliasson
Roland Duberg
Göran Levin
Ulf Weidling

Sida Evaluation 98/18

Department for Infrastructure and Economic Cooperation

Evaluation Reports may be ordered from:

Infocenter, Sida
S-105 25 Stockholm
Telephone: (+46) (0)8 795 23 44
Telefax: (+46) (0)8 760 58 95

Authors: Leif Grahm, Ann Charlotte Bauer, Gösta Eléhn, Nils-Gunnar Hasselberg, Lars-Olof Eliasson, Roland Duberg, Göran Levin.

Sida Evaluation 98/18
Commissioned by Sida, Department for Infrastructure and Economic Cooperation

Registration No.: 1998-02939/5
Date of Final Report: June 1998
Printed in Stockholm, Sweden 1998
ISBN 91 586 7611 2
ISSN 1401—0402

SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
Address: S-105 25 Stockholm, Sweden. Office: Sveavägen 20, Stockholm
Telephone: +46 (0)8-698 50 00. Telefax: +46 (0)8-20 88 64
Telegram: sida stockholm. Postgiro: 1 56 34–9
Homepage: http://www.sida.se

FOREWORD

Development co-operation has been going on between Thailand and Sweden for a little more than one decade. Both partners are positive to the relationship. There is no performance so good that it cannot be improved, however, and times have changed, which in itself may indicate a need to review the co-operation and include new approaches.

Against this background Sida designated Eliasson & Partner AB in association with Swedegroup International Consultants AB to evaluate the experience of the co-operation. Five sectors were chosen for investigation with the intention of making a comprehensive evaluation, based partly on these five specialised sector studies, and partly on other available material to make the context understandable.

The team selected to work with the evaluation included the following members:

Cross-Sector Report	Swedegroup International Consultants AB	Leif Grahm Team Leader
The Energy Sector	Energikonsult Bauer AB	Ann Charlotte Bauer
The Environmental Sector with Special Attention to Rescue Services	KM International AB Scandiaconsult Bygg och Mark AB	Gösta Eléhn Nils-Gunnar Hasselberg
The Transport Sector	Eliasson & Partner AB	Lars-Olof Eliasson Project Co-ordinator
Public Administration	Research Development	Roland Duberg
The Financial Sector, Concessionary Credits	Swedegroup International Consultants AB Scandiaconsult AB, Industrial Segment	Göran Levin Ulf Weidling

The evaluation team met once before the field studies to discuss the approach and prepare detailed work plans. When in Thailand and visiting the projects and gathering information, the team made an effort to see the role of each project in the overall development of each sector. Most data, problems and ideas originate from discussions with stakeholders in Thailand, with Sida, and the consulting companies involved in the projects. Each team member is responsible for his/her own report.

All team members have been given the opportunity to comment upon the comprehensive cross sector evaluation report, and all of them have presented their views. Lars Olof Eliasson has also paid special attention to this report. This means that the author of this report, Leif Grahm, owes the credits for all good ideas to the sector studies, but is responsible for occasional misinterpretations or biased conclusions himself.

We wish to thank officials from the evaluated departments in Thailand, the Swedish consultants and representatives from Sida and the Swedish Embassy who openly discussed strong and weak points and shared their experience. Without exception we have felt welcome wherever we went.

Gothenburg in June 1998

Leif Grahm
Swedegroup

Lars-Olof Eliasson
Eliasson & Partner AB

TABLE OF CONTENT

Executive Summary

Several large Swedish companies have operated in Thailand for many years and there has always been a friendly relationship between the two countries. Official Swedish development co-operation, however, was initiated only about ten years ago when Swedish consulting companies were given opportunities to participate. Since this time BITS and later Sida have provided assistance at a cost of almost USD 50 million. For evaluation purposes, Sida has selected projects using about 20% of the support granted.

The main sectors for development co-operation have not been defined by some explicit programme or strategy, but through practical work of a few relatively large Swedish consultancy firms. Several actors have been involved in this process of formulating projects in the Contract-Financed Technical Co-operation and the use of Concessionary Credits

Considering the fact that Sweden lacked earlier experience of development co-operation with Thailand, and the cultural gap must be regarded as large, there was an obvious risk that some of the new actors would be too inexperienced *vis a vis* this new situation. The evaluation presented below will try to analyse if they would be regarded as "clumsy elephants sent into a Thai garden" or if some "new flowers have been grown" as a result of the co-operation.

The **TERMS OF REFERENCE** of this evaluation aim at covering the *purpose of the evaluation*, the *relevance* of the various projects, the *efficiency* of the project work performed, and the resulting *impact* of the knowledge transferred or of the other forms of assistance. The short presentation below will follow these main issues.

As stated in the Terms of Reference, the **PURPOSE OF THE EVALUATION** is primarily focused on the effectiveness of using two instruments, Contract-Financed Technical Co-operation and Concessionary Credit Schemes to achieve economic and social change. A third instrument, the International Training Program is not being evaluated in this report. The changes should be noted as the impact on national, regional and organisational levels as well as the effects on Swedish-Thai relations. The results are commented upon under "lessons learned" below.

The second main issue for evaluation concerns the **RELEVANCE** of the sector-support offered during the period. The Terms of Reference specifies "relevance" in terms of adhering to general objectives to development co-operation and fulfilling the objectives formulated for the specific projects. The tender presented by the evaluators sharpens the issue by relating the project activities to *contemporary* values in Thailand (at the time of the project starts).

There is no doubt that the financial support has been successful! Swedish firms have been promoted as suppliers to large Thai industries. However, in financial terms, the support meant very little to Thailand, because alternative financial sources were available at the time, probably at the same economic conditions. As important side effects, however, environmental, economic and social improvements have been made according to Sida's general goals in international co-operation. The transactions have been fulfilled with a minimum of operating Swedish consultants. (No elephants here, only Thai gardeners). And the basic question still remains for the future: Should the main purpose of the co-operation be formulated from the perspective of the Swedish industrial suppliers or from the perspective of the needs formulated by the Thais?

Summing up in a comprehensive perspective, support has been offered and implemented in the most important sectors of the economy. Contemporary Thai mass media show that the projects have hit the relevant sectors. The five year plans, the large international financing institutions like the World Bank and Asian Development Bank, and other documents from that time tell the same story; energy, environment, transport, and human resource development in Public Administration are the most important sectors.

However, there is an emerging discussion about new problems coming up, going across traditional sectors. They comprise for example the urban- rural problems, traditional versus modern welfare development, and regional distribution as well as co-operation in both international as intra-national perspective. These questions were not tangible for the sector bound consultant firms, because the problems were too new to be communicated in the established systems. So, it is reasonable that neither the Swedish Embassy nor Swedish BITS and other actors at the time adhered to them.

Going more into detail, however, the picture will be a little more complicated; the energy sector is a most relevant sector, indeed, but the issues raised for co-operation are not necessarily the most central ones. Large waste of resources has been a fact in non implemented large studies on organisational efficiency in the Electricity Generating Authority, EGAT. The consultant claims that the investigation was good, but the customer regards it as irrelevant. Similar question-marks occur in connection with cancelling of the Klung Thung Penh-project. In this project one of the planned water reservoirs for production of electricity was situated in a National Park. In spite of this, large resources were spent on planning an impossible project there. No acceptable explanation for this mis-use of the resources has been made. – Some pink elephants here? Other projects in the sector, mainly on education, may not have been the best possible, but they have been very popular.

The environmental sector has been approached as a sector *per se* but also as an integral part of each evaluated project. This is very interesting in view of the advanced and lively discussions on general environmental issues in Thailand throughout the period evaluated. Central issues such as the dwindling natural forest resources in the country or in neighbouring countries have not been brought into the Swedish-supported projects considered in this evaluation. The dominating Swedish activities have been related to the development of modern rescue services, which should be seen as very important. Concrete impact in the form of improved ability to fight fires has been recognised. The improved handling of hazardous goods in the Port of Bangkok has many positive results. There is, however, still room to improve some activities and to install supplementary infrastructure facilities necessary to comply with current international standards.

The Swedish support to the transport sector has been focused on the Department of Highways (DoH). The projects have all dealt with human resources development. The areas in focus are transport economy, manpower training, activity planning, how to stabilise road embankments and bridge foundations in soft clay, and how to manage bridge maintenance. The projects are all relevant but maybe some of the engineering training should actively include the existing technical universities to ensure maximum dissemination of the methods amongst civil engineers in general and not only amongst staff involved in road construction.

All agreed at that time of the project start, and it is still agreed, that human resources development is one of the key factors to success in development. The new middle class in Thailand, closely related to public administration, has been given the opportunity to improve their positions. Through the Swedish projects on "management by change" they have joined the training schemes carried out by the Civil Service Commission. The activities are central to the provision of trained manpower for the Thai administration. Relevant and concrete impact is noted from the projects even if the causality relations are hard to prove in this kind of training.

So far it is can be said that the hit rate is high and that the Swedish institutionalised consultant firms have had sensitive ears when listening to the market signals both from the new socio-economic situation in Thailand and from the new Swedish co-operation institution, BITS. Relevant projects for Thai beneficiaries have been prepared and approved by the Swedish donor.

The fact that most projects have been relevant, however, does not necessarily mean that they have been **COST-EFFICIENT** too. The Terms of Reference specifies that cost-efficiency shall be assessed both for the donors and the

beneficiaries handling and financing of the projects.

Most projects can be classified as training or educational programmes. It is very hard to estimate cost-efficiency in these. Following the assumption that participation rates reflect transfer of knowledge, a standard "normal" value for measuring training efficiency can be established by comparing the number of pupils per teacher and the expected fee rate. Due to high fees for the consultants, the training programmes within the energy sector show a low cost-efficiency.

Compared to this "normal" standard the training projects in the energy sector seem to be of rather low cost-efficiency because of high fee rates. Within the transport sector, training in combination with study trips produced a low teacher-pupil ratio and a low cost efficiency. The training for engineers, however, which took place in Thailand, demonstrated higher efficiency, but suffered from low participation. The Civil Service Commission's training projects appear to be professionally managed and cost efficient. In the environmental sector, i.e. the rescue service projects, the high level of cost efficiency is demonstrated by the improved performance of the rescue workers.

The cost efficiency would probably have been higher if BITS had monitored the projects in more detail. However, according to the agreement for Contract Financed Technical Co-operation, closer monitoring would have been in conflict with the main ideas about the beneficiary's primacy in regulating the use of resources.

The fulfilment of Cost-sharing according to agreed documents for the projects have been investigated. The evaluation group has not found any cases where the Thai party has neglected to cover costs in accordance with the agreements.

When evaluating **IMPACT and QUALITY** the projects were divided into two categories: the first is related to projects aiming at organisational development; the second is related to projects aiming at technical change. Through the evaluation study it became clear that the technical change category shows much greater impact than the organisation and management projects.

In all sectors there have been projects attempting to make organisational "master plans". The Efficiency Study done for EGAT is an example from the energy sector. The rescue service in the Environmental/Emergency sector developed a Master Plan which included measures to prevent accidents. The transport sector designed a master plan for road safety (non-Sida financed), and the public administration sector developed the Macro Manpower Planning project. With the exception of the road safety plan, all of these projects could be characterised as "elephant walk" by the fact that the impact and quality must be seen as relatively low. Even though some of the beneficiaries say they have gained valuable experience through the projects, confusion, delay and sometimes resistance to implementation are some of the many indications of misunderstanding of the conditions in Thailand.

In all sectors there have been projects attempting to make organisational "master plans". The efficiency study of EGAT, is an example from the energy sector. The master plan to prevent accidents worked out in connection with the rescue service projects is another example belonging to the emergency sector. The transport sector has made a consultant monitored master plan for road safety, and the public administration sector has got its "Swedish made" Macro Manpower Planning project. – All these projects, maybe with the exception of the road safety plan, would according to the evaluation team be characterised as "elephant walk". Even though some of the beneficiaries, seriously or by sheer politeness, have told that they have experienced a lot by taking part of these projects the impact and quality must be seen as relatively low. There are too many indications of misunderstanding of Thai culture behind most of these plans, which explains confusions, delay, and some-times resistance to the implementation.

By comparison, the technical projects usually show concrete impact and good quality. Learning practical handling of stabilising road embankments or other foundation works in soft clay in the central region of Thailand has been both practical and appreciated. Fighting fires from inside has never before been done in Thailand

until the Bangkok Fire Brigade was trained by Swedish instructors. Working in creative groups, which is an instrumental technique for improving the quality of public service, has been introduced to Thailand in the management training programmes which have been most appreciated and successful.

In general the evaluation team notes that the engineering oriented projects aiming at transfer of practical knowledge have been of high quality. This is to be expected in view of the profiles of the consulting firms. They are all (except SIPU) in principle engineering companies which may explain why they were not the most suitable at training management and not the best in developing organisations in a culture not familiar to them. The management consultants of SIPU are within their core competence area. However, a bit more emphasis on ethnological or anthropological qualifications in their profiles would have strengthened their performance in Thailand.

One important dimension of the evaluation, not specifically mentioned by the ToR but offered in the tender, concerns the donor's and the consultants' sensitivity for the **DEVELOPMENT PROCESS.** Regarding this dimension the evaluation does not come out as positive as the general impressions presented above. A typical project sequence is the story of a Swedish firm of consultants carrying out lobbying activities with Thai public authorities in a sector related to the consultant's profile. During this process the consulting firm emphasises their relation to the owner, the Government of Sweden which is a stakeholder or has been a stakeholder in all firms involved in this evaluation. The Thai counterpart often gains the impression that they are dealing with the Swedish parallel governmental organisation. A request for technical assistance is prepared and submitted to BITS. It is likely that the Swedish consulting firms often assist in preparing the requests for support. The initiating consulting firm may gain the contract without any strong competition. A first year of consulting services begins. This first year may show low productivity and in some cases it may be really bad. However, social relations are established and the consulting firm often quickly learns how to improve. This process has been acceptable according to BITS's general ideas on Contract-Financed Technical Co-operation. As a rule rather than according to a needs analyses, additional projects have been extended to the same consulting firm. Most of the evaluated consulting firms have improved their performance over time.

Seen over a ten-year period it is clear that small improvements have been made. The socio-political discussion in Thailand and Sweden has been followed up in minor ways; some aspects on the often neglected gender issues are being considered and environmental concern is being discussed and considered in all sectors. There is, however, no in-depth effort demonstrated by the parties concerned on how to practically consider these issues in the projects. The new regional questions emerging on the political scene are neglected. The projects are not becoming related to interests of new formations of social groupings. Little or no efforts have been made to improve understanding of the new economic situation, of which the first clear signs appeared already about 1996. *As an overall evaluation of this process it is reasonable to say that the projects have continuously improved their efficiency but at the same time their relevance have decreased.*

LESSONS LEARNED from the above dimensions of the evaluation can be summarised as follows:

- The instrument of Concessionary Credits has worked well. The owners of the production plants are sufficiently knowledgeable to identify, specify and procure from Swedish suppliers what is needed to expand or supplement their plants. Credits with costs below market rates have been provided to competent enterprises in Thailand. The subsidy is related to the investment phase only and the "artificial respiration effect" has been avoided. Swedish suppliers have been established on the Thai market. The impact of the enterprises have resulted in positive socio-economic conditions in accordance with Sida's general objectives.

- If BITS's objective were to be interpreted as promoting export of Swedish

public services via Contract Financed Technical Assistance in the same way as the Concessionary Credits promote exports of Swedish manufactured goods, the result may seem rather good. Four Swedish consulting firms have gained a substantial income over several years from BITS-financed contracts – not only in Thailand but elsewhere. The risk for "artificial respiration effect" is, however larger. In case real competition were to be introduced in future co-operation with Thailand, one may perhaps encounter some "dead elephants".

- A consistent programme to select the proper consultant would be fruitful for a more coherent approach in the future. The requirements of the programme should determine the selection of the consultant. In the decade studied, to a large extent the consultants' technical profiles have determined the design of the project. At first sight, it looked as though the instrument Contracts-Financed Technical Co-operation enabled a quick response to the Thai needs without any hampering bureaucratic controls in Sweden. On closer look, it could be said that the deepening of the consultant/client relationship became a hinder to following up changes in the Thai social and economic structure. There is a risk that the client associates the consultant with subsidised financing and doesn't want to rock the boat and lose the "golden elephant". A rolling or periodically renewed programme would pave the way for new contacts in Thailand and encourage new impulses from Swedish consultants and other organisations.

- The *cultural settings* should not be neglected. They have explained more of the qualitative questions than the evaluation team had expected. Our experiences pointed out that consultants specialised in sector approaches should be used in accordance with their expertise. Cross sector problems should primarily be approached by other specialists. In practice this means that complex social problems need their engineers as well as their sociologists and anthropologists. This may look like a truism for administrators of development assistance, but it is not necessarily understood or supported by all co-operating partners. The need for a multi-disciplinary approach may be neglected if it is not included in the Contract-Financed Technical Co-operation.

Some **RECOMMENDATIONS** derived from the Lessons Learned are:

- Develop a programme frame together with the Thai sector co-ordinating authorities (DTEC) and the sectors themselves. Include and involve new interest groups, usually recognised as NGOs or other organisations. In order to make the general conditions for social and economic development more understandable, the programme frame must consider Thailand in its larger regional setting. To avoid the indirect effects of strengthening the megacity development tendencies, the programme frame must also recognise the distributional effects in the country as a whole. In turn, this means that a great deal of the programme work must be done in a cross sector approach.

- The "spirit of the times" is seldom understood by those included in it. In order to be prepared for future priorities, various means should be tried to become detached from it. One way to do this would be to recruit from a flexible corps of consultants in development co-operation. These consultants, from large and small firms and with multi- or inter-disciplinary backgrounds, would be more apt to recognise signals of change. There should be no more large, one-dimensional projects monitored by engineers. Local consul-tants, should always be involved and their knowledge and viewpoints should be used to help ease the cultural differences as well. And there should be no more ten-year periods of assistance within the same project frame or consultant assignment.

- One interesting approach for the future would be to use progressive cost-sharing. The beneficiary would end up in covering 100% of the costs by the end of a three to five year period. This

would minimise the risk for "dead elephants".

- A better monitoring system and more human resources are needed for the Sida staff to effectively manage and review the projects. This does not mean that conditions would be improved by increased regulation and control, as a strictly regulated project process would resemble the engineering approach that this report is critical to, but instead, competition for a contract must include stimulation for the competitors. Progress reports must be an expected part of a normal contract. Inspection of field activities at appropriate intervals should be used to communicate with the consultant and the client as well as to assess Sida's goals. We can see a more active and positive intervention from the Sida administration coming up in the future, for the best interest of all partners.

As **GENERAL CONCLUSIONS** it may be stated that the rapid development of co-operation between Sweden and Thailand has been successful. This report has pointed out several problem areas, but if there was no room for improvement, the level of ambition would have been regarded as too low. There is no evidence that the Swedish method for instrumenting social and economic change was an "elephant walk in a Thai garden" On the contrary, the co-operation between the two countries should be regarded as making experimental cultivation in order to grow new orchids as a part of Swedish-Thai co-operation in the future.

Introduction

The assignment

Thailand is a rather new country in the Swedish portfolio of international development co-operation countries, - the co-operation has existed a little more than 10 years. During the time Sweden has spent almost US$ 20 million (SEK 143.338.953) in contract financed technical co-operation and training schemes. In addition, Concessionary Credits have been granted covering loans for almost US$ 100 million at a concessionality level of 35%, costing almost US$ 30 million (SEK 222.900.000).

Sweden started this development co-operation with Thailand without formulating any country programme or any other plan, relying completely on the judgements of a new administrative body (with experienced personnel) in Sweden and several "local actors" in Thailand. This latter category include not only the central sector administrations and their co-ordinating body called DTEC, but also Swedish firms newly established in Bangkok, and even the Swedish Embassy without a formal responsibility for issues about foreign assistance, and others.

A large experiment for non bureaucratic support to Thailand was quickly put into place, where traditional control mechanisms were kept at a slightly lower level than before. Was this successful or not?

Eliasson & Partner in association with Swedegroup were assigned to make a comprehensive evaluation of the co-operation. A small fraction of the total costs has been granted for this evaluation, which by necessity results in a short evaluation period. This means that a rather large expert team (8 persons) will make a rather fast and inclusive evaluation. Of 74 completed and 18 ongoing projects, 12 projects have been selected for evaluation. The purpose is not to make a thorough audit of these, but rather to collect impressions, experiences, good ideas or whatever that will come up during the investigations. These impressions will, together with other facts collected during the 2-3 weeks visit to Thailand, form the basis for making general recommendations for future co-operation.

It is a pronounced ambition from the evaluation team that the existing projects shall be evaluated from a time relevant context. - Not from knowledge based on finalised development processes. This means that the projects should be understood from their own historical setting.

Background

Socio-economic context

In international co-operation with African or South American countries it usually is very clear that the cultural differences between Swedes and the beneficiary countries are too large to be neglected. People realise that they don't understand each other.

The same is true for Thailand, when observing all religious symbols that dominate every day life. At the end of the 1980's, however, when commercialism had been rooted in central regions of Thailand, and intelligent people with clearly expressed humanistic ideals met the Swedes, this was easily forgotten. The Swedes probably felt closely related to this culture, and tended to underestimate the fact they are not aware of the inner meaning of the Buddhism way of living, history and traditions in administration or business.

The conclusions from the evaluation of the projects will partly be based on how the evaluation team understands the finished or ongoing projects fits and misfits to the existing culture. Therefore a part of the evaluation mission includes making a very brief interpretation of the cultural setting into which the projects were introduced.

Thailand before BITS

Let us start in the 1970's. Until this time the agrarian production was the power of the economy. Business was emerging fast in the freedom of a rather open economy, which provided backing to the military absolutism. The military rulers suppressed all dissent in the name of the nation, religion and the king.

The agrarian frontier was broken and a fast growth started in the urban economy, with a spectacular boom around 1987. By this time the US had withdrawn from Indo-China, and the cold war was about to end with consequent disarrays in the Thai military. A new white-collar work force was created to handle the expanding out-ward oriented economy. The peasantry rebelled against urban exploitation.

Private enterprises have existed since the 1940's, but the international trends, including recession and the new capital mobility of the 1980's marked a new stage of matured private enterprises in Thailand based on a long term process of capital accumulation.

The stable, open economy provided Thai firms with a highly favourable environment for growth. The Chinese-origin merchant community took advantage of this and started working as *compradors* for the Europeans, agents for the Americans, joint venture partners for the Japanese, and subcontractors for the north Asians. They also moved on rapidly from trade to manufacture and from import to export. Many of the large firms from the late 1940s started as trade houses, which were converted into joint ventures with foreign partners to gain access to technology and skills in the 1960s. From the 1970s, foreign partners were welcome providing them access to foreign markets. From the mid 1980's they attracted to Thailand the capital flooding out of North Asia, in part because the North Asian firms knew they made enthusiastic partners. In the early 1990s they took up the opportunities to buy technology, skills, and capital from the increasingly free market of the globe, because Thailand's capitalists were by nature out-ward-looking and cosmopolitan.

"As capital became stronger and more mature, it saw less value in allying with the generals."[0] With the new external exposure of the economy the military system was no longer the sign of stability, but rather a disincentive for foreign investors. After a backlash in 1976 the businessmen came back claiming political representation in the 1980's. They backed up the writing of a new constitution, formed political parties, and entered the parliament and the Cabinet. Economic policy was reformulated to favour

exports. The Thai foreign policy was changed to match their regional ambitions, and labour policy was revised to facilitate rapid recruitment of urban labour.

A most significant element of this time was the consolidation of the large Bangkok based conglomerates. Besides these two very different sorts of capital emerged. The first comprised provincial businessmen using primitive forms of capital accumulation, starting with the cash crop boom in the 1970s, operating in black or grey markets. They corrupted local officialdom to gain immunity. The second comprised the new "globals" who ceased to see the place of their business as the nation, and moved on to the whole Asian region. These different segments had different ways of operating, different demand on the government, and different strategies of negotiating with the state. The metropolitan conglomerates increasingly worked through corporatist associations and lobbying. The provincial businessmen bought voters. The globalists bought technocrats.

The pressure on the urban economy was huge. In 1990 25% of the labour force worked in urban areas. Many of those pulled into the cities were still short-term rural migrants, finding temporary work in the informal sector. This growing urban under-class was a concrete expression of the widening rural-urban gap.

The government formulated labour politics through a mixture of concession and repression. Legislation was used to isolate labour issues from party politics. A wave of radicalism in the public sector unions was met with a legal ban in 1991. In the private sector, the government left labour politics to the market forces.

To escape the repressive hand of the government, labour leaders started to work more through NGOs or informal organisations than through labour unions. In 1992 and 1993 more workdays were lost in strikes than the total loss since 1976.

With the maturing of the new urban economy a new social force developed; a relatively large salariat of professionals, technicians, executives, administrators, managers, and other white-collar workers. The demand for salaried workers began to grow in the1960s. By 1990, this group numbered over 4 million. The political potential of this new salariat was prefigured by the student activism of the 1970s. It was stifled by 1976, but re-emerged in the 1980s.

This new group took on the individualist ideas and attitudes founded in the ethics of capitalism. They believed in self-improvement, rewards for merit, the importance of education, and the capacity of the individual. Through their personal links with government and technocracy in conjunction with capacity for organisation these groups wielded potential political influence out of proportion of their size.

In 1991-92 a new large crisis revealed the complexity of the new political economy. The constitution was manipulated to institutionalise military absolutist power again. A military coup took place 1991. The crisis brought to notice old ideological divisions within the military; "the army of the king" was opposed to "the army of the people". It also made clear a new coalition of activists and NGO workers from the dissident fringe of the salariat, when organising demonstrations against the military rule soon after the coup. Large street clashes followed in May 1992. Middle class demonstrators with easy access to the press fought together with persons from the

floating class of rural migrants which manned the informal sector of the city. Peasants from the north-eastern parts who had been deprived of their land during the military period joined, claiming their land back.

The transition from crisis to democratic election revealed another growing division, viz. between Bangkok and up-country business. Many provincial politicians were intimidated to support their old military friends, but the groups of metropolitan business which had initially welcomed the coup, now pressed for new democracy. Business groups sponsored parties and candidates opposed to military domination.

The following election welcomed a new type of Prime Minister. He came from a poor family, from the periphery, not the centre, and from a professional background, not the military bureaucracy.

The crisis had brought in new conflict dimension into the country. It was about the salariat against the absolutism, the big business against the generals, the merchant barons against the "godfathers", the periphery against the centre, the urban underclass against authority, and the village against the city. – These categories make the new dimensions necessary to cope with when elaborating a new development strategy.

BITS enters the scene

BITS, by that time meaning the Swedish Administration for International Technical Assistance, was a product of several Swedish ideas which together formed the "Zeitgeist" (the spirit of the time) in the middle of the 1980s. Sweden had passed a "crisis" with low or zero-growth of GDP, and the wheels had started to roll again. A growing part of the politicians urged that the public sector should be minimised to release resources for the "feeding" private sector. Commercialisation or corporatisation of public administration was the key word of the day. Several Swedish authorities started consultant firms, in reality market based parastatal organisations, and begun to organise the resulting administrations as corporations. The Swedish Highway Administration showed the way.

Norway had just had its large financial crisis based on overvalued oil assets. The Swedes learned nothing from this, but were very happy to invest in the fast-rising sector of real estate. People concerned with financial management rapidly became the new gurus who predicted the way to future wealth. Management issues in general formed the liturgy for state as well as private development.

Foreign assistance is, and has always been, terribly difficult to perform in the "right way". Humanitarian help is direct and concrete, but provides very little comfort in relation to the endless world problems in the sectors. Industrial support, on the other hand, could bring about multiplication effects, by triggering new development processes. It is a pity that most industrial aid ends up in consequences of the opposite kind; firms get used to assistance instead, and lessen the motivation for rationalisation and reform.

The time spirit, as expressed by the Swedish politicians, said that the future foreign assistance would be based on a backbone of industrial support, but with enhanced

efficiency. Organisational development suggested Sida to keep the old "soft" sectors, and a new institution for "hard" economic development was formed, - BITS. This new institution should be small, non-bureaucratic, and ready to make fast decisions also in unconventional areas. "Change performance" based on trust and at least partly mutual interests between donors and beneficiaries, was favoured at the expense of contracts and control. Creativity was important for this new "social experiment". Consequently the monitoring documents for this new institution were minor.[1]

So, this was the setting when the newborn BITS came to look for new projects, and meet the needs of the new middle class salariat in a very turbulent Thailand. – What will come out of that?

Thailand in development co-operation with Sweden

At the end of the 1990s Thailand was open for many types of international assistance. Different donors have different policies. In principle two possible approaches to co-operation should be regarded before further analysis will be done of the Thai society and economy. The first one takes a country programme as point of departure, where the role of international partners in co-operation is considered in relation to the national spectrum of problems. What are the needs of Thailand, and what Swedish resources are relevant for satisfying these? – This is the coherent approach, which should be regarded as a cross sector approach, i.e. independent of how national sector authorities approach the problems today. The problems, as sketched in the background (about the salariat against the absolutism, the big business against the generals, the urban underclass against authority, the village against the city, etc). are possible to approach here.

The second kind of approach starts from specific demands often formulated by sector authorities, and in Thailand confirmed by DTEC, the co-ordinating agency. The issues for co-operation here will be more of ad hoc character in traditional areas, and the expected consequences will be in more close control.

When discussing *needs* for international co-operation and *impact* from what has taken place in reality, both perspectives are essential. Even if we are well aware of the fact that no or few projects have been discussed or planned in co-operation between Sweden and Thailand in the "holistic", i.e. the cross sector perspective, we start by commenting upon this.

Cross sector approaches

"Strategy", in difference from "technical assistance in general", means that an holistic approach is used to cover the phenomenon which is about to be changed. A "country strategy" means in principle that the whole structure of the country is considered, before the most vulnerable, or maybe the most promising, sector projects are chosen for intervention. A strategy is always elaborated and agreed upon with the new co-operation partner. The basic idea is to affect structural change in the right direction, not making single improvements within the existing structure.

BITS has had no country strategy for Thailand explicitly formulated in advance or during the co-operation up till today. Instead an intrumental approach was used, in terms of "Contracts-Financed Technical Co-operation" and Consessionary Credits (and International Training Programmes which are excluded from this evaluation). These instruments are suitable for specialised sector projects, but not the very best for promoting cross sector change.

The Thai Government has, as opposed to what many Western critics pronounce, a well developed system for cross sector planning, even if the forms sometimes may look a bit rigid. Since 1961 5-year National Development Plans have been elaborated. The emphasis of the First and Second Plans was to co-ordinate sector efforts to promote

industrialisation. Import substitution was the predominant mean. This strategy was seen as relatively successful, generating about 7% growth in the 1960s.

The Third and Fourth Plans in the 1970s shifted focus from industrialisation to export orientation. The means used to favour this end was predominantly investments in transportation, irrigation and electricity infrastructure. Beginning with the Fifth Plan, improved regional distribution of the country's wealth was emphasised. In the next period the most rapid economic growth in Thai history was seen, almost 11% annually. By this time it was clear that Thailand was on its way to become a NIC-country, as agriculture had dropped below 13% of GDP, and industry had passed 28%. The bottlenecks specified in the Sixth Plan (1987-1991) were the country's infrastructure and serious environmental problems as a result of the rapid economic growth. This is about the time of BITS entry in the co-operation arena.

The Seventh Plan (1992-1996) still targeted economic growth, now at about 8% annually, but also set priorities for reduction of income inequalities. Up till today, however, the country has not been successful in reversing the trend of increasingly skewed regional distribution of income. Environmental progress has also been difficult to achieve, though there is some evidence that public concern on this issue has risen substantially.

The National Economic and Social Development Board, NESDB, has produced its Eighth Plan (1997-2001) in a participatory approach which has been applauded by an international forum. High priorities according to this plan are paid to human resource development, development of the quality of life and the environment, and expansion and improvement of public infrastructure and utilities, particularly in the rural areas.

Aside from these official strategies large international donor organisations usually formulate their own strategies. *Asian Development Bank, ADB,* for example, claim that the main challenge for Thailand is to promote a long-term sustainable competitiveness in the increasingly complex domestic and external environment, and at the same time, to achieve a more equitable distribution of the benefits of economic growth. Following issues are addressed in this context:

- upgrading and expanding physical infrastructure to support the next phase of development
- responding to human resource constraints involving mis-match of skills
- managing a rapidly depleting natural resource base effectively
- upgrading the technology base, involving the acquisition and adaptation of more advanced technology
- financing growth and economic transformation, given a relatively high savings-investment gap
- adopting an effective external economic strategy that is likely to require new types of linkages (both co-operative and competitive), especially in the regional and sub regional context. To achieve a more equitable distribution of the benefits of economic growth requires addressing primarily the problem of income inequality, and relatedly, promoting a more diversified *regional distribution* of economic activity and growth.

The World Bank cannot show any comprehensive document, but an interviewed representative, during field studies of the evaluation, expressed that the ambition of

the bank is to cover sector by sector. In this way a fully operational map of the Thai society would be achieved. At present chaos is best way to characterise the situation with credit losses in all areas where the Bank has been engaged. New policy is under way, where rural infrastructure mainly based on public transport, and rural development of SMEs, probably will come out with high priority.

Conclusions

The Thai planning system and the international donor organisations like Asian Development Bank and the World Bank issue useful documents, which are possible to use to comparisons to the Swedish supported project structure.

The documents show a high degree of consensus concerning what should be regarded as the most important sectors, and what kind of intervention that is needed. Partly this can be a result of the fact that they are different actors in the same established system. They read and copy each other's documents.

It is interesting to note, however, that at the beginning of the 1990s there seems to be a reasonable consensus between these official actors of what should be considered the high priority sectors. In the background it was told that the same priority also is true for more informal actors in the Thai society. A slight difference may be noted about the more complex cross sector issues that are noted by, for example, NGOs and other civil organisations. These concern more holistic regional and structural problems, which had only recently started to be articulated.

This conception of the context will be used in the following evaluation of the development projects.

Sector approach

Energy

The problem

"Energy is power". This is true in more than one sense. Control over energy production, distribution, consumption patterns etc means political as well as economic power in many ways. It is not s simple matter of efficiency, cost or rational productions methods.

In Western societies the most challenging issues concern the generation of power. Nuclear energy is compared to hydro-power, oil products, or energy generated from sun, wind, waves or bio-gas and other soft origins. The ambition to keep consumption low is related to general ideas about conservation, especially in the transport sector. There is also an important discussion, however, about the proper forms of supply used: Lower forms of energy are needed e.g. for heating and for cooling. The right energy supply mixture will need less input in relation to the output performance, which makes environmental and other costs much lower.

At the end of the 1980s the market orientation of energy production and distribution dominated Sweden. At about the same time SwedPower started its activities in Thailand. There were many expectations pronounced about improved efficiency as a consequence of breaking up the existing more or less monopolistic situation in power distribution. Many Swedish distributors *in spe* had started to prepare themselves for a new market.

Thai conditions

Thailand had no serious discussions about own nuclear energy at the beginning of 1990. They have got a diversified energy resource base, containing petroleum, lignite, natural gas, hydropower and biomass. As these resources are inadequate to meet the rising energy demand in the country, import solves the problems (which will become a main problem when the economic crisis starts up at the end of the decade). Crude oil, petroleum products, coal and natural gas is bought from neighbouring countries. In 1966 around 62% of Thailand's commercial energy needs were dependent on external resources.

In 1990 the transportation sector consumed about half of the total energy volume, but the highest growth rate, more than 15 % annually, was in the industrial sector.

The distribution system is supposed to be inefficient. The losses usually are more than 10% annually of the total volume.

At the beginning of the key issues for the power sub-sector were identified as

- privatisation of three main power utilities: The Electricity Generating Authority of Thailand, EGAT, and the Metropolitan Electricity Authority, MEA, and the Provincial Electricity Authority, PEA.
- rationalisation of tariffs to facilitate privatisation, and to make subsidies in the system transparent
- providing electricity in the rural areas
- importing electricity from neighbouring countries.

Bits supported projects in the sector

SwedPower was established in 1976, providing independent consultant services within the energy sector. The dominating Swedish state ownership is combined with private minority parts. SwedPower opened an office in Thailand at the very beginning of the 1990's and started lobbying among the power authorities in Thailand. In relation to these authorities they offered their services in principle in competition with other foreign consultants. In relation to BITS as donor, there were few or no competitors. (The evaluation group has found no examples of procurement of their services in competition with others. SwedPower' representative tells that there were some exceptions.)

The selected projects will be presented below. The Klung Thong Penh-project, however, will be excluded and analysed in next section on "environment".

1. *Assessment of EGAT's operational efficiency.*
   In order to prepare EGAT for a potential privatisation it was important to assess the operational efficiency, assess the cost-effectiveness for different departments,

identify areas for improvement and recommend specific measures to change monitoring and performance.

The study was divided into two phases. Phase I started in the middle of 1991. It comprised discussions with EGAT's management and staff, review and compilation of data. 20 different fields of activities were studied. BITS decided to cover all costs (but the domestic) for the foreign consultants, in all 24 man months, under the assumption that EGAT would pay for phase II.

Phase II started at the end of 1992. This phase selected 6 areas for closer analysis: Organisation, economic and financial systems, human resources, system dispatch, power system planning and corporate planning. EGAT changed its mind about taking all costs for phase II, and a split of 60% Swedish and 40% Thai was decided. This second phase contained about 53 man months consultancy service.

EGAT was a large and fast expanding organisation, about 32 000 employees. The consulting services comprised more than 6 man-years, of which about 50% were classified as senior consultancy. This much be considered unreasonably much resources. According to the correspondence form EGAT to SwedPower/BITS, EGAT, however, seemed to be satisfied with the results of the study, which fulfilled the requirements specified in the Scope of Services. When the evaluation group interviewed representatives of EGAT, however, they just claimed that the project results from both Phase I and Phase II were irrelevant. Instead they have procured services from management Consultants like Ernst & Young, Price Waterhouse and others to propose the changes.

Is BITS support of almost US$ 1 million wasted? The management of SwedPower today still claim that it was a good study. Good but irrelevant! This evaluation has no resources to dig deeper into the issue.

2. *Consultancy services on reduction of system losses, and increase in system reliability for PEA*
   At the end of 1992 the Swedish Embassy in Bangkok forwarded a request from PEA on the study divided into two phases: The first would be a feasibility study. The second would be a programme for transfer of technology, which included a study trip to Sweden for four PEA engineers.

   Three companies were invited to tender. Two of them presented proposals. SwedPower was granted the assignment.

   The feasibility should identify causes of losses and identify existing reliability levels in the PEA system, and present criteria for development of increased levels. Programmes should be elaborated to reduce losses and improve system reliability. Transfers of knowledge should take place so PEA would be qualified to handle these problems by themselves in the future.

   The training visit took place by sending 6 groups of 6 engineers each on 4-weeks courses. The training was done in seminars, visits to offices, plants and work sites, in this way giving in-depth introduction of knowledge in reliability matters.

According to interviews by the evaluation group the training had been satisfactorily fulfilled, surprisingly with 40 persons instead of 4 (at 50% higher cost for BITS). The feasibility report, on the other hand, came out as a total flop! After several turns of complaints from the PEA, the "Swedish engineers still couldn't produce a readable manual". PEA gave in, and the project was finished at a total cost for BITS of about US$ 600.000. Not very cost-effective, but partly popular.

3. *Middle management development programme for PEA*
   In 1993 the Swedish Embassy forwarded a request from PEA for a specific management training programme for the energy sector. Specific sector knowledge was supposed to be transferred. (If not, the Civil Service Commission should have been the organiser of the programme.) SwedPower developed the programme in co-operation with PEA.

   In order to train managers at PEA to meet the specific requirements for the transition process when PEA is to be sold out to private interests the following objectives need to be attained:
   - train the personnel to handle various technical and economic undertakings which are administrated in a private enterprise
   - enable the trained personnel to best perform their duties in a way which is possible to transfer to following generations of employees.

   The project was organised in two phases. Phase I comprised shorter and longer courses in Sweden for around 120 PEA managers. Courses on managing organisation, business economy, procurement and contracting, and management and sales were performed by SwedPower. Management games were a part of the pedagogical tools.

   After a successful implementation of the Management training programme in Thailand, PEA in Phase II wanted to send 136 mangers to Sweden, to visit private firms responsible for distribution of electric power in Sweden. They would study marketing and tariffs, regulations and rules, customer's services, organisation of private organisations, and efficient billing system.

Representatives from PEA told the evaluation group that the objectives from this training project had been satisfactorily fulfilled: self confidence had improved, the necessity to work as a team was understood, the creativity had improved, and several managers had continued to study at their own after participating in the training programme.

Some criticism was heard, in terms of the need for top managers to follow the same kind of courses. Otherwise there would be no change of culture in the organisation.

The average age of the participant was rather high. As an investment from the PEA organisation, it is doubtful if there will be a real pay-off (this is true even if only the relatively large part paid in the cost sharing is considered. PEA has financed a Phase III from own sources). One reflection tells us that a large part of the costs in this kind of activities would be regarded as remuneration for long and trustful work within the organisation.

Due to the current financial crisis the income for PEA has decreased around 30%. The privatisation has been delayed, even if IMF has asked for speed as a condition for financing parts of the national budget deficits. The Thais do not believe that the tariffs can be increased in the short run. In spite of this, an American consultant from the energy sector[2], not the management sector, is now working with the privatisation issue.

Conclusions

The energy discussion in Thailand does not follow the well-known international pattern of that time. In that debate, for example, energy conservation often was proposed by combining proper levels of energy with the need for complexity in the use (which means that electricity should be used only for electrical motors, not heating etc). The Thai discussion concerns other important problems like technical distribution, privatisation of the administration etc. Given these problems, the projects seem to have fitted well, according to the expressed Thai needs of that date.

The large projects on organisational development did not come out well: Suggested actions were not implemented. The Thai recipients, much later, considered the reports obsolete. The first reflections are that such large organisational projects should be based on expert knowledge in the management sector, not the energy sector. The Thais thought the same when they recruited new consultants.

Some general criticism, pointing out the need for management consultants, also regards the educational projects. Even if these projects, in contrast to the organisation efficiency study, were most appreciated by the participants, the evaluation group found that there were some question marks concerning the content. Middle management was trained to be adapted to an anticipated situation after privatisation of the administration. - But no real preparation on how to respond to the change process in itself had been done. The Swedish consultant who performed the programme has another opinion in both these cases.

Environment

The problem

Environmental questions have top priority all over the world, in every donor organisation, in every recipient or other country. From a philosophic point of view it may be recognisable as a "new age" value, expressing regrets over past history; too many resources have been spent, and in the wrong way, to build the level of living of today. *In principle* it is not a sector, but a value orientation going across the sectors of state planning. *In practice*, however, most governments have built a specialised sector bureaucracy to promote the environmental values. From country to country the definition of the environmental concept varies, and the real problems, of course differ a lot.

Generally accepted opinions as expressed for example by the Rio Declaration, Agenda 21, and other international environmental conventions, usually state that environmental aspects are an integrated part of development. It is especially important to regard water resources, sustainable agriculture and forestry, soil preservation, marine environment, urban environment and environmentally adapted energy

consumption and production. An important goal is to conserve resources for future generations.

One of many important means elaborated by international donor organisations to promote environment protection, is the very specific approach called Environment Impact Assessment (or EIA-study). No technical assistance from international donors should be started without an environmental assessment, if relevant. Several kinds of survey instruments have been developed, from short handbooks with checklists of the most central variables, to the World Bank's manual containing several hundred pages.

Thai conditions

When the National Economic and Social Plans were implemented in 1961 the environmental protection and the preservation of environmental quality were not seriously taken into account. In the growth oriented policy natural resources have been degraded and ecosystems have been brought out of balance. Thus, the index of economic growth does not imply that the quality of life has improved, because natural resources utilised for economic development have been diminished. For instance, forest resources, recognised as being very important for human survival, environment controls, and as habitats for tropical bio diversity, have been rapidly destroyed since the First Plan. When this plan was made forests covered about 53% of the country's area. At the end of the Sixth Plan, 1991, the forests were reduced to approximately half that area.

The Seventh Plan, developed at about the same time BITS started co-operation with Thailand, and implemented 1992, was the first plan that seriously pointed out the necessity of improvement of the quality of environment. The same year the Enhancement and Conservation of National Environmental Quality Act was adopted.

1997 a 20-year policy and prospective plan for conservation of national environmental quality was adopted. This included guidelines for improvements. The following four main points summarise the approach:

- Increased responsibility of the population as producers, consumers, and residents.
- Introduction of new technology for production, information, communication, services, treatment of environmental problems, and for environmental quality promotion.
- Definition of participatory roles for local organisations at all levels to promote increased local awareness
- Definition of roles for NGOs to participate at different levels of society, to increase public awareness as well as mobilising environmental volunteers.

BITS supported projects in the sector

No projects in the selected portfolio for evaluation are central in relation to the environmental issues described above. *All* projects, however, have environmental effects, including the management training projects, if the content of the training is regarded. *One* sample of projects containing rescue service and handling of dangerous goods in Bangkok, is classified as an "environmental" project in the Swedish donor's reference system. It is obvious, however, that even if the kind of services provided are relevant and very valuable in the environmental perspective, they do not represent core projects in the Thai perspective. As the emergency projects are initiated from the environmental point of view, they will be allowed the dominating space here.

The emergency sector

Since the late 1980s BITS and Sida have supported some 30 projects in connection with the emergency sector at a total cost of approximately US$ 5 million. In 1993 BITS undertook an evaluation of these projects, and concluded that the most critical parts to support for the future were the training facilities and activities related to these. Since then another seven emergency sector projects have commenced, with three different Thai authorities as recipients. This evaluation concentrates on these last projects, which so far has cost some US$ 1.6 million.

All emergency sector projects have been managed by the Swedish Räddningsverket (Swedish Rescue Service, SRV), which is a state authority, also offering services on commercial basis in Sweden and elsewhere. In Thailand they have acted as consultant on market conditions.

Contacts between Thai authorities and the Swedish rescue people were established in 1991, when SRV attended a conference in Bangkok, when a severe accident happened in the port. As SRV is professional at handling of dangerous goods, and lack of experience in these matters was the main cause of the accident, a first contract for co-operation between the Port Authorities, PAT, and SRV was triggered. The contributions to the port project opened several doors, and since 1993 SRV has given assistance to Bangkok Police Fire Brigade, and Chiang Mai Fire Department, and the National Safety Council of Thailand.

The projects included in the evaluation are as follows (Handling of dangerous goods in Bangkok Port will be explicated under next headline):

1. *Training of Bangkok Police Fire Brigade, BPFB*

- Basic training of BPFB, (two projects): Increasing capability of fire fighting through introduction of new methods for fire fighting, rescue work and response to chemical accidents. Personnel will be trained in accordance with these new methods.

  Activities in these projects include establishing of provisional resources for training. While waiting for a permanent training field, a three weeks course for techniques and tactics for rescue work for large traffic accidents and the like, a two week course for instructors on accidents with hazardous materials, and a basic study for starting a school for fire fighters have been accomplished. This last would incorporate the planning process both in Sweden and Thailand.

- Additional training of BPFB: Transfer of know-how by training and development of systems and methods in accordance with a proposed Master Plan for National Safety Council (see below).

  Activities in this project include: teaching and documentation of modern, integrated command techniques when responding to complicated accidents, basic training for "strike teams" for specific response tasks, and making available relevant documents for construction of an Emergency Service Training Centre in Bangkok.

The Rescue service in Bangkok is subordinated to the Royal Thai Police Department which is directly subordinated to the Ministry of Interior. Compared to Rescue Services in other municipalities, this is a favoured position (but there is an ongoing discussion to change this situation). The "Master Plan" (see below) has been adopted as their policy concept, but the basic idea in this document, the preventive activities, does not play an important role to BPFB.

The evaluation group visited some fire stations in Bangkok and asked for a demonstration of equipment and their functions. The tests showed a most satisfactory result. The equipment was of very high Western standard, and the Thais knew well how to use it. The weak link in the system, though, was dependent on the fact that a strategy for selection of equipment was missing – an ornate mixture of national standards is not always the best. Probably, this is a consequence of many donors working isolated from each other.

The evaluation group interviewed persons who had participated in education different occasions in Sweden. They could explain, in a concrete way, new things learned, and demonstrated broad understanding of the general issues. The interpretation is that the education has been effective. The most impressing impact achieved, however, was related to the organisation of Strike Teams. After some real rescue operations, brought to attention among others by the King and presented in mass media, the status of the whole professional group has gone up. This status compensation may be very important, if a new organisation will be adopted as indicated by persons met: an independent Fire Brigade, will lose a part of the esteem which is connected to the higher status Police Force.

On the whole, the projects have been successful. Part of the explanation for this may be a "strong person" in the system; the potential new head of the fire brigade. His rather close relation to the King is not a strength in the sense of nepotism. On the contrary: his manners and qualifications talk their own language when it comes to ability to take new contacts and keep them up.

2. *Basic training of Chang Mai Fire brigade: establishment of training systems and facilities for fire department personnel in the region in order to improve rescue service and general conditions in the Northern Region.*
   Project activities include providing technical advice on construction, maintenance and use of premises for the fire brigade. SRV should also give examples of important exercises, service procedures and training at the established premises, and train Thai trainers for proper use of the facilities.

The beneficiary of the Swedish support is the Municipality of Chiang Mai, The rescue service in this municipality is an independent unit without ties to the police department. Six fire stations serve the city and five municipalities outside Chiang Mai, mostly to fight fire and provide help when the river is flooding. 50% of all rescue cases are related to the municipalities outside Chang Mai. This is not dependent on formal co-operation, but on the fact that the alarm has come directly from the outside municipalities to the fire stations in Chiang Mai.

No real co-operation is going on with the other municipalities, nor is it with the Civil Defence Division.

The evaluation group visited the main station, and inspected equipment and their handling. Everything worked well, and the equipment is of very high standard. The ornate mixture of national standards as found in Bangkok, is also true in Chiang Mai.

Training facilities are not good, so experience is only gained by real fire fighting or other kinds of practical work. No real training field for advanced training exist.

When the evaluation group discussed the matter with the top management of the municipality consensus was demonstrated about the necessity of starting up an advanced training field. Several mistakes, though, seem to have been made in the process so far:

- The municipality defines the training field as a Chiang Mai issue, not a regional, and not a state matter
- SRV has been working mostly with the Rescue Service in the municipality as counterpart, not considering that other sectors within the municipality are responsible for the physical planning
- Large resources have been spent on planning a first training field, constructing and abandoning a second after local residents protests, and now hoping for a third future alternative. SRV has taken for granted that the counterpart will consider the restrictions of the Environmental Impact Assessments, the certificates and licenses etc. More emphasis should have been given to this area. – Planning so far is not cost effective, even though it has given some important and unanticipated, experiences in municipal planning in Thailand. In relation to the original purpose it should be regarded as wasteful!

3. *Development of a Master Plan on National Emergencies Prevention and Response together with National Safety Council, NSCT, in co-operation with concerned ministries.*
   The work has been elaborated in the following project steps:

- Formulation of the Master Plan (two project phases):
  The activities to be undertaken include making a plan which *co-ordinates* the public sectors' efforts to *prevent* and respond to emergencies. They should also work out a feasibility study of an information system on prevention of accidents. Demonstration of the proper performance as response to different kinds of accidents should also be made. Besides this the Master Plan should serve as an institutional base when supporting the implementation of a training system, covering all Thailand.

- Implementation of the Master Plan. This should be done by transfer of know-how in assisting with implementation with focus on legislation, fire prevention and planning of rescue operations. It should also include training in commanding of rescue operations, planning of a central rescue training centre initiated by BPFB, and planning the setting up of special strike teams.

NSCT is since 1994 a permanent council within the Office of the Prime Minister. The Deputy Prime Minister chairs a Board with representatives from relevant ministries, agencies and national institutions. The overall missions are to set policy and advice on appropriate actions on National Safety. NSCT is responsible for the Master Plan of

1995 and its implementation. However, from various reasons NSCT has not succeeded in getting the plan endorsed by the National Safety committee and approved by the Cabinet.

Since 1995 NSCT actions has been under constant change of personnel. The present director took office at the end of 1997, and is said to have little experience of the emergency sector. Lack of financial resources today may be explained by the general economic crisis, but the fact that there still is a weak office does not make things better.

As early as 1995 NSCT expressed need for further expert assistance in order to implement the Master Plan. Negotiations started, and nothing happened. After signing new contracts in 1977 SRV revealed that there were still problems with limited co-ordination of rescue activities between ministries and agencies. Especially the Civil Defence Department, CDD, has been hesitating to take an active part in the plan. This may partly depend on the Master Plan's lack of origin in the specific Thai situation, but also on pragmatic problems in defining concepts like "disaster". The fact that activities already started by the Thais have been delayed by the new co-ordinating ambitions also hampered the establishment of the training fields. It is not unusual to find guarding mechanisms for professional territories when trying to implement cross sector ideas!

The complicated plan is partly out of NSCT's reach for implementation, because it is heavily dependent on external technical experts to fulfil the objectives. There is also a mental map of Bangkok behind many ideas in the plan. How will these conditions be validated for nationwide implementation? Another complicated area concerns the ambulance services. Three different authorities provide different services, and volunteers support with their own service. Swedish engineers probably have little to contribute to this. Anthropologists or modern ethnologist would have been able to contribute more.

Other problems concern the fact that this expert supported product had not been translated to Thai. Why? – Lack of interest or resources, reaction against foreign involvement or simply conservatism? It is hard know.

Conclusions: SRV experts have decisively contributed to the formulating of a comprehensive master plan. No doubt that there is high demand for this in NSCT. The project is urgent in its entire context but too comprehensive and complex in relation to existing structures. It is most unlikely that the plan will be implemented in a wider range within the existing Five-Year Plan. Limited institutional co-operation in Thailand and invisible socio-cultural barriers between Swedish consultants and Thai clients may also hamper the process. The financial situation in Thailand today does not make the implementation easier.

Even if no concrete activities have been initiated eight months after signing of the last project in 1997, the project is still wanted by NSCT. It is said to have important effects on development of ideas and norms for future activities. Therefore there are reasons to say that this is an important project, but he cost-efficiency must be considered low.

Transport and environment

1. *Handling of dangerous chemicals in the Port of Bangkok.*
   A programme has been set up on how to implement IMO-recommendations, transfer of know-how and procedures for handling of spillage and leakage, emergency response system for normal fires, and training of fire fighters and others. A safe land transport area within the port area has to be developed, and new warehouses for dangerous goods have to be constructed. A special training field should also be established.

Sida has recently done an evaluation of the project by an external consultant giving good marks for most issues and suggesting some improvements and changes so far. The recommendations have been fully accepted by PAT. This evaluation has concentrated on verifying the conclusions and following up what has been done since the conclusions and recommendations were pronounced.

The Port is planning to apply for an ISO 9002 certificate in 1999, concerning the handling of dangerous goods. The qualifications in this field have improved considerably and one woman, the chief of CGS, is now the leading expert in the country.

Other recommendations have not been met satisfactorily:

- No warehouses for dangerous goods have been built
- Implementation of a proposed training field has been considerably delayed. Today the fire fighters undergo normal training at a football field, which gives them limited possibilities to train with dangerous goods, thus making their preparedness low to fight such accidents. There has not even been an Environment Impact Assessment for the proposed training field
- Rules for fire prevention, as well as rules for safe land transport have not been completed due to difficulties in co-ordination with other authorities.

Some conclusions: SRV has executed their assignments in a satisfactory way. Some minor activities are just about to be finalised. There are no data supporting or denying that the work has been done with reasonable cost-efficiency.

A very positive impact in terms of improving the Port of Bangkok's capability to handle dangerous goods is recognisable. As there is only a small number of people involved, the knowledge base should be seen as vulnerable.

SRV's recommendations for training are fully accepted by the port authorities. The lack of permanent operable training field, however, remains a bottleneck. It is hard for the evaluation team to understand why there is no progress in the work, especially considering the fact that a new course for Training of Trainers is planned by NSCT and SRV to take place this year.

2. Master Plan for Road Safety

When discussing urban environment the most important problems are related to the traffic. Emissions from motor vehicles, and road accidents are given the highest priority.

In the 1990s the traffic accidents in Thailand have risen by an annual rate of 15%, and the death rate is about 8 – 10 times as high as in Sweden today (shown as number of deaths/10.000 vehicles). The figure is slightly higher than what is found in Malaysia or in the Philippines.

Swedish consultant SweRoad in association with Asian Engineering Consultants Corp, for Department of Highways, DOH, financed from the World Bank carried out a Road Safety Master Plan Study. The study recommended

- establishment of a road safety unit
- nomination of a high level delegation to co-ordinate participation from other agencies
- search for technical assistance to support implementation of individual programmes
- establishment of a task force for information campaigns .

The project is outside the selection for this evaluation group to test, but it is interesting to note that very little has happened.

The energy sector

Energy and environment are closely related, which has been discussed. One of the projects financed from BITS is classified as an energy-project, but will be reviewed here, because the environmental aspects proved to be much more important than the project managers believed. It is all about the Klong Thung Penh project.

1. The Klong Thung Penh hydropower and irrigation project

The project was situated in the eastern part of Thailand where the soils are favourable for fruit and rubber plantation. Irrigation is important in this area. The project would comprise an upper dam located across the river Thung Penh, from which water for power production and irrigation would be diverted through a main stream water conduit. The Thung Penh stream would be conveyed into a lower reservoir. Between the mainstream and the lower reservoir a power plant would be constructed. The lower dam, not included in the project, would accommodate irrigation outlets and a spillway.

The objectives for the study were to carry out a review of a feasibility study and preparation of tender documents for the upper scheme and the irrigation system.

Calculations showed that 116 man-months of consultancy services were necessary. SwedPower prepared a request for technical assistance from BITS. A technical study and preparation of tender documents were made in parallel to save time, and were sent to National Energy Administration, NEA.

In May 1991, the Swedish Embassy in Bangkok forwarded a request from NEA to BITS concerning

- technical review of an existing feasibility study made by Thai consultants, and
- preparation of tender documents.

The following month the Ministry of Science, Technology and Energy, MOST, clarified that the undertaking was a Royal Development Project, but did not recommend BITS to support the project, due to Thai opinion against new hydro power projects. The Thai Government could not manage the agreed cost sharing of 50/50 by financial reasons and it was suggested that Sweden cover 2/3 of the costs. A Thai environmental assessment was attached, stating that the project caused no serious environmental problems.

An independent Swedish consultant was engaged to audit the suggested project. Several critical points were noted. Especially two issues were asked for clarification: the environmental impact study, and details of the beneficiaries of the project.

SwedPower made a preliminary assessment of the environmental impact from the upper scheme, where no major problems were found. In December the same year BITS approved the "urgent" project, granting more than US$ 1 million in fees for SwedPower's contributions.

SwedPower used approximately 77 man-months in the project, but nothing was implemented. In 1992/1993 the Department of Forestry stopped the project due to negative environmental aspects, referring to a new law adopted in 1992. This explanation is not satisfactory. From the beginning it was known that part of the project was located in the national park. The new law coming up was, of course, known from both Thai and Swedish parts in advance.

The evaluation group has interviewed concerned people both from Thai and Swedish parts, but has not come closer to the answer. Experiences from central Government's Office of the Commission to Counter Corruption, however, tells us that large construction works like the planned ones are the most common subjects in corruption within the state bureaucracy. The Dam project may have been based on promises, which have been impossible to fulfil, when NGOs and other volunteer organisations became more influential. However, we *have no indications whatsoever* of corruption. The case is simply non-understandable.

– A Swedish consultant cannot avoid the responsibility for an assignment of this large size by referring to the counterpart's role, saying that the responsible Thais should have known.

2. Energy and waste destruction

A Royal observation in Chiang Mai pointed out that there was too much garbage on the streets. SwedPower offered their services in supporting a construction of a power station, fuelled by garbage collected from the streets.

The project is outside the selection to be evaluated, but represents another example of not being aware of the functions of the Thai society. The waste to be burned had little resemblance with what is found in Sweden or in other western countries. It was dominated by greens, and therefore extra fuelling was needed to burn it. The power generated became too expensive, and there was a risk that the pollution of the power

station would be larger than the pollution avoided in the streets. The financing of the project was stopped.

The financial sector

The primary purpose of Swedish support to the Thai economy by issuing Concessionary Credits will be discussed in the last section of this chapter. Important side effects, however, are the conditions under which the soft credits are granted. The environmental restrictions are the most important.

In two cases Concessionary Credits have been given to Thai corporations, during the period under evaluation. In both cases these came as response from the Thai part, and were approved for purchase of various kind of equipment, both production machinery and for effluent water treatment. The credits were not part of any elaborate plan or any programme discussed between Sweden and Thailand. No training package or other development aid activities were combined with the credits.

1. *Credits for purchasing effluent treatment systems for Siam Kraft Industry Co. Ltd*

As far as the evaluation team could find out there has been no feasibility or pollution assessment study made. No environmental assessment study has been done neither. The installation, however, is thought to have excess capacity so there are reasons to believe that it supports preservation of the environment. – The corporation has not demonstrated any willingness to co-operate with the ongoing investigation, so the details are missing.

2. *Financing investments in a second production line at Phoenix Pulp and Paper Company*

   All new process installations were purchased with the help of Concessionary Credits from different suppliers from many *different countries*. BITS credit terms included promotion of objectives about economic growth and poverty alleviation. The investments should also have positive environmental impact through reduction of pollution from existing installations, and through selection of environmentally friendly alternatives.

   The evaluation team has verified that Phoenix' expected development has come true. Especially interesting is the newly started forestry plantation scheme, where some 60-70 000 farmers participate within an area of 200 km from the plant. These farmers regularly sell pulp wood, bamboo and kenaf to the plant, and have increased their income considerably. A transportation system has been developed with small trucks, adding the transport capacity in the area. Phoenix has become pioneers in implementing, monitoring and controlling emissions and water circulation to reduce water consumption. In this way new norms have been introduced in Thailand for other pulp mills entering the market.

   The Phoenix mill is after installation of new process equipment in 1994 a modern pulp mill comparable with the best mills in Sweden or Finland from an environmental point of view.

Conclusions

The Thai people, as expressed by NGOs in public actions, in mass media, or by responsible bureaucrats from several sectors during intensive interviews, seem to be well aware of the environmental issues.

Unfortunately central issues such as deforestation and energy conservation are not in focus in the Swedish financed projects. Rescue service may be very important, and historical circumstances/accidents gave large attention value to the area. Most projects have come out very good, but anyhow, they did not comprise the central issues of the environmental debate of that time.

Environmental questions seem more often to be based on restrictions, rather than goals in themselves. The Klung Thong Penh-project is a good example.

A general observation: the projects seem to have positive effects, when the issues are related to practical engineering. But when they concern social organisation, the picture becomes much more unclear, both concerning relevance and practical results. The same problems as noted in the energy sector are present; engineers take care of the organisational issues in spite of the fact that they lack professional capability in this sphere.

On the whole: Good results – but marginal in relation to environmental issues.

Transport

The problem

Transportation and communication are related to physical infrastructure, necessary for economic growth as well as social life. Transport takes place on roads, railways, waterways, and by the air bound traffic. In the political discussion about land transport, the discussions usually focus around new investments. A larger problem, however, concerns the maintenance of the huge national investments that usually are made in the existing infrastructure. – It is said that the maintenance level on highways or national roads tells more about the level of development in a country than the total length of roadways.

The policy problems concerned are about the distribution of transports between different kinds of transport modes. Public transport means trains in practice. Private usually means lorries and private cars. No investments hear are neutral – all have effects on the distribution of the traffic.

In the late 1980s the Swedish National Road Administration, SNRA developed a market oriented central management system. This included development of "rationalistic" instruments for making priorities for maintenance as well as for construction of new roads. The rationale was economics.

Critics said that these cost-benefit-calculations tended to suppress regional interests, particularly in sparsely populated areas, as well as aesthetic and environmental values (even if they were included in the calculations) and others. They were much appreciated, however, by politicians because of their face value for decision making.

Thai conditions

The transport system in Thailand has expanded very much during the last 10 years. The Fourth Plan (1977-91) earmarked investments in the transport sector as the most important for economic development.

The roads dominate the transport infrastructure with about 90% of all "passenger kilometres" while rail has 9% and air travel only 1%. For freight the roads have about the same dominance, and the rail only 2 %. Various forms of water transport cover the remaining 8%.

The development plans for highways in Thailand usually put emphasis on rehabilitation and up-grading, including the pavement of the many existing rural gravel roads. Since 1989, however, the priority has been to increase capacity. Key concerns in the sector, in the middle of the 1990s, included:

- development and improvement of regional roads in rural areas to support the Government and its Department of Highways, DOH, in the objectives of redressing rural-urban and regional imbalances and improving living conditions in the country side,
- encouraging and supporting privatisation where appropriate,
- improving planning and co-ordination,
- improving technical standards, and
- institutional development.

BITS supported projects in the sector

All Swedish projects in the sector (except the safety project on transportation of dangerous goods, which has been covered in the environmental sector above) were executed by SweRoad, a consulting company operating as a commercial wing of the Swedish National Road Administration. They started sales activities (lobbying) in Thailand in 1989, and their first project in co-operation with Department of Highways, DOH, was launched in May/June 1990. Five projects selected for evaluation are presented below.

1. *Study trip to Sweden for three persons from the DOH staff. Courses in Transport Economy.*
   In 1990 SweRoad arranged an exchange of information between DOH, Thailand and SNRA, Sweden, and the Finnish National Road Administration, FNRA, and several other Swedish institutions. The four-week course and study trip also included lectures an cost-benefit analysis, transport policy, investment evaluation and planning, pavement management systems, toll roads, budgeting, and others. The participants were two economists and one engineer.

In an evaluation included in the course package the participants found several of the courses hard to understand or follow. The current evaluation group, however, heard nothing but positive comments today. Considering that 2 out of 3 participants already

have left DOH, and the high per capita cost of around US$ 15.000, the courses must be seen as low effective concerning costs, in relation to the purposes specified in their Terms of Reference.

2. *Study trip to Sweden for three persons from the DOH staff. Courses in Transport Economy.*
   In 1991 a new tour to Sweden was arranged by SweRoad, at the request of DOH. This time assessment techniques, training management, curricula development, training methods and administration of a road training centre were on the list of topics treated. Study visits were made to construction sites, a construction district office, a vocational school, and a private company. SNRA demonstrated their training programme and how it was developed.

The 3 ½-weeks course cost about the same as the former. Interviews confirm that the courses were very popular. All three persons have remained in the DOH, and acted as distributors of their new knowledge. Even this study trip looked a little like a good-will trip, which was not specified in the Terms of Reference.

3. *Course on design and construction techniques and road embankments on Soft Clay.*
   In 1992 there was a new course, this time in Thailand, executed by two Swedish experts on geo-technical engineering. The participants were from DOH, but also from Department of Public Works, several municipalities, some universities as well as private consulting and constructing companies. The teaching aimed at making the participants better understand newly developed design and construction technique on soft clay, and to modify existing techniques and thereby extending the economic lifetime of road infrastructure and to promote modern research activities on soft clay in Thailand in general.

The course was found most valuable, as told in the interviews at DOH. The department is interested in performing its own education in the same matter. Alternative forms for transfer of knowledge, e.g. by the technical universities, were discussed during the interviews. This high performance education project was made at a cost of some US$ 500/student. –A very cost-efficient result!

4. *Geotechnical education*
   In 1993 a 2-year contract was signed between DOH and SweRoad. The objective was to increase the understanding of newly developed design, construction and maintenance techniques of roads and bridges from Europe. The participating engineers should be able to incorporate the techniques with the objective of extending economic life of existing structures, and to reduce costs. Road and bridge research activities were promoted.

   In addition to this traditional training the project also covered procurement of laboratory equipment from Sweden, and training for operating this equipment. Follow-up of training in design and construction techniques for road embankments on soft clay were made. Training of two DOH officials in planning and organisation also took place in Sweden.

5. *Bridge construction and maintenance training centre*
   In 1997 an eighteen month contract was signed for SweRoad to assist DOH in installing a bridge construction and management system, to increase the expected economic lifetime of existing bridges.

   In a series of sessions the competence of bridge engineers will be upgraded concerning bridge management, construction and maintenance. Courses will also be held in supervision of bridge constructions, and training of teachers will be done.

   A Bridge Training Centre at Pathum Thani will be established, and it is anticipated that some 200 persons will be trained within the project time. Cost sharing will be done. DOH will cover all local costs.

   The programme has just started and there is no documentation available other than the current contract between DOH and SweRoad.

Conclusions
On the whole the projects in the Transport sector seem to have hit the right problems (relevance) and have worked well (efficient), although the first ones were very cost-inefficient, related to the pronounced purposes. Related to hidden purposes, e.g. creating of good-will, the evaluation will be different. The total volume of donor's support is around US$ 200,000. Given that new techniques have been learnt and are in practical use today, the results may be seen as reasonably good.

Public administration

The problem
In principle "public administration" is not a sector. It comprises the administration cutting across all other governmental sectors. In practice, however, many countries have worked out arrangements where a co-ordinating public department takes care of certain question across all ministries. Usually it is connected directly to the Prime Minister. In Thailand the Civil Service Commission has this position, in Sweden the Statsrådsberedningen, just to take two examples.

At the end of the 1980s in Europe, and especially in Sweden, there was a long and sometimes reckless debate going on concerning the best way to "get growing again". The crisis of economic stagnation was over and the discussion concerned the best way to recreate the good welfare conditions again. One very dominating theme in Sweden was based on making a "lean public sector". The "economistic" era changed the focus from regarding the public sector as the collective guardian for common welfare to the "big brother" who uses too much of the total available resources in the society. There was a shift in orientation from social security to economic efficiency, from collective goods to individual opportunities, from co-operation to management and leadership. In this period BITS started its activities.

The Thai conditions

The trends in human development in Thailand have shown impressive gains over the 1970s and 1980s. Life expectancy has increased with 15%, and infant mortality lowered drastically. The number of the people having access to safe water doubled during same period. Adult literacy has increased significantly, reaching about 90% at the end of the 1980s. Secondary technical enrolment averaged around 17%. However, there are still substantial labour market mismatches in the skills needed for the country's sustained industrialisation. Severe shortages in occupations contributing high value added, such as engineering, are constraining the country's progress. Technical tertiary educational systems must be reoriented to facilitate occupational and industrial mobilisation, rather than maintaining vocations, which are increasingly becoming obsolete.

As described in the introduction, the urbanisation had gone very far by this time with 25% of the population living in the large cities. And this was the period for the very climax in relative numbers for the new middle class salariat growing up in the cities, closely related to the public sector.

In 1992 the present Civil Service Act was adopted, stipulating that the Civil Service Commission (CSC) would be the central personnel agency for civil servants.

The BITS financed projects

There are eleven categories of civil servants, each attached to its own central personnel agency (commission) and jurisdiction. The total number of civil servants (as of 1995) is approximately 1,23 million, the largest groups being teachers, 530,000, ordinary civil servants, 380,000, and police officers, 200,000. Assistance directed to the CSC thus seem to have far reaching potential in the support of development, if deemed successful.

CSC, the counterpart for all contracts in the public administration projects, reports directly to the Prime Minister. CSC's official duties are to undertake research concerning personnel administration, analyse issues concerning standards of public personnel administration; the improvement of civil ministries, public bodies and departments; organisation development of government agencies; and administrative procedures and practices. They shall also develop and improve the personnel data systems for information; undertake human resource planning in the civil service; promote, co-ordinate, disseminate, provide consultant advice and conduct activities concerning civil welfare administration.

The Swedish support to the CSC consists of five main parts. The total budget for the period of 1993 – 1998 comprises less than US$ 1 million. The Swedish Institute for Public Administration, SIPU, was appointed to carry out the mission.

1. *Macro manpower planning*
   The manpower planning project started in1993 with the mutual anticipation that the cost of manpower should not exceed 40% of the total government budget. The objectives of the project were to establish a macro manpower plan for each occupation or economic sector, and to propose policies and criteria for efficient use of public sector manpower at the macro level.

The outputs of the project coincided with the planned objectives. In discussions with the evaluation group there was some admittance that these plans were not very useful. At later stages of the projects, it was said, that the first project efforts had created a methodological insight necessary for the following management oriented phases.

2. *Management of Change, preparatory phase*
   In 1995, the first Management of Change concept was introduced alongside a management executive development scheme. Various components were set as targets for the achievement; the most important encompassed "change awareness" to sensitise managers and staff of OCSC and other central government agencies on the needs for change through a series of seminars and workshops.

The outcome of the project was very positive. When the focus was shifted towards the human side of the organisation enthusiasm was developed.

3. *Management of Change, Phase I*
   A manual of change management was worked out. A special component was addressed to the issue of Gender Awareness. The concept of Result Based Management was introduced by different means in the third project component, on a limited scale.

The reactions to the courses were positive. The staff was well trained and a gender awareness strategy for the OCSC was developed.

4. *Management of Change phase II and Result Based Management*
   The second phase of SIPU co-operation in 1996 was particularly successful in the sense that all project work was performed in working groups allowing close co-operation and transfer of skills, knowledge and experience between the Swedish consultants and the OCSC officials. The introduction of experimental learning, which was a new way of learning for the Thai Civil Service, was particularly appreciated.

5. *Management of Change phase III and Result Based Management*
   Result Based Management was introduced, covering a wide range of activities related to modern management ideas. Management of Change was the continuation.

The third phase can be categorised as a success in the same manner as its predecessors. However, since OCSC at the commencement of the remodelling of the organisation to act as a change catalyst to enable the civil servant to achieve the highest levels of efficiency, quality and integrity for the benefit of the Thai people and its international competitiveness, the mission under assistance of SIPU should be continued to support such reform and modernisation.

Conclusions

The state owned company SIFU was privatised by a "management buy out" and converted its name to SIPU. This means that the traditions and history that built up the former institution remain.

SIPU has probably (we have no data supporting this) worked the same way as the other institutionalised consultant firms contained in this evaluation. This means that they first convinced OCSC on the value of co-operation and the availability of Swedish assistance. After formal contacts between OCSC and BITS, the first project was put into a tendering process. – However, out of three invited only one submitted a tender, i e SIPU. The following phases have "come naturally", as the first project, even if it was not the very best, built good personal and institutional relations.

It is also very typical that SIPU started with a "Grand Approach", the master plan, to a high degree based on Swedish contemporary ideas on how to rationalise the public sector. However, after one year they had come closer to understand the Thai needs, and the project quality improved.

What about the general impact from the project?

The administrative expert of the evaluation team has supplemented the evaluation with an advanced test model where the input, the process and the output are strictly measured in concrete variables. The appendix makes a full demonstration of this model, and the survey technique used for measurement. And the results are very clear: The training was strongly geared towards change! Given that the training of the Thai administration represents the cheapest part of the BITS portfolio, we must conclude that these seeds have fallen in good soil.

Concessionary Credits

The BITS supported projects

At the time when these Concessionary Credits were given, Swedish development aid was channelled through different governmental organisations. BITS was the organisation that granted the credits now evaluated. In those days BITS and SIDA had different objectives and different ways of working. After the most recent reorganisation both are included in the new Sida.

It is our intention to evaluate the two credits given by using the set of objectives and criteria used by BITS at the time. When we discuss the future we will use the objectives and criteria presently in force and try to use the experience from the two studied projects to discuss what possible future role Sida could play in the development of Thailand. The two projects studied are the following:

1. Phoenix Pulp & Paper Company

Of the two credit projects discussed Phoenix Pulp & Paper Company is the major beneficiary. Phoenix received, in March 1992, a total credit supported by Sida of US$ 13 million to a total cost for the concessionarity of US$ 5 million The credit assisted to finance investments in a second production-line, at the Phoenix pulp plant in Khon Kaen, in the North East of Thailand. It covered 85% of the payments of deliveries from Sweden. Phoenix has been open and co-operative to the mission and given us all possible assistance.

2. Siam Kraft Industry Co Ltd

In contrast to Phoenix this company has not shown any interest in our mission. They have not been available for a meeting. After several days of continuos attempts to arrange a meeting we were offered as an alternative to send our questions by fax instead, and were promised an answer. We sent the questions but no answer arrived. Therefore our information is limited to what has been published about the company.

The Concessionary Credit from Sweden, given 1990, was USD 5,5 million carrying a cost for Sida of USD 2 million.

We have understood from our interviews that the original contacts were in both cases made by the Thai companies. The Swedish suppliers HB Elof Hansson in the first case and ABB Stal AB with Svenska Fläkt AB and Sunds Defibrator AB contacted BITS to enquire if it was possible to include Swedish Concessionary Credits as part of the bid for the equipment in question. Their interest was to create more competitive offerings. We have also understood from our interviews, and from correspondence, that it is probable, in one case certain, that Swedish equipment had not been chosen had it not been possible to finance the deal with Concessionary Credits. Further more it is doubtful whether the Phoenix investments had been realised had not Finland, Sweden and Canada all to give Concessionary Credits. Not only had suppliers from these three countries been invited but also firms from other countries, such as Japan and Italy, with soft credit policy European Overseas Development Corporation, the leading partner in the consortium controlling Phoenix Pulp & Paper, has the utilisation of Concessionary Credits as part of its business strategy.

Not only was the concessionarity of the credits of vital importance for the buyers choice. Our observations imply that the supplying and financing parties also regarded the credit as a way of promoting Swedish exports. We have noted that the initial documentation of the credits and their feasibility also concentrates on promotion of Swedish exports and on financial expects. The sheer volume of documentation, in Sida's files, tells its own story. We estimate that the number of pages concerned with sales and financial aspects of the project exceeds the number of pages concerned with development effects of the investment by more than a hundred to one.

The Concessionary Credits given to Siam Kraft Industry Co. Ltd and Phoenix Pulp and Paper Co were given in the beginning of the 1990s. The credits were given for varying types of equipment; both for productive machinery and sewage water treatment. They were not part of any plan or general policy developed between Sweden and Thailand. There were no indications other than economic, which would be interpreted as means in a development strategy.

Three foreseen effects of the investment are said to justify the credit, from the point of view of positive contribution to a development along lines supported by Swedish development aid. The three foreseen effects are:

- *Poverty alleviation* through creating a possibility for small farmers to develop and keep forest plantations and sell timber as a cash crop.
- *Positive environmental effects* through diminishing pollution from existing production line and through the production of a pulp free from dioxins.
- *economic growth* through being economically feasible both from a business point of view and from the point of view of society.

Conclusions

Monitoring and Risk Management of Concessionary Credits
Siam Kraft's lack of willingness to give drew the attention of the evaluation team to the fact that no provision is made for BITS to receive information or make follow-ups of the credit in the agreements. The concept as it is applied gives much less support to the borrower than a normal credit through a bank usually does. There does not seem to be any risk management involved from the lender's side.

The bank supplying the credit has an insurance in EKN, Swedish Board for Export Credit Insurance, and does not as with normal customer (borrowers) apply an active risk monitoring. EKN sets it prices depending on a variety of factors and past experience but does not work with active monitoring of the credit risk for each insurance. BITS is paying what is agreed but does not monitor each loan in any detail or support the borrowing party by enforcing strict monetary policies to safeguard the given credit. A normal bank contact should perform this sort of policing of the client's financial behaviour. It is obvious that the Thai banks and financial institutions have not been good at this kind of risk management over the past ten years. The Swedish development partner has not been better.

Concessionary Credits as a development tool
Comparing the two cases we have had the task to study it is obvious that the success of the financing, as a development tool, is highly dependent of the project. In the case of Phoenix the design of the project contains many components that coincides with Swedish development policy. The location in an underdeveloped part of the country, its involvement with small scale farmers as the main source of raw material, its utilisation of plantations instead of timber from natural forests all point to a project of high interest for Swedish development support. A project where a subsidy of around USD 40 million over a period of ten years, of which the contribution from Sweden is USD 5 million, has led to a better life for around 500,000 people for the foreseeable future is a success compared to any development aid program. If only 100,000 of these persons are in full time work, as a consequence of the project, it means that 100,000 new jobs have been created for the cost of USD 400 per job. It is probably not correct to compare this to the situation in Sweden where, as a role of thumb, the government spends USD 100,000 for each new job created in its redundancy program.

The Siam Kraft project is a project to control the effects of a pulp plant on the nearby water resources. It was introduced as a result of new Thai legislation on water pollution. The Siam Kraft Co as a part of the financially strong Siam Cement Group could probably have succeeded in adapting to the new regulations independent of the Swedish Concessionary Credit. It is, however, beyond doubt that the credit as such is given in an area where Sweden wants to encourage development.

Concessionary Credits as a tool to promote Swedish exports
It is the impression of the evaluation group that the promotion of Swedish exports was a factor of importance when deciding to finance the studied credits. However, it is not possible to draw any particular conclusions from this fact as the goal was achieved when the sales contract was signed and completed and when the equipment was

delivered and installed. In that perspective the studied cases are both success stories. It has not been the task to study unconcluded deals in order to find common denominators for success or failures.

The Future for Concessionary Credits in Thailand

This study has presented two projects financed with Concessionary Credits. Of these one has done extraordinarily well in development terms and the other has, to the best of our knowledge, done what was expected, no more no less.

It is not the objective of this study to discuss whether Thailand shall receive Swedish development aid, nor is it the task of this sub-study to discuss in what form such an aid could be given. The questions to be answered are if it is feasible to give development aid to Thailand in the form of Concessionary Credits? If so, in what areas would it be granted?

What does Thailand need?

Thailand finds itself today in a situation where its economy is in stagnation. Enterprises are closing down due to lack of financial means. People are losing their jobs. In order to honour its foreign debts the country has to export more and import less. The strategy for the near future is not to develop the standard of living but to defend it. To minimise the number of enterprises that cease to exist and to guarantee the continued use of investments already made.

The IFTC has pointed to areas where it want to concentrate its efforts and its available capital during the coming 5 - 10 year period namely: paper and pulp, garment and textile and food-processing including sea-foods. The sector where one sees the best potential for industrial expansion for Thailand is in the supporting industry. IFTC is actively seeking financial means to increase its involvement in these sectors.

What can Sweden offer?

Sida has a newly developed policy document "The Swedish Concessionary Credit Scheme" dated January 1998. The broad objective of the scheme is the same as for all Swedish bilateral aid. Credits can be given for specific investment projects, to cover costs for both goods and services. In general terms projects shall be both technically and economically sound but not immediately commercially viable on market terms.

In Thailand today shortage of financial means and high interest rates are the most significant obstacles for many good and otherwise viable projects. There is no doubt that many of these projects are in areas and have effects that Sweden strives to support.

Conclusions

In this section we will make a comprehensive evaluation by summing up the reflections from all cross sector and sector projects discussed above. In this presentation it is important to remember the ambition from the introduction, that the projects should be understood from the context of their own time. However, some ideas for future improvements will be based on knowledge of what was to come.

Lessons learned

Critical time of entering the arena of international co-operation
The society of Thailand was in a very turbulent period when the first projects started, as described in the introduction. Also Sweden was in a period of ideological transformation regarding public administration and distribution of welfare. All these things taken together are believed to have had a great influence on the practical formulation of the support to Thailand. It had suddenly in Swedish history became natural to give priority to industrial projects promoting Swedish export industries, at the same time as the Thai industries would benefit from it. It also came out natural that the new Thai middle class, the urban salariat closely connected to the public administration, become the counterparts that defined the content of the sector support.

The new Swedish organisation, BITS, was looking for good projects, and the new middle class in Thailand were "fighting" to save their new positions. Education and training was expected to be one of many ways of strengthening the intellectual profile of the new society, for the best of Thailand. From Swedish point the interest of economic globalism pushed for fast decisions on connections with new good partners.

It is easy to criticise some parts of this from later positions in history, for example by making objective analyses of the effects in terms of supporting the fast urbanism or not, what kind of social welfare that followed and its specific distribution etc. This is out of the scope of this evaluation, however. Instead there are reasons to say that the mainstream of the support granted followed the dominating values of that time both in Thailand and Sweden, and therefore should be considered very positive.

This comprehensive positive evaluation will be scrutinised more in detail below, and of course some advantages as well as disadvantages with the selected approach will be discussed. If we already now consider some of the negative aspects, there is one lesson learned to be mentioned here. - There are reasons to think twice about selecting the proper time to enter new development co-operation. It will affect the outcome for long periods after these conditions may have changed.

The results

The relevant approach

Given the very turbulent time, regarding social changes and development of new ideas, the approach in terms of (1) Concessionary Credits and (2) Contract-Financed Technical Co-operation must be seen as relevant. These two "instruments" (among others) were used in the new setting, to make fast non-bureaucratic decisions adapted to contemporary problems in a fast changing world. Contemporary thinking argued for promotion of Swedish export, not only considering manufactured products, but also including Swedish (public) services. A market orientation which coincided with interests expressed by significant groups connected to the Thai public administration made these instruments to start with. The development over time will be commented upon below.

The relevant sectors

It is no doubt, on the sector level, that *the right sectors have been chosen for co-operative actions!* Specifically mentioned in the official plans, commented and documented by other large donor organisations, and expressed in books, pamphlets and in some scientific reports, the basic success in terms of very high economic growth was seen as highly dependent on the availability of financial credits, the expanding industry needed efficient energy supply, and the infrastructure needed strengthening to stimulate growth, and also to distribute the new wealth to the rural areas. The need for development of Human Resources, redefined as Public Administration, was also universally supported in the Thai documents in the starting period of the co-operation. By that time, the Thai people, as expressed in public actions as well as in written sources, pointed out the necessity of recognising the environmental aspects of all activities. This supreme value was shared with BITS. At this time, however, the gender issues had not entered political arena, which means that neither BITS nor the Thai authorities recognised them when starting projects.

So, the conclusion is very simple: BITS was supporting the right things. It is obvious that the actors of that time, more about them below, were rather sensitive to goals defined in the political system, or in general consensus.

However, if we go closer into detail, we will find that co-operation was started up in sectors that were favoured in policy documents, but the projects *did not necessarily cover the central issues* of respective sector. The central energy problem was not necessarily the reorganisation of the management of those in charge of power distribution. No doubt that know-how on construction works in soft clay is very important for the highway authorities in the area of Bangkok, given the geological very specific conditions, but was it a central issue? And the very important transfer of knowledge on fire fighting to the two largest cities in Thailand is absolutely not a central question in the environmental area. Management training in public sector is always valuable. The Swedish consultant firm has chosen a perspective of "management for change" as their general approach to the universal problem. Probably very good, but how universal?

As an overall evaluation of the specific projects, though, it is possible to say that they, with some single exception in the energy sector, were relevant and appreciated by the

beneficiaries. Not being central to the sector problems actually means that some policy documents may have been misused to favour a positive evaluation when promoting a new project, but seen from a practical point of view, the most important tasks may already be under attack by other actors. There is nothing wrong in doing a marginal but very important job.

There is, however, *one exception on this overall positive evaluation* concerning the content or the results. At the end of the 1980s and the beginning of next decade a new kind of discussion emerged. It concerned the new regional, in the limited national sense of the word, issues. It happens about conflicts between rural and urban interests, between the centre and periphery. It also concerned distribution of the results of the economic success between various groups in the country, between traditionalists and people with modern lifestyle, between locals and globals. The sector bound Swedish consultant firms obviously couldn't grasp these kinds of problems.

So far - almost good overall. Let us go a little more into detail when analysing the results.

Good results and not so good results - a few more nuances of the picture
It is difficult to improve the precision of what is good and bad results. For example does not the result "83% of the target group visited the course" say anything about the real results in term of what was understood, less learnt, and definitely not how this will affect development in practical change.

The beneficiary's evaluation is often expressed in terms of appreciation. Besides the fact that (almost) all consultancy efforts have been appreciated, the following table is worth discussing:

More appreciated by the beneficiaries	*Not so much appreciated by the beneficiaries*
1. The sector development approaches	Financial support for Swedish export promotion
2. Education	Training
3. Education in Sweden	Education in Thailand
4. Social organisation	Practical engineering

1. If we go into detail with all projects, and compare the financial projects (which in practice are case studies, here not regarded as sector development) with the sector studies in general, it is very clear that the financial projects are the best in some objective sense: they fit perfectly into the business plans of large or international firms intending to create industrial activities in developing countries based on soft loans. The side effects are improved environment, reduced unemployment and poverty. Even gender issues, adapted to at a later stage when those goals were formulated as restrictions for the loans, were fully adhered to. The reaction from the firms, however, was not as positive as can be found from the sector authorities. In one of the two cases they even refused to invite or answer to questions from the evaluators. Strictly commercial reaction.

In the public administration we find lot of smaller or larger problems, expressed in the report as low cost-effectiveness (part of the educational projects in the transport sector), limited relevance (energy sector) and even waste in one case (planning of training field in rescue service project in Chiang Mai).

2. Concerning the general sector studies (excluding the financial sector) education always seems to be popular. Task managers find this kind of activity comforting compared to practical training, where larger demands are put on the participants counteractions. At the same time we know that very good results have been achieved in practical training, e.g. in fire-fighting and practical group work in human resource development.

3. Education in Sweden is much more popular than attending courses in Thailand. It should be admitted openly that there is a large part of other kinds of remuneration connected to travelling to Sweden than the educational goals. If these other goals are legitimate, seen from the donor's point of view, the huge gap in efficiency, at the advantage of domestic education, would be in better balance. The study trips in the transport sector illustrate.

4. Practical engineering solves lots of problems, while projects in social organisation tend to run far out of the plans when it comes to implementation. In spite of this the master plan for cross sector co-ordination in the rescue services is strongly adhered to and defended by the recipients. Maybe it gives higher status to cope with these kind of complex questions compared to the practical engineering activities.

The lessons learned may be summed up as follows: There is no simple logical connection between "good" and "appreciated". There are some cases which falls outside the expected combination. Following matrix will demonstrate:

	Good projects	*Not so good projects*
Appreciated projects	Many projects here	Many projects here
Not so appreciated projects	Don't know	A few projects here

So, in short we make an very rough ranking of the projects, independent of their popularity in Thailand. By combining criteria on actual result or expected result in terms of intended change, relevance and cost efficiency, we make the following evaluation:

The energy sector seem to have some, maybe good, but not very relevant studies concerning organisational development in the energy sector. Educational activities are not seen as so good as the level of appreciation indicates. The cost efficiency in the organisational studies seems to be low, in the educational sector mixed.

The transport sector have some very cost-ineffective educational projects, and some others with higher efficiency. The practical transfer of knowledge in the engineering sector seems to have worked fine (soft clay). The relevance of the know-how should not be questioned, but the beneficiary institution (Department of Highways) could be discussed (why not a technical university instead?).

The energy sector shows a very ornate picture: The rescue service projects seem all to be relevant, but every project does not seem cost efficient. There is even a discussion on waste of resources. Some of the transfer of practical engineering know-how seem to be of utmost importance. The energy project presented in the sector description (Klong Thung Penh) is rated as a non explained (non acceptable) failure. The Project

on Handling of dangerous goods in the Port of Bangkok and one of the cases among the financial projects show success, even if there are some reservations to still unsolved tasks in the port project.

The financial project is a success story, evaluated according to contemporary goals when i started, and later development.

The actors embodied

Who is first in the arena when it comes to establishing the new development co-operation with Sweden? This was not a question when the evaluation group started its investigations. More information is needed to make a fair analysis of the question. However, in our oversimplified picture of the situation, it does not look like *BITS* necessarily took the first steps. Neither the *Thai authorities.*

The *institutionalised Swedish consultant firms* seem to have dominated the scene. Rather new (none had been 15 years on the market by the time) and needing new markets to live up to the expectations of their owners, they established very early in Bangkok. In the Thai authorities' eyes they still represented the Swedish authorities, and lobbying was a rather easy task to perform.

The Swedish Embassy, without formal duties to perform for BITS or later Sida's account, worked as agents transferring projects from Thai authorities formulated together with (or by?) the Swedish consultant firms. This was done, of course, in the general interest of Sweden to start up new relations to Thailand in the development area.

There were other actors, for example Swedish banks, trade houses and others. These kind of actors did not, as we believe, play any active role in the development of the projects. Not even the Swedish (or in one case Finnish) suppliers of equipment did so.

In the very crude picture given above the "parastatal" consultant firms (including SIPU) played an important role in developing the Swedish practical policy in the development *vis a vis* Thailand. - How do we explain their successful businesses?

- As noted above they probably were (more or less) first on site.
- They had good sales organisations, with resources enough to establish local offices without having any running projects
- BITS had a large tolerance *vis a vis* the new projects, which is natural when a new country joins the group of co-operating countries. BITS also had to learn how the Contracts Financed Technical Assistance and the Concessionary Credits worked in practice.

These points do not explain, however, the relative success of the parastatals (relative to other Swedish institutionalised or more temporary consultant organisations). Maybe it was because the parastatal consultant firms

- were relatively well aquainted to the public sector's (BITS') way of making decisions
- had very close contacts, and in reality represented their owners in the field, or
- used "false official status" in their Thai contacts.

No doubt that the evaluation has shown us that the consultant firms worked rather independently, with a very low degree of real competition, and meant a lot for the development of the content in Swedish development co-operation relations to Thailand (for good or bad).

Who are the winners and losers in the "development game"?

Of course, there are concrete positive effects for Thailand: Environmental improvements are a fact, know how has increased in some important matters concerning road construction, and human resources in public administration have been improved.

There are reasons to believe that there are effects even in the long run. However, the situation is more complicated then. What about the long term effects of supporting urban activities, or middle class human development. What happens with the relatively deprived groups?

A distinct winning category, without reservations, is the relatively small group of Swedish suppliers of equipment for export.

Evaluating from "face validity", the large winners seem to be the Swedish institutionalised consultant firms. Some of them had very limited experience before, made one or two not so very good projects, but were paid to continue developing as well as using their new experiences. Some of them today have expanded into new international markets, with the main references from the first Thai experiences.

Overall evaluation in a process perspective

During the period since BITS started the co-operation Thailand has undergone very large changes within the political, economical, and technical fields. The focus has moved from traditional financial centres to new emerging markets. South East Asia has become a vital focal point in terms of commercial partnership with Western stakeholders, and financial centres and areas for profitable production have emerged. Development in this part of the world has become of global interest.

However, during the last part of this decade, these areas have undergone a substantial economic and financial crisis. So far, these may have had nothing but marginal effects on the Western World because of their limited share of the global commercial business stake. The reactions on Western stock markets and the general expectations for the future, however, have had serious breakdowns. For South East Asia itself the financial crisis has had excessive effects.

If development projects should catch up with the changes in Thailand today, a number of trends would be of crucial interest; the delineation of political, social and macro economic trends in South East Asia points at regionalisation (in the grand regional sense of the word), decrease in traditional dominance, emancipation of women, consumer driven export, market driven production, emergence of supers cities, general acceptance of advanced technology etc.

The creation and expansion of ASEAN, the international interest in the Mekong Committee, emergence of regional agencies and co-operation efforts all confirm the

increased international focus on South East Asia where Thailand is one of the most powerful nations. The region is of importance not only for Asia but for the rest of the world in terms of new development, including financial centres and potential industrial host regions.

Evaluating the BITS project portfolio in the perspective given here would be unfair, because the context was something quite else when the projects started. However, there is one aspect of vital importance concerning the dynamism in the project processes. Regarding the effectivity and efficiency, *effectivity* should be seen as attained when the projects catch up with new significant ideas, i.e. "doing the right things". If projects are rigid and lose the relevance when the political and economic situation in the country changes, they could still perform their old duties very *efficiently*, which means that they are doing "the things right". In the short run this may be accepted, and even seen as good. In the long run, however, effectivity must be aspired to, when it comes to securing positive development impact in the recipient country.

Following matrix demonstrates a general evaluation of the project process over time.

	Approaching the right problems according to contemporary Thai values	*Approaching the problems right according to contemporary project standards*
At the beginning of the project period	Yes	No
After several years of the project period	No	Yes

As evaluated above the projects started up in the relevant sectors show a high degree of sensibility about the relevant questions of that time. More than one project made bad starts, however, in terms of a not very satisfactory first project. But the relations to the Thai authorities deepened, and BITS was not very critical in the beginning, so the consultant firms were allowed to continue. Therefore the initial part of the total project process may be very roughly characterised as *effective but inefficient.*

As the consultant firms learnt how to do better, the results became more satisfactory. As time passed, however, the same projects grow better and better, but no real efforts were demonstrated on how to improve the relevance compared to new socio-economic problems in Thailand. Therefore the latter part of the project process may be characterised as l*ess effective but more efficient.*

There is a comment to this which should be very important to Sida's future monitoring of Thai support: It is not reasonable to blame the projects in themselves for not being able to catch up with social development in Thailand, in the deeper structural sense. If long time projects are granted, then these must be given conditions to carry through the original ideas. Demand for opportunistic changes of projects to satisfy temporary opinions is the worst thing that can happen to a serious project.

The real problem is in fact that the composite portfolio of project is not planned/monitored from the donor. *In principle the whole portfolio of co-operation*

projects have been performer (not performance) monitored! Usually the supply side (the donor) or the demand side (the beneficiary) dominates the *composition* of the projects. The performer (the consultant) shall control only the quality of the performance.

Recommendations

More efforts should be paid to programming activities
To make sure that the monitoring of the future projects should apply to Sida's general goals, as well as more specifically developed goals for Thailand, some kind of systematic form for monitoring of the projects needs to be elaborated. This is not only needed to make sure that forthcoming projects are relevant, and to offer some kind of reasonable manual for future evaluations. The most important reason, referring to "lessons learned" above, is that the very important dynamics of the Thai economy probably cannot be covered, unless a rolling development of criteria for relevance takes place at Sida. This should be done in co-operation with the Thai partner, of course.

This should be seen as a critical comment to the two instruments under investigation in this evaluation. Is it possible or not to do this within the frame of Consessionary credits and Contract Financed Technical Assistance?

The content of a potential programme extension
One basic question to be answered is if the main direction of a future programme will be (mostly supply driven) directed towards promotion of Swedish trade and other commercial relations to Thailand, or if the specific socio-political situation in South east Asia should be focussed in (a mostly demand driven) programme.

In the first case questions of selection of relevant sectors for commercial relations will come up. Should small or large firms be favoured? What kind of enterprises? Should they locate divisions to Thailand, or start joint ventures, etc.? What kind of support would be the most efficient, etc.?- Development of criteria for promotion of this kind of increased commercial co-operation with Thailand would be a challenge of the traditional foreign assistance model.

In the second case the questions of the new kind of development comes up. How does a programme catch up with the new kinds of globalism, all the old and new, formal and informal, regional organisations for co-operation. The grand regional perspective needs combining with the national regional perspective. The new qualitative discussions of Thailand's socio-economic structure need attention. In this perspective the question of cross-sector politics must be reconsidered; foreigners say that Thailand has a very hierarchical structure (11 strictly defined levels of public service employees) with watertight walls between the departments (40 ministers and 13 ministries means that a top position is granted power, not willingly reduced by any cross sector co-ordination). The evaluation group has rejected this kind of criticism, assuming that it at least partly is based on misunderstanding of Thai culture (see next section). The organisation of the Prime Minister's office and other cross sector arrangements instead point at opportunities for development in the new economical-

political context. Swedish developed co-operation strategy in this perspective could embrace new questions about Thailand's international co-operation, as well as how to respond to internal consequences from it.

Improved cultural adaptation to Thai conditions

When a man is without work he is bored, tells our Guide to Effective Management. Freedom through work. Joy through work. Man creates himself through work. "Endless clichés spawned by an obscure Protestant Ethic which so cruelly assumed reality in a twentieth century dominated by conflicting Western ideologies, each of which claims the universal truth for his doctrine. In much the same way, contemporary business management theory assumes eternal and monolithic application of its dogma. ...-Who would deny that work is central to human dignity? - The Thais would. In Thailand the highest goal of life, complete detachment, is achieved not through hard work but by sitting quietly doing nothing."

This example from Robert Cooper, author of "The Cultural Chock in Thailand", just gives a hint of how delicate interpretation can be of various situations. In concrete terms the evaluation team observed the fact that projects concerning social organisations, all the master plans for example, did not come out as well as the concrete management or engineering support. Swedish consultants and Thai administration have probably not "talked the same language" when elaborating them together. In some cases we learned that even basic concepts for the Swedes such as "prevention" or "privatisation" were used in quite other settings in Thai culture. Preventing accidents may mean interfering with one's fate, and mobilising capital with personal profit as central driving force is not fully in line with the dominating religious view on how to satisfy common needs for comfort (such as electricity).

Some recommendation for the future concerning cultural adaptation:

- No more totally engineering dominated teams. Anthropological, behaviourist or other social competence must be integrated in the consultant teams.
- No means without ends. The tendency to transfer know-how in practical engineering may be good in itself, but a prior socio-economic analysis makes clear how it is related to the more general goals of the society
- No more self sufficient Swedish teams. The cultural questions should be seen as so delicate that there always need to be a responsible local consultant included in the team.
- The risks to make "wrong things" will diminish if the large institutional consultant firms won't dominate in the future. It would be better to mix large and small firms, create opportunities for several disciplines to be involved, mix men and women in various groups, and promote critical approaches to match the more conservative etc.

The administrative process improved

Task management in Sida, Stockholm, ought to be strengthened in relation to the resources spent on the field projects, compared to what has been the case so far. It is important that the monitoring of the projects will be done by traditional routines, in terms of demanding regular progress reports etc, for external stakeholders to follow up afterwards. The point is not, however, to regulate the process strictly with written documents, which destroys capital as well as creative resources. Good management

includes reasonable control, but aims primarily at stimulation, and introduction of new ideas from the monitoring environment.

The evaluation team will not ask for increased bureaucratic management of procurement process concerning the consultants. If the projects are anticipated to be as large as the ones demonstrated in the existing portfolio, though, it is important that the competition will be stimulated. - And don't forget to invite other potential consultants than the closest concerned! DTEC in Thailand has pronounced their interest in a much closer co-operation when it comes to selecting new consultant firms and evaluating tenders. Use this opportunity, and try to involve also other qualified groups from Thailand as free resources in the project formulation process, not necessarily only the traditional sector authorities. NGOs and private corporations would be exciting exceptions.

---

[0] Thailand. Economy and Politics. Phongpaichit P & Baker C, Oxford University Press 1994.
[1] SFS 1984:1132-1133, 5 pages, and a few pages as "Work instruction".
[2] Southern Energy International

Appendix A: Terms of reference

Sida

February 20, 1998

TERMS OF REFERENCE

Comprehensive Evaluation of Sida's Support to Thailand.

1. Background

Sida (BITS) has since 1986 financed co-operation with Thailand within a wide range of topics. There is no framework or country strategy guiding the co-operation between the two countries and no disbursement targets or limits at present.

Three major instruments are being used in the co-operation; Contract-Financed Technical Co-operation, Concessionary Credits and International Training programmes.

Within the Contract-Financed Technical Co-operation 74 projects have been financially supported and are now completed. A total of 18 projects are ongoing. The financial support through the Technical Co-operation amounts a total sum of SEK
143.338.953.

The Energy and the Environmental sectors are the dominating areas of support. For detailed information of disbursements, see appendix A.

The Concessionary credit programme aims at financing high priority investments in the recipient country. In terms of procurement the Concessionary Credits are tied to goods and services of Swedish origin.

Since 1989 Thailand has received SEK 723.200.000 with an average concessionality level of 35% at a total cost of SEK 222.900.000.

2. Purpose of Evaluation.

Sida is continuously assessing its support with regard to quality, relevance and impact in relation to the development aims targeted for assistance. In order to obtain a broader knowledge of the result and impact of the co-operation with Thailand, Sida has decided to undertake a comprehensive evaluation of the support within the fields of Contract-Financed Technical Co-operation and Concessionary Credit Scheme. The International Training Programme is evaluated separately and is not included in this assessment

The evaluation aims at identifying and analysing results produced through the support, with special focus on the suitability of using Contract-Financed Technical Co-operation (KTS) and

Concessionary Credits as instruments to achieve economical and social changes. The evaluation should identify development impacts on national, regional and organisational levels in Thailand as well as tracing the impacts of Swedish - Thai relations and cross connections.
The evaluation will be used as input for a strategy paper guiding Sida's future development co-operation with Thailand.

3. Scope of the Evaluation

The evaluation shall be based on project documentation available at Sida and visits in Thailand, interviews with relevant personnel at end users and beneficiaries and interviews with other organisations related to the projects. Within the Technical Cooperation the consultants shall focus their attention on four sectors; Energy, Environment: Transport and Administration.

The consultant team shall furthermore evaluate two projects (five credits) under the Concessionary Credit programme; Siam Kraft Industry Co Ltd and Phoenix Pulp and Paper Company.

The final (one) report shall consist of an aggregated analysis based on findings from four sub-reports annexed to the main report. One on each sector Energy and Environment, one on the two sectors Transport and Administration and one on the Concessionary Credit Programme.

The projects to be included in the evaluation are listed in appendix B.

3.1 Justification of Sub-reports

Energy sector - Sub report I

The financial support to the energy sector has been extensive with 20 projects amounting some **SEK** 50.000.000. As SwedPower is the dominating Swedish partner it is suggested that this sub-evaluation only assess projects where SwedPower has been the executive agency. The company is responsible for 16 projects to the amount of SEK 40.000.000 and the support is very sparingly evaluated.

Environmental sector-Sub report II

The number of projects in the environmental sector are growing and the expenditures amount to nearly SEK 50.000.000.

The support to the emergency sector, which form a part of the environmental sector has been substantial. In 1993 Sida (BITS) undertook an evaluation of the given support. Since then another SEK 12.500.000 has been allocated to various projects with focus on formulating a Master Plan for development of the emergency services in Thailand. National Swedish Rescue Services Board (Räddningsverket) has been the executive agency of all projects.

Sida finds it important to analyse the structure of the emergency sector in Thailand and estimate

needs for any future assistance. Particular interest should be given to the development and implementation of the Master Plan.

Administration and Transport sectors - Sub report III

The support to the administration sector was initiated in 1993 focusing Human Development in Thai civil service. The Swedish counterpart has been SIPU International AB and the Thai counterpart has been the Office of Civil Service Commission: OCSC.

Sida has agreed upon five projects and the disbursement amount a total of SEK 6.900.000.

Apart from normal project follow-ups no official evaluation/analysis has been undertaken.

The financial support to the transport sector has been going-on since 1990. Main focus has been set on Human Development and training in road and bridge construction and maintenance, transport economy and transport administration. The support has been channelled through the Department of Highways, DOH, and it has been carried out by SweRoad. No evaluation has been undertaken.

Concessionary Credits - Sub report IV

- Siam Kraft Industry Co. Ltd received two Concessionary credits in 1989 considering procuration and installation of a sewage treatment works. The credits amount to SEK 42.400.000 at the total cost of SEK 16.000.000. The Swedish supplier was HB Elof Hansson.

- Phoenix Pulp and Paper Company has received three Concessionary credits to the amount of SEK 100.000.000. The cost for Sweden is estimated to SEK 38.900.000. The suppliers were: ABB Stal AB - SEK 27.700.000, Flakt AB - SEK 34.000.000 and Sunds Defibrator Industries AB - SEK 38.300.000.

The selected credits are the oldest on-going projects under the Concessionary Credit Programme. No official evaluation/analysis has been undertaken.

4. Focus of the Evaluation

The following aspects shall be covered:

4.1 Relevance

- Assess if the projects have been relevant to their overall objective/s of development co-operation.
- Assess if the planned outputs have been fulfilled.
  - Assess if the project specific objectives have been fulfilled.
- Assess if the overall objectives, as specified in project documents, have been fulfilled.

4.2 Objectives

- The instruments "Contract-Financed Technical Co-operation" and "Concessionary Credits" shall be assessed whether they have been a suitable choice of development instrument for the specific project output/s and objective/s.

4.3 Efficiency

- The role of Sida shall be assessed; would a different handling within Sida have increased the efficiency and impact of the projects?

- Assess whether the principle of cost sharing has been correctly fulfilled.

- Assess the cost-efficiency in the projects.

- Evaluate the quality of services, including value of money, performed by the Swedish counterparts.

- Evaluate the quality of supplies, including value of money, procured under the concerned development instruments.

- Evaluate the efficiency of the various stakeholders co-operation, positive and neqative experiences when relevant.

- Identify and define reasons for any delays in the implementation process of the projects and estimate additional costs and unintentional effects involved.

4.4 Impact

- Assess the short-term as well as long-term effects of the carried-out activities.

Specifically:

- The consultants shall assess the impact of the transferred knowledge to the concerned Thai parties, including the extent of the Thai participation in the various projects.

- What will be the effects for the sector and/or the organisation after withdrawal of development assistance?

- After withdrawal of Swedish assistance, would the effects be regarded as sustainable?

- Assess possible spin-off effects and development impact on national, regional and organisational levels in the country, specifically the impact on Swedish -Thai relations and cross connections.

4.5 Lessons learned

- Assess the need for future assistance within the sector or organisation.

- The instruments "Contract-Financed Technical Co-operation" and "Concessionary Credits" shall be assessed whether they have been a suitable choice of development instrument for the specific project output/s and objective/s.

4.3 Efficiency

- The role of Sida shall be assessed; would a different handling within Sida have increased the efficiency and impact of the projects?

- Assess whether the principle of cost sharing has been correctly fulfilled.

- Assess the cost-efficiency in the projects.

- Evaluate the quality of services, including value of money, performed by the Swedish counterparts.

- Evaluate the quality of supplies, including value of money, procured under the concerned development instruments.

- Evaluate the efficiency of the various stakeholders co-operation, positive and neqative experiences when relevant.

- Identify and define reasons for any delays in the implementation process of the projects and estimate additional costs and unintentional effects involved.

4.4 Impact

- Assess the short-term as well as long-term effects of the carried-out activities.

Specifically:

- The consultants shall assess the impact of the transferred knowledge to the concerned Thai parties, including the extent of the Thai participation in the various projects.

- What will be the effects for the sector and/or the organisation after withdrawal of development assistance?

- After withdrawal of Swedish assistance, would the effects be regarded as sustainable?

- Assess possible spin-off effects and development impact on national, regional and organisational levels in the country, specifically the impact on Swedish -Thai relations and cross connections.

4.5 Lessons learned

- Assess the need for future assistance within the sector or organisation.

- What are the operational and the strategically lessons learned from the projects?

5. Staffing

The team could consist of experts drawn from companies and institutions of various nationalities. Sida especially welcome women to participate in the evaluation. The team leader must have considerably experience as team manager.

The team shall have expertise with competence in:

- Development Economics
- Cost-benefit analysis
- Energy sector

- Human Resource Development
- Risk Assessment and Vulnerability in a modern society
- Industrial Environmental work
- Pulp and paper industry
- Transport economics
- National Planning
- Institutional Development

6. Reporting and time schedule.

The aggregated analysis from the four sub-reports, one for each component in the evaluation, shall be submitted to Sida in a draft report not later than four weeks after conclusion of the last field visit in Thailand. The main report, to which the sub-reports shall be annexed, including a list of persons meet, shall be finalised within two weeks after receipt of Sida's comments and not later than the 15th of June 1998. It shall start with an executive summary including recommendations.

All reports shall be written in English and submitted to Sida in five hard copies and one PC compatible diskette.

The evaluation assignment includes production of a summery according to the guidelines for Sida Evaluations Newsletter and the completion of Sida Evaluations Data Work Sheet. The separate summery and a completed Data Work Sheet shall be submitted to Sida along with the main draft report.

Appendix A

Disbursements under the Contract Financed Technical Co-operation Programme.

SECTOR	PROJECTS	DISBURSEMENTS	PLANNED DISB.
Energy	20	SEK 46.984.109	SEK I.989.040
Administration	5	SEK 4.294.654	SEK 2.648.000
Health	8	SEK 4.030.160	SEK I.509.200
Industry	3	SEK 573.600	SEK 526.600
Agriculture/Forestry	7	SEK 2.649.000	SEK 3.031.800
Transport	11	SEK 11.304.000	SEK 2.822.600
Environment	29	SEK 40.482.250	SEK 9.289.340
Human Rights	1	SEK 97.000	-
Telecom.	2	SEK 4.105.000	-
Research	4	SEK 1.053.100	-
Other	2	-	SEK 5.949.500
TOTAL	**92**	**SEK 115.572.873**	**SEK 27.766.080**

The following projects shall be included in the assessment.

Sub-report I: Energy

THAO191	Assessment of EGAT's Operational Efficiency. Phase I SwedPower - SEK 2.745.000
THA0192	Assessment of EGAT's Operational Efficiency. Phase II Swedpower- SEK 3.166.000
THA0361	Klong Thung Phen. Swedpower - SEK 9.616.000
THAO531	Consultancy Service on System Losses Reduction and Increase in System Reliability. SwedPower- SEK 4.464.109
THA06O1	Training Project for PEA personnel in Management Development Programme. Phase I SwedPower - SEK 1.885.000
THAO6O2	Training Project for PEA personnel in Management Development Programme. Phase II Swed Power - SEK 3.722.000

Sub-Report II: Environment/Emergency

TH0453	Rescue agency of Bangkok. National Swedish Rescue Services Board - SEK 488.000
THA0454	Bangkok Police and Fire Brigade. Education centre. National Swedish Rescue Services Board - SEK 1.781.000
THA0455	Emergency preparedness in Chang Mai and Lamphun National Swedish Rescue Services Board - SEK 1.494.340
THAO661	Masterplan for the Emergency service in Thailand. Phase I National Swedish Rescue Services Board - SEK 870.400
THA0662	Masterplan for the Emergency service in Thailand. Phase II National Swedish Rescue Services Board - SEK 1.931.000
THAO771	Bangkok Police and Fire Brigade - National Safety Development Project -Phase I. National Swedish Rescue Services Board - SEK 1.907.600
THAO831	Bangkok Police and Fire Brigade - National Safety Development Project -Phase II. National Swedish Rescue Services Board - SEK 4.041.900

Sub-report III: Administration and Transport

Administration sector

THAO51 1	Macro Manpower Planning Project. SIPU - SEK 1.496.600
THAO512	Management of Change in Thai Civil Service - Phase I SIPU - SEK 228.054
THA0513	Management of Change in Thai Civil Service SIPU - SEK 2.570.000
THAO731	Management of Change in Thai Civil Service - Phase II SIPU - SEK 1.848.000
THAO8O1	Management of Change in Thai Civil Service - Phase III SIPU - SEK 800.000

Transport

THAO151	Transport economy. SweRoad - SEK 350.000
THAO231	Road administration. SweRoad - SEK 298.000
THAO33I	Road Construction on soft clay. SweRoad - SEK 414.000
THA0332	Geotechnical Education. SweRoad - SEK 2.506.000
THAO821	Bridge Construction and Maintenance Training Centre SweRoad - SEK 2.602.600

Sub-report IV: Concessionary Credit Programme.

- Siam Kraft Industry Co. Ltd received two Concessionarv credits in 1989 considering procuration and installation of a sewage treatment works. The credits amount to SEK 42.400.000 at the total cost of SEK 16.000.000. The Swedish supplier was HB Elof Hansson.

- Phoenix Pulp and Paper Company has received three credits to the amount of SEK 100.000.000. The cost for Sweden is estimated to SEK 38.900.000. The suppliers were: ABB Stal A8 - SEK 27.700.000, Fläkt AB - SEK 34.000.000 and Sund3 Defibrator Industrier AB - SEK 38.300.000.

Appendix B: Persons met

A field visit was carried out in Thailand for three weeks starting on April 19, 1998. The field visit included visits with officials at different institutions including visits to construction sites, training centres etc. Before and after the visit to Thailand Swedish Sida and some of the Swedish Consultant firms included in the projects were visited.

Some of the most significant persons met are included in the following list.

Organisation	Name	Position
From the Asian Institute of Technology	Dr. Noppadol Phienweg	
Bureau of the National Safety Council of Thailand	Mr Kamol Suksomboon Miss Papussamon Ummaralikhit Miss Wachana Chariyawetwatana	Director Secretary Secretary
Bangkok Port	Mr Payoongkich Chivamit Mrs Oiy Mrs Pattra Mr Som Chansuthirangkool	Managing Director Chief of Chemical Goods Section; Officer of CGS Dep. Director of Engineering Department
Bangkok Fire Brigade	PMG Peeraphon Soontronate PLC Kitibodee Pravitra Mr Edie	Commander of BPFB Inspector External Liaison Officer
Bangkok Metropolitan Administration	Dr-ing. Ksemsan Suwarnarat	Dep. Dir. Gen. of Policy and Planning Division
Civil Defence Division, DoLA	Mr Weera Chaipimolpalin Mrs Achara Wongse Mr Bundit Theveethivarak	Head of CDD Ph.D. Chief of Planing and Training Sub-division
Municipality of Chiang-Mai	Mrs Bodsaba Yodbangtoey Mr Chaiwat Thamrongsrisuk Mr Suwit Sirigrivatanawong Mr Chusak Chinararot Mrs Inkanit Sirinapapun	Dep. Mayor City Clerk Chief of city planning City planning engineer Secretary
Chiang-Mai Fire Brigade	Mr Kawee Pantajak Mr Chokchai	Fire chief Fire Officer, External liaison
Civil Service Commission	Mr. Thirayuth Lorlertratna, Dr. Chalerm Sriphadoong, Mr. Chupong Savetachinda,	Deputy Secretary-General, Ph.D. Advisor to the Secretary-General, Assistant Secretary General,

	Ms. Darunee Boonsing, Ms. Aim-On Aramkul,	Senior Expert, OCSC, Executive Staff, OCSC
Communication resources (Thailand) Ltd	Mark Graham	Owner and M.D. (NGO-contacts)
Connector Asia	Anders Lundquist Håkan Skoglund Johan Winlöf	M..D. Dir. Dir.
Department of Energy Development and Promotion, DEDP - Klong Thung Phen	Dr Itthi Bijayendrayodhin, Mr Panich Phongphirodom	Director General
Department of Highways , DOH	Mrs Phimchai Yuthabandol, Mr. Vinich Benchapong, Likhit Khaodhiar, Dr. Siriphan Jitprasithsirri, Mr. Visit Achayanonlgit, Mrs. Sipraphai Kaewnukul, Mr Chirarat Ousawat, Dr. Teeracharti Ruenkrairergsa, Mr. Suchart Leerakomsan, Mr Surachai Sununtapongsak, Mr Satipong Apimetatamvong, Mr Praset Boontharaksa, Mr.Sujin Ruangphornwisut	Chief of Environment Unit, Deputy Director for Administration, Training Officer, Training Officer, Training, Director, Road Research and Development Centre, Area Engineer, Bureau of Road Construction 4
The Electricity Generating Authority of Thailand, EGAT	Mr Viroj Nopkhun, Mr Koomchoak Biyaem,	Deputy Governor, Policy and Planning, Director, System Planning Division
Department of Technical and Economi Co-operation, DTEC	Mr Manoth Suksabjarern Ms Sasitorn Wongweerachotkit	Chief, Europe Sub-Division, External Cooperation Division II, Desk Officer
Industrial Finance Corporation of Thailand (IFCT) *Finance Department* *Corporate Finance*	 Nutta Ratanachaichan Chesta Moo-Ming	 Senior Vice President, Officer,

Department No 2	Visut Kittisamuth Vorayuth Charoenloet Ronnarit Virachanang	Ass Vice president, Senior Vice president, Officer,
Italian-Thai Development Public Company Limited	Mr. Somchai Thamrongwang	
Medical Institute of Accident and Disaster	Dr Tairjing Siriphanich	Director; placed at Ratchawithi Hospital, Bangkok
The Mekong Commission Secretariat	Mr. Lars Andréasson	
Phoenix Pulp and Paper Co	Ralph G Mattsson S.K. Mittal Subhash Maheshwari Paiboon Chattranuchat William J. Riopel	Managing Director Deputy M.D. Research & Development Mgr Administrative Mgr, General manager (Finance)
Pollution Control Department Water Quality Management Division, Marine Pollution	Mrs Pornsook Chongprasith, Mr Watana Sukasem Mr Vithet Srinetr	Ph D, Section chief Sub-division chief Ph D
Provincial Electricity Authority, PEA	Mr Chamnan Ungtrakul, Mr Wadchara Jitnumsrup, Mr Lerchai, Mr. Jurdsak Suttisom, Mr Chookiat Khanotai, Mr Sitthiporn, Ms Anchalee Sathiraseth,	Deputy Director, System Development Division, Manager, System Development Division, System Development Division Manager of Training Division, Director, Human Resource Development Office, Ratanopas, Senior Director, Demand Side Management Office, Assistent Manager of Training Center
Räddningsverket	Lars Hillerström Ingvar Lindén (telephone) Rune Dahlén Roland Lundqvist (telephone)	Director of Dept. for International Affairs, South East Asian bransch Project Manager, Consultant Consultant Director of Eductional Dept.
Skandinaviska Enskilda Banken (South East Asia)Ltd	Benjamin Swedberg	Commercial Banking

Siam Pulp and Paper / Siam Kraft	Apinya	Financial mgr (phone)
SEASCAN Co (Deutsche Grenfill)	Sudhisakdi Manibhandu	M.D.
Siam Orchid Inn	Mrs Aranya Suwannawihok Mr Chatchawan Wattananont	Manager Desk officer
Sida, Stockholm	Anders Eriksson, Henrik Stjernström	Task Manager, Indoor consultant
Swedish Embassy, Bangkok	Mrs. Ingegerd Adlercreutz Mr. Jesper Höstrup Mrs. Chantana Rungtapnapa	Ambassadeur First secr. Commercial Officer
SwedPower Limited, Bangkok	Mr Khadk Bahadur Bisht, Ms Surat Piyasakulchai,	Engineering Manager, Marketing manager
SwedPower, Stockholm	Mr Jan I. Gidlund, Mr Carl F. Gnosspelius Mr Sven Lallander Mr Lennart Lundberg Mr Nils Nilsson Mr Einar Wetterlund	President & CEO, Vice president, Field manager, Field manager, Sydkraft Konsult/ SwedPower, Malmö, Sydkraft Konsult/ SwedPower, Malmö
SweRoad, Stockholm	Hans Eriksson, Gösta Karlsson	
Thailand Environmental Institute	Ph.D. Chaiyod Bunyagidj	Dir. of Business and environment Programme
World Bank, Bangkok World Bank Group/HQ Washington	Ph D Manida Unkulvasapaul Mr Johan Åström	Senior Program officer Project Finance & Guarantee Dept. (phone)

Appendix C. Acronyms used

ADB	Asian Development Bank
BPFB	Bangkok Police and Fire Brigade
CDD	Civil Defence Department
CSC	Civil Service Commission
DOH	Department of Highways
DOLA	Dept. of Local Administration;
DTEC	Department of Technical and Economic Co-operation
EGAT	The Electricity Generating Authority of Thailand
EIA	Environmental Impact Study
EKN	Swedish Board for Export Credit Insurance
FNRA	Finnish National Road Administration
GDP	Gross Domestic Product
Hazmat	Hazardous materials
IMF	International Monetary Foundation
ISO	International Standard Organisation
KTS	Contract-Financed Technical Co-operation
MEA	Metropolitan Electricity Authority
MoI	Ministry of Interior
MoPH	Ministry of Public Health
MoSTE	Ministry of Science, Technology and Environment
MoTC	Ministry of Transport and Communication
NEA	National Energy Administration
NEB	National Environment Board
NESDB	National Economic and Social Development Board
NGO	Non Governmental Organisation
NGO	Non Governmental Organisations
NSCT	National Safety Council of Thailand
OCSC	Office of Civil Service Commission
OEPP	Office of Environmental Policy and Planning;
OPM	Office of the Prime Minister
PAT	Port Authority of Thailand
PCD	Pollution Control Department,
PEA	Provincial Electricity Authority
SEK	Swedish kronor
SIPU	Swedish Institute for Public Administration
SME	Small and medium sized enterprises
SNRA	Swedish National Road Administration
SRV	Swedish Rescue Services (Räddningsverket)
USD	US$, American dollars

Foreword

The evaluation team was composed of seven specialists and a team leader. One or two specialists were assigned responsibility for each project area/development sector. Their five reports are presented below.

Most sector projects were overlapping more than one sector. In practice this has meant that projects on the soft credits also have concerned environmental aspects, and the environmental projects definitely have concerned some of the energy projects etc. In these and other cases the sub groups have not only consulted each other, they have also taken part of each other's material, and in several cases also joined the interviews of other sector groups.

During a 3-week period most sub groups spent 1 - 2 weeks in fieldwork in Thailand. In the overlapping field periods every team member also took part in daily joint sessions, to discuss images and results. After the field study phase, all team members commented upon the other sector reports and the main report from the entire team.

In practice this means that every sector report represents a composite work from several persons. However, the respective authors are responsible for the final judgements of the comments supplied from the others, and hence the final versions of the sub reports. This means that there may be found minor discrepancies between the evaluations presented in the sub reports, and the comprehensive evaluation presented in the main report. These differences only indicate that the character of the evaluation not is a matter of black and white, yes or no, or good or bad. In the complex reality there are many more nuances, and the reader should also be stimulated to use her/his own mind in trying to evaluate the facts presented.

Gothenburg in June 1988

Lars-Olof Eliasson
Coordinator,
Eliasson & Partner AB

Leif Grahm
Team leader,
Swedegrop International Consultants AB

Table of contents

Evaluation of BITS/Sida Supported Development Co-operation with Thailand in the

Energy Sector

by AnnCharlotte Bauer
Energikonsult A Bauer AB
June 1998

Table of Contents

Attachments

1. INTRODUCTION

This appendix deals with the energy sector of an evaluation of Swedish assistance to Thailand. Sida requested the evaluation and has selected projects from four sectors: energy, environment/emergency, public administration, and transport, as well as two projects from the concessionary credit program.

The energy projects selected by Sida for evaluation are listed in the Terms of Reference, see appendix A.

2. THE SETTING OF THE PROJECTS

2.1 The sector in general

Thailand has a population of around 60 million people, of which around 75 % reside in rural areas. The annual growth rate of GDP was around 8 % during the period 1980-1996. About 50 % of this economic activity is generated in the region centred in and around Bangkok. Close to 10 million people live in Bangkok.

Along with a rapid economic growth, energy consumption has increased rapidly since 1986. The energy supply has almost doubled between 1986-1991 due to structural changes toward manufacturing and electrification in the economy.

Thailand has a diversified energy resource base, consisting of petroleum, lignite, natural gas, hydropower and biomass. As these resources are not sufficient to meet the energy demand, Thailand is dependant on energy imports, mainly crude oil, petroleum products, coal and natural gas. In 1996 the around 62 % of Thailand's commercial energy needs were dependant on external resources.

The primary energy supply in 1990 amounted to 34.4 million TOE (34.4 million TOE~408 TWh, 1 TOE = 11,860 kWh). The figure below shows the composition of the energy supply in 1990.

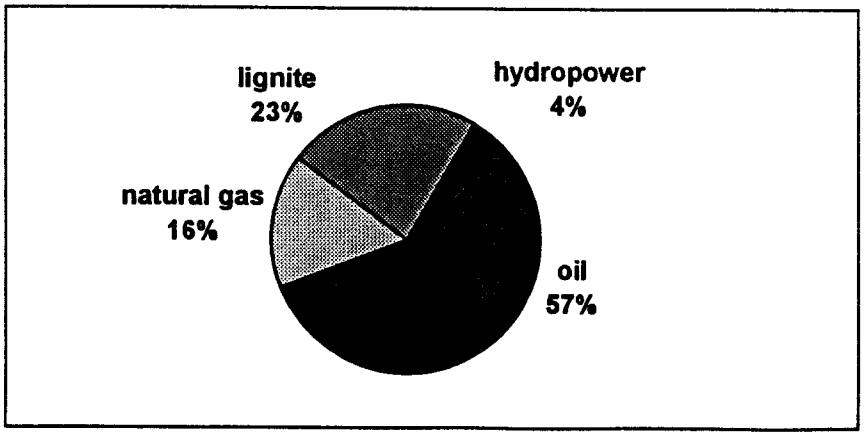


Figure 2.1

The composition of energy supply in Thailand in 1990.

The total energy consumption in 1990 amounted to 23.5 million TOE (~279 TWh). The transportation sector is the largest consumer (48 %), while the industrial and residential/commercial sector consumed only 26 % and 12 % respectively.

In 1990 the electricity supply reached about 45,860 GWh. In 1996 this had increased to 85,920 GWh. The highest growthrate is to be found in the industrial sector. Losses in transmission and distribution and the use of electricity used by service stations reached 10,321 GWh (12 %) in 1996. The electricity demand grew at an annual rate of 12.3 % during the 10-year period of 1986-1996.

The figure below shows the consuming sectors of electricity in 1996.

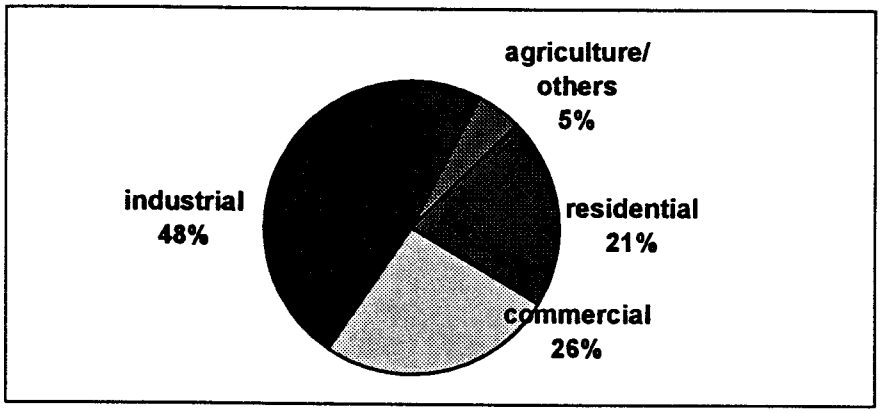


Figure 2.2 The composition of consuming sectors of electricity in Thailand in 1996.

2. 2 *Institutional and Administrative Aspects*

The energy policy of Thailand aims to:

- ensure availability of energy
- promote free market competition within the energy sector
- implement energy conservation programmes
- promote private investment in the country's energy sector
- reduce environmental impact from energy use

To achieve these objectives, the following measures are being taken;

- entering into long-term energy contracts with neighbouring countries
- deregulation of the price of petroleum
- restructuring of electricity tariffs in line with marginal cost
- a policy of liberalisation of free market competition and privatisation through sale of state enterprises in the financial market
- sale of electricity from the private sector to the national utilities
- launching of a Demand Side Management programme to reduce both expected peak load and electricity demand
- promulgation in 1992 of the Energy Conservation Promotion Act
- encouragement of production and use of more environment-friendly petroleum products

- regulation of environmental protection equipment for coal-fired power plants and later on also for cars

The key governmental organisations involved in energy affairs are as follows;

At the highest level is the National Energy Policy Council (**NEPC**), which is chaired by the Prime Minister. Members of the **NEPC** include deputy prime ministers and those ministers whose portfolios involve energy, as well as representatives from the National Economic and Social Development Board (**NESDB**), the Secretary General of the National Energy Policy Office (**NEPO**), the Director General of the Energy Development and Promotion Department (**EDPD**) and the Director of Budget Bureau.

NEPC for example approves on behalf of the cabinet, major policy changes, plans and projects in the energy sector as well as the definition of roles, functions and priorities of the various ministries and state enterprises in the sector.

NEPO, which is the secretariat to **NEPC,** acts as an operating arm to the council. NEPO functions primarily as transformation centre between NEPC and the country's state energy enterprises. NEPO provides energy policy guidelines for each of the five-year National Economic and Social Development Plan (**NESDP**). Under each guideline, NEPO also provides a detailed programme of action for each of the energy sectors. NEPO plays an important role in the energy sector providing co-ordination and advice.

NESDB is the central planning agency that assesses the country's economy and prepares the five-year plans.

DEDP is under the Ministry of Science, Technology and Environment (**MSTE**). **DEDP's** responsibilities are to conduct research and development and also to monitor energy sector activities. DEDP also owns several small scale hydropower plants with a total capacity of 51 MW. DEDP assumed the responsibilities of the now-defunct National Energi Administration (**NEA**).

The Energy Conservation Centre of Thailand (**ECCT**) also reports to the Ministry of Science, Technology and Environment.

The Electricity Generating Authority of Thailand (**EGAT**) was formed in 1969 to consolidate by merging the functions and responsibilities of three independent state enterprises. EGAT is responsible for generating, transmitting and selling the bulk electricity in Thailand to the two distributing entities, Metropolitan Electricity Authority (**MEA**) and Provincial Electricity Authority (**PEA**). Since 1992 a new law allows private companies to produce and sell electricity under certain conditions.

In Attachment 1, a figure describing the agencies related to energy matters and the National Energy Policy Council is shown.

2.3 Finances

The take-off of the Thai economy since 1987 has put considerable stress on electricity sector financing. During the period of the 6th NESDP (1987-1991), about US$ 3,600 million was required to finance the expansion of EGAT's power sector. If EGAT were to continue financing the power sectors expansions alone, it would need US$ 1,355 million per year in the 7th plan period (1992-1996) and US$ 2,196 million per year in the 8th plan period (1997-2001). About 52 % of this would be in foreign currency for imported equipment and machinery.

To maintain the national financial stability, the Government has limited the overall borrowing by the public sector to US$ 3,700 million a year, of which 30 % has been allocated to EGAT. Sources of these foreign loans include development banks (WB, ADB), commercial banks, and suppliers and buyers credits.

Due to the current situation, three schemes have been put in place for private participation in power sector development;

1. through participation in EGAT's subsidiary company
2. through the Small Power Producers (**SPP**) programme
3. through the Independent Power Producers (**IPP**) programme

In 1992 EGAT created its subsidiary company, the Electricity Generating Company Limited (**EGCO**) with a capital of 100 million Baht. Its objective was to raise funds from the financial market to purchase power plants from EGAT, and to develop its own power projects. In 1994 EGAT reduced its share to 48 %. International and domestic investors subsequently increased their shares. Today EGCO is a holding company with a subsidiary company to own and operate each of the power plants purchased from EGAT.

The Small Power producers (**SPP**) scheme was also introduced in 1992. Its purpose was to initiate private participation in power sector development. The regulations allow any single SPP to sell up to 90 MW of electricity to EGAT. The source of SPP generation must be from;

1. non-conventional energy such as wind, solar and mini-hydro energy
2. waste or by-products from agricultural and industrial activities
3. co-generation using natural gas or petroleum products under a number of specific conditions

In March 1997 already 42 SPPs had signed electricity selling contracts with a total capacity of around 1,900 MW.

The Independent Power Producer (**IPP**) programme will serve as a new financial source for the investment in new capacity. IPP's are expected to build 22,514 MW during the 1997-2011 period, or 57.2 % of the total additional capacity. The preliminary terms and guidelines for the purchase of power from IPP's were approved by the cabinet in May 1994.

2.4 Sector output and impact

The Electricity Generating Authority of Thailand (EGAT) is wholly owned by the government, and is responsible for generating and transmitting electricity in Thailand. Distribution is undertaken by two separate enterprises, both also government owned: the Metropolitan Electricity Authority (MEA) and the Provincial Electricity Authority (PEA). MEA is responsible for distribution in the Bangkok area and PEA for the rest of the country.

MEA and PEA are under the Ministry of Interior, EGAT reports directly to the Office of the Prime Minister. All three of these enterprises are currently involved in a program for privatisation.

As of September 1997, the total installed capacity of the EGAT power system was 16,979 MW. Electricity is provided to around 77 % of all households in Thailand. Almost 90 % av all villages are connected to the electricity distribution system. In 1997 the number of consumers reached 12.1 million.

In 1993 the Cabinet gave EGAT authority to establish the Demand Side Management Office (**DSMO**) as a new division within its organisation. The purpose of the new division was to implement DSM programs in co-operation with MEA and PEA. In September 1993 the DSM program was officially launched to the public. In 1993 the Global Environment Facility (**GEF**) supported this program with a $15.5 million grant, which included a $6 million grant from the Government of Australia. The first five-year budget (1993-97) comprised $189 million. In a Master Plan targets saving 238 MW at peak demand and 1,427 GWh of energy were formulated. The program was a success as demonstrated in December 1997 when the actual peak demand savings reached 386 MW and 1,800 GWh of energy was saved.

Within the 8th National Economic and Social Development Plan (1997-2001), 1,400 MW in peak demand will be saved. To reach this goal, several programs will be implemented;

Program	Demand saving 2001 (MW)
1. Green Building Program	360
2. Industrial Sector Program	110
3. High Efficiency Appliance Program	930

2.5 *The needs and priorities of the sector*

The total installed capacity of the EGAT power system was 16,979 MW in September 1997. Based on a recent load forecast, the annual growth rate of electricity demand during the next 15 years will be in the range of 1,600-2,400 MW. The latest Power Development Plan (December 1997) from EGAT presents the following figures for future power capacity and fuel sources.

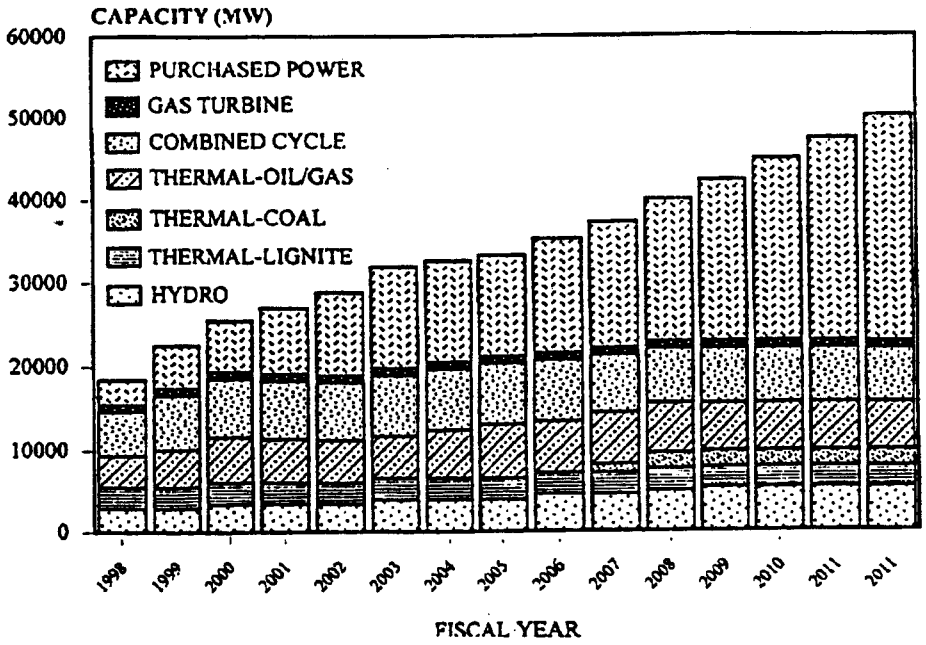


Figure 2.3 Planned evolution of technology mix for power capacity in Thailand.

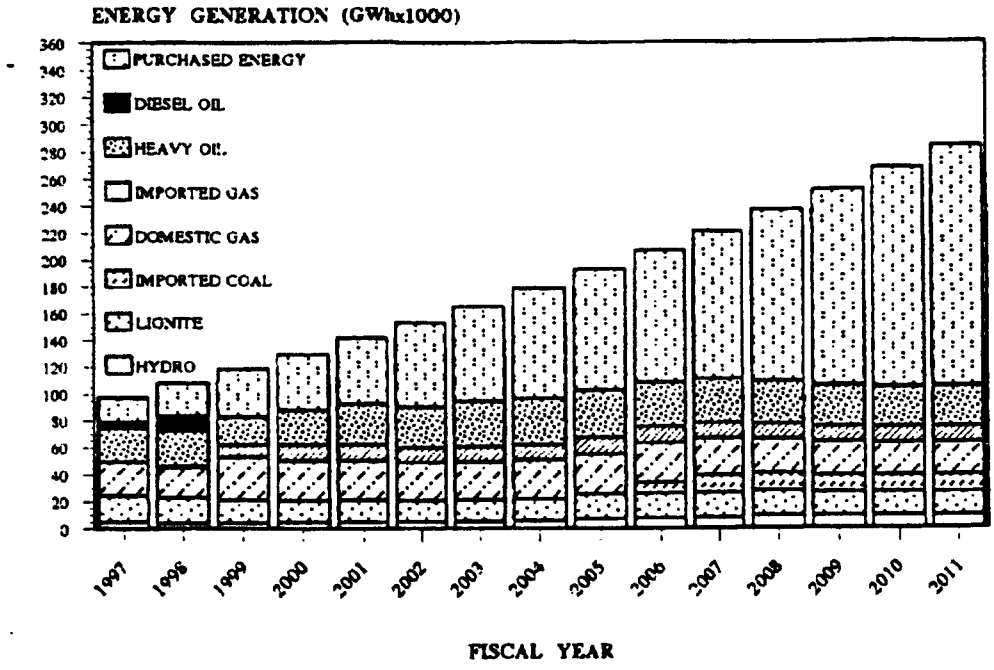


Figure 2.4 Planned evolution of power generation by fuel sources in Thailand.

According to the recommended plan, the total electricity generation in 2011 will be 3.3 times greater than 1996's output.

As shown in the figures above a great deal of the future need of power/energy will be purchased. The IPPs and SPP' have been mentioned earlier. Currently, Thailand has an electricity trade with Lao PDR (import/export), Malaysia (import/export and Myanmar

(export). Thailand is the single largest purchaser of electricity in south-east Asia. Thailand co-operates with neighbouring countries for power development and power purchase. Some of these projects are mentioned below.

1. Cooperation for Power Development in Lao PDR
2. Thai-Lao PDR Interconnection Lines
3. Purchase Power from Malaysia
4. Cooperation for Power Development in Myanmar
5. Power Purchase from China

In Attachment 2:1-2:3 the Asian interconnection projects are shown.

2.6 *Institutions involved in supporting the sector*

The rapid growth in power demand as seen in last 5 years and the continuing growth in the future will require high capital investments. For financing the development program, loans will be solicited from local and foreign commercial banks and from suppliers, and export credits will be requested from financial institutions such as IBRD, ADB and OECF.

The figure below shows the required capital investments for the 8th and 9th NESDPs for EGAT.

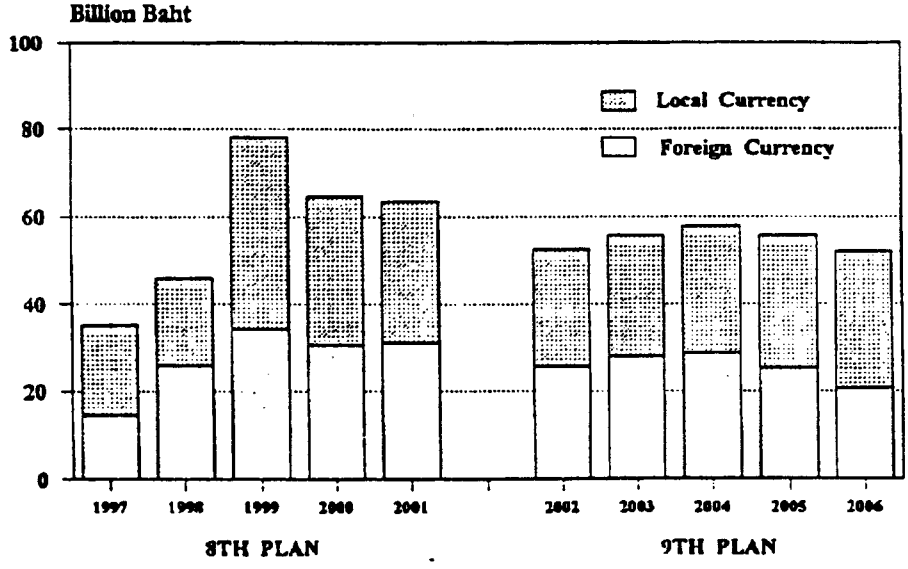


Figure 2.5 Required capital investment for the 8th and 9th NESDPs for EGAT.

3. THE SWEDISH SUPPORTED PROJECTS

3.1 Introduction

The projects studied in this report have all been executed by SwedPower. SwedPower was established in 1976 to provide independent consulting services within the energy sector. The owners of SwedPower is the Swedish government-owned energy company Vattenfall (58%), Sydkraft AB (27%) and the private company VBB Bergman & Co AB (15%). The owners of Sydkraft AB consists of Preussen Electra, Germany (18 %), Statkraft, Norway (17 %), Hamburg Electricitäts Werk, Germany (16 %), some cities in Skåne (24 %), AP (7 %), SPP (4 %) and a mixture of different owners (14 %).

3.2 Project: Assessment of EGAT's Operational Efficiency, Phase I and Phase II

3.2.1 Introduction

The two phases of this project, Phase I and Phase II, were carried out during the years 1991-1993. The results from Phase 1 were presented in December 1991. In October 1992 BITS decided to support Phase II of this study.

The Electricity Generating Authority of Thailand (**EGAT**), wholly owned by the Government of Thailand, is responsible for generating and transmitting electricity throughout the Kingdom of Thailand. The staff of EGAT numbers about 32,000. Distribution of electricity is undertaken by two separate entities, PEA and MEA, each one wholly owned by the Government.

3.2.2 Development objectives, project output and expected result

During the last 20 years electricity consumption in Thailand has increased rapidly. EGAT has managed to keep pace and to increase the generating capacity and transmission systems to supply the growing demand. Being a government owned agency, EGAT depends on decisions and regulations from the government.

Due to the current size of EGAT's system and the rapid growth over the nest ten years, a efficiency study of EGATs organisation had to be carried out.

The basic objectives of the study were:

- to assess operational efficiency of EGAT
- to assess the productivity of its departments and determine whether they were operating in the most cost-effective manner
- to identify areas for improvement
- to recommend specific measures for improvement including development of suitable norms for monitoring of performance

The study was conducted in two phases. Phase I comprised discussions by Consultants from SwedPower with EGAT's management and staff, review and compilation of data, followed by analysis.

In Phase I, 20 different fields of activity were studied and in Phase II, detailed studies were made in the following six fields of activity:

- organisation
- economic and financial systems
- human resource
- system dispatch
- power system planning
- corporate planning

The results from the Phase I have been presented in two reports and the results from Phase II have been presented in one executive summary report and one report giving details for each of the six fields of activity that were studied.

According to the correspondence from EGAT to SwedPower/BITS, EGAT was satisfied with the result of the study. The requirements in the Scope of Services for the study were fulfilled through the completion of Phase I and Phase II.

3.2.3 Description of project actors and their project functions

In December 1991, the Swedish Embassy in Bangkok forwarded a request from EGAT concerning an assessment of EGAT's operational efficiency. SwedePower made a proposal for this study and it was considered by EGAT to be attractive. According to EGAT an American Consultant had also made a proposal.

According to EGAT, EGAT was not in a position to finance Phase I by itself, and it was very important that the study should be performed by an independent organisation. There was a concern that if EGAT paid for the study, there would be a risk that the findings would not be creditable. For Phase II of the study, EGAT planned to assume responsibility for financing on their own.

For Phase I, a contract between EGAT and SwedPower was signed in April 29th 1991. Major activities, work programme, and consultants' fees and other expenses were identified.

For Phase II, the contract between EGAT and SwedPower was signed on December 18th 1992.

3.2.4 Project Appraisal

Due to the rapid and enormous expansion of EGAT, BITS found it important to support nearly 100% of Phase I of the Efficiency Study, a total of SEK 2,745,000. Only costs for translation, telephone, and secretarial service in Thailand would be paid by EGAT.

BITS felt certain that EGAT had committed itself to financing Phase II, but in August 1992, a request from EGAT concerning Phase II was received by BITS. In October 1992, BITS decided to support the study with another SEK 3,166,000 on a cost-sharing basis. BITS would pay 60 % of Swedish consultancy costs and expanses, while EGAT

would pay 40 % and all local costs. The total project cost was estimated to SEK 6,453,000. The reason given by BITS for supporting Phase II, even though EGAT had proclaimed that they would pay Phase II themselves, was the urgency of EGAT becoming a more efficient agency as quickly as possible due to the fast growth rate in the energy sector.

3.2.5 Project Evaluation

Payments were made by BITS according to the two contracts for Phase I respectively Phase II signed by SwedPower and EGAT, providing that approval of payment has been made by the client.

Phase I of this study included a total of 97 man-weeks. 53 out of 97 weeks (nearly 55 %) weeks were paid in the highest fee category (SEK 740/h).

Phase II of this study includes a total of 214.5 man-weeks. In this Phase the number of man-weeks in the highest fee category (780 SEK/h) reached 49,5 (23 %).

The number of man-weeks for executing the two phases of the study are considerably high for this kind of study.

The economic situation for EGAT at the time of the study would not have caused any problems for EGAT to finance 100% of both phases, I and II of the study, according to a member of the project management at SwedPower.

The representatives from EGAT only commented that the project results from the study Phase I and Phase II as irrelevant and were not interested in further discussions. Since 1994 several other studies have been carried out by management consultants such as, Ernst & Young, Price Waterhouse and Andersen Consulting.

No formal contacts seem to have been taken by SwedPower or EGAT since the approval of the Final Report concerning this project.

3.3 Project: Klong Thung Phen

3.3.1 Introduction

The National Energy Administration (**NEA**) has been responsible for the implementation of small hydropower plants until a few years ago when the Department of Energy Development and Promotion (**DEDP**) took over both the implementation of small hydropower and assumed the responsibilities of the now-defunct National Energy Administration (**NEA**). DEDP, as also the earlier agency NEA, reports to the Ministry of Science, Technology and Environment.

3.3.2 Development objectives, project output and expected result

The Klong Thung Phen hydropower project is situated in the Chantaburi province in eastern Thailand (around 260 km east of Bangkok). The province is known for its favourable soils for fruit and rubber plantations.

The project would comprise an upper dam located across the Thung Phen stream, from which water for power production and irrigation would be diverted through a headrace water conduit. The water from the Thung Pehn stream would be conveyed into a lower reservoir. Between the headrace and the lower reservoir a powerplant of a penstock and a powerhouse would be constructed. The lower dam, which wasn't included in this project, would accommodate irrigation outlets and a spillway. The construction of the lower dam was already underway.

The objectives for the project were to carry out a review of a feasibility study carried out by national consultants and preparation of Tender Documents for the upper scheme and the irrigation system. According to the request, technical assistance required 116 man-months of qualified consultancy services. SwedPower was engaged with the preparation of the request for technical assistance.

To ensure that the Tender Documents would be issued within the shortest time possible, both the Review of the Technical Study and the preparation of Tender Documents were undertaken in parallel.

In July 1992 a draft report of the Technical Review was sent to NEA, who was in charge for the Technical Review, for approval. The review included following five volumes;

I. Summary report
II. Main Report - Upper Scheme
III. Appendices - Upper Scheme
IV. Irrigation System
I. Environmental Impact Assessment

3.3.3 Description of project actors and their project functions

In May 1991, the Swedish Embassy in Bangkok forwarded a request from NEA concerning the following:

- Technical Review of an existing Feasibility Study made by Thai Consultants
- Preparation of Tender Documents

SwedPower had had discussions with NEA and the project costs were estimated at SEK million 14.5.

In June 1991, the Ministry of Science, Technology and Energy clarified some matters concerning the project. The project was a Royal Development Project. In the earlier Feasibility Study that had been conducted by Thai consultants, an environmental assessment study was included. The conclusions were that the project caused no serious environmental impact. At an earlier meeting with BITS in Stockholm May 31st, the Ministry of Science, Technology and Energy had advised BITS not to support the project due to the Thai opinion against new hydro power projects.

As the suggested cost-sharing of the services on a 50/50 basis between BITS and Thailand wasn't possible due to the financial regulations in Thailand, a job-sharing model was created instead between Sweden and Thailand. The Swedish part resulted in a cost of SEK 9.9 million.

In the Consultancy Services Agreement, dated February 1992, the consulting services for the Technical Review and Tender Documents are stated. The review also included an Environmental Impact Assessment.

3.3.4 Project Appraisal

In order to examine the project "Consulting Services for Technical Review and Tender Documents for Klong Thung Phen", BITS engaged a Swedish consultant. The consultant's report included several critical points of view of the project.

The Swedish Embassy in Bangkok was contacted and meetings with SwedPower were held in order to try to clarify the two main issues:

1. The environmental impact of the study
2. Details of the beneficiaries from the project

SwedPower preliminary assessed the environmental impact from the upper scheme project being small due to the limited size of the reservoir created by the upper dam (22 ha).

In December 1991, BITS finally approved support for the project with SEK 9.616 million (fees: SEK 8,616,000, expenses: SEK 1,000,000) as the project was considered urgent and had priority in Thailand.

3.3.5 Project Evaluation

This project has not been implemented. It was stopped in 1992/93 by the Department of Forestry due to its negative environmental aspects. In 1992 a new law concerning Environmental Impact Assessments was introduced in Thailand. DEDP is still working on the project and it has been approved by the Cabinet in principal. The Department of Forestry now must locate the area for placement of the upper dam. Thereafter DEDP once more must ask the Cabinet for permission to conduct the project. DEDP are still hopeful and their opinion is that the project is a very good one.

At the time the first Feasibility Study was conducted by Thai Consultants, it was obvious that part of the upper dam was located within the Kitchakut Natural Park. This was the situation when SwedPower conducted the overview of the Feasibility Study. In the final report, Volume V: Environmental Impact Assessment, this is mentioned but national legislation concerning Natural Parks is not taken into account. There is no mention of what actions would be necessary if the area might be opened for the dam.

The number of man-months for executing the study seem to be considerably high for this kind of study (77 man-months). The part financed by BITS is very high. The total costs for the projects were calculated at around SEK 15 million. As Thai consultants were used by NEA for their parts, the final costs for the whole project was probably much less than SEK 15 million.

To conduct the review of the Feasibility Study and the preparation of Tender Documents in parallel wasn't the best solution. Normally you don't prepare tender documents before all the conditions for the project are known.

3.4 Project: Consultancy Service on System Losses Reduction and Increase in System Reliability

3.4.1 Introduction

PEA is responsible for the supply of electric power through almost 99 % of the Kingdom's total area. The rest of Thailand, including the Bangkok area, is under the responsibility of MEA.

3.4.2 Development objectives, project output and expected result

Since the electricity requirements have been increasing at a high rate due to the industrial development in the PEA service area, PEA's distribution systems have also been expanding at a very high rate (the load around 15 % yearly) and have become more and more complicated. System losses are increasing and the reliability is decreasing. In order to ensure an efficient and reliable supply of electric energy, PEA wanted to perform a study on System Losses Reduction and Increase in System Reliability in the Central Area of PEA's service area. The project was designed to be carried out in several phases.

The scope of services included in the project were as follows:

- Identification of the causes of losses.
- Identification of existing reliability levels including a close investigation of the causes for disturbances in the actual PEA system.
- Identification and enhancement of PEA reliability criteria and development of criteria for increased levels.
- Development of a program to reduce losses by taking economic justification into account.
- Development of a program to improve system reliability.
- Promotion of transfer technology so PEA will become sufficiently self-reliant to be able to investigate and carry out similar projects in the future.

For the above mentioned scope of services the following reports have been presented:

- Progress Report after Phase 1 (project initiation and initial preparation, investigative mission in Thailand)
- Progress Report after Phase 2 (preliminary investigation in Sweden)
- Draft Study Report during Phase 3 (evaluation and report assembly, presentation of report)
- Final Study Report after Phase 3 (final study report)
- Project Completion Report after Phase 4 (training visits)

The training visit for PEA's system reliability groups in Sweden included six groups of six engineers/managers each during a 4-week period for each group. The training was performed with seminars, discussions and visits to offices, plants and work sites. Both the feasibility study and the training visit to Sweden were intended to give a wide and in-depth introduction and knowledge of reliability matters in general that would be applicable for improved operations of existing PEA systems and for future development.

3.4.3 Description of project actors and their project functions

In December 1992, the Swedish Embassy in Bangkok forwarded a request from PEA concerning technical assistance on a "System Losses Reduction and Increase in System Reliability" study. The study would be divided in two parts; a feasibility study and a technology transfer programme in Sweden for four PEA engineers. PEA is a State Enterprise within the Ministry of Interior of the Government of the Kingdom of Thailand.

In early 1993 three companies (SwedPower, AB SEC Scandinavian Engineering Corporation and Stockholm Energi) were invited by BITS to submit a proposal. In April 1993 the proposals received from SwedPower and SEC were sent to PEA. Stockholm Energi did not submit a proposal. In March 1994 PEA informed BITS that SwedPower had been selected to perform the services. PEA also informed BITS that the feasibility study would focus mainly on system reliability and that PEA wanted to send 40 PEA engineers to Sweden for training instead of only four.

Information about the study and the major activities associated with the training visits to Sweden can be found in the Consultancy Services Agreement, dated March 1995. Each activity is described and the activities are identified as to which group, PEA, SwedPower or both, assumed responsibility for the activity.

3.4.4 Project Appraisal

A similar study, also sponsored by BITS, had earlier been carried out by MEA in co-operation with SwedPower. According to the information BITS had about the results from that study, it was well performed and the given recommendations had been followed.

Due to the results from the above mentioned study and the necessity of reliable electricity supply for industrial development in PEA service areas outside the Bangkok area, BITS decided in November 1994 to support the project with 4,464,109 SEK. The calculated costs for PEA were estimated to 2,015,900 SEK.

3.4.5 Project Evaluation

The main objectives of the study were divided into two parts, the feasibility study and the training part. According to representatives from PEA, the objectives from the training part have been satisfactory fulfilled. As the objectives for the feasability study were not specific, the results of the study were also in general. If PEA wants to apply the results or comments of the study, more detailed studies within PEA have to take place concerning planning, investment estimation etc. The knowledge, experiences and results gained from the study have served as a guideline for the improvement of PEA's system reliability and as a basis for the planning and implementation of on-going and future projects concerning losses and reliability.

According to responsible consultants at SwedPower, the questionnaires prepared by SwedPower for PEA were not detailed enough. Therefore the data collected by PEA was not adequate. In addition, there was too little time designated for data collection.

The chosen "design" of the final report of the feasibility study makes it difficult to use the report as a manual for System Losses Reduction and Increase in System Reliability. The chapters are not numbered and the figures and tables in the report are not clearly marked. All this makes it very difficult to look up specific information in the report.

The total cost for phases 1, 2 and 3 was estimated to 2,960,000 SEK. The part to be financed by PEA was estimated to 368,700 SEK and the rest was to be paid by BITS.

The total cost for phase 4 (the training part) was estimated to 3,320,000 SEK. The part to be financed by PEA was estimated to 1,447,200 SEK and the remaining costs were for BITS.

Payments have been made by BITS ten times according to Terms of Payment in the Consultancy Services Agreement signed by PEA and SwedPower. The total amount paid to SwedPower is 4,113,122 SEK, a little less then budget.

The project costs for BITS increased with around 50 % as the training part of the study grew from 4 to 40 participants!

The only monitoring system to be found in the project is incorporated in the Terms of Payment in the Consultancy Services Agreement signed by PEA and SwedPower. Payments should be made by BITS to SwedPower, provided that approval of payment has been made by the Client, against ten separate invoices, four invoices for the feasibility study and six invoices for the training part. The Final Report was approved by the client during the summer of 1996.

No contacts seem to have been taken by SwedPower or PEA since the approval of the Final Report concerning "losses" and "reliability".

3.5 Project: PEA - Middle Management Development Programme, Phase I and Phase II

3.5.1 Introduction

PEA is responsible for the supply of electric power throughout almost 99% of the Kingdom's total area. MEA is responsible for the rest of the power supply, which includes the Bangkok area.

3.5.2 Development objectives, project output and expected result

PEA is involved in a transition process, converting a government utility into a group of private companies. To facilitate the change, management personnel need training. Just as important is the development of a management system that meets the specific requirements of PEA. In order to meet these needs, PEA felt a training program was necessary.

The objectives for the training project were;

- To equip PEA managerial personnel in the management development area with the knowledge and expertise required to handle various technical and economic undertakings which are administrated in the enterprise.

- To enable the trained managerial personnel to best perform their duties in the management area.
- To carry on the management development programme for training other PEA personnel in the future.

Phase I

In order to achieve these objectives SwedPower developed and implemented a series of seminars running for four weeks. Each seminar comprised lectures, study cases and discussions for eight counterparts in Sweden. Thereafter the seminars were repeated in two week sessions for 35 PEA managers each time in Bangkok and the course was repeated three times.

The two-week course included the following blocks; (the number of sessions listed)

1. Managing organisation development and personnel (3)
2. Business economy (5)
3. Management game (developed by Vattenfall to be run on a Macintosh computer) (7)
4. Procurement and contracting (3)
5. Marketing and sales (2)

Phase II

After successful implementation of the Management Training Programme in Thailand, PEA wanted to send the trained personnel (136 electric works managers) to Sweden to visit utilities with a scope of work similar to PEA's, to gain firsthand knowledge on the power business.

The training subjects were:

- Marketing and tariffs
- Regulation and rules
- Customer service
- Organisation of the private utility
- Effective billing and bill collection system

3.5.3 Description of project actors and their project functions

In August 1993 the Swedish Embassy in Bangkok forwarded a request from PEA to BITS concerning a training project for PEA personnel in Management Development Programme. BITS was asked to cover all expenses except expenses occurred in Thailand (accommodation and daily allowance for the Swedish personnel, air tickets for the Thai counterparts)

The program for the Management Training Programme was developed by SwedPower in co-operation with PEA.

In February 1994 the request for Phase II was sent to the Swedish Embassy in Bangkok. The program for the training visit to Sweden was set up by SwedPower. Phase II was the practical phase of the PEA Management Development Programme. After the completion of the project PEA would make a report of the results of the training and technical visit. The report would be submitted to DTEC and Ministry of Interior.

3.5.4 Project Appraisal

According to the assessment made by BITS this project has high priority within PEA and the lasting effects and the possibilities to continue the training program with PEA personal are assumed to be successful.

In November 1993 BITS decided to support Phase I with SEK 1,885,000. The project costs for PEA were estimated at around SEK 600,000.

According to BITS own evaluation, Phase I was successful. In June 1994 BITS decided to support Phase II with SEK 3,722,000. The project costs for PEA were estimated to around SEK 3,500,000.

3.5.5 Project Evaluation

According to the representatives from PEA the objectives from this training project have been satisfactorily fulfilled. Some of the most interesting results from the training period are listed below;

- self-confidence has improved
- there is now a belief that the individual has a part of the success of PEA
- the necessity to develop teamwork and information systems for PEA employees
- the creativity at the regional offices has improved
- several managers have continued to study on their own initiative after participating the training programme

Due to the rigid PEA organisation, it is difficult for the trained middle management managers to introduce a new culture within PEA. It is also necessary for the next higher level of managers to be trained in the same way. The next project for PEA is to start the implementation of management training within the whole organisation of PEA.

The costs for this training programme are close to SEK 3,600 a day, per participant. It has been a very costly training programme for PEA. A member of SwedPower involved with the practical training in Sweden, had a reflection on the managers' ages. Several of the participants visiting Sweden were to retire very soon after finishing the training programme. It appeared that some participants may have been selected for their loyalty rather than for their potential within PEA. To be a participant in this training programme was like a reward.

The only monitoring system to be found in the project for BITS, is the Terms of Payment in the Consultancy Agreement signed by PEA and SwedPower.

When Phase I and Phase II of this training programme were concluded, PEA continued with the concept and financed a third phase, a training programme for District Managers (around another 230 managers). This phase has also been carried out in co-operation with SwedPower. The representatives from PEA are very satisfied with SwedPower concerning this training programme.

Due to the financial crisis in Asia, the income for PEA has decreased around 30 % and the privatisation of PEA has been delayed. An American consultancy firm (Southern Energy International) is now working with the privatisation plans.

4. COMPREHENSIVE SECTOR EVALUATION

4.1 Introduction

The energy projects evaluated amount to a Swedish grant of close to SEK 26 million. All projects were carried out by SwedPower during the period 1991-1996.

In some cases, it appears that the Terms of Reference were written by SwedPower in cooperation with the client, EGAT, PEA respectively NEA. The projects were then carried out by SwedPower.

4.2 Comprehensive indications of impact

Bits appears to have played a passive role during this period of time. The Bits staff had a heavy workload and the staff's knowledge of the energy sector was limited. Once the decision was made for funding, accountability for the project was left in the hands of the client. In this situation, the weakness of Bits management system created an opportunity that was easily taken advantage of by both client and consultant.

PEA's training project and the training segment of the System Losses Study seem to have been more successful than projects concerning investigations and feasibility studies. One reason for this may be that SwedPower's greatest strength is in engineering skills, while the Thai client was in need of a combination of engineering, management and organizational skills. It would have been of benefit if SwedPower had recognized their shortcomings in these areas, and had requested suplementary manpower. Two additional areas that would have benefitted from additional staff competence are a greater understanding of the Thai legislative system and the working conditions.

In several of the projects, SwedPower's participation began as early as the preparation of the Terms of Reference. The resulting situation is that, although both parties agree to the document when it is written, the client has already negotiated away much of his right to hold the consultant accountable. When the two parties collaborate on the Terms of Reference, the client finds himself in the situation where it is difficult to have an objective criticism. It can also happen that if the client feels the consultant is responsible for securing the lion share of the financing, the client has no incentive to criticize the consultant or to hold him accountable.

4.3 Cross sector impact

The PEA Middle Management Training Programs performed by SwedPwer are deeply appreciated by the managers and the training centre of PEA. Although we could identify no indications that management efficiency has been directly improved as a result of the programme, the participants in the training projects have noted an improvement in their self-confidence and several managers have continued to study on their own initiative. If the next higher level of management also had been offered training, it is felt that there would have been a stronger impact.

Electricity generation in Thailand has increased from around 24 TWh in 1985 to around 96 TWh in 1996. Based on the studies evaluated, there is no evidence to show that the Bits-supported projects and the consultancy services performed by SwedPower were involved in this evolution.

4.4 Lessons learnt

It seems that SwedPower has been very successful in procuring Bits-financed projects. Other Swedish energy consultants contracted by Bits during the period 1991-1996, for example ÅF-Energikonsult Syd, Malmö, did not receive the highest level of consultancy fees on any of their projects while SwedPower was awarded the highest general fee level on all projects. The fee difference amounts of almost 200 SEK/hour. The type of consultancy services conducted by the two companies are comparable.

Monitoring and regular evaluation are important components of Swedish support. It would be an advantage if the evaluation of projects could be carried out in co-operation with DETC. They have three evaluation teams of their own. None of the Swedish-financed projects were evaluated by the DETC teams.

Many of the projects would certainly have been more successful if local consultants had been more involved.

As we have been unable to identify any long-term planning or strategy for the Swedish co-operation with Thailand in the energy sector, no specific goals have been set up for the sector to strive for. Continued Thai-Swedish co-operation should be based on a need analyses of the sector and goals and strategy should be worked out by the co-operating parties and be included in any Terms of Reference for an assignment. Such a strategy should spell out the role of the Thai authorities, Sida, DTEC and the consultants.

5. SOME THOUGHTS AND REFLECTIONS ON FUTURE SWEDISH SUPPORT TO THE ENERGY SECTOR

On the Thai side, there is a separation between concessionary credits and grants. The projects concerning "soft loans" are handled by the Ministry of Finance and the projects proposed to be financed with grants have to be approved by the Department of Economic and Technical Cooperation (DETC) before the proposal is formally handed over to the foreign embassy from which the grant is sought. At the present time there is no co-ordination between credit and grant financing.

DETC feels that they have very little influence over the areas within the sector that have been designated for TA. DETC receives an application from a technical department wishing to benefit from TA financed from grant sources. This application has often been prepared in collaboration with a consultant interested in executing the TA. The consultant, in the Swedish case, has often secured an informal promise from the financing agency. This arrangement leaves DETC as a rubber stamping institution with limited opportunities of actively co-ordinating "Government Policy" in individual projects. Representatives from DETC showed interest in the possibilities of initiating projects rather than merely approving them.

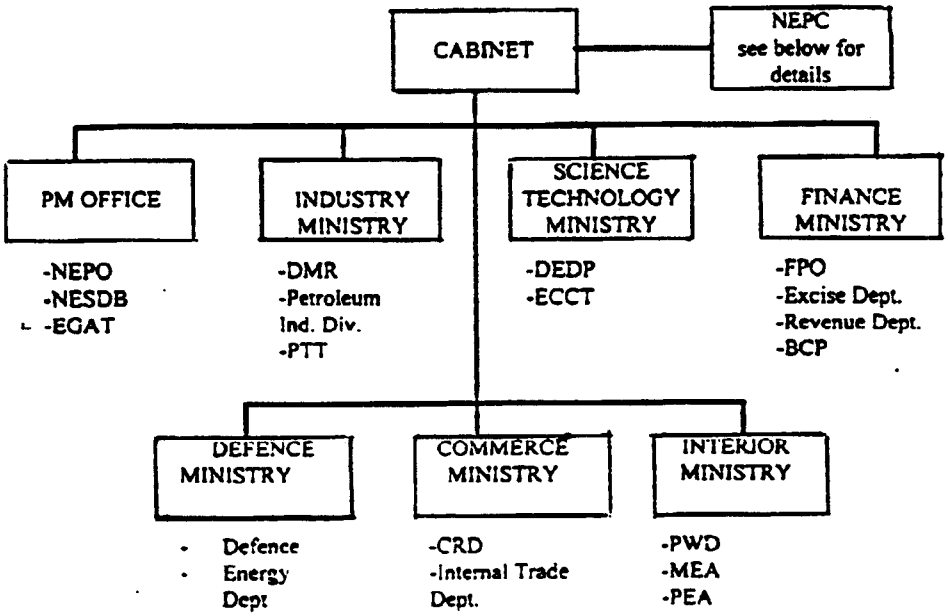
There is a need to improve the technical co-operation and co-ordination between the Swedish and Thai authorities. Current ad hoc rubberstamping has resulted in projects that have been less than effective for the development of the energy sector. This improvement can be done by jointly developing strategy including objectives for the Swedish-Thai co-operation.

Sometimes the best technicians do not create the best team. A project in the technical field involves more than just technical problems, and in this study it has been found that the consultant would have benefited from better insight into how the existing organisation and management skills contribute to the effectiveness of a project. Many of the projects would certainly have been more successful, and some perhaps would have been implemented, if local consultants with knowledge of the Thai culture and legislation, had been more involved with SwedPower's technicians.

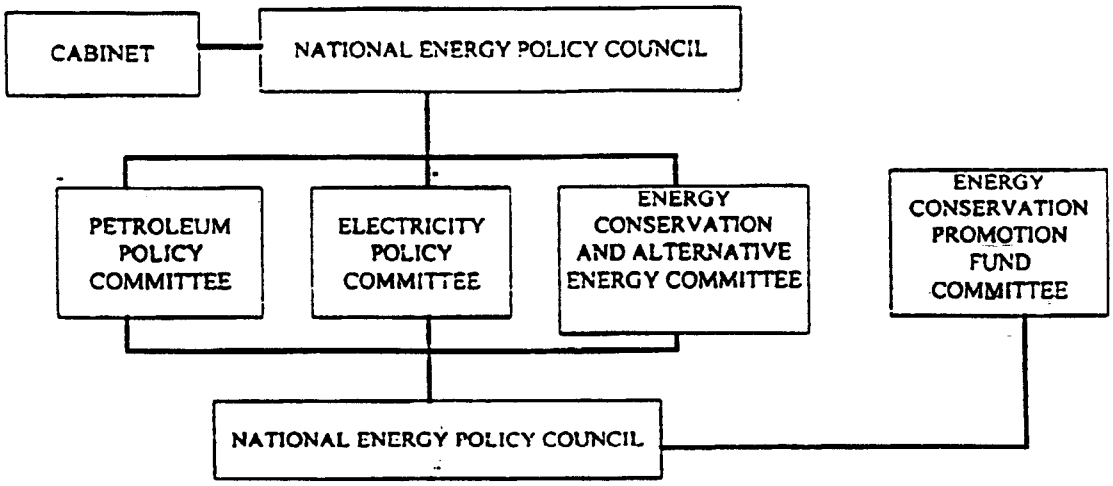
SwedPower seems to have had a monopoly for consulting services financed from Swedish grants in Thailand. Only one project out of six showed a second consultant involved in the bidding. It is necessary for Sida to improve the procurement of consulting services by asking for tender documents from two or three companies. Co-operation with local consulting firms should be encouraged as there often is a reciprocal transfer of know-how benefiting both companies.

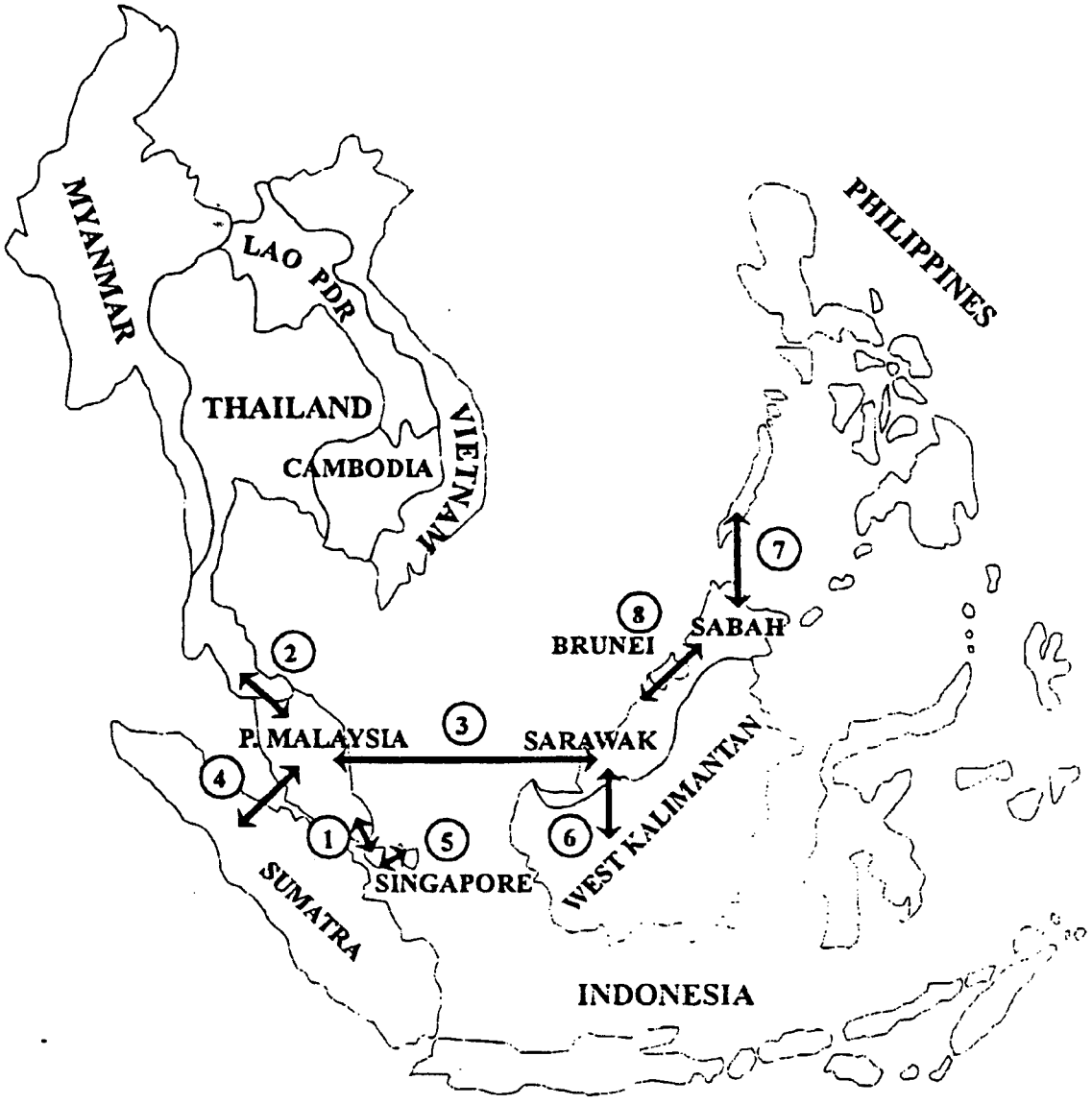
Attachment 1

(A) Agencies Related to Energy



(B) National Energy Policy Council





ASEAN INTERCONNECTION PROJECT

1. PENINSULAR MALAYSIA - SINGAPORE
2. PENINSULAR MALAYSIA - THAILAND
3. PENINSULAR MALAYSIA - SARAWAK
4. PENINSULAR MALAYSIA - SUMATRA
5. SINGAPORE - BATAM
6. SARAWAK - WEST KALIMANTAN
7. SABAH - PHILIPPINES
8. SARAWAK - BRUNEI - SABAH

Figure 1 The Eight ASEAN Power Interconnection Project

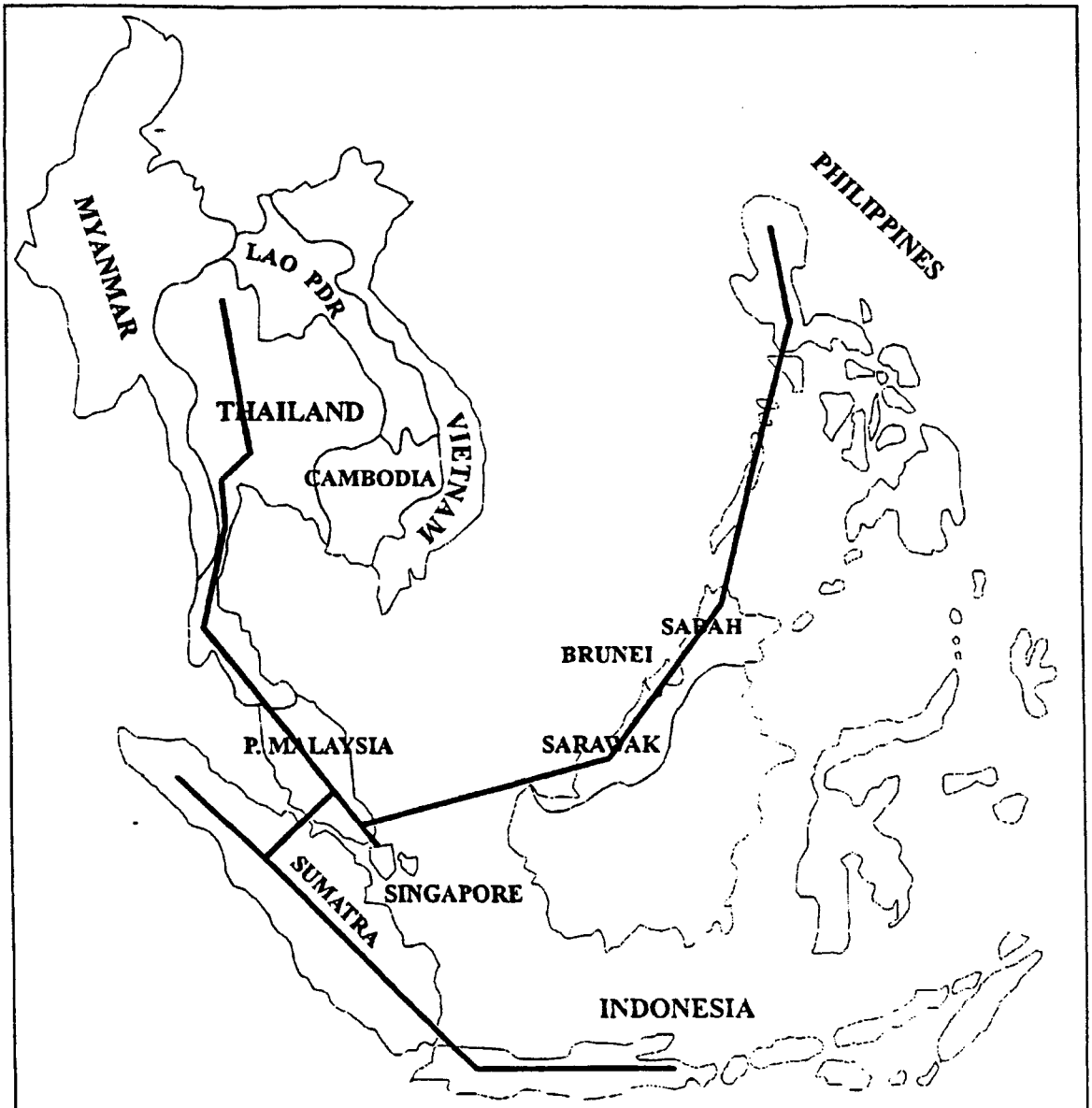


Figure 2 The prospect of ASEAN Power Interconnection

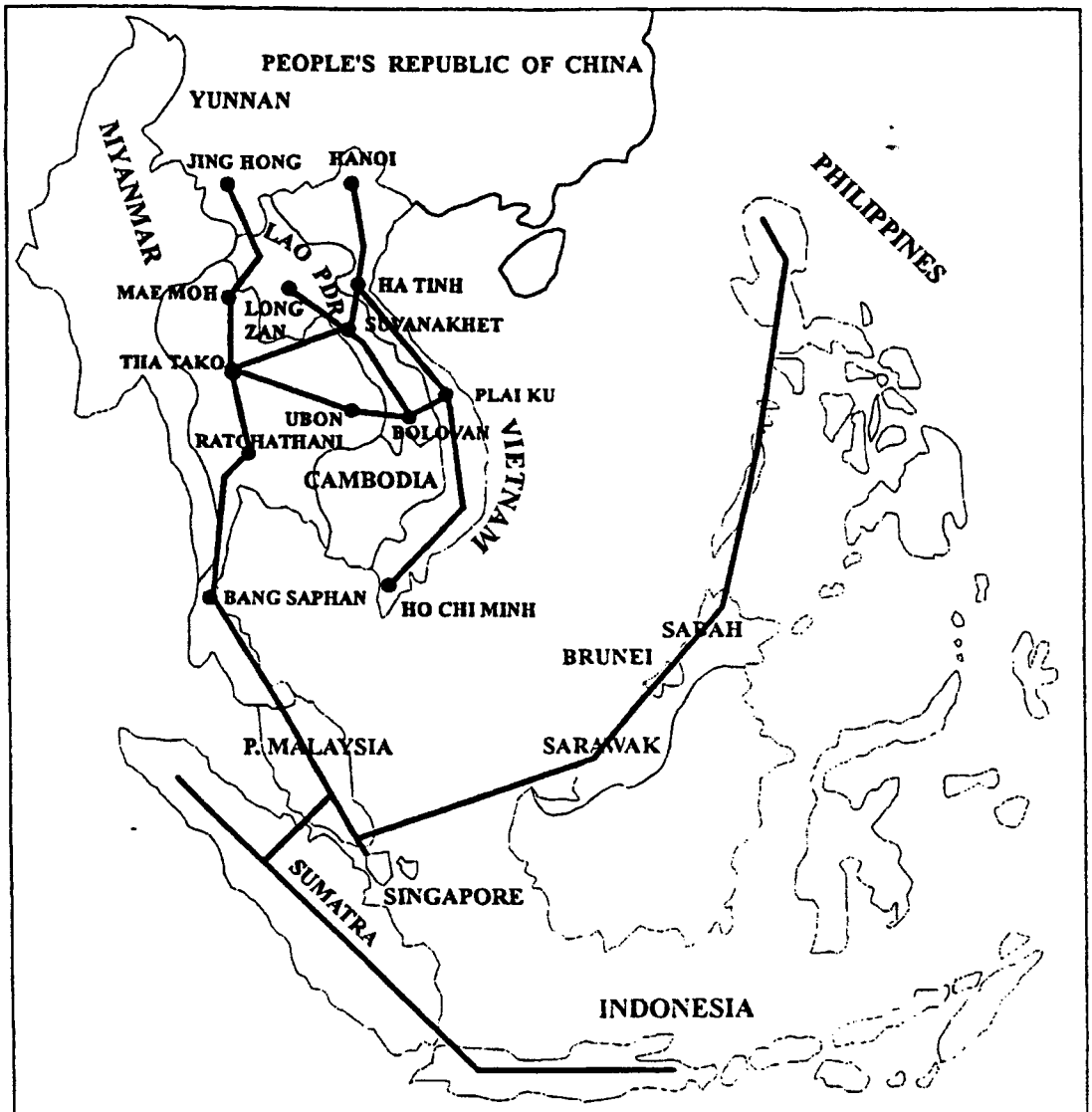


Figure 3 Basic Concept of Indochina - ASEAN Interconnection

Attachment 3,
Persons met - Energy Sector

EGAT - Efficiency Study

Mr Viroj Nopkhun, Deputy Governor, Policy and Planning, EGAT
Mr Koomchoak Biyaem, Director, System Planning Division, EGAT
Mr Sven Lallander, SwedPower, Stockholm

Department of Energy Development and Promotion - Klong Thung Phen

Dr Itthi Bijayendrayodhin, Director General, DEDP
Mr Panich Phongphirodom, DEDP
Mr Lennart Lundberg, SwedPower, Stockholm

PEA - Consultancy Service on System Losses Reduction and Increase in System Reliability

Mr Chamnan Ungtrakul, Deputy Director, System Development Division, PEA
Mr Wadchara Jitnumsrup, Manager, System Development Division, PEA
Mr Lerchai, System Development Division, PEA
Mr Nils Nilsson, Sydkraft Konsult/SwedPower, Malmö

PEA - Training Project For PEA personnel in Management Development Programme, Phase I and Phase II

Mr. Jurdsak Suttisom, Manager of Training Division, PEA
Mr Chookiat Khanotai, Director, Human Resource Development Office, PEA
Mr Sitthiporn Ratanopas, Senior Director, Demand Side Management Office, PEA
Ms Anchalee Sathiraseth, Assistent Manager of Training Center, PEA
Mr Carl Gnosspelius, SwedPower, Stockholm (telephone)
Mr Einar Wetterlund, Sydkraft Konsult/SwedPower, Malmö

Department of Technical and Economic Cooperation (DTEC)

Mr Manoth Suksabjarern, Chief, Europe Sub-Division, External Cooperation Division II, DTEC
Ms Sasitorn Wongweerachotkit, DTEC

SwedPower Limited, Bangkok

Mr Khadk Bahadur Bisht, Engineering Manager, SwedPower
Ms Surat Piyasakulchai, Marketing manager, SwedPower

Appendix 4.

References

Asia Energy Profile, Energy Sector Performance. Asia Technical Department, World Bank, November 1994.

Promotion of Electricity Energy Efficiency (Thailand), Mid-Term Review. Asia Technical Department, World Bank, September 1996.

Power Grid Development in the Asian Region and Business Opportunities, Mr Koomchoak Biyaem, EGAT, June 1997.

Power Development Plan of Thailand, Mr Koomchoak Biyaem, EGAT, February 1998.

Thailand Electricity Review, Mr Koomchoak Biyaem, EGAT, March 1997.

Together in Conservation, Demand Side Management Office, EGAT, November 1997.

Draft Report on Thailand Unleaded Fuels Strategy Review, World Bank, May 1997.

Evaluation of Sida Supported Development Co-operation with Thailand in the

Environmental Sector

with Special Attention to

Rescue Services

by Gösta Eléhn,
KM International AB

and Nils-Gunnar Hasselberg
Scandiaconsult Bygg och Mark AB

June 1998

Table of Content

Attachments

Nomenclature

Accident: Sudden occurrence, often fortuitous and unintentional, which results in injury or death of people or damage to property or to the environment.

Disaster: Event, natural or man-made, sudden or progressive, which impacts with such a severity that the affected community has to respond by exceptional measures.

Emergency: Situation which implies damage to people, property or to the environment and which necessitates immediate response actions to limit the consequences.

Emergency management: Activities for control, supervision and development of emergency prevention, preparedness, response and recovery.

BPFB	Bangkok Police and Fire Brigade
DOLA	Dept. of Local Administration; MoI.
Hazmat	Hazardous materials
MoI	Ministry of Interior
MoPH	Ministry of Public Health
MoSTE	Ministry of Science, Technology and Environment
MoTC	Ministry of Transport and Communication
NEB	National Environment Board
NGO	Non Governmental Organisation
NSCT	National Safety Council of Thailand
OEPP	Office of Environmental Policy and Planning; MoSTE
OPM	Office of the Prime Minister
PAT	Port Authority of Thailand
PCD	Pollution Control Department, MoSTE
SRV	Swedish Rescue Services (Räddningsverket)

1 Introduction

This appendix deals with the environment/emergency sector of an evaluation commissioned by Sida to Eliasson & Partner AB in association with Swedegroup International AB. Sida requested the evaluation and has selected projects from four sectors: Energy, environment/emergency, public administration and transport, as well as two projects from the concessionary credit program.

The main authors of the environment/emergency appendix are Nils-Gunnar Hasselberg, Scandiaconsult Bygg och Mark AB and Gösta Eléhn, KM International AB. The projects have been supported by Sida and classified as environmental projects although it would be more relevant to assign them to the transport sector taking into account the mobile attributes like fire trucks and ambulances. We have chosen to be faithful to the Sida decision.

Since the late 80s BITS/Sida has supported 29 projects within the environment and emergency sectors with a total disbursement of about 40 MSEK. In 1993 BITS undertook an evaluation of the emergency sector projects and decided accordingly to focus on financing of training facilities and activities related to training for the rescue services. Since then another seven emergency sector projects have commenced with three different Thai authorities as recipients. The Sida support to these projects has amounted to 12,5 MSEK. Sida has requested an evaluation of these projects as well as a brief evaluation of the SRV projects directed to the Port Authority of Thailand that commenced already in1991-93.

None of the pure environmental projects are included in this evaluation. However we have given a brief overview of present hot spots within the environmental field in Thailand.

All the emergency sector projects have been undertaken by Räddningsverket (SRV), a Swedish governmental agency acting as a consultant. The starting point was the severe accident in the Bangkok port in 1991 caused by mishandling of dangerous goods. In direct relation to the accident SRV was approached by the Port Authorities (PAT) asking for assistance on how to prevent a reoccurrence of the accident. The project started up quickly and with the inclusion of several new agreements and some alterations of scope of services, continued until early 1998. The SRV contributions to the port project created goodwill throughout the country and since 1993 SRV has provided assistance to Bangkok Police Fire Brigade and Chiang- Mai Fire Department in training and design of training facilities for rescue services. SRV has also assisted the National Safety Council in formulating a Master Plan on Emergency services and in implementation of the plan. Together with the ongoing BPFB project these two projects are considered by Sida as forming two parts of one main project.

In the following chapters we have made a grouping of projects according to the beneficiary bodies: Port Authority of Thailand, Municipality of Chiang Mai, Bangkok Police Fire Brigade and National Safety Council of Thailand..

This evaluation is focusing on the future rather than assessing details in the past. With this in mind some selected aspects have been considered: the results of training, preparation of training facilities, preventive actions, institutional co-ordination, behaviour of the actors, environmental considerations etc.

It has to be stressed that there have been difficulties in following-up of some of the projects as the preparation of progress reports or final reports has not been part of the assignment or has not been prepared.

2 THE SETTING OF THE PROJECTS

2.1 The environmental sector in Thailand - some hot spots

During our short visits to Bangkok and Chiang Mai we got at least a general impression that there has been a lot of activity in the environmental field during the years since the National Environmental Quality Act was introduced in 1992. A Policy and Prospective Plan for Enhancement and Conservation of National Environmental Quality for the years 1997-2016 has been formulated by OEPP, MSTE. The document is very comprehensive and progressive, covering policies and goals on every essential part of the environmental field from soils and land use to environmental technology.

The policy plan is based on a study prepared by OEPP, with the title Thailand State of the Environment Report 1995-96, showing for example that the forest resources have been rapidly destroyed. In 1961 the forest area covered 53% of the country's area. In 1993 the remaining forest covered only 26 % of the total area and deforestation has continued even after the logging ban in 1989. Another example is the amount of hazardous waste produced nation-wide that reached 1,5 million tons in 1995, mainly generated by industry. Moreover, the amount of imported toxic substances has rapidly increased to nearly 3 million tons in 1993. Regarding the impact on people's health more than 3000 persons affected by pesticides were admitted to state hospitals. Of these, 20-30 persons were reported have died.

The policy plan is indicating guidelines on reduction and control of use of hazardous materials as well as on emergency action and prevention plans.

We noticed some headlines in the daily papers showing the present topics: Elephants are unemployed due to the logging ban; Industries stopped when polluting the recipient water; People's participation is a must in infrastructure projects; The Bangkok Police are monitoring air emissions from motor vehicles.

The NGOs are considered by the authorities to be important actors in formulating policies and in the enforcement of the environmental act e.g. taking part in the required environmental impact assessment studies and promotion of people's participation. There are said to be 65 NGOs officially registered. We have met with one of them, the Thailand Environmental Institute (TEI) being a non profit organisation that works closely with the government, the private sector and local communities in a wide range of environmental projects. The Thailand Business Council for Sustainable Development with members from many of Thailand's largest industrial companies is attached to TEI as an advisory board. TEI is supported by a large number of foreign donors e.g. DANCED, USAID and GTZ. For a couple of years TEI has been managing a Clean Production Programme directed towards, for example, local textile dyeing, tanning and electroplating industries. TEI has also launched certification and training in ISO 14 001 Environmental Management Systems for all business sectors. By now 50 companies are certified nation-wide and out of about 60 TEI members some 20 companies are under way towards a certificate.

TEI has been approached by several donors regarding their view on further co-operation strategy. On our request the vice director of TEI that we met pointed out two areas in which there is an urgent need for assistance and where Sweden would be able to transfer the required know-how:

- hazardous waste management including prevention actions
- rules and regulations on the over-all handling of chemicals and dangerous goods for example in industries and during transportation

The two areas are closely linked to each other as well as to the master plans for the Emergency Services and for the Road Safety already touched by Swedish experts.

According to current legislation, Environmental Impact Assessments (EIA) are needed for all construction projects having a considerable impact on the environment. But according to viewpoints that were brought forward in Chiang Mai and confirmed by representatives from TEI and PCD, the EIAs are very seldom carried out or properly elaborated.

Questions of city planning and EIA need to be strengthened as at the moment there appears to exist much passivity and lack of understanding for professional town planning and its benefits for the society on a local level. According to the new constitution the planning process concerning safety, among other things, is to be decentralised. Safety aspects must to integrated and implemented in all levels of planning.

2.2 The emergency sector

2.2.1 Nation wide

As a consequence of ever-increasing road traffic and an increasing amount of complicated buildings on one hand and delay in implementation of prevention and response actions on the other hand, the overall risks for major accidents and severe consequences are constantly increasing in Thailand. There is an urgent need to take proper actions but very little is being done by the relevant authorities. The awareness of the risk situation is obviously still low.

Culture and Religion

Buddhism is the dominating religion in Thailand but there is also a large Hindu following. Small groups of followers of Islam and Christianity can also be encountered. In areas with minority populations, various forms of animism often mixed with other religions can be found. We have assumed that over the years the various religious practices and the dominating culture have formed basic values in the context of death, injuries and suffering as a result of accidents. These basic values need to be taken into consideration for when approaching emergency planning.

We, the consultants do not have enough knowledge about these important aspects but such knowledge would perhaps benefit the projects under evaluation or be incorporated in future programs.

The importance of Tourism and its Consequences

Tourism has developed and the number of visitors is substantial every year. In a global perspective Thailand has been very successful in marketing its uniqueness as a tourist paradise. Many of the visitors come from countries where technical fire prevention and protection is taken for granted in public facilities such as hotels, assembly halls, department stores, shopping malls, hospitals and other facilities.

Basic protection measures are currently lacking or insufficient. As a result, fire accidents in public facilities have inflicted death and injuries to tourists. For a non-specialist it is impossible to determine if the protective measures installed or the emergency plans are sufficient or not. By habit many of the tourists take for granted that it is the responsibility of the local authorities or perhaps the tour operator to have provided adequate fire protection. This is an incorrect assumption for many public facilities.

It appears desirable to increase the understanding within Thai society that it is possible to prevent the occurrence and reduce the impact of accidents by implementing certain measures.

There is a need to develop strategies and to ensure a participatory approach in informing the Thai public what measures are possible and needed to reduce the occurrence and minimise the impact of accidents

2.2.2 Bangkok Metropolitan Area

The Bangkok Metropolitan Area comprises a large city with a population of six million, or ten million including the suburban areas. Accessibility is constantly reduced because of the dense traffic volume but also as a result of the current installation of transport infrastructure. All these aspects reduce the accessibility of rescue vehicles in emergency situations.

Topography and Rescue Service

In Bangkok, one of the world's large cities and a national capital, one may encounter all kinds of objects which may entail complicated and difficult conditions in case of fire or other emergency situations. While there are as yet no tunnels for the railways and highways, Bangkok is already faced with the difficulties of an elevated highway structure. An elevated rail service is now under construction in the central parts of the city. Particularly in the central parts of Bangkok, with high-rise buildings and electrical wiring on both sides of the elevated infrastructure, there will be a serious challenge to provide adequate rescue services.

2.2.3 Municipality of Chang Mai

The municipality of Chiang Mai is the capital of the province with the same name. The capital has a population of some 200.000 while the population in the entire province is one million.

Topography and Rescue Service

Industrial and other sectors have not been investigated but tourism appears to increase. This can be seen from the number of relatively new hotels of the high rise building type. About ten hotel units of this type were encountered.

The industrial activities can be characterised as a cottage industry. Many buildings have cultural or historic values.

The international airport for Chiang Mai is included in the command area.

2.3 Development objectives of the projects

2.3.1 Bangkok Port

Between 1991 and 1998 BITS/Sida have supported some consecutive projects related to the handling of dangerous goods in the Bangkok Port. The Port Authority of Thailand has been the recipient. Three agreements between PAT and SRV were developed stepwise in 1991-93 with alterations up to 1997. An evaluation of the result of the projects was carried out late 1997 by SRV assisted by an external consultant. As no decisions by Sida have been available to us, the following issues from the evaluation report concern all three projects.

Goal

The goal of the three projects is to prevent the occurrence of serious accidents caused by the handling of dangerous chemicals in the Bangkok port area and to ensure the safe handling of spillage and leakage from all types of dangerous goods.

Objectives

To formulate and implement:

- IMO recommendations, guidelines and manuals for handling of dangerous goods
- know-how and procedures for handling of spillage and leakage
- an emergency response system for normal fires as well as for chemical accidents including alarm system and Emergency Control Centre
- training of fire fighters and instructors

To develop:

- safe land transport within the port area

- fire prevention rules and implement training accordingly

To assist in:

- establishment of a training field in the port of Laem Chabang
- reconstruction of new warehouses for dangerous goods
- establishment of an Emergency Control Centre

2.3.2 Bangkok Police Fire Brigade

Basic training (Project THA 0453 and 0454)

Objectives

Increase capability by establishment of resources for efficient personnel training as well introduction and training in new methods for fire fighting, rescue work and response to chemical accidents.

Expected results:

1. Establishment of provisional resources in Salaya for personnel training until a permanent training field has been built including training of instructors in proper use and maintenance of the facilities

2. Three weeks rescue course for officers in technique and tactics for rescue work in connection with collapsed buildings, large traffic accidents etc.

3. Two week Haz-Mat course for instructors in response to Haz-Mat accidents.

4. Basic study for a school for fire fighters by participating in the planning process both in Thailand and in Sweden. This will lead to documentation of a model for planning of education and training facilities for fire fighters.

Additional training (Project THA 0771)

Objectives

Transfer of know-how by training and development of systems and methods in accordance with the proposed Master Plan.

Expected results:

1. Improvements of the command and control of emergency response operations by learning how to apply modern integrated command technique when responding to complicated

accidents in Bangkok or other locations. The methods shall be documented in a handbook in English;

2. Basic training for qualified and specialised strike teams established for specific response tasks;

3. Access to all drawings and documents for construction and building of a Emergency Services Training Centre in Bangkok including training of teachers and instructors available for professional training of officers and fire men.

2.3.3 Municipality of Chiang Mai

Basic training (Project THA 0455)

Objectives

Establishment of training system and facilities for fire department personnel. Targeting is 4.600 firemen in the region in order to improve rescue services and general safety conditions in the Northern Region.

Expected results:

1. Provide technical documentation on the construction, maintenance and safe use of premises and participate as advisers during the building process;

2. Provide examples of exercises, service procedures and safety instructions for training at the established premises;

3. Give training to a team of instructors in the proper use of the facilities.

2.3.4 National Safety Council

Formulation of a Master Plan etc (Project THA 0661, 0662)

Objectives

A master plan on National Emergencies Prevention and Response is to be elaborated in co-operation with concerned ministries and supported by Swedish experts, with NSCT as the client and recipient of the Sida support.

The project was divided into three sub-projects: (i) assistance in formulation of a master plan, (ii) development of an information system and (iii) elaboration of a training system for

emergency services. The detailed objectives according to the decision by BITS 1994-10-28 are summarised as follow:

1. To formulate a master plan documenting and prioritising undertakings by the public sector to co-ordinate efforts to increase Thailand's capabilities to prevent and respond to emergencies.

2. To carry out a feasibility study for an information system about the prevention of accidents and about planning proper actions in case of emergency as well as about the actual response to an accident.

3. To provide the technical and institutional basis that will enable Thailand to carry out these emergency training systems, including some pilot courses.

The output of the project will be progress reports and final reports to be presented in workshops and seminars with participation from relevant organisations.

Implementation of the master plan (Project THA 0831)

Objectives

According to the decision by Sida 1997-07-01 the project aims are to transfer know-how to NSCT and related organisations by assistance in:

1. Implementation of the proposed master plan with focus on legislation, fire prevention and planning of rescue operations;

2. Training in commanding of rescue operations;

3. Planning of a central rescue training centre initiated by BPFB;

4. Planning of setting up of special strike teams.

The output will be progress reports and final reports.

2.4 Description of project actors

2.4.1 Port Authority of Thailand

PAT is a governmental authority under the Ministry of Transport being responsible for the Bangkok and Laem Chabang ports. The SRV agreements are signed by PAT but the

assignments are executed in direct co-operation with the Bangkok Port which is the main commercial port for containerised and conventional goods located along the River Chao Praya.

The Chemical Goods Section of the Bangkok Port with a staff of five is responsible for all matters concerning handling of dangerous goods within the port area. The part of CGS responsible for e.g. rules and control is recommended to be transferred to PAT headquarters in order to separate the authority role from the implementing activities.

The Engineering Department takes care of design and planning of e.g. preventive and precautionary measures in relation to the buildings and the infrastructure of the port.

2.4.2 Bangkok Police Fire Brigade

Organisation

The rescue service in Bangkok, officially named the Bangkok Police and Fire Brigade, is organised under the Royal Thai Police Department, which is a department of the Ministry of Interior. The organisational setting is different compared to other rescue services in Thailand. An organisational harmonisation is under consideration.

The activities are divided into five sections. It is quite logical even if, according to Swedish organisational systems, it seems top-heavy. All in all 36 fire stations are constantly manned. The two stations inspected by the team had very modern equipment. One ambulance per station is included in the equipment.

According to a study conducted with assistance from the United States National Fire Protection Association (NFPA), in relation to the time it takes to reach the destination of the emergency and the type of risks involved, 85 stations would be required.

In addition there is a section for prevention activities.

Activities

The Master Plan has been accepted as a policy document. It is used as guidance for running activities and as a basis for planning.

The management is clearly aware of current needs and it demonstrates an ability to constructively engage in issues and problems.

The rescue operations are focused on fires but also other emergency situations are addressed. A system with Strike Teams has been introduced and has been successfully practised. The training activities are organised in a planned manner.

The preventive activities are restricted to participation in inspection and checking up of hotel facilities.

Planned co-operation or other networking with the Civil Defence Division appears to be limited.

Level of Proficiency and Equipment

Two fire stations were visited and equipment and material and its use was demonstrated.

The equipment is in general very modern in terms of vehicles, material and other gear. Everything was available for efficient emergency operations. We have, however some doubts regarding personal protective emergency gear but in general everything is up to modern European standard.

The absence of a common strategy regarding equipment standard is obvious. Standards from different countries were mixed

Advanced tools for cutting and breaking was professionally demonstrated in spite of the fact the this equipment is yet to be included in the operations

Smoke-helmeted training activities are carried out in a newly constructed smoke-helmet instruction centre. A simple manual has been prepared and special trainers are at hand.

Emergency and communication routines between the stations and the vehicles are established and in force.

2.4.3 Municipality of Chiang Mai

Organisation

The rescue service is its own administrative unit and is completely separate from the police. The service is controlled by a rescue chief who may be externally recruited. The chief's background does not necessarily have to be in rescue services. As this position is a position in the career ladder, there is a high turnover. Continuity in the rescue service comes from the underlying core of personnel.

The organisation is divided into sections according to the activities. It is easy to follow. All in all there are six fire stations constantly manned. The two stations inspected by the team were both equipped with modern equipment and gear. One ambulance per station is part of the set-up.

A preventive section with a strength of staff of only two.

It was difficult to distinguish the responsible staff for different types of rescue operations. For fire fighting it is clear that the chief of the station takes command, but for other types of emergency situations there are doubts as to how the line of command is organised for the overall operation.

It appears that the Governor of the province has the overall authority in emergency situations.

Activities

The activities are concentrated on fighting fires but also on other emergency situations for example, flooding. Flooding can occur annually, with rising flood levels resulting in parts of the municipality being inundated. There are contingency plans prepared corresponding to different levels of the river and the subsequent flooding of low lying areas.

About 600-700 rescue operations are launched annually, of which half relate to grass fires. It is also interesting to note that half of the operations are to municipalities in the vicinity of Chang Mai. The fire stations in the areas are not requesting assistance but the people living in the communities go directly to the rescue service in Chang Mai for assistance. Although there is no evidence to support the idea, the consultants have assumed that the rescue service of the Municipality of Chang May is better trained and equipped.

Planned co-operation with the Civil Defence Division or the neighbouring municipalities does not seem to be intensive at management or operational level.

Level of Proficiency and Equipment

The main fire station was visited and equipment and material and its use was demonstrated.

The equipment is in general very modern in terms of vehicles, material and other gear. Everything was available for efficient emergency operations. We have, however some doubts regarding personal protective emergency gear but in general everything is up to modern European standard.

The absence of a common strategy regarding equipment standard is obvious. Standards from different countries were mixed with the staff wearing different types of helmets.

A vehicle equipped for high rise operation, a modern Bronto 150 feet Skylift was demonstrated. The demonstration of the equipment was carried out with a high level of proficiency in terms of driving, positioning and operations in spite of several physical obstacles.

Smoke-helmeted training is carried out with equipment for the provision of air and the fire fighters are blind folded. The training results in the staff getting aquatinted with the gear and a sense of orientation in known premises. However, the training is not sufficiently realistic compared to real fire fighting missions with psychological stress and high temperatures.

The proficiency of the fire fighters is the result of experience acquired from real operations.

2.4.4 National Safety Council

National Safety Council of Thailand (NSCT) was already a permanent council within the Office of the Prime Minister in 1994. The council is headed by a permanent secretary and a board with representatives from various ministries, agencies and national institutions. The NSTC is chaired by the deputy Prime minister. The staff consists of a director and his assistants. NSCT's overall mission is to set policy and to advise on appropriate actions on National. NSCT was responsible for the creation of the Master Plan on National Emergency Management in 1995 and is also responsible for the implementation of the plan.

However, for different reasons NSCT has not succeeded to get the plan endorsed by the National Safety Committee and approved by the cabinet. Since 1995 NSCT action has been dominated by a change of office and directors. The present director took office in November 1997 and is said to have little experience of the emergency sector. NSCT is presently suffering from the severe nation-wide financial constraints.

2.4.5 Swedish Rescue Services Agency

Swedish Rescue Services Agency (SRV) is part of the governmental agency, Räddningsverket, that is responsible for co-ordination of rescue services and education of rescue personnel in Sweden. SRS operates world-wide offering consulting services within the emergency sector. Overseas operation within consulting services amounted 9 MSEK or just 1 % of the total SRV turn-over of more than 900 MSEK during the year of 1997. Since the severe accident in the Bangkok Port in1991 there have been several SRV experts on assignments in Thailand serving different clients, mainly PAT, BPFB and NSCT. Most of the time SRV has been operating through a permanent branch office in Bangkok. The SRV operations are not limited to contracts financed by donors. They have gradually gained more contracts fully financed by the clients, mainly in neighbouring countries such as Malaysia, Singapore, India and China. SRV is now considering whether the branch office in Bangkok will remain or not.

The SRV experts are mainly well-experienced instructors recruited from the SRV schools or well experienced fire officers from different municipal fire brigades in Sweden. As far as we know they are specialists within their profession but have limited experience in consulting and in project management.

2.4.6 Sida

The concerned projects have been supported within the framework of the Contract-Financed Technical Co-operation mainly by BITS and from 1996 by Sida/INEC. The BITS/Sida officials are responsible for monitoring of the projects. However, according to available documentation the swedish officials have shown a passive attitude when following up the SRV projects. Only mutual progress reports have been requested by Sida and consequently provided by SRV making it very difficult to assess the progress and the revision of the projects. Written reports

have been required since the beginning of 1998. No reports have, however, yet been available with the exception for some revised action plans for the master plan project and a late report on the Master plan project dated 1998-05-11.

2.5 *Procurement*

As far as we know all the emergency projects have been initiated by the Thai partners in negotiations with SRV. Formal requests have been forwarded to the Swedish embassy in Bangkok for consideration. The embassy has transferred the requests to BITS/Sida for preparation and decision. So SRV and the Thai partners have decided upon the scope of services as written by SRV and contracts were signed. Part of the contracts served as Terms of References for the BITS/Sida appraisal and decision. It is to stress that the contracts have been negotiated without any formal competitive bidding.

3 Project Appraisal by Sida

The main goal of all the emergency projects will be to contribute to the reduction of the overall risk for major accidents and to the improvement of the country's capability to respond to such events and to reduce their consequences. The specific objectives of each project are, however, different. Important preconditions are the facts that the emergency organisation is poorly developed on both the national and the local level and that the awareness of emergency risks and need for preventive actions is low compared to the high risk level in a modern society.

Before deciding to support the project, BITS/Sida made appraisals of the project risks as summarised below:

Bangkok Port

No appraisals on PAT projects have been available to us.

Bangkok Police Fire Brigade

According to an internal memorandum in relation to the Sida decision, Räddningsverket was regarded as having sufficient competence and experience in local conditions, including culture, for the projects to be successful.

For project THA 0454 it was stated that a previous evaluation had recommended continued support for training including institutional competence to manage the training.

Municipality of Chiang Mai

According to Sida's internal memorandum the risks related to the project were assumed to be limited. No dissension was reported and the experience from the two previous projects were reported as positive.

The project was judged to be acceptable by the two municipalities. Representatives from several parties were included in the project management.

National Safety Council

Only positive impact was to be foreseen due to previous experience from SRV projects in Thailand and due to the fact that the emergency sector generally receives priority. It is emphasised e.g. that the project is widely supported by the ministries, agencies and other organisations involved. When focusing on the master plan, wide support is of highest importance as the main aim of the plan is to enable co-ordination of resources belonging to different agencies and organisations within Thailand.

4 Project Evaluation

4.1 Bangkok Port

As a detailed evaluation has recently been made by SRV, we have concentrated on verifying the given conclusions and following up on what has been done or will be done later regarding dangerous goods and rescue service. It is essential to mention that the conclusions and recommendations given in the evaluation have been fully accepted by PAT.

The counter-partner has been the Bangkok Port with focus on its Chemical Goods Section (CGS), Fire Brigade and Engineering Department. The port representatives proved to be very satisfied with the contributions by the SRV staff over the years since the start in 1991 and there is no contradictory evidence. The MD of the port showed confidence in the preparedness of his staff to avoid severe accidents and to minimise the damages in case of emergency.

In general, the majority of the operational objectives of the SRV agreements have been achieved. The handling of dangerous goods within the port area is said to be in accordance with international standards. Consequently the port is planning to apply in 1999 for an ISO 9002 certificate concerning the handling of dangerous goods. The knowledge in this field has improved considerably, making the chief of the CGS , one of the leading experts within the country. She is frequently invited by other authorities to take part in seminars on dangerous goods as well as in rescue operations together with the HAZ-MAT group of the port. She is as well supported by a strong managing director and backed-up by a small but competent staff.

No evidence of the sustainability of the know-how gained in the SRV training courses in fire fighting or handling of chemical accidents were shown to us.

Recently the CGS chief was designated as a member of a new committee on safe land transportation in connection with the master plan on road safety prepared by the Department of Land Transportation in co-operation with Sweroad. Co-operation with other organisations has improved in a remarkable way as the port representative has been invited by CDD, Industrial Estate Authority and BPFB as an instructor on dangerous goods. The knowledge of the CGS is well recognised as confirmed by some of the BPFB and NSCT representatives we met with. The Bangkok Port is also willing to spread its know-how to the other ports of Thailand.

There are some major divergences from the objectives as stated in the evaluation report and verified by us:

- The implementation of the training field in Laem Chabang has been considerably delayed mainly due to local administrative complications. All installations were finally completed and tested in April 1998. An SRV expert has approved the installations and is expected to end the SRV assignment soon by delivering manuals and safety instructions. The port is looking for a private company to operate the field but has failed so far. The training cannot start in a proper way until the instructors have received an upgraded training to complement the training executed in 1993. Regarding the ownership of the field

NSCT/BPFB and the Port have different views. The port is considering the field as chiefly a port concern, but NSCT/BPFB would like to make it a national affair as the field is mainly meant for training of persons outside of the port organisation. Moreover it is considered to be the most advanced field in south-east Asia corresponding to the best European standards. Unfortunately we did not have the opportunity to inspect the field.

- No warehouse has been built in the Bangkok Port due to inappropriate location of the available area. It is situated close to dwellings that have been constructed along the port area boarder. The port considers transferring the inhabitants to new dwellings elsewhere. A small warehouse might be build in Bangkok while a larger one is under consideration in Laem Chabang Port. Due to these circumstances the required assistance by SRV has been reduced.

- Rules and arrangements for fire prevention and precaution, as well as for an emergency control centre are still under development.

- The fire fighters can undergo training in normal fire fighting at a nearby football field but they have limited possibilities to train with dangerous goods, thus probably making their preparedness low to fight such accidents. Evidence to this fact might be the low accessibility to the personal protection equipment in the chemical goods warehouse.

- Rules for safe land transport and routines for checking of packing have not been completed mainly due to difficulties in co-ordination with other authorities.

- We would like to stress the fact that no Environmental Impact Assessment study has been carried out when planning for the new chemical goods warehouses and no EIA for Luem Chabang has been presented to us.

4.1.1 Conclusions

- SRV has executed their assignments in a satisfactory way as far as we have been informed and no contradictory evidence has appeared. Some remaining minor activities are just about to be finalised.

- The Bangkok Port has got a sustainable capability for the safe handling of dangerous goods and is spreading its know-how nation-wide. But the number of skilled persons is very limited, making the knowledge base very vulnerable.

- The recommendations given in the SRV evaluation report, mainly regarding organisation and training, are fully accepted by the port and most of them are about to be implemented

- Although the field in Laem Chabang is said to be finally completed, it is not operational. No advanced training can be conducted. There are still problems in establishing a permanent training field in operation in Thailand. This bottleneck creates a serious problem as there is a lack of opportunity for advanced training. The port as well as BPFB is heavily dependant on the 'train the trainers' course planned by NSCT and SRV to take off in June 1998 but which still lacks funding.

- Actions requiring co-ordination with external organisations are often hampered by the difficulties to co-operate although it is improving thanks to the bridge-building initiated by SRV as well as the port's willingness of transferring know-how.

4.2 Bangkok Police and Fire Brigade

Three meetings were conducted with the management of BPFB with very open and frank discussions.

Three Sida supported projects are being carried out in relation to the Master Plan. The projects comprise two training projects and a project supporting the design of a Fire School.

4.2.1 Training Activities

From the individuals who had participated in some of the training sessions carried out in Sweden, a group of 7 to 9 participants from BPFB were interviewed. All of them had a good grasp as to the impact of their training and could give a clear and balanced account of how the training had been translated into practice in Thailand.

It was interesting to notice that they all had different opinions as to what was the most important aspects of the training. All opinions expressed were, however relevant. It shows that the trainees have a solid and comprehensive understanding of the problems with rescue operations. They are all well informed as to the technique related to the ventilation of fire gases and the need for personal protective equipment in order to achieve increased working safety.

Taken together we are of the opinion that the training activities have been relevant, effective and cost efficient.

4.2.2 Strike Teams

48 trained fire fighters were divided into four groups and organised as Strike Teams. The teams have been deployed and have responded to rescue missions in and outside Bangkok.

One of rescue missions was noticed by the press and received much media attention. This resulted in a general increase of salary and appreciation from His Royal Highness the King of Thailand. This kind of appreciation contributes to increase the status of the fire fighters and the organisations they serve.

It is our interpretation that the objectives with the training have been achieved.

4.2.3 Planning of a Rescue Service College

From studying the architectural drawings and documentation on the planned College for Rescue Service it appears that ideas and concepts have been put in a correct educational context. The drawings have been prepared by a local firm of consultant and reflect well the

know-how, level of ambition and educational approach and corresponds well to the stated project objectives.

In spite of the current financial constraints the management of BPFB is convinced that the construction will commence either this year or at the beginning of next year. The cost of the facilities has been estimated at 800 million Bhat. The management stated that the amount is included in the budget allocations or that financing will be arranged in one way or another. It should be noted that at the present time there are no resources available for running costs and maintenance of the school..

4.2.4 Conclusions

The objectives with the project have been achieved. But we doubt whether the school will be constructed taken into account the vast investments required.

4.3 Municipality of Chiang-Mai

During discussions with the management of the Municipality of Chiang-Mai, including the Fire Department, it was ascertained that the project was regarded as a Chiang Mai municipality project. Unfortunately, there were no representatives from Lamphun, as had been expected. This does not correspond to the project documents that assumed a larger command area.

We were informed that the planned training field probably not be used due to the many dwellings that have been established in the vicinity. As legal means cannot be deployed for moving the dwellings another location for the training field must be sought.

Two training sessions using fires in practice containers, each one week long, were held with personnel from the Fire Department before protests from the local residents forced the program to stop.

No environmental consequences have been taken into consideration, in spite of the fact that the law requires sites of this size to prepare an environmental impact assessment report. The environmental impact assessment that was prepared earlier was for another potential training field site. There were no consultations with the towns city-planning department. In this context, it should be mentioned that a city planner applied for support in order to learn local participation in the planning process.

The municipality of Chang Mai has expressed a strong interest in the realisation of the training field, but that no public funds would be available for the next five year. They intended to investigate the possibilities of finding a private financer, possibly one of the oil companies, or they may seek government financing.

4.3.1 Conclusions

- The project is a Chiang-Mai Municipality project and not a regional project. The project is the responsibility of the Fire Department and co-ordination within the municipality is limited. The top-management of the municipality does not seem to have initiated co-ordination within the municipality.

- External contacts regarding the project appear limited. The request for financial assistance from the central government is yet to be submitted

- All training activities related to the field have ceased and the exercise containers remain unused.

- The current location of the training field is unacceptable in view of surrounding dwellings. The predominant wind direction brings the smoke into the nearby dwellings. This aspect should have been considered by SRV as an important design criteria already at the planning stage of the project

- The rescue staff are keenly interested in the establishment of a training field as they have realised the value added of continued training

4.4 National Safety Council

4.4.1 Draft version of the Master plan and other studies

From the middle of 1994 and up to May 1995 the draft versions of the Master plan and the Training system study were completed and presented to the Board of NSCT. The reports are very detailed and in general cover the topics set up in the objectives (national planning, legislation, prevention, building construction, traffic safety, emergency preparedness and response as well as training and education). However, the study of the information system has not been available to us for any further assessment.

One important conclusion in the summary of the master plan is that "the fulfilment will demand a great effort from all parties concerned, not least from the central level. The implementation of the proposals must be permitted to go on for several years although some improvements can start already during 1995".

4.4.2 Implementation phase

NSCT expressed already in 1995 their need for further assistance in order to implement the proposed activities of the Master Plan. Negotiations went on with SRV and Sida. Meanwhile none of the Master Plan proposals were activated by NSCT. After signing of new contracts in June 1997 SRV started up their activities. Since then the main efforts have been focused on assisting NSCT in the assignment of a joint steering committee and three working groups as well as planning and rescheduling of activities. During the preparation of the master plan SRV revealed that there was limited co-ordination of emergency activities between different

ministries and agencies. In order to improve the co-operation, officials from various involved ministries and agencies have been engaged in the implementation phase of the master plan. The SRV project manager has already discovered some positive impact on the relationships, for example some representatives of CDD and BPFB have been planning for their first joint course. But there is still a lot of "guarding the own territory" within the emergency sector in Thailand.

The Master Plan was assumed to be revised and translated to Thai in the beginning of the year but it is not yet finalised. No proposal has yet been forwarded to the cabinet for approval as was scheduled. Up to now there have been a couple of meetings with the joint steering committee and the working groups in order to increase insight into emergency matters and to prioritise activities considering the limited resources and the necessity to get consensus on what to do. It has been decided to focus on some non-controversial activities for 1998 and the beginning of 1999. The first concrete activity is proposed to be the 'Train the Trainers' course for BPFB and CDD in June. But due to financial constraints no budget allocations have yet been decided upon. In general, all proposed activities lack proper financing. No selection of a training field where the course can to be held has yet been made, as the country still lacks an appropriate field.

NSCT has obvious problems in handling the financing and co-ordination of the project in an appropriate way and in getting the necessary support from the authorities involved. In order to implement such a comprehensive master plan, the implementing body needs a certain substance and management capability but we doubt that NSCT has been given sufficient resources. Furthermore NSCT is heavily dependant on external technical experts in order to fulfil the objectives of the Master Plan.

No clear strategy for implementation of the plan has been shown to us although the aim of the SRV project is quite clear as expressed in the recently received progress report. The aim is said to be 1) transfer of know-how to the project participants enabling them to take part in the implementation of the plan and later on to manage it on their own 2) show good examples in important sectors in order to create insight among the decision makers making it possible to continue on their own to make changes and improvements.

The plan is focusing on Bangkok activities and does not contain a strategy or action plan for how national coverage is to be achieved.

4.4.3 Co-ordination with other authorities

CDD has been hesitant to join the race as it has been unclear to them whether the NSCT master plan would cover all disasters or just man-made disasters. CDD has their own action plans, identified as Master Plans for Natural Disasters, including droughts, floods etc. Just recently some CDD representatives have joined the NSCT committee and one of the working groups. There are still institutional barriers to get around in order to achieve a smooth and fruitful co-operation as CDD is an independent agency under the Ministry of the Interior and is regulated by the separate Civil Defence Act. In the area of practical training, for example CDD is planning to get their own regional training fields for rescue services independent from what BPFB and NSCT are planning.

BPFB appears to be a driving force within the project due to a its managerial capability and its experience from training modern fire fighting. They are willing to share their experience with other agencies and are making plans for coming activities to harmonise the proposed guidelines of the NSCT master plan. It is to be remembered that BPFB still has some bottlenecks in terms of a narrow competence base compared to the national requirements. Furthermore they have also had problems in establishing a permanent training field of a high standard, thus hampering the start-up of advanced training.

4.4.4 Ambulance services

Another topic of great importance is co-ordination and development of ambulance services. As noted in the master plan "*The ambulance fleet is today deployed at the hospitals. They are mainly used for transporting patients to hospitals from the patient's home and between hospitals. Ambulances with proper first aid equipment and qualified medical knowledge (paramedics or doctors) are not used in general in connection with accidents.*

In connection with the question of the utilization of ambulances there is another issue that has to be addressed, namely the activities of the voluntary organisations (e.g. Por Techtung Foundation and Ruamkatayu Foundation) on the scene of an accident. As the means of transport for these organisations are deployed in the neighbourhood of hazardous locations for traffic accidents, they are able to be on the spot very soon after an accident. Their vehicles are not equipped with adequate first aid kits. Their drivers are not trained to take care of injured persons. Although their main task is to transport dead persons from the site of the accident, they also take care of severely injured persons, the result of which can be disastrous. These organisations are operating separately from other bodies and are not connected to the system of emergency services. These organisations have no incentive in treating injured persons because much of their funding comes from contributions based on the numbers of dead transported to the hospitals."

Within the Bangkok Metropolitan Area there are a total of four organisations (state owned hospitals, hospitals belonging to BMA, Fire Brigade and the volunteers) for ambulance services, each acting independently except for the alarm number 191 connecting them to the police. But only some of the state owned hospitals are involved in pre- medical care. During the last 2-3 years Dr Tairjing, member of NSCT Working Group One and Director of the Medical Institute of Accident and Disaster, has developed a pre-medical care concept including ambulances and paramedical teams based at four different hospitals within Bangkok. The concept, which is only a pilot project supported by a private foundation, has also been disseminated to 20 province hospitals.

The ambulance service sector is considered to be inflamed by the struggle between the different organisations. As long as this struggle continues, it is doubtful whether it is possible to take any superior hold within the framework of the Master Plan. It seems best to let the projects grow from the bottom and establish themselves in the hierarchy. NSCT could play the role of promoting good examples and create understanding this way. It is hard to see where SRV_fits in this picture, considering the little experience we in Sweden have of similar difficult circumstances.

Though being projects supported within the Sida environmental program the environmental concern is not easy to detect in the project documentation. However, by achieving the project objectives, i.e. reducing the number of accidents and impact of accidents, the threat to the environment would diminish in terms of for example degraded natural resources, water pollution and air pollution.

4.4.5 Conclusions:

- The SRV experts have decisively contributed to the formulating of a comprehensive master plan and of at least one out of two sub-report is in accordance with the project objectives.

- The Master Plan does not include a comprehensive needs analyses including current institutional arrangements which makes it difficult to prioritise amongst the recommended measures. The Master Plan does not include any strategy or discussions on how current institutional arrangements are to be harmonised with the future recommendations.

- The project is urgent in all its context as seen by us but too comprehensive and complex in relation to existing structures. It is not likely that the plan will be implemented in a wider range and in a foreseeable future due to lacking financial and managerial support. Limited institutional co-operation and invisible socio-cultural barriers are also hampering the process.

- In the implementation stage the master plan project is not likely to have the local support by concerned authorities as assumed in the Sida project appraisals. Moreover NSCT has very limited financial resources and weak management although it is part of the office of the Prime Minister.

- It is a prerequisite for further success to get a policy statement from the Cabinet showing that emergency services as described in the Master Plan are considered to be of high priority.

- No concrete activities have started yet although the project commenced eight months ago, and planned activities are hampered by a lack of financing.

- It is doubtful whether the present SRV activities, mainly related to training and technical matters, should continue while the NSCT funding has not been confirmed and its managerial capability strengthened.

5 Findings and Reflections

5.1 Is the situation as bad as it looks?

During the brief fieldwork in Bangkok and Chiang Mai it was difficult to attain a consistent impression of the vulnerability of the Thai society.

The impression from visits in the two cities is that there is no comprehensive system reducing and minimising impact of accidents included in the town planning or the design/construction of buildings. Our impression is that many society functions are cramped into the urban centres. This phenomenon reduces the accessibility of rescue operations and thus the general risk level is comparatively high.

High risk areas in the city centres can be found where even a small fire may wipe out an entire block. The same level of vulnerability can be found in the design of many premises. Emergency exits do not exist or if they are part of the design they are not marked or they are blocked, or incomplete. This is a general observation in relation to fire hazards.

The handling of hazardous goods is another area which needs further work and the gap in development between Sweden and Thailand is accentuated.

Taken together a comprehensive risk level in Thailand would be high compared to Sweden.

The vulnerability in the society, i. e. the quantitative calculated risk as a measurement of the risk to die or to be seriously injured is obvious for most people.

If the safety level is so low how can it then be explained that during our visit in Bangkok and Chang Mai not a single accident was encountered nor did we see any sign of smoke on the horizon from a fire accident? In view of the magnitude of the two cities it ought not be so quiet. Are our impressions correct? Is the level of safety/security so much lower compared to countries with a more developed economy? Are there other aspects in the Thai society which compensate for inadequate town planning and safety design flaws in buildings? Perhaps the technical systems are more robust and sturdy than the impressions gained during the short visit? Is there something in the behaviour of the inhabitants that reduces the vulnerability? Our evaluation study is too shallow to address the questions raised above.

The reflections vented above are not valid for the traffic situation, which shows without doubt that the risk is higher in Thailand than in Sweden.

5.2 Economic Development – Increased Vulnerability – Enhanced Project Relevance

It is clear that Thailand is undergoing a relatively fast transition from a rural agrarian to a more urban industrialised society. The development of the various societal aspects is not always

balanced and issues related to safety and risk management have not kept pace with the economic development. There is an imbalance in terms of safety and risk aspects in relation to traditional and state of the art production techniques, conventional and modern petroleum based material for internal decoration with different characteristics in terms of fire.

The vulnerability of the society is increasing and the population is being exposed to higher risks.

The relevance of the Swedish financed projects is increasing as a result of the economic development in Thailand. It appears that preventive activities such as information and training would yield a high return. Sweden has a lot of experience on this.

5.3 Different cultures – would a needs analysis be useful before new projects are started?

To increase the understanding of fire prevention activities and activities related to rescue services we have tried to compare Thai and the Swedish outlooks.

In Sweden there is an active combination of administrative and technical measures aiming at reducing the vulnerability to what is conceived as acceptable. The level of risk is not specified in the Swedish legislation but for fire protection, the following four principles are applicable:

1. The installations must be planned and operated in such a way that death is not to occur in case of an accident

2. The loss of property is a question between the owner and his economy and not the society at large.

3. The fixed property of a neighbour is not to be affected.

4. If the rescue service is to carry out a mission inside a building its design and operation must not jeopardise the life of the rescue worker.

The basis for these principles has developed over a long period of time. The principle that death is not to occur has been developed and accepted during modern time. We think that a lot more can be done to apply similar principles in Thailand, assuming that the princoples are developed in consideration of social, cultural and religious values.

The Master Plan developed by SRV appears to be based on Swedish viewpoints and not based on an analysis of the needs in Thailand. The needs in Thailand must be identified, quantified and ranked. That would facilitate the establishment of priorities. There is also a need to analyse current institutional set-ups of rescue service in Thailand and develop a strategy for how to co-ordinate and incorporate these institutions into a national system.

5.4 SRV is good with techniques but is bad in adapting to the workings of the Thai society

It has been seen that accomplished training activities have had important technical impact. This is illustrated clearly by that fact that after training courses a number of strike teams of BPFB can now extinguish fires from the inside and not only from the outside as before. On the other hand, SRV has had considerably more trouble conducting projects and getting results from institutional and organisational reforms concerning many parties, such as planning of training fields and implementation of the Master Plan. SRV has acted in an independent manner without pronounced control from either the financier or some of the clients, mainly NSCT. SRV are so eager to achieve something with their projects that they continue even if the preconditions have changed. In this way they sometimes find themselves outside the contracted project frames.

Although NSCT is appreciating the contributions to the master plan by the SRV and to the training programme, representatives of other organisations met have not showed us clear evidence that the plan has an approach adapted to Thai conditions. This might indicate that the project might be more ruled by the consultants' institutional know-how of their home country than by the circumstances in Thailand.

In general no progress reports have been presented by SRV or by any concerned Thai participant to Sida making it very difficult to follow up achievements, changes and divergences of the projects. Just recently we received a copy of the first progress report of the ongoing Master Plan project.

5.5 BPFB has a strong management but a weak financial body

BPFB is said to have a problem in getting support from the Police Department for necessary funding of training and training facilities. But when referring to NSCT and its master plan the proposals are said to be approved. NSCT could be seen as a spokesman of BPFB. BPFB has the willingness and capability on its own to plan for substantial improvements within the emergency services but they need the NSCT cover to get access to the required financial support.

5.6 The Master plan is lacking strong project management and wide support

NSCT is not likely to have enough strength in itself to get the necessary support for a policy statement by the Cabinet on emergency services and for approval of the Master Plan. The present version of the Master Plan may never be endorsed as it is too comprehensive, involving 38 present acts and many topics, some of which are controversial. However, it might serve as an ambitious bank of worthwhile and attainable goals or activities where NSCT and concerned actors can chose which one they prefer to tackle and try to implement. The proposed plan

could be considered as a good start of a process but needs a strong implementation strategy to be successful.

SRV is mainly assisting NSCT in questions related to institutional co-ordination, financing of proposed activities and basic emergency insight amongst involved actors. The SRV experts are acting as catalysts and bridge-builders to make things happen. But they cannot help that things are happening at a very slow rate. They are taking over the role of project leader and pusher that NSCT should have had. Since NSCT pays such a small part (if any at the moment) of SRV's costs they are not bothered by the fact that SRV uses a lot of money and that the result objectively seen is small compared to the contract plans.

It is to be noticed that local consultants have not been engaged in the projects.

5.7 The two ongoing projects should remain separate but co-ordinated

Sida is considering the two ongoing NSCT and BFBP projects as one aggregated project due to administrative reasons. Though the agencies are co-operating closely and the project activities are closely related it might be wise to keep the projects separated as the Thai contract partners are under different principals and at different levels in the official hierarchy . However the project activities should be strictly co-ordinated.

6 Recommendations

Based on the lessons learned during the evaluation Sida is recommended to:

Re. ongoing projects

1. Postpone further activities concerning the master plan until NSCT is warranting the required local funding for the proposed activities and has strengthened its management capacity

2. Approach SRV requiring strict rules for written progress reports including presentation of reports for the past period

3. Closely monitor the further progress of the BPFB and NSCT projects

4. Advise SRV to concentrate on their role as technical experts focusing on concrete guidelines and training activities strictly adapted to local conditions.

5. Emphasise that according to legislation in Thailand and Sweden EIA must be included in all projects including any construction works.

Re. future co-operation within the emergency/environmental field

1. Make a detailed evaluation of the Master Plan for Emergency Services. (As soon as the ongoing activities could come to a soft stop.) The aim would be to assess the NSCT management and the proper financial situation as well as what sub-projects need further Swedish assistance in order to be implemented in an appropriate and sustainable way. The output should be a detailed strategy for any further involvement by Sida.

2. Provided that SRV is interested in developing their operations in Thailand, Sida might promote SRV to set up direct twinning Contract (without any Sida financial support) with BPFB and possibly CDD regarding long term assistance in rescue training (the contract might be transferred to the proposed Thai National Emergency Services College as soon as the school is established).

3. Advise the municipality of Chiang-Mai to seek co-operation with CDD and BPFB regarding training activities and designing of the training field as soon as the municipality has found an appropriate ground as well as a proper cost sharing model.

4. Emphasise and broaden the co-operation within the management of hazardous waste and the field of dangerous goods taking into account the build-up capability within the Bangkok Port.

5. Invite other consultants with strong project management capacity safety and environmental competence to give competitive bids on long term emergency projects according to a future master plan strategy.

6. Promote involvement of local consultants to improve local support, adaptation and dissemination as well as sustainable transfer of know-how.

7. Require a larger percentage of cost sharing from the recipient in order to strengthen the local support rather than focusing on the Swedish interest to export expert services

Attachment 1: Field programme

Date April	Activity	Aim
22	Arrival in Bangkok by G.Eléhn Planning of activities	
23	Meeting in Pollution Control Department Visit to Office of Environmental Policy and Planning	General information on environmental activities in Thailand
24	Meeting in Chemical Goods Section of Bangkok Port Meeting in Environment Unit of Highway Department together with L-O Eliasson	Follow-up of SRV activities Information on EIA and Monitoring Programs in relation to highway projects
25	Study tour in the surroundings	General impressions
26	Arrival in Bangkok by N-G Hasselberg Planning of activities	
Mo 27	Meeting in Bangkok Fire Brigade Meeting in NSCT	Follow-up of SRV activities and information on present activities
28	Meeting in Civil Defence Division	CDD view on Master plan work

29	Meeting in Policy and Planning Division of Bangkok Metropolitan Administration Visit to two fire stations in Bangkok	BMA view on Master plan work Follow-up of training impact
30	Meeting with MD and Engineering Department of Bangkok Port Departure for Chiang-Mai together with L. Grahm	Management view on handling of dangerous goods and prevention measures
May 1	Meeting with leading representatives of the Municipality of Chiang-Mai Visit to main fire station and training field	Follow-up of SRV activities and present activities Status of the field
2	Study tour in the surroundings	General impressions
3	Departure for Bangkok Meeting with L. Hillerström, SRV	Summing-up of findings Follow-up of SRV activities
Mo 4	Meeting in Medical Institute of Accident and Disaster	Information on ambulance pilot project and view on Master plan
5 Holiday	Planned visit to Laem Chabang cancelled due to personal medical reasons. Summing-up of findings	Status of the training field
6 Night	Summing up with NSCT and BPFB Departure for Sweden	Briefing and discussions of our findings

Attachment 2: Persons met

Organisation	Name	Position
Bureau of the National Safety Council of Thailand	Mr Kamol Suksomboon	Director
	Miss Papussamon Ummaralikhit	Secretary
	Miss Wachana Chariyawetwatana	Secretary
Bangkok Port	Mr Payoongkich Chivamit	Managing Director
	Mrs Oiy	Chief of Chemical Goods Section; Officer of CGS
	Mrs Pattra	
	Mr Som Chansuthirangkool	Dep. Director of Engineering Department
Bangkok Fire Brigade	PMG Peeraphon Soontronate	Commander of BPFB
	PLC Kitibodee Pravitra	Inspector
	Mr Edie	External Liaison Officer
Bangkok Metropolitan Administration	Dr-ing. Ksemsan Suwarnarat	Dep. Dir. Gen. of Policy and Planning Division
Civil Defence Division, DoLA	Mr Weera Chaipimolpalin	Head of CDD
	Mrs Achara Wongse	Ph.D.
	Mr Bundit Theveethivarak	Chief of Planing and Training Sub-division

Municipality of Chiang-Mai	Mrs Bodsaba Yodbangtoey Mr Chaiwat Thamrongsrisuk Mr Suwit Sirigrivatanawong Mr Chusak Chinararot Mrs Inkanit Sirinapapun	Dep. Mayor City Clerk Chief of city planning City planning engineer Secretary
Chiang-Mai Fire Brigade	Mr Kawee Pantajak Mr Chokchai	Fire chief Fire Officer, External liaison
Medical Institute of Accident and Disaster	Dr Tairjing Siriphanich	Director; placed at Ratchawithi Hospital, Bangkok
Department of Highway	Mrs Phimchai Yuthabandol	Chief of Environment Unit
Pollution Control Department Water Quality Management Division, Marine Pollution	Mrs Pornsook Chongprasith, Mr Watana Sukasem Mr Vithet Srinetr	Ph D, Section chief Sub-division chief Ph D
Räddningsverket	Lars Hillerström Ingvar Lindén (telephone) Rune Dahlén Roland Lundqvist (telephone)	Director of Dept. for International Affairs, South East Asian bransch Project Manager, Consultant Consultant Director of Eductional Dept.
Thailand Environmental Institute	Ph.D. Chaiyod Bunyagidj	Dir. of Business and environment Programme

Evaluation of BITS/Sida Supported
Development Co-operation with Thailand
in the

Transport Sector

by Lars-Olof Eliasson
Eliasson & Partner
June 1988

Table of Content

INTRODUCTION

Sida wishes to evaluate its assistance to Thailand with the aim of improving the quality, the relevance and the impact of contract financed technical co-operation. Projects have been selected from four sectors – energy, environment/emergency, public administration and transport. Two projects from the concessionary credit program are also to be evaluated. This annex deals only with the transport sector.

The transport projects selected by Sida for evaluation are enumerated in Appendix A, Terms of Reference.

The Setting of the Projects

General

The transportation systems in Thailand have undergone a profound expansion during the past twenty years. From the 1970s and onward there has been substantial government investment in transportation. The driving force behind the investment is the need for quality transport infrastructure which facilitates expanded economic and social development. For the past 5 to 10 years the average GDP growth has been almost 10 percent. This has put severe strain on the existing infrastructure and environment, particularly in the Bangkok area.

In terms of passenger kilometres the road mode dominates with 90 percent while rail has 9 percent and air travel represents only 1 percent. For freight, the road transport mode dominates with 89 percent followed by coastal shipping 5 percent, inland waterways 4 percent, and rail only 2 percent.

Road traffic has increased by about 15 percent per year since 1989.The road transportation system of Thailand is comprised of 15,899 km of national highways and expressways, 25,895 km of provincial roads and about 128,000 km of rural roads. All in all the road network totals 169,794 km.

The State Railway of Thailand has a network of about 3,861 route-km i. e. only a small fraction of the overall land transport net. The inland waterways system provides service to about one third of the country and covers about 1,600 km of navigable waterways.

The distribution of national/provincial and rural road network is shown in the table below.

Region	National/Provincial	Rural	Population[1]
Northeast	30 percent	44 percent	34.7 percent
North	27 percent	22 percent	19.9 percent
Central	24 percent	21 percent	32.4 percent
South	19 percent	13 percent	13.0 percent

Road statistics from Min. Trans. And Comm.[1] Source: Pocket THAILAND PUBLIC HEALTH 1997

44 percent of the rural roads are in the Northeast section, which has just over one-third of the population. The Central region, which also has about one-third of the population, contains only 21% of rural roads.

The development plans for highways in Thailand traditionally put emphasis on rehabilitation and up-grading, including the pavement of the many of the existing gravel road. Since 1989, however, the priority has been to increase capacity. This is being done by widening and building new links.

Thailand is encountering a concentration of the population in the greater Bangkok area. As a large part of the valley area around the river Chao Phraya and its tributaries are comprised of soft clay, any infrastructure construction will need measures to stabilise the soft clay.

Vehicle Fleets

In 1995 the vehicle fleet was estimated at 12.5 million of which about 450,000 are trucks. The most dramatic increase of the vehicle fleet is represented by motorcycles, which have increased at a rate of 14 percent per annum while other motor vehicles have increased at an average of 9.6 percent per year.

The increase of the motor cycles has resulted in a disproportionate amount of noise and emissions.

Road Traffic Safety

The responsibility for road traffic safety aspects is spread over several agencies including the Department of Highways (DOH) and Department of Land Transport (DLT) under the Ministry of Transport and Communication. In addition there is also the Expressway and Rapid Transit Authority (ETA) under the Ministry of Interior. Ministry of Education is also involved. Overall co-ordination is carried out through the Traffic Safety Council (TSC) under the National Safety Council of the Prime Minister's Office.

According to Government statistics, traffic accidents in Thailand have risen by an estimated annual average of 15 percent. In 1992 10,200 deaths were reported corresponding to a rate of 12.1 death per 10,000 vehicles. This is slightly higher than those of Thailand's neighbours such as Malaysia and the Philippines, at 9. On the other hand corresponding figures for India and Bangladesh are 35 and 48 respectively. For developed countries the traffic accident statistics are only a fraction of Thailand's, for example Japan 1.8, Australia 2.3 and Sweden with 1.5 – 2.0.

A Road Safety Master Plan Study was completed in March 1997. The study was carried out by the Swedish consultant SweRoad in association with Asian Engineering Consultants Corp. and financed from funds from the World Bank and recommended the following:

- establishment of a road safety unit at MOTC
- nomination of a small high level delegation with power to co-ordinate and facilitate participation from other agencies
- search for technical assistance to support implementation of individual programs
- establishment of a task force at NSC to undertake public information campaigns

Already an embryo of a road safety unit has been created at MOTC and the recommendations have been accepted. The Master Plan recommends the collection and analysing of road accident data. A system for collecting such data has been drawn up and implementation has started in three or four pilot areas, Phuket and Nakon Pathom, Chang Mai and possible one additional area. The program in the pilot areas encompasses different aspects of enhanced traffic safety such as the collection of accident data, identification of black spots, conflict analyses, training of the traffic police, information campaigns in schools, care of injured persons involving the training of hospital personnel including paramedics attached to the ambulance service. The pilot programs are simple and in view of the current economic crisis they do not require a lot of additional funding.

It appears that there is a need for co-ordination between public organisations dealing with public safety aspects. Building codes dealing with traffic hazards are unclear or the enforcement of existing rules are not well understood and as a result law enforcement becomes in-effective.

Effective and un-biased law-enforcement is often seen as an effective tool in road traffic safety. Currently there are problems in carrying out law-enforcement due to training and lack of equipment. The current congestion in the Bangkok area hinders effective law-enforcement as only a few places can be used to stop vehicles for inspection.

Emissions

Emissions are not normally a problem except in the Bangkok metropolitan area. The problem with dangerous emissions in metropolitan areas is shared by several other cities which have not been able to cope with increasing numbers of motor vehicles. Other cities in need of improvements in the region are Manila, Dhaka, Calcutta. Cities that have been more successful in controlling the motor vehicle traffic are Singapore, Kuala Lumpur and to some extent New Delhi.

In the Bangkok area alone the motor vehicle population has increased by 1.5 million. Successive reduction in lead in gasoline from 0.45 g/litre in the 1990 to zero in 1996 has resulted in decreasing contents of lead in the air from 7-8 microgram per cubic meter in 1991 to 0.2 – 0.3 in 1996. Among other air quality improvement measures undertaken is a reduction of the phosphorous content in diesel fuel.

Tuk-tuks (three-wheelers) powered by old fashioned two-stroke combustion engines emit up to twenty times more pollutants than vehicles powered by four-stroke engines. There is subsequently a need to restrict such traffic in all urban centres.

Since 1994 all new cars have to be equipped with catalytic cleaning of the exhaust. All cars older than seven years have to be inspected.

In spite of these improvements the trend is not, particularly in the Bangkok area. Major measures such as improved infrastructure, regulated access, stringent traffic management still need to be undertaken to confront the traffic jams.

Below follows a summary on current activities aiming at reducing emission levels:

- expanded monitoring of pollution and noise levels
- establishment of emission standards for new vehicles (Volvo has been involved in establishing new standards)
- improved vehicle inspections, and extending inspection requirements to private vehicles

- supplying unleaded gasoline and low-sulphur diesel fuel, encouraging alternative fuels (Volvo has supplied some vehicles , with bi-fuel), "smoke-less" oil for two-stroke vehicles
- support for traffic management alternatives

Sweden has been involved in the design of existing air quality monitoring. In 1997 a network of 53 fixed monitoring stations was installed - 18 are located in Bangkok and five in the nearby industrial province of Samut Prakan. The system is linked to a central computer system at the Pollution Control Department (PCD) of the Ministry of Science, Technology and Environment. The information generated is used for quality air planning and management within PCD and other government organisations.

In addition to assistance from Sweden, USAID is involved in emission control and management. A Japanese financed grant study indicates substantial benefits in terms of improved public health, productivity and quality of life in Bangkok from reducing exposure to ambient particulate matter. The Chulalongkorn University in Bangkok is studying the increasing problem of ozone reduction.

The World Bank is providing assistance to the Bangchak refinery with recommendations on a particulate matter abatement plan. The results so far indicate that road dust is the single most important contributor to total suspended particulate smaller than < 10 u.

Transport of Dangerous Goods

Regarding transport of hazardous goods, driver licensing requirements have become more stringent. However, more needs to be done.

The Trucking and Bussing Industry

According to studies financed by the Asian Development Bank the trucking and bussing industries were found to be fairly efficient but opportunities existed for improvements in various fields.

There are indications that by allowing higher axle loads, net economic benefits would increase. The higher maintenance cost of road infrastructure would be offset by lower freight costs.

Measures are now needed to ensure a vehicle fleet development that corresponds to modern emission requirements and at the same time minimises transport cost. This will require additional work in the form of vehicle classification and vehicle taxes and import duties that fosters the development of modern cost efficient road transport vehicle fleets.

The sector is regulated and it appears that only certain companies are allowed long-haul to Malaysia and Laos. There is, however, a trend to reduce the privileges extended to forwarders associated with or owned by the public sector.

It is fairly common to overload trucks, a practice which has implications on road safety, maintenance and enforcement of traffic laws.

Thailand's inter-city rural bus fleets are well developed and scheduled fixed route bus services is well developed. In addition there are also buses available for charter and hire.

Asian Highways

About 3,430 km of the existing highway network in Thailand are designated Asian Highways. The Asian Highway project aims at international co-operation in road transport corridors. The intention is to connect capitals and industrial areas, ports and tourist centres. There are fifteen countries co-operating on the project in Asia: Cambodia, India, Indonesia, Iran, Laos, Malaysia, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand, Vietnam, China, Myanmar and Mongolia.

It has been relatively easy to introduce an understanding for the necessity and advantages of an integrated regional road transport system. One problem with the Asian Highways is, however, restrictions in border crossings. Thailand has fairly easy border crossing procedures with countries in the south while restrictions are imposed in varying degrees for different reasons in the north, east and west.

Institutional Set-up for Road Transport Infrastructure

The highways are categorised into six types, special highway, national highway, concession highway, municipal roads, sukhapiban roads, and rural roads. The department of Highways of the Ministry of Transport and Communication is responsible for the first three. For the non-DOH roads the municipalities of the Ministry of Interior are responsible for municipal roads. Rural roads are the responsibility of the Office of Accelerated Rural Development, the Royal Irrigation Department and the Public Works Department.

The Department of Land Transport (DLT) is responsible for the regulations of road transport and road use. It is also responsible for vehicle registration, driver licensing, emissions inspections and the setting and collection of road user taxes.

Department of Highways

The official Swedish co-operation financed from appropriations to former BITS and current Sida in the field of transport has been entirely focused on the Department of Highways (DOH) and the Swedish National Road Consulting AB (SweRoad), a subsidiary to the Swedish National Road Administration (SNRA).

DOH of the Ministry of Transport and Communications is responsible for controlling, planning, designing, constructing and maintaining special highways, national highways and concession highways throughout Thailand. The objective is to link up economic, social, political and military affairs with a modern road communication network. Determining design criteria are traffic volume, economic rate of return and environmental concerns including traffic safety.

The DOH is a central agency represented by 15 regional offices. The DOH is organised in 26 bureaus (eleven central and fifteen regional) ten divisions, three offices equivalent to divisions and a Centre for Highway Research and Development. DOH is responsible for the Highway Police Division in respect of budget and general policy.

DOH is headed by a Director General and supported by four deputy general directors in the fields of engineering, maintenance, operations and administration.

The strength of staff amounts to about 27,000 of which 10,000 are official DOH and the remaining are permanent crew manpower for maintenance and construction activities.

In 1997 DOH organised training for a total of 2,421 persons (1996 - 2,905). All in all 19 (1996 – 71) training courses and seminars were organised. The training conducted involved not only DOH staff but also other government agencies and foreign participants from neighbouring countries.

According to DOH, the recruitment of qualified civil engineers has been difficult because of low salaries in the public sector. This problem is compounded by the recent economic boom. To alleviate the problem, technicians have been trained to substitute for the difficulties in recruiting civil engineers.

Among training organised by DOH for foreign highway staff, the training of officials from the People's Democratic Republic of Laos, financed with Sida funds, is worth mentioning. DOH has also been involved in organising study visits for officials from Japan and Vietnam, including the International Road Federation. The DOH intends to increase the training offered for neighbouring countries in south-east Asia.

The training section of DOH works on a planning cycle of three years.

In 1997 about 227 officers of DOH benefited from foreign study visits in the form of seminars, workshops, training courses and site visits in different countries.

Maintenance and Construction – Budget for DOH

The annual budget for DOH has increased from 460 billion Bath in 1992 to 843 billion bath in 1996 or the appropriation has increased from 4.8 percent of the national budget in 1992 to 7.28 percent in 1996. In addition to local budgets, DOH also obtains loans from foreign sources, mainly the World Bank, Asian Development Bank and the Overseas Economic Co-operation Fund (Japan).

Depending on individual highway projects, the proportion of funds used for construction is in the range of 50 – 70 percent for construction, 10 – 20 percent for maintenance, 10 – 20 percent for land appropriations and the rest about 8 percent for administration.

The DOH has sufficient in-house capacity (90 %) for maintenance needs. Construction works are normally tendered (80 %) and Thai construction companies, often in co-operation with a foreign partner, are able to meet the requirements.

In terms of design capacity the DOH has a design unit but much of the work is contracted to local engineering consulting companies. Some of these companies work with foreign partners.

Planning

The fiscal year 1997 is the first year of the 8th National Highway Plan. The major theme of the plan is traffic facilitation by alleviating traffic congestion, creating a balance between ordinary highways and other transportation modes and, adopting a tolling system which reduces the financial burden for construction and operation and safety aspects for road users.

All in all a total of 4,000 km inter-city motorways are planned for completion in 2016 at a cost of 472 billion Bath. The development objectives with these motorways are to reduce vehicle operating costs, save travelling time, reduce the occurrence of accidents and encourage regional development. A major input to the 8th National Highway Plan originates from master plan studies conducted with funding from JICA.

To alleviate congestion in the greater Bangkok area elevated highways are being constructed.

The ambitions of the plan are very high. Budget restrictions and insufficient implementation capacity may hinder the fulfilment of the plan.

Research

Current activities carried out by the Road Research and Development Centre of DOH comprised six soft clay projects, two projects on research on soil improvements, seven projects on pavement materials and structure, 5 projects on development of concrete materials and surface and one project on geo technique.

On the soft clay projects one project deals with the application of prefabricated vertical drain for settlement. Two projects deal with the application of cement columns and one on the analysing of ground data and the quality of soft clay. Japan International Co-operation Agency (JICA) is assisting with a project on pavement behaviour on soft clay and SweRoad co-operates on research on various methods for stabilising soft clay.

Two projects are going on related to soil improvements- one using cement and lime and the other using chemical agents. The projects are carried out in co-operation with King Mongkhut's Institute of Technology and with Kasetsart University.

Of the seven research projects on pavement materials and structure, one project dealing with pavement evaluation is being conducted with Danish support. King Mongkhut's Institute is co-operating on two projects and the Kasetsart University is involved in one project. The other research projects are carried out in co-operation with the consultants Scott Wilson and Kirkpatrick of the United Kingdom and Tipco Asphalt Co., Ltd.

Of the five research projects on concrete materials four are carried out without institutional Cupertino. These projects deal with the impact of super plasticizer, latex bonding agents, latex modified mortar, and the use of lignite ash concrete surface. A project on granite mixed and marble mixed concrete character is carried out in co-operation with Chulalongkorn University and the Department of Mineral Resources.

Geotechnique research has been carried out in two fields. One field deals with research on synthetic reinforcement in steep slope design. The other field of research has centred on improvement by using cement columns. The result of the research has applications for more areas than just for the construction of roads and bridges. For other parties to benefit from the research DOH produces scientific reports. In 1997 the following reports were produced: Report on Rama II Road Settlement Behaviour, Analysis on Stability of Synthetic Reinforced Embankment on Soft Soil and Evaluation of Asphalt Concrete Properties for Analytical Pavement in Thailand. Two other projects, Improvements of Soft Soil Using Cement Columns and Investigation on Embankment Settlement Acceleration by PVD Installations have wide applications in areas with soft soils and in areas encountering slope stability problems.

Other Organisations Providing Support for the Road Transportation Sector

Thailand's major developing partners are the World Bank (WB) and the Asian Development Bank (ADB). Important bilateral partners include Australia, Canada, the European Union, Germany and the United States of America. Recently Denmark has extended a concessionary credit to DOH.

To the extent that they are involved in the road transportation sector the following comments are offered:

ADB

The strategy of ADB in the sector is to strengthen and develop a basis of long term competitiveness in order to support a sustained and more balanced long term economic growth. The ADB support will focus on development/upgrading of physical infrastructure with priority on lagging regions as well as policy and institutional reforms.

WB

The strategy with the World Bank is to support activities aiming at reducing environment degradation and vehicular accidents as a result of road transport. In addition there is an objective of improving the quality of service of the inter-urban network through increased road capacity.

US

USAID has developed an interesting approach in partnership with US private enterprises. Currently USAID is funding a project to promote environment friendly technology in public transport.

Denmark

Through a concessionary credit Denmark is financing research activities related to pavement evaluation in relation to road structure design.

THE SWEDISH SUPPORTED PROJECTS

All the Swedish projects were executed by SweRoad, a road consulting company operating as a commercial wing of the Swedish National Road Administration. Of the projects to be evaluated one project is under implementation. The projects will be accounted for in chronological order.

Transport Economy– (THAO151)

This project was a course cum study trip carried out in Sweden in May/June 1990. The project can be characterised as a goodwill project including an exchange of information between two national road administrations.. There were three participants from Thailand, two economists and one civil engineer. Study visits included visits with ASG, SL, SJ, Banverket and a bridge construction site and general sightseeing. In addition, a visit was also made to the Finnish National Road Administration.

On the technical side the project contained lectures on cost-benefit analyses, transport policy, investment evaluation and planning, labour intensive methods, pavement management systems, toll-roads, HDM (highway design management) modelling, budgeting.

The four-week course used Swedish Co-operation funds amounting to 350,000 SEK or SEK 117,000 per participant. In addition the Thai side contributed with costs for international travel and SweRoad covered the costs for board and lodging from its own funds.

Among the Thai participants one remains within the Department of Highways and works as Chief of the Environment Unit.

At the end of the project a review report in Swedish was submitted to BITS. The report accounted for the day to day activities including some SweRoads comments on the individual programs. The participants provided comments on the theoretical aspects of cost benefit analyses which some of them found difficult. Others had had difficulties in understanding some of the lecturers.

Road Administration –(THA0231)

This project was carried out in May/June 1991 with three representatives from the Department of Highways, one civil engineer, one personnel officer and one training officer. The training requested by the Department of Highways included needs assessment techniques, training management, curricula development, training methods, administration of a road training centre and other courses deemed appropriated . The course was mainly carried out in Borlänge and Stockholm.

This course contained elements of exchange of ideas including mutual explanations as to the workings of the two road administrations. Study visits were made to a road construction site, a construction district office, visits to other parastatal training divisions, a vocational training school, and a private construction company.

SNRA explained their trainee program, how to identify training requirements, how to formulate training targets, how to administrate training facilities, how to plan a course (introduction of new technology, how to manage and co-ordinate project development), and other general methods of learning and psychology including evaluation. Lectures and seminars were also organised in leadership, functions and roles of management, In addition

the trainees were instructed in the use of civil works machinery and equipment to ensure optimal utilisation.

The three and a half week course used Swedish Co-operation funds amounting to SEK 298,000 or about SEK 100,000 per Thai participant. In addition the Thai side has contributed with the cost for international travel. It is not known if SweRoad has contributed with their own funds.

Of the three participants, all remain within the Department of National Highways. One works with highway design aspects and the other two work with training.

After completion of the project a brief review report in Swedish was submitted to BITS.

Road Construction on Soft Clay - (THA0331)

The course on Design and Construction Techniques on Road Embankments on Soft Clay was conducted in February 1992 in Thailand. The course was executed by two Swedish experts in geotechnical engineering. All in all about 100 – 125 participated during the two week long course. The participants represented first of all DOH but also representatives from other road agencies like the Department of Public Works, several municipalities, some universities as well as private consulting and constructing interests. Before departure teaching material of some 360 pages had been prepared. 150 copies were distributed.

The overall objective with the course was for the participants to lead and develop their organisation effectively and co-operate with others with a view to achieve improvements in the form of reduced road and transport costs and greater road safety. This was done by teaching the participants to better understand newly developed design and construction techniques on soft clay, to modify existing techniques and thereby extending the economic lifetime of road infrastructure and to promote modern research activities on soft clay in Thailand.

Of the Swedish contribution 283 600 SEK was used for covering fees and the remaining 131 000 to cover expenses. DOH covered planning and preparation costs in Thailand as well as costs for training facilities with required office. In addition DOH also covered local costs for the Swedish lecturers and local transport costs. The Swedish contribution to the course amounted to about 4 140 per student for two weeks of training – a very modest sum.

After completion of the project a follow-up report was prepared in Swedish and submitted to BITS in July 1992

Geotechnical Education –(THA0332)

A new agreement on co-operation between the DOH and SweRoad was signed in December 1993 covering a period of two years. The objective was to increase the understanding of newly developed design, construction and maintenance techniques of roads and bridges which have been developed in Europe during the past five to ten years. The immediate objective was to enable the engineers of DOH to modify and incorporate the new techniques to extend economic life of structures and to lower construction costs. Research activities on roads and bridges were promoted. In addition to the traditional training this project contained the following components:

- Procurement and transport of field and laboratory equipment from Sweden to Thailand
- Training in Thailand in operations and use of the equipment (29 participants of which 18 from DOH). Duration of the training, 5 weeks. The training comprised both theoretical and practical training in the use of and operations of field and laboratory testing.

- Follow-up of training in design and construction techniques for road embankments on soft clay (3 weeks)
- Training and demonstration in planning and organisation of the program in Sweden by two DOH officials (6 and 5 weeks respectively).

The Swedish contribution covered expenses for the Swedish experts and reimbursable costs. The DOH contributed 40 percent of the equipment cost, accommodation of Swedish experts in Thailand, local travel in Thailand as well as for the cost of local staff and premises in Thailand.

BITS has during the course of the project been provided with follow-up information.

Bridge Construction and Maintenance Training Centre – (THA0821)

In September 1997 a 16 month TA-contract was signed by the DOH and SweRoad. The objective of the is to assist DOH in installing a bridge construction and management system. With modern design and maintenance management methods it is anticipated to incorporate maintenance aspects already at the design stage.

A systematic bridge maintenance system increase the expectant economic lifetime of existing bridges. The objectives will be carried out by up-grading the competence of bridge engineers and technicians through a series of training sessions. The components of the program comprise the following:

- advanced courses for bridge engineers in bridge management, bridge construction and maintenance
- courses in supervision of bridge construction
- training of teachers.

It is anticipated that the total number of course participants will be about 200 persons. The program will include the establishment of a Bridge Training Centre at Pathum Thani.

In addition to catering to the needs of Thailand the Bridge Training Centre will also offer training opportunities for neighbouring countries including countries in the vicinity.

The cost to be paid by Sida are enumerated in per heading of the training program and DOH will cover other associated costs. Examples of costs to be paid by DOH are all local costs for the Thai staff such as transportation, allowances, accommodation, copying, furnished office for the Swedish trainers, accommodation and daily subsistence allowance for the Swedish experts and other local costs associated with the project.

The program has just started and there is no documentation available other than the current contract between DOH and SweRoad.

THE FUTURE SWEDISH ASSISTANCE AS SEEN FROM DOH

Representatives from DOH could envisage many fields of co-operation with Sweden. The fields mentioned below were not prioritised by the upper management of DOH. The time did not allow for that. However, below follows various fields of interest for co-operation:

1. The development of a model for management and operations of tolled inter-city motorways.
2. The preparation of an Internal DOH Manual related to the implementation of the 1992 Act of the Enhancement and Conservation of National Environmental Quality in relation to highway construction and operation. Currently Environment Impact Assessment and sometimes Social Impact Assessments are carried out. Current support through other partners in co-operation is deemed insufficient.
3. There is a relatively large portion of concrete roadways. They are getting old and there is a need to developed routines and techniques for their maintenance.
4. The DOH Research and Development Centre is anxious to continue and deepen the co-operation on training and applied research in soil engineering. Reference was made to a written proposal dated 1996-04-05 by the Swedish Geotechnical Institute. Some of the current research activities on soft soil engineering were promoted by the Swedish co-operation.
5. There is an interest in technical know-how related to driving tunnels in soft and hard formations.
6. There is an interest in re-cycling methods for road construction material.
7. Quality control management according to ISO requirements.
8. From sources other than DOH it appears that there is an interest in receiving support for various pilot activities identified by the Master Plan on Road Safety Studies.

EVALUATION

Introduction

Thailand has encountered profound changes during the past twenty years. It has gone from a developing country to a country with an increasing urban sector. Thailand has also undergone political changes. So has the rest of the world, particularly many of its neighbours in the south-east Asia. Currently Thailand is facing a financial crisis together with many other Asian countries. History and culture including religion are all important factors in everyday life in Thailand and not always easily understood by foreigners. There are also foreign political, cultural and other factors not easily understood or accepted by the people in Thailand.

The current economic crisis plays an important psychological part in a feeling of an insecure future. One is concerned about cost reductions of current programs and lay-offs which makes it difficult to plan for an undefined and insecure future.

A rather extensive description has been made of the transport sector to show the technical and institutional environment the Swedish supported projects have been working in.

Below follows comments on the co-operation in the transport sector of an evaluative character. The environment, international, regional and national should be kept in mind when trying to understand the Swedish supported projects.

On Co-operation with SweRoad

One immediate observation is that the interaction between the DOH and SweRoad is characterised as a relation between two national road agencies. The two first projects executed, transport economy and road administration, can be seen as rather expensive if seen in isolation. They can also be seen as goodwill projects. It may be questionable whether Swedish development funds should be used to create goodwill for consultants selected by BITS.

The remaining projects being evaluated give the impression of the result of serious pre-project professional discussions between two parties and the capability of DOH to prioritise.

The DOH felt comfortable co-operating with SweRoad as they identify the company as a representative of SNRA. It was therefore felt that competitive bidding was not necessary. In actual fact DOH conveyed an impression that they were very content with the co-operation with SweRoad. They felt the relationship could be characterised as collegial.

A few comments were made about SweRoads engagements with DOH such as the need for formal notifications in terms of planning, customs clearance and the testing of soil samples outside Thailand.

Fees and time allocated to the Swedish experts are in line with normal market prices in Sweden. In relation to the total cost and number of participants the training in Thailand has been cost efficient.

On Co-operation with BITS/Sida

All services provided with financing assistance from BITS/Sida have been procured as negotiated contracts i. e. the procurement has not been subjected to competition although the services could have been provided by a number of Swedish engineering consulting firms or Swedish technical universities or a combination thereof.

It has been difficult for the Thai side to understand the workings of BITS and Sida. No information was available or attached to the contracts governing the projects on the role and function of BITS/Sida. The model as a contract between two independent parties with financing from BITS/Sida has not been fully understood. The Swedish partner is seen as an extended arm of the Swedish Government.

As the co-operation has taken place on individual project basis, DOH has had difficulties in planning and making budgets available when the projects are approved. DOH would prefer co-operation based on longer terms. It would facilitate their planning.

On Co-operation with DOH

DOH has been an active, responsible and mature party with a good understanding of the transport sector and their role. The cost sharing has functioned. Commitments by DOH have been fulfilled. Funding off consulting services from Sweden has been well received and used to the benefit of the operations of DOH.

Commercial Spin-Offs

SweRoad has been shortlisted for other DOH projects and has so far been awarded one project. This is regarded as commercial spin-offs thanks to the BITS/Sida financed projects.

Indirect commercial opportunities seem to have materialised in the form of the sale of geotechnical equipment and machinery, road markings and plants and equipment for asphalt emulsion plants.

On the Soft Clay Engineering Projects

Thailand is a riparian country. Soft clay is encountered in large areas around the rivers in the central parts of Thailand. Provided cost efficient measures for stabilising soft soil formations can be achieved, investment cost of infrastructure can be reduced. The Scandinavian geothechnical methodology allows for a relatively fast and cost efficient methods for establishing geotechnical data and determine suitable stabilising measures . Some of the measures that can be undertaken, for example lime and cement columns, reduce the cost for stabilising the road embankment compared to traditional pile driving. Hence the projects related to stabilisation of soft clay are relevant and important. Although Sida has classified these as transport projects, they are actually related to reducing foundations costs for any structure to be built on soft clay.

The priorities in the research program carried out by the DOH Research Training Centre reflect the foundation problem in soft formations. The importance of the Swedish supported

projects carried out by SweRoad are reflected in the fact that the DOH Research Centre has about ten projects that deal with stabilisation aspects of road embankments.

Regarding sustainability of the training carried out one can offer several comments as to the need of involving learning institutions in transferring engineering know-how. DOH is the leading institute with the best know-how in Thailand regarding soil investigations and alternative methods for stabilising soft formations. Although representatives from technical universities have been participating in the training carried out, no systematic attempt has been made to incorporate the "Scandinavian methodology" into the curricula for civil engineering training. According to sources within DOH "our Department is the sole body with advanced knowledge... The universities are not aware of technological developments." The methods have applications for any structure to be build on soft clay formations. Representatives from the Office of the Civil Service Commission had no explanation to offer as to how new technology can be incorporated in the curricula of higher learning institutions. It appears that the macro planning of manpower requirements should include qualitative aspects in addition to quantity. Representatives from the DOH had no idea as to how to contact authorities responsible for curricula development and standards. In fact representatives from DOH had several viewpoints on how to improve the curricula for civil engineers.

DOH relies on a fairly large training unit for up-grading its staff.

There is a need for the planning authorities to review current practices to ensure access to available technology and that the graduating students are equipped with a suitable and up-dated package of tools (technologies and skills) that enable Thailand to exploit her advantages in a global perspective. It should be borne in mind that the entire civil engineering sector would benefit from a review of the educational system to ensure the provision of adequately trained manpower. Such measures will improve and sustain the competitiveness of Thailand.

On Bridge Construction and Maintenance

Many of the bridges installed in the 1960s and 1970s are getting old and there is a need for major bridge repair to extend the economic life of existing bridges.

The current bridge management training project appears in line with the needs of DOH. The contract governing the project appears clear and spells out objectives and activities. Cost sharing will be practised.

On Development Objectives

During the time of the implementation of the evaluated projects there were organisational changes on the Swedish side. The independent organisation Bits with slightly different objectives and working methods than Sida was merged with Sida. The projects evaluated appear in general to fit both sets of objective i. e. the projects have contributed towards reducing investment cost in the road transportation sector thanks to the "accelerated" transfer of technology. This has contributed to economic growth, more commerce and trade between urban an rural areas including additional opportunities for men and women which reduce poverty. The projects have also provided SweRoad with a vehicle of opportunity in Thailand.

The "accelerated" transfer was possible because DOH has the manpower and institutional capacity to identify and implement projects that enhance the output of DOH. Indirect benefits to the Swedish side have been some additional commercial opportunities accounted for above. On the other hand the economic development in Thailand has not been balanced. It has taken place at the cost of environmental degradation in general and the transport sector contributes

to a large part of the problems, particularly in the Bangkok area. There is, however, an insight into the equation and measures are taken to reduce the environmental impact from the transport sector.

Some Reflections on Swedish bi-lateral Co-operation with Thailand in the Transport Sector

It has been understood than no specific policy related to Thailand has governed the official Thai-Swedish co-operation.

The consultant selected for the transport sector by Bits was SweRoad. SweRoad has gone a long way in developing from an organisation initially created to dispose of redundant staff of the Swedish National Road Administration to a reputable international road consulting company with specialisation in road agency institutional support. Current in-house staff of SweRoad is recruited for its know-how and they have an extensive rooster of individual consultants representing various specialities. In addition, SweRoad is accustomed to working in co-operation with Swedish and foreign consulting firms. It is a professional organisation and they are able to acquire assignments in open competition.

For the sake of promoting market-orientation, specialisation and cost efficiency the procurement of services should have taken place in a competitive setting involving DOH. To be able to professionally procure consultants comprises an important know-how. One needs to identify the services to be procured, specify them, procure the services and then supervise and monitor the portfolio of contracts. This know-how is becoming increasingly important as there is a trend to trim the public sector and to out-source production of services. The public institutions need to emphasise their efforts in public administration through good governing and not necessarily producing services. The services can be procured by out-sourcing. How does one determine necessary in-house capacity? Should these reflections should be considered in a future development co-operation scenario?

It is recommended that future co-operation between the Governments of Sweden and Thailand be based on a needs analysis and not according to the specialities of selected Swedish consulting companies. This is a general comment and does not reflect on the transport projects carried out professionally by DOH and SweRoad. The program should cover a few years to enable budget appropriations to be incorporated in the planning cycle. The cost-sharing element is important to enable a sense of project ownership on behalf of the Thai counterpart.

The objectives and policies for the co-operation should be clearly defined. Special policies or rules mutually agreed to by the Governments of Thailand and Sweden governing the TA-Co-operation should be spelled out and attached to the project contracts.

The role of Sida, DTEC and the TA-contracting partners should be clearly defined in terms of planning and programming, project preparation and procurement of services, monitoring and supervision of TA-contract portfolio. The co-operation between Sida and DTEC should be managed according to a mutually established modus operandi.

Attachment 1: Persons met

A field visit was carried out in Thailand for two weeks starting on April 19, 1998. The field visit included visits with officials at different institutions including a visit to a construction site where soft soil applied research was carried out. A visit was also made to a road training center.

From DOH: Mr. Vinich Benchapong, Deputy Director for Administration, Likhit Khaodhiar, Dr. Siriphan Jitprasithsirri, Mrs. Pimchai Yuthabandol, Chief of Environment Unit, Department of Highways, Mr. Visit Achayanonlgit, Training Officer, Mrs. Sipraphai Kaewnukul, Training Officer, Chirarat Ousawat, Training, with Dr. Teeracharti Ruenkrairergsa, Director, Road Research and Development Centre and Mr. Suchart Leerakomsan, Area Engineer, Bureau of Road Construction 4, by Messrs. Surachai Sununtapongsak, Satipong Apimetatamvong and Mr Praset Boontharaksa. and Mr.Sujin Ruangphornwisut.

From the Italian-Thai Development Public Company Limited: Mr. Somchai Thamrongwang

From the Asian Institute of Technology: Dr. Noppadol Phienweg

From the Swedish Embassy: Mrs. Chantana Rungtapnapa, Commercial Officer

From the Secretariat of the Mekong Commission: Mr. Lars Andréasson

From DTEC: Mr Manoth, Desk Officer and two officials

From the Civil Service Commission: Mr Thirayuth Lorlertratna, Acting Secretary General, Dr Chalerm Sriphadoong, Advisor the the Secretary General, Mr. Chupong Savetachinda, Assistant Secretary General, Ms. Darunee Boonsing, Senior Expert, Ms. Aim-On Aramkul.

From the Energy sector: According to separate report.

From Sida Stockholm: Anders Eriksson

From SweRoad: Stockholm: Hans Eriksson and Gösta Karlsson

Evaluation of BITS/Sida Supported
Development Co-operation
with Thailand in

Public Administration

by Roland Duberg
Research Development International
June 1998

Table of Content

BACKGROUND

During the last decade the world has undergone tremendous changes within political, economical and technical fields. During this period focus has been strongly moved from traditional financial centers to new emerging markets. South East Asia has become a vital focal point in terms of a commercial partnership, emerging financial centers and areas for profitable production. Development in the SEA has become of global interest. At the same time or rather during the latter part of the decade, SEA has gone through substantial economic and financial crises. These crises have had only marginal effects on the Western World because of their limited share of the global commercial or business stake. However, they have caused psychological effects on major stock markets and international relations. For SEA itself, the financial crises has had excessive effects.

A synthesis of available and reliable sources dealing with the development in SEA shows a number of development trends that would be of crucial interest in evaluating past, current and ongoing assistance to countries within SEA.

DEVELOPMENT TRENDS AND EVALUATION PERSPECTIVE

Delineation of political, social and macro economic trends in South East Asia points at regionalization, decrease in traditional dominance, consumer-driven export, market-driven production, emergence of super cities, acceptance of high technology, emergence of women etc. etc.

The creation and expansion of ASEAN, the international interest in the Mekong Committee , emergence of regional agencies and co-operation efforts all confirm the increased international focus on South East Asia where Thailand is one of the most powerful nations. The region is of importance not only for Asia but for the rest of the world in terms of new development and financial centers and potential industrial host regions.

Assistance from countries like Sweden directed to one country such as Thailand becomes of interest from a SEA regional point of view and must thus be evaluated from a not too narrow perspective.

The development in SEA is a multi dimensional development with focus on a number of areas. The referred trends are of major importance in transforming Asia into something new and putting Asia on a new development curve (the second curve). These areas embrace social, political, economic, technical, human resource, gender and environmental factors.

Although the trends (for example the economic) are not going steadily upwards, the on and off curves create a development that in most cases show an upward long term trend.

The development curve with its pros and cons clearly indicates an increasing demand on individuals, groups and organizations (that have on their shoulders to guide and monitor their countries through these sometimes hard and often unfamiliar phases). Naturally, the new development curve (the second curve) is different from the first in almost all aspects. It certainly in many respects requires different thinking, people with new mental pictures and different structures and systems. From this point of view, the effort Sweden has invested in the transformation process of the public sector in Thailand becomes of interest and is well worse

reflecting upon in terms of learning for the donor and the engaged consultants as well as for the recipient.

THE THAI GOVERNMENT

The Civil Service Commission

The present Civil Service Act in Thailand has been in force since April 1, 1992. The Act stipulates that he Civil service Commission (CSC) is the central personnel agency for civil servants.

While there are eleven categories of civil servant, each attached to its own central personnel agency (commission) and jurisdiction, the CSC is considered to be the main central personnel agency in the Thai civil service system, and certain rules and regulations issued by the CSC are often adopted by other commissions.

The number of civil servants in the eleven categories are (as of 1995) approximately 1.23 million, the largest groups being teachers (530.000), ordinary civil servants (380.000) and police officers (200.000). Assistance directed to the Civil Service in Thailand thus seem to have a far reaching potential in the support of development if deemed successful.

The Office of the Civil Service Commission

The Office of the Civil Service Commission (OCSC) is attached to the Office of the Prime Minister and reports directly to him. Its duties are to act for the Civil Service Commission (CSC) in the performance of its official functions, and to perform other duties as assigned by the CSC; to undertake research and analysis concerning personnel administration and organization development of the civil service system; to study and analyze issues concerning standards of public personnel administration; the improvement of civil ministries, public bodies, and departments; organization development of government agencies; and administrative procedures and practices; to develop and improve the personnel information data system, to undertake human resource planning in the civil service; to promote, coordinate, disseminate, provide consultations and advice, and conduct activities concerning civil welfare administration; and development of civil servants.

The Office of Civil Service Commission is headed by Secretary-General, Mrs. Dhipavadee Meksawan, assisted by four Deputy Secretaries-General including Mr. Thirayuth Lorlertratna who assisted as Acting Secretary-General during the course of this evaluation (April 1998) when Mrs. Dhipavadee was visiting New Zealand.

THE SWEDISH SUPPORT

Overview

The Swedish support to the Office of Civil Service Commission consists of five parts. The total budget for the period 1993-1998 is 6.9 million SEK.

Code	THA 0511	THA 0512	THA 0513	THA 0731	THA 0801
Topic	Macro Manpower Planning	Management of Change	Management of Change Phase I	Management of Change Phase II and RBM	Management of Change Phase III and RBM
Cost (SEK)	1.496.000:-	228.054:-	2.570.000:-	1.848.000:-	800.000:-
Period	July 1993-	Sept. 1994-	Oct. 1995-	1996-	1997, 1998
Objective	to establish a macro manpower plan for each sector	the Human side of the organization	Change awareness, Gender awareness, Result Based Management (RBM)	practice of change; experimental learning, transfer of skills	The proficiency of OCSC officers in MC, RBM and planning system
Outputs	Public Health Manpower Scheme	Seminars and Workshops	Courses, a Change Manual	Result Based Management Courses and Seminars	RBM handbook, training of Change catalysts

The Swedish Institute for Public Administration (SIPU) was appointed to carry out the mission.

Summary of the Swedish assistance as presented by OCSC

In a meeting with officials from the OCSC on April 29, 1998, a description and evaluation of the Swedish support to OCSC (accompanied with a power point program) was presented by OCSC.

Present in the meeting were:

Mr. Thirayuth Lorlertratna, Deputy Secretary-General (acting Secretary-General)

Dr. Chalerm Sriphadoong, Ph.D. Advisor to the Secretary-General

Mr. Chupong Savetachinda, Assistant Secretary General

Ms. Darunee Boonsing, Senior Expert, OCSC

Ms. Aim-On Aramkul, Executive Staff, OCSC

Leif Grahm, team leader, Sida Evaluation Team

Lars-Olof Eliasson, asst. team leader, Sida Evaluation Team

Roland Duberg, management specialist, Sida Evaluation Team

The Swedish Government first provided assistance to the Office of the Civil Service Commission in July 1993 in the Macro Manpower Planning of the Thai Civil Service with the mutual anticipation that the cost of manpower should not exceed 40% of the total government budget. The objectives of the project was to establish a macro manpower plan for each occupation or economic sector and also to propose policies and criteria to effectively utilize the public sector manpower at a macro level.

The outputs of the project coincide with the planned objectives as there were a macro manpower plan which was later on adopted as a Public Health Manpower Scheme applying and synthesizing the technique of manpower forecasting introduced by the Swedish Consultant; and parts of the proposed manpower policies were further scrutinized and structured as Senior Executive Service and Early Retirement System. Delegation and decentralization are also applied leading to better Human Resource practices such as in recruitment and selection and position classification.

On top of this, the principle and technique of a computerized simulation model was applied in allocation budget for government scholars.

After the infrastructure foundation introduction, the Swedish Government and SIPU contemplated the importance of the Human side of organization.

In 1995, the first Management of Change concept was introduced alongside with a Management and Executive Development Scheme. Three main components were set as targets for the achievement; the first one encompassed a change awareness to sensitize managers and staff of OCSC and other central government agencies on the needs for change through a series of seminars and workshops.

A pilot course on Management of Change was conducted and a manual and change management was produced. The second component was addressed the issue of gender by a sub-project on Gender Awareness containing training of staff and development of a gender awareness strategy for the OCSC. The concept of Result Based Management was introduced by different means in the third project component, on a limited scale.

The second phase of SIPU cooperation in 1996 concentrated on two components: Result Based Management and Management of Change Development. The work was carried out through a genuine and fruitful cooperation between the OCSC management and staff and the SIPU consultants. The project was particularly successful in the sense that all project work was performed in working groups allowing close cooperation and transfer of skills, knowledge and experience between the Swedish consultant and OCSC officials. The introduction of experimental learning, which is a new way of learning for the Thai Civil Service, was particularly appreciated.

The third phase of SIDA assistance to the Office of the Civil Service Commission during 1997 and 1998 covered a wide range of activities under the theme Management of Change and Result Based Management.

The prime objectives of these two sub-projects are that OCSC should have developed their proficiency in management of change; that OCSC officers should have developed their proficiency in RBM and finally that the planning system confirmed the RBM practice of OCSC.

The Management of Change sub-project focused on four target groups:

(1) the OCSC Management Team, aiming at strengthening the team and its role as a driving force for change within the office and as a tool for the Secretary General in steering and leading the office.

(2)Middle Managers and Experts, dealing with how to organize and implement change within the administrative area.

(3)Civil Service Training Institute officers, focusing on the new consultative role of the OCSC as well as on how to conduct administrative studies and organize project work.

(4)External Executive managers, concentrating on the improvement of knowledge in leadership and management of change.

The Management Team of the OCSC has started a change process on their ways of working and the development of a participative planning process. Several networks for cooperation has been established and a number of change projects have been initiated.

The Result Based Management sub-project has focused on compiling, analyzing and presenting output for the OCSC. The work has been carried out through a number of workshops and project works for staff from all bureaus and divisions of the Office.

The implementation of Result Based Management in OCSC has gone a long way and the theoretical and practical knowledge about RBM has increased considerably.

The objectives of the project as well as the targets and outputs have been fulfilled. Courses, seminars and workshops have been organized by the two sub-projects corresponding to a total of approximately 750 participant days. About 250 officers from OCSC have participated in development activities in either of the two sub-projects.

The third phase can undeniably be categorized as success in the same manner as its predecessors. However, since OCSC is at the commencement of remodeling herself to act as change catalyst to enable the civil service to achieve the highest levels of efficiency, quality and integrity for the benefit of the Thai people and its international competitiveness, the mission under the assistance of the Swedish Government should be continued to support such reform and modernization.

SIPU with her expertise in Management of Change and Result Based Management will help ease and support this reform initiative. The human side of organization together with its result oriented emphasis need to be strengthened and their actual implementation in the next phase will go alongside with OCSC's reorganization and reform.

It is obvious from the OCSC description of the Swedish support executed by SIPU that the recipient is satisfied with the Swedish contribution and appreciative of the Consultant's conduct of the support.

AN OPEN SYSTEMS APPROACH TO EVALUATION

Model definition

If the purpose of the evaluation is to obtain a comprehensive picture not only of the end product but also of the context in which the interactions take place, an open systems approach to evaluation should be preferred.

The Congruence Model consists of an input, a process and an output.

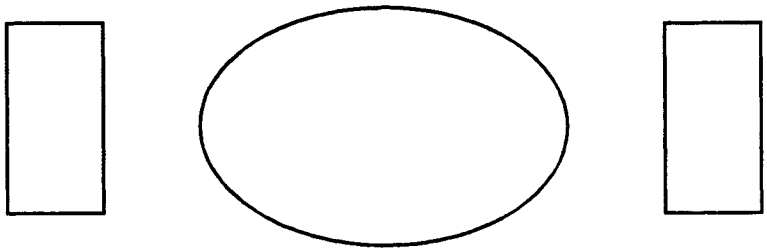
The input is dependent on three factors; the history, the environment and the available resources.

The Process deals with work, people and organizations (formal and informal)

The output which is a consequence of the process and caused by the input is shown on three levels, the individual, the group and the organization or systems level.

As an open social system is dynamic a number of feed back processes occur.

The Congruence Model is illustrated below:



INPUT	PROCESS	OUTPUT
History	Work	Individual
Environment	People	Group
Resources	Organizations	System

I would like to stress that the model referred to or rather the application of the model is of practical use in analyzing, evaluating developing and monitoring work both within developing and developed countries and thereby in both established industrial and emerging markets. In one sense the model supports or enlarges the holistic aspect of the case in question. The model both complements and goes one step beyond the logical framework approach.

From an evaluation point of view it is interesting to scrutinize the **input factors** in terms of existing history, present environment including cultural context and available resources on a technical, personnel and economic level. By necessity these factors both open up possibilities and set limitations.

The period of assistance can be looked at as **the process** period where interventions are made both on the input level (by adding resources and making impact on the larger environment) and in the process (by dealing with tasks, people and organization issues). The process sequence is sometimes called "the black box" as it easily becomes hidden or neglected.

The dynamics of the process where work, people and structures interact, and where resources and other input factors create possibilities and set limitations, eventually cause **an output** that is observable on individual, group and system levels.

APPLICATION OF THE MODEL

The Input Aspect

We will start by looking at Thailand from an input point of view. There are mainly three factors that should be observed; (1)the history, (2)the larger environment and (3)the resources. We will briefly identify each of them.

History

Thailand has a deep well founded, clear history. The Thai or Siam history is a reality and a vital part of the Thai life. The ties between history, culture and religion are vital, sensitive and vibrant. Thai culture and tradition is of a deeper dimension than normally understood by people representing secularized countries prevailing in the Western world.

Environment

Thailand is bordering Cambodia, Laos, China and Myanmar. Thailand is from the perspective of China a small nation and from the perspective of the other neighboring countries a huge dominating nation. Although not bordering Vietnam, Vietnam is part of the Thai neighborhood. Throughout history Siam borders have been crucial, critical and non-static. The Thai larger environment and its place on the map has been dynamic even in the perspective of the short period of time the referred Swedish assistance has been directed to Thailand. During the last few years there has been a rapid development towards regional cooperation in Asia where in most cases Thailand is playing an important role; ASEAN, The Mekong Committee, the Triangle, the Quadrangle, etc. Some of the development programs were quite unfamiliar and others in its crib at the start of the referred Swedish assistance period.

Resources

Resources embraces (1)human resources in the form of existing and potential human capital, (2)economic resources such as capital and natural resources, and (3)level of technology

Discussion

In its deepest sense, Sweden as a donor country has had very limited impact on the entire input sector. However, intervention is made through adding of "know how" and financial resources.

The final outcome of the assistance is strongly influenced by the extent to which the donor agency/consultant has penetrated and understood the context in which the support has been given with regards to the three input factors mentioned above. However, the major contribution is process rather than input based.

Based on available sources and discussions, it seems like the consultant to the OCSC has achieved a thorough understanding for the prevalent input factors and thereby caused an impact that is congruent with the Thai context.

When it comes to the Swedish support to Human Resource and Management Development in the Technical and Industrial projects including credits, it seems like the training effort is of a more technical nature and therefore disregards at least the historical and cultural background factors. To what extent that has an adverse effect on the sustain ability of the support is difficult to say based on the current cases but might be worthwhile looking into. Naturally also organizations such as Provincial Electricity Authority (PEA), Bangkok Police and Fire Brigade and assisted industries are products of the input forces listed earlier (environment, history, resources). How and to what extent these and similar training projects could be enhanced by increased attention to input factors requires further studies.

The Process Aspect

The process aspect focuses on the transition period during which the relevant assistance has been directed to Thailand. In this "black box" work, people and organization arrangements are dealt with. They are maintained, developed and treated with the hope and expectation of some sort of positive outcome.

The process components or determinants are (1)work or task, (2)people or individuals, (3)formal organization (overt components such as structure and systems) and (4) informal organization (covert aspect such as attitudes, values, feelings etc.).

The Swedish support has been people oriented. The OCSC also expressed that they like to work with Sweden when it comes to people development. Interesting enough, although the organization intervention is dealt with by the American consultant, Sweden has made a strong impact on the system level (which is part of the organization) in introducing the Result Based Management Concept.

Work

The ideal work embraces fulfillment of tasks leading to goal attainment.

Major factors making impact on the required work are the demands from the greater environment

In this respect the assistance does make impact on the task by enhancing the resource factors (personnel, technique, capital), thus supporting where the local input is unable to live up to expectations and thereby making goal achievement possible.

The OCSC philosophy of task achievement has definitely changed from a bureaucratic to an advisory and service oriented task concept during the period of Swedish assistance.

People

The major objectives of people interaction is twofold, (1)to create congruency between the task and the individual and (2) to create congruency between the organization and the individual. This implies that the goal of the organization should be shared by the individual and that the individual should have readiness to accomplish that goal (awareness, knowledge, skills). It also implies that the organizational arrangements should be acceptable to the individual (appropriate structures and systems). In this particular case, it should be noted that the Swedish assistance is geared towards creating fit between the task and the individual while the American consultant is working on creating fit between the task and the organization.

Organization

An organization consists of a group of people who work together to achieve a

common goal. The structure of the organization is there to support the achievement of specific functions such as planning, coordinating, directing, supervising, controlling and motivating.

Organization structure is a system of tasks, people reporting, relationships and authority. It is a system within which these activities work together and coordinate actions to obtain set goals.

The main reasons for different organizational levels and an hierarchical structure of an organization are level of responsibility and range of planning. The higher up the hierarchy, the broader the responsibility and the longer range of planning.

The Swedish support seems to have had its greatest impact on Middle Management level.

The Change process supported by the Swedish assistance has created an urgent need to adjust the Thai Civil Service organization to avoid incongruency, both between the task and organization on the one hand and between the personnel and the organization on the other hand. As stated above this adjustment or re engineering is entrusted an American Consultant firm.

Discussion

An American organization (Booz-Allen & Hamilton) has recently started a public service performance improvement project in the OCSC with focus on reengeneering OCSC's role and organization.

Management of Change by necessity needs to embrace all process factors, a task that certainly needs in depth cooperation between all parties involved.

Discussions with the consultants and officers of OCSC indicate that the values guiding the stakeholders (OCSC, Booz-Allen, and SIPU) seem to be shared. The three parties seem to understand, consider and appreciate contributions given by the different stakeholders.

From a learning point of view it should be noted that this is not always the case. Functional cooperation between donor agencies should not be taken for granted. Often structures for such cooperation are missing

The evaluation shows that tasks of the various receiving organizations in Thailand actually have been influenced by the assistance. In other words, the work performed after the donor support is different from the work performed prior to the assistance. This is the first indication of aid impact.

Examples: OCSC changing previous bureaucratic work into a service organization. The Bangkok Fire Brigades successful handling of the traffic on Sukhumwith Road in connection with the fire at Ambassador Hotel in April 1997.

It is also of interest to reflect on how the assistance is directed to each of these factors. Is for example the assistance supporting interpretation of new tasks or work to be performed in relation to the input (e.g. change of context, new regional demands, re-orientation of global focus etc.) or is the assistance focusing on the individuals and groups in need of new "mental pictures", regional thinking, new knowledge, new understanding, or is the assistance directed towards the Organization, questioning existing structures, applicable systems, leadership style, etc. etc.

Is there a balance between the three? To what extent should external assistance deal with each one of these factors? Is there an understanding of the relationship between the macro input on one hand and the dynamics between the factors in the "black box" on the other. In other words is there an understanding for the new Thai context. Thailand today deals with regional economic agencies, concerned with the development in neighboring countries and "a pawn in the game" between financial political and industrial interests on a global level. This requires managers and officials with "mental maps" that support rather than obstruct or hamper necessary and desired development in Thailand and SEA.

Looking at the changes in task or work it could be concluded that the newly introduced tasks (MC and RBM) are more inclined to achieve goal attainment, and the people working with the tasks are more prepared to fulfill their tasks. However, it requires a tremendous generating effect of the work done to be able to accomplish sustainable results.

The Output Aspect

Besides the Input and Process aspects described above, an open social system takes into account the **Output aspect**. The input as described above with its history, environment and resources is a prerequisite and at the same time it sets the limitations for what can be accomplished in the process when work, people and organizational structures are put at force. The input factors as well as the process factors are decisive as to the output. The output aspect can be described on three levels; (1)the individual, (2)the group and (3)the system level. In the following discussion each level will be dealt with

The Individual

By necessity a program of this kind has to be confined to a limited number of people. Not all in a large organization can be directly involved in the training activities.

SIPU has worked with a fairly large number of people on middle management level, a selected group of people on high level, and a small group representing the executive top. The exact figures are noted in the final reports issued after each phase of training.

An attempt has been made to reach key persons in the organization. Activities have also been arranged to train change agents or catalysts.

All training efforts are worthwhile. However training activities that on beforehand are planned to become self generating are of higher and more sustainable value.

In the evaluation process we have tried to examine the "generating effects" . Potential Improvement Points included in the Survey of indicators respond to this question.

The Group

The survey of indicators show that group and team issues were given relatively low attention in the survey. This might indicate a need for discussions on how to elevate the training received to group and team level. However, interdependence is an elevation of independence. To be able to work with others on working group and team level a stable individual development as to awareness and knowledge is required. The achieved development level should be followed by intensive training in team building including work on team objectives, team tasks, team responsibility, team accountability and management teams. All these development issues are closely linked to the ongoing work handled by the American Consultant. A draft report named "The Future Organization and duties of OCSC" is forthcoming this month (April/May 1998).

It should be noted that the American consultant most likely will limit its work to presenting an organization design, a design that certainly will require a people oriented input to avoid unfit between the new organization and the staff.

The System

The development objectives embraces a desire to strengthen the capacity of OCSC to function as a driving force when assisting in the reforming of the Thai Public Sector. The Office also needs to improve its capacity to implement its new role and tasks in accordance with the new organization. The target groups besides OCSC include Ministries, Agencies and other Government organizations within the Thai Civil Service. In the long run, the OCSC is also prepared to assist in creating readiness for change on local, provincial and in the private sector. The ultimate goal is that those sectors shall take over some of the tasks now assigned the public sector on a central level.

It is reasonable to conclude that the OCSC has a long way to go before it is capable of phasing these new demands. Discussions confirm that the organization is fully aware of this situation. In this matter the OCSC is directing its plea for support to Sweden.

Discussion

In an evaluation effort it is thus possible to focus interest not only on the three levels of output (individual, group and system) but on all the three phases as described in this model (input, process and output). Very often evaluators limit their world of interest to the output factors. Even if it is the result that counts, the learning process is substantially enhanced by considering the given inputs and reflecting on the process events in the "black box". The dependency and causality between the input context and the actual process is of utmost importance.

In judging the donor responsibility and the selected consultant or consultant organization it is also pertinent to analyze the work in the perspective of interaction choice. What kind of attention is given to the different phases explained in the model above? How much attention is directed to covert aspects, such as attitudes, values, feelings, etc.?

Naturally "Management of Change" assistance given by Sweden is not the only factor making impact on the observed process and outcome in the public work sector of Thailand. However, it is of value to get some kind of confirmation saying that the assistance supports or have some relevant impact on the chosen and desired development. It is also of interest to know what other donor support is given besides the Swedish, and to what extent that support is conformable with the Swedish assistance.

This evaluation is strongly focused on factors where the Swedish assistance, though not isolated, might have had some impact on the transformation process in the public sector of Thailand.

The logical framework approach (LFA) is an asset when it comes to delineating objectives and quantitative achievements or expectations on the results. However, when it comes to qualitative achievements the matter of measuring instruments becomes more complicated. It is in this perspective an analytical model might be of value when reflecting on the achievement from a qualitative point of view, also taking the covert or informal factors into consideration..

What mental maps or pictures are guiding or forming an input into the processes that more or less are started through a change program.

Is their congruency between the flow of change when it comes to priorities in work and the needs for increased awareness among people on whom the work priorities depend. In line with this question it is also pertinent to ask whether the existing structures and systems in the organization are adaptable to and in support of these changes, and if not, to what extent the flow of change in the structures and systems is congruent with the other factors. (work - people - organization). The relevance of this question increases with the fact that more than one donor organization is involved in the process.

Relevant questions might concern the power structure in the organization, the control functions, recruitment procedures personnel policies etc. Another interesting aspect is the reward system in the organization. After change, what behaviors are supported and rewarded. Looking at changes that imply decentralization and delegation of authority where the objectives are geared towards increased accountability among middle management staff you might find that the desired behavior to live up to the new expectations is a threat to people who previously were in a high power position. If these people still are in charge of the reward systems, the desired behavior will certainly not become rewarded.

Knowing that an incongruency (which always more or less occurs in parts of any organization under change) will increase activities in the informal or covert sector of the organization, it is beneficial to look into issues that deal with such aspects as attitudes, values, feelings and group norms. This is particular true when introducing modern change in organizations where the environment is strongly dependent on and influenced by history, religion and culture that to some extent deviates from that of the supporting forces. To what extent has interest been geared to the informal (covert) sector as an instrument of change.

This is a crucial issue and a good demonstration of the two development curves referred to earlier. On the second curve almost everything (organizational behavior, reward systems, mental pictures) are different from the first curve. However it is necessary to maintain both the curves during the transition period

Always remember that the work performed and rewarded under the first curve (the old mechanism) was legitimate during that era and to a certain degree still is as change does not happen over night. The picture does not become less complex when knowing that covert factors (attitudes, values etc.) in the society does not necessarily change at the same pace as the overt (structural, technical etc.) factors.

Another phenomena to reflect on is the fact that during the period of assistance the contributing organizations (donors, consulting organizations) also go through a period of change. For Sweden, it has more or less been a change of paradigm within the public sector since the assistance to countries in SEA started. The values on which the first input were built are in certain respects quite different from the values applied today. The various parts of the assistance should thus be judged on its own merits. In particular, the first attempts to give a visionary idea of the final outcome might have to be reviewed against the ongoing development process in the two countries.

SURVEY OF INDICATORS

Method Description

On April 29, 1998 a number of officials representing Middle Management in the OCSC organization were invited to a meeting for a group interview.

The following persons were present at the two hour long meeting. All representing level 7-8 in the administrative career.

Mr. Joompot Thitivessa

Mrs. Maneepan Thongprayoon

Mrs. Ratana Ubolsing

Mr. Phanu sungkharon

Mrs. Taveelarp Chantanasevi

Ms. Kanita (Lee) Soodkangwal

Mrs. Maneerat Pongsatat

Mr. Wibbon Chulerttiyawong

Ms. Orrawan Nuypakdee

Ms. Aim-On Armakul, Executive Staff (Co-ordinator)

The following questions were put forward to the group.

- What are the major factors that have made or are making impact on your life and work?
- What are the major potential improvement points in your organization - What can become better?
- Anything else you like to tell me.

The participants were asked to first write down some notes. They were then interviewed one by one in consecutive order.

In addition to the statements given by the Middle Management Group, statements received from officers in category 9-10 at an earlier meeting during the same day are included.

The answers (statements) were listed and later on classified, analyzed and sorted.

The results are listed and reported below.

A Feed Back meeting was arranged on April 30, 1998. In this meeting which is reported under Relevance below, the outcome was discussed in connection with needs for future support.

An Organization Diagnosis

The survey is a kind of mini diagnosis of the organization which indicates in what areas the officers concerned have their major concern.

The diagnosis is divided into three parts, (1)Impact factors, responding to factors the participants find important in life and work, (2)Potential Improvement Points, indicating needs for organization improvements as prioritized by the participants, and (3)Status of the Art, indicating other factors the participants find important.

Each section is introduced by an analysis made on basis of the statements after the sorting procedure. The statements that in deed give a good picture of the immediate middle Management concern are listed as they were presented but in a logical order based on a sorting procedure on par with the 16 fields model presented after this section.

The following key explains abbreviations used in the tables.

Abbreviation	Key:
No.	Consecutive numbers, mixed after sorting
Source of inf.	Refers to the position classification system (1-11), where 11 is the highest. and 1 the lowest.
Type of issue	I - Impact factor P - Potential Improvement Points (PIPs) S - State of the Art
Level	Refers to one of the following levels: Ext. - External environment Org. - Organization level Group - Group level Ind. - Individual level
Contents	Refers to contents factors Core - Core business Climate - Culture/climate/attitude Principle - Policy issue Resource - Economy/Tech/HR
General	Examples on level and Climate are given in the 16 fields model in next chapter.

Impact Factors

Impact Factors indicate situations or events that have made major impact on the various aspects of Organizational life within the Public Sector in general and the Office of Civil Service Commission in particular.

As can be seen under Impact Factors in the listed summary below there are two areas where substantial influences are to be found: (1) International events, culture and organizational climate and (2)Resources including technical, human and financial components, All these make a substantial impact in particular on the external environment which in turn influences the organizational life. In other words, global change, economic conditions in SEA, public opinions and expectations, political impact and organization leadership constitute the major factors demanding change in the Thai Public Sector.

	IMPACT FACTORS				
No.		**Source of inf.**	**Type of Issue**	**Level**	**Contents**
37	Management of Change (MC) is dependent on traditional factors, seniority, respect and customs, the Thai way of life - MC is sometimes unobservable	8	I	Ext	Climate
49	The changes in the political system has had great impact on working life	7-8	I	Ext	Climate
54	Besides economic impact, the globalization - world without borders - has had a great impact on Thailand	7-8	I	Ext	Climate
56	The surrounding world's changes, do have impact on us and our values	7-8	I	Ext	Climate
69	The demand for change is supported by the economic crises. However even without the economic crises there are strong forces in the society (external environment) for change.	7-8	I	Ext	Climate
70	The Thai culture partly supports and is partly an obstacle to change. However, there is a tradition to follow the Leader, which indicates the importance of the role of top management. The fact that the Thai people are easy going and do not want to rush might have an effect on time for change	7-8	I	Ext	Climate
44	The active support from the Secretary General means a lot as a driving force for development	8	I	Ind	Climate

No.	Impact Factors	Source of inf.	Type of Issue	Level	Contents
50	GATT (General Agreement on Trade and Tariffs), how we sell goods and services - from a simple way to a more complex system - has had great impact on our way of life	7-8	I	Ext	Principles
10	The current economic down turn has great impact on the society	10	I	Ext	Resources
42	Examples from Great Britain and Sweden on the change from bureaucracy to service orientation are of interest from a learning point of view	8	I	Ext	Resources
43	Technical innovations such as internet has created new opportunities for development. Internet is a good support	8	I	Ext	Resources
46	The economic crises in Thailand has great impact on our work	7-8	I	Ext	Resources
47	The economic crises has great impact on the bureaucratic reform	7-8	I	Ext	Resources
48	The economic crises has great impact on individuals	7-8	I	Ext	Resources
51	Changes within technology, in particular information, is of great importance	7-8	I	Ext	Resources
55	The fact that you can follow what happens in the world on internet is an asset	7-8	I	Ext	Resources
41	Mentor ship (SIPU) has increased personal awareness and goal orientation	8	I	Ind	Resources
3	Technical development has a great impact on expectations	10	I	Org	Resource

Potential Improvement Points

Staff employees, officers in the OCSC on level 7-10, all give a unanimous picture of the needs for improvement within the jurisdiction of OCSC, including all Ministries (except the Defense).

The proposed need for improvement on organization level mainly concerns the needs for a more business and service oriented climate in the OCSC with particular emphasis on efficiency and change of role functions.

Team factors such as working groups and management teams are not specifically underlined which might indicate a need for further discussions on the application of complementary teams and the importance of management teams, management meetings and the "linking pin" effect.

On the individual level dedication, visionary thinking, understanding and improved work behavior are given high priority.

As to work content or core business it is felt that organizational improvement is needed when it comes to setting priorities for work. What are the core functions of OCSC and the public sector in general. How can the Government become "small". What are the functions that are better served by regional and local levels, by the private sector and external agencies? In other words, the discussion is concerned with market issues, customer orientation, service and advisory functions, a "new business" idea for the public sector, an idea serving the purpose of a renewed society both when it comes to people awareness, technical innovations and financial constraints.

Another important area for improvement deals with principles, polices and guidelines for work on organization, group and individual level. This includes both administrative structures and systems aimed at supporting set goals and objectives. Systems and guidelines should support the emerging development process.

As there is an urgent need to reduce costs, the resource issues not only concern budgetary matters but an economic and beneficial use of personnel and new technique. First of all the number of Government employees need to be drastically reduced. This requires a substantial input of raised efficiency and effectiveness. By necessity this requires not only more efficient methods such as Result Based Management and an appropriate handling of new technique, it also requires transfer of knowledge and continued human resources development. It further requires development within the sectors that will have to take over responsibilities that up till now have been entrusted the public sector (privatization, external agencies, regional and local institutions).

	POTENTIAL IMPROVEMENT POINTS				
No.	PIPs	Source of inf.	Type of Issue	Level	Contents
2	Expectations and demands from institutions and the public have changed	10	P	Ext	Climate
64	There is sometimes a "gap" (conflict) between the thoughts (thinking) in OCSC and the Departments. Departments are trying to escape the development and change. We need support in blending, transferring, showing and introducing the philosophy - How can we manage in this effort for the benefit of Thailand?	7-8	P	Group	Climate

No.	PIPs	Source of inf.	Type of Issue	Level	Contents
38	There is often a barrier between senior and junior staff	8	P	Ind	Climate
58	We need to see more dedication from officials in the entire OCSC	7-8	P	Ind	Climate
59	There is a need to improve work behavior among civil servants e.g. understanding, methods of work - no corruption	7-8	P	Ind	Climate
67	We need to work hard to encourage and maintain professional ethics. It is not enough to work from the office desk. It is necessary to be in the field to observe, learn to know people, establish dialogue and consider & meet existing needs	7-8	P	Ind	Climate
62	The OCSC is an agency for change. Our concept of thinking need to be more business like, service oriented, efficient and effective to be successful as a model for other departments we work with. Change in ourselves will effect the change of others	7-8	P	Org	Climate
7	Core functions and priorities have to be decided on within the public sector	10	P	Org	Core
18	Services need to be geared towards customer needs	9	P	Org	Core
20	In our efforts we are focusing interest on Ministry of Health and Ministry of Education where the needs are urgent	10	P	Org	Core
68	It takes time to become a "small" Government. The role of OCSC is being transferred to an advisory role rather than a controlling and directing role. Planning work need to be cost effective. OCSC should assist departments by providing advise, manuals and support.	7-8	P	Org	Core
57	Through intensive training and development, our roles can be changed	7-8	P	Group	Principles
6	Officers have to take on higher degree of responsibility for the end products	10	P	Ind	Principles

No.	PIPs	Source of inf.	Type of Issue	Level	Contents
60	The role of individuals need to be considered and improved	7-8	P	Ind	Principles
63	If we manage to change the roles of individuals and organizations, we will be able to reduce the number of employees and at the same time improve on efficiency - we will get a smaller government. Instead of creating unemployment we will transfer people to decentralized institutions, external agencies, introduce early retirement and abolish 80% of positions at retirement, retaining only 20%	7-8	P	Ind	Principles
1	The "production" structure has changed. There is demand for a new type of service	10	P	Org	Principle
8	Work within the public sector need to be quality controlled/secured	10	P	Org	Principle
12	It is important that systems using the new technology are adjusted to support the development process, the modernization of services	10	P	Org	Principles
16	Well trained professionals in medicine and other areas are "misused" as managers and administrators. More than 100 doctors are working in positions where a medical degree is not needed	10	P	Org	Principles
36	Obstacles/Difficulties a/o. in collection and co-ordination of data for RBM. There are not good enough systems for accurate data collection and analysis. Sometimes there is a feeling that data are being "made up". There is no tradition to support accurate handling of data	8	P	Org	Principles
61	The role of the organization need to be considered and improved - It will take time (> 3 years)	7-8	P	Org	Principles

No.	PIPs	Source of inf.	Type of Issue	Level	Contents
66	Improvement needs in organization of customs. we need to introduce practices and disciplines of a higher standard. Actions need to be taken by top management. Examples of standards and behavior need to be considered	7-8	P	Org	Principles
15	We are lacking medical doctors and pharmacists particularly in the rural areas - Services are unevenly distributed. The doctor : patient ratio is 1:400.000	10	P	Ext	Resources
17	There is a need to reduce costs and increase efficiency in the public sector	9	P	Ext	Resources
19	There is demand for advice on how to improve efficiency (do the same work with less people)	9	P	Ext	Resources
45	Change catalysts or change agents are in great need of continuous support and development to be able to sustain in the process of transferring of understanding. SIPU has been of great help. However, change processes are slow. It takes years to make people understand and "to move"	7-8	P	Group	Resources

State of the Art

The change process in the Thai Public sector is in progress. The Office of Civil Service Commission is fortunate to be under the leadership of a high degree of awareness, visionary based and future oriented thinking and clear overall goals and objectives.

A number of staff employees on different levels have during the last few years undergone substantial training in Management of Change and Result Based Management. The training have also included training for change catalysts.

The development process is the result of a number of factors, of which some are reported under Impact factors above. However, the elevation of change awareness which obviously has resulted in personal growth and reflections on role functions and organizational reengeneering is closely connected with the participative approach and sincere engagement in the OCSC development program in which the Swedish assistance seems to have been both timely and congruent. The OCSC is describing program objectives, target groups, output and outcomes under the below heading "Swedish assistance to the Office of the Civil Service Commission", in which report OCSC also indicates its interest in continued support in the reform and modernization process.

	STATE OF THE ART				
No.		Source of inf.	Type of Issue	Level	Contents
24	We have increased the awareness of a new paradigm (the shift in paradigm.)	10	S	Ext	Climate
33	The change process is supported by the fact that there is no choice besides change. The budget demand is strong enough because of the financial crises.	8	S	Ext	Climate
52	Why is Thailand with tremendous natural resources less successful in business than Singapore who is lacking these resources?	7-8	S	Ext	Climate
53	Why is it that Thailand struggles with bureaucracy while some other countries are far ahead on the road to service and support mentality?	7-8	S	Ext	Climate
39	There is good top support for change (Sec. Gen.)	8	S	Org	Climate
9	The external environment making impact on the Public sector is rapidly changing	10	S	Ext	Core
5	The public sector has to be reduced in size and increased in degree of efficiency and quality	10	S	Org	Core
11	Privatization is an urgent business. Priorities need to be considered. What should be privatized?	10	S	Org	Core
26	OCSC is supporting 150 departments under 14 ministries (all except defense)	8	S	Org	Core
32	Through a Training Institution, OCSC is responsible for training of all Managers in classification 9-11. Training offered to all departments. It is also open to the private sector	8	S	Org	Core
4	There is a change from decree oriented to participative planning	10	S	Org	Principles
14	Limitations on size of manpower decided on	9	S	Org	Principles

No.		Source of inf.	Type of Issue	Level	Contents
21	Co-operation between the Ministry of Universities and Ministries to solve the shortage of engineers has been initiated	10	S	Org	Principles
22	Manpower targets are set. Sixteen areas accepted	10	S	Org	Principles
25	Result Based Management is now used to increase responsibility and understanding. It is being introduced on a larger scale in the public sector	10	S	Org	Principles
27	An attempt has been made to change centralization to decentralization by transferring responsibility to: (1) provincial and local authorities, (2)the private sector, and (3)other existing agencies.	8	S	Org	Principles
28	The Bureaucracy Reform Committee is presently preparing measures to reduce number of staff in the government. This afternoon (April 29) they meet to discuss the reduction among teachers.	8	S	Org	Principles
29	All departments are in a letter requested to submit plans on how to reduce staff. Answers to be in by end of/March 1998	8	S	Org	Principles
30	Measures suggested for the reduction of staff focus around three issues: (1)review of function, (2)improving efficiency e.g. through RBM, and (3)cutting of costs	8	S	Org	Principles
31	A joint committee between the Ministry of Finance and OCSC with high level steering and middle management engagement is working on *key performance indicators* to improve efficiency. OCSC is the central agency.	8	S	Org	Principles
35	Change is elevated with the support from Management of Change (MC) and Result based management (RBM)	8	S	Org	Principles

No.		Source of inf.	Type of Issue	Level	Contents
65	We are concerned with the implementation of Human Resource Development (HRD) in the Departments. We are working on indicators of change to be able to set standards, evaluate and follow up on the change process. We are working on policies and guidelines for change under the 8th National Development Plan. We are assisted by the UNDP in this process.	7-8	S	Org	Principles
13	Support in Manpower forecast technique from Sweden was timely and considered of high value	9	S	Ext	Resources
23	SIPU has helped us to a more holistic view	10	S	Ext	Resources
34	There are World Bank provisions (ADB loan) to support the social sector. Decentralization 1:3. Reduction of government staff in education and public health and transferring to decentralized level.	8	S	Ext	Resources
40	There is a team of eight people established for change in the office (change catalysts)	8	S	Org	Resources

ANALYSIS AND INTERPRETATIONS

The 16 fields model

A 16-fields model has been used to analyze the attention Middle Managers in the OCSC organization give to various factors in the life of an organization.

The figures within brackets in the model refer to number of issues brought up in the survey.

	Core (9)	Climate (19)	Principles (24)	Resources (18)
External Environment (27)	market customer products competitors (1)	opinions in society to work, management, business (11)	laws agreements taxes (1)	economy technology Human Resources labor market (14)
Organization (31)	vision and business idea strategy (8)	organizational culture informal systems (2)	organization administration principles policies (19)	economic financial issues (2)
Group (4)	work tasks quantities and qualities (0)	climate in teams/groups (1)	structure in groups (2)	the situation of resources in the groups (1)
Individual (8)	necessary knowledge to do the job accurately personal competence (0)	attitudes and basic assumptions to work content, work environment (5)	individual regulations (2)	level of individual competence (1)

As the figures show, high attention was given organization and external environment issues (31 and 27). Least attention was given to group issues (4).

Among contents factors, principles were given highest attention (24), mainly from an organizational point of view. Resources (18) were dealt with mostly on environmental level.

Climate factors (19) were mainly dealt with as cultural issues in the external environment (11). However, attitude and basic assumption issues were dealt with on an individual level (5).

As some areas have been given very little or no attention during the referred discussions it might be worthwhile to spend some time penetrating the importance of these factors. As the majority of the "white fields" are on group level, it might be of interest to discuss issues pertaining to group climate, group functions, team work, structures and responsibilities on group level and accessibility of resources for working groups and teams.

Feed Back on the Diagnosis

A Feed Back meeting was arranged on May 1, 1998 at the OCSC.

Present were:

Ms. Darunee Boonsing, Senior Expert

Mr. Phanu Sungkharon, Examinor

Ms. Mantana Piyamada, CSTI Director

Ms. Aim-On Aramkul, Executive Staff

Dr. Chalerm Sriphadoong, Advisor to the Secretary-General

Dr. Roland Duberg, Sida Evaluation Team

Background material for the discussion was the results of the organization diagnosis and its interpretation.

An overview of methods was given. The listed factors were reviewed partly from the survey and partly from the summaries included in the survey.

Discussions were held as to relevance, interpretation and conclusion. The members were asked to be open and speak out if not in agreement with the descriptions and interpretations. An interesting discussion occurred based on the white fields or areas not alleviated in the survey.

Impact factors were accepted as correct.

Potential Improvement Points were expanded on and eventually verified

State of the Art led to further discussions on the Thai current situation resulting in a discussion on demand for further support.

FUTURE DEMANDS

New tasks for the OCSC

The OCSC is now in the process of taking on or preparing for new steps:

- to generate the change awareness and new thinking on a broader scale within OCSC
- to transfer the awareness and knowledge received within OCSC to other Ministries
- to transfer the awareness and knowledge to sectors outside the OCSC and Central Ministries (provinces, local authorities, and the private sector).

To be able to work with this process, the OCSC needs assistance in taking the reform into action. Needs include support for management technique, support to transfer the awareness to high level officials and to other Ministries.

The OCSC ambition is to work as a facilitator for change. It is not an easy task to go into the rural areas. There is a need for guidelines and manuals. When work that has been handled by OCSC is being transferred to local authorities and/or to the private sector, it is necessary to first create a readiness among receiving staff.

When it comes to high level officials, they are in a way "non touchable" and it requires high status on the catalyst to be accepted as an authority. In this respect highly capable support from outside is required.

As input to the OCSC is given simultaneously from UNDP and Sweden. The UNDP support is focused on decentralization and the creation of an Executive Agency. The Swedish support is focusing on Management of Change, Manpower Planning and Result Based Management.

The support expected from Sweden concerns the preparation of people to accept change. Another need in which Sweden can be of support is concerning team building in the OCSC. OCSC need to be strong in order to go into the other fourteen Ministries (all except Ministry of Defense). OCSC is the key organization for change in Thailand.

Discussion

Based on the experience of this evaluation it can be concluded that when the training is strongly geared towards change, it is of utmost importance to select or include in the training process people with a high degree of authority, power and influence. If the training of middle managers does not receive support from the level above them, the training might be of limited use.

As the process oriented training requires a certain degree of proficiency, it is not enough to train middle level managers. It is a must to reach both the level above and the level below. Very often it happens that the top level management is reluctant to engage in training activities. The reasons are many, time, motivation, trust etc.

Experience suggests that a development process is enhanced if more than one leverage is trained at the same time. This creates a situation where the middle managers put pressure on the top because of their awareness, and that the top managers are able to respond to this pressure and increase the demands for rebirth and renewal on the lower levels. This also suggests that the middle management level in such a multiple situation is more or less forced to share their knowledge with the level below them.

However, as it can not be taken for granted that the middle managers have the capacity to generate their newly accomplished understanding to the bottom level, certain support activities need to be added. One such support activity is the training of change catalysts or change agents which training was initiated by SIPU.

Other support activities include the reengineering of the structure. As the only motive for the organizational structure is to meet set goals, the reorientation of the structure might be a key issue. In the OCSC case, this support is outside the task of the Swedish consultant organization. It has been entrusted an American organization. However, close cooperation between the Swedish and American consultants and the OCSC is maintained.

This in fact raises one of the most crucial issues in the works of donor agencies, that of donor coordination. Generally, donor coordination has a great potential for improvement.

When it comes to more "hands-on training" in the public as well as private sector, training directed to a selected target group might have substantial effects without a similar training of people above. However, the major points in the new training needs to be understood and agreed to by the levels above.

Requested Support

There are four elements of requested support:

- Support to organizational development
- Support to the development of management services
- Support to development of program for "right sizing"
- Support to development of a program for transparency in government

The content of the program consists of a combination of management support and training of OCSC staff.

The development objective embraces a desire to strengthen the capacity of OCSC to function as a driving force when assisting in the reforming of the Thai Public Sector. The Office also need to improve its capacity to implement its new role and tasks in accordance with the new organization.

The target groups besides OCSC include Ministries, Agencies and other Government organizations within the Thai Civil Service.

Evaluation of BITS/Sida Supported
Development Co-operation
with Thailand in the

Financial Sector

with Special Attention to

Concessionary Credits

by Göran Levin
Swedegroup AB

and Ulf Weidling
Scandiaconsult,
Industrial segment

Table of Content

Executive Summary

This report is a sub-report to the "Evaluation of BITS/Sida supported projects in Thailand 1986 - 1998" performed by Eliasson & Partner AB and Swedegroup International Consultants AB in association, during some short weeks in May 1998. This sub-report is put together by Messrs Göran Levin (Swedegroup) and Ulf Weidling (Scandiaconsult / Industrial Segment) and focuses on the evaluation of concessionary credits given. It was predefined that the study should focus on two lines of credit given on concessionary terms, namely:

- Siam Kraft Co. Ltd. received two concessionary credits in 1989 considering production and installation of sewage treatment works. The credits amounted to SEK 42 400 000 at a total cost of SEK 16 000 000. The Swedish supplier was HB Elof Hansson.
- Phoenix Pulp and Paper Company has received three concessionary credits totalling SEK 100 000 000. Estimated costs for Sweden are SEK 38 900 000. The suppliers were: ABB Stal AB, Fläkt AB and Sunds Defibrator Industries AB. The credit helped to finance investments in a second production line, at the Phoenix Pulp plant in Khon Kaen, in the North-east of Thailand.

The Phoenix project was conceived, the late seventies and was the first national commercial project for the production of paper pulp, in Thailand. The original sponsors were the Ministry of Finance of Thailand, the Industrial Finance Corporation of Thailand and overseas professional interests from Europe and India.

The credit contributed to building a completely new, second production line. Phoenix is dependent on forest plantations for its supply of raw material. The main raw material is Eucalyptus wood. Its concept is to work together with small farmers, providing them with seedlings and local technical support, as well as guaranteed purchase of harvested wood. The inland positioning of the production plant has also put specific restrictions on the process of water treatment, due to the limited capacity of the recipient river. Phoenix is today the leading producer of market quality blenched chemical pulp in Thailand. Of the projected production for 1998 of 215 000 ton, 62% are scheduled for export.

The Phoenix paper mill is a highly relevant development project . It has had an immense effect on the development of the surrounding area in the North- east of Thailand. The area is characterised by low productive soil and poor conditions for agriculture as compared to other parts of Thailand. Today, some 60 000 - 70 000 farmers are engaged in the production of wood for the Phoenix paper mill. Participation in the forest plantation and harvesting has given small family farmers the possibility to increase their average yearly income by as much as 2 - 4 times. This significant increase in revenue to small farmers could hardly have been achieved in any other way. The placement of the industry in Khon Kaen has strongly contributed to the

development of the society in the whole area. The second effect of the Phoenix paper mill is import substitution of paper pulp and generated export income.

At the time of giving the credit BITS evaluated the development effects against three criteria:

- **Poverty alleviation** through the creation of job opportunities and a possibility for regional farmers to develop and maintain forest plantations as an alternative to agriculture with a low geld.

In this respect the project has delivered far beyond what was foreseen at the time of planing the project.

- **Positive environmental impact** through reduction of pollution from existing installations and through the selection of an environmentally friendly alternative for the new investment.

Although a pulp mill as such can never be said to have a positive environmental impact, the phase II investment also included the investment in better sewage cleaning for the whole plant, i.e. also for the phase I production line. In this respect, it had a positive effect on the recipient as the first line had a significantly less technologically advanced water treatment installation.

- **Economic growth** - the project must be economically feasible both from a business point of view and based on costs and benefits for the society.

The Phoenix has, as a commercial company, had both good and bad years since its start. Presently, it anticipates to make very good profits during the coming two to three years. A proof of its commercial success is the fighting between the owner groups for dominance of the company, which has been taking place since the mid 90-ties.

Siam Kraft is a fully owned subsidiary to Siam Pulp & Paper Co. A company within the large Siam Cement Group, the most important industrial group in the country. The main owner in Siam Cement is the State of Thailand. Siam Kraft received financing for a sewage treatment plant to be installed at its pulp mill. No evaluation was made of the investment development effects, at the time of giving the credits. The sewage treatment plant installed had at the time of its installation an over-capacity of approximately 30%. This capacity is today being utilised. The construction was based on the most modern technique at its time of installation, in the early 1990-ies. The decision to invest in a sewage treatment system came as a consequence of stricter legislation on pollution, past by the Thai legislator. It thereby is safe to conclude that the investment has had a positive environmental impact; fulfilling the criteria used by BITS, when deciding to support the project.

When it was created BITS main objectives were:

- to promote Swedish cooperation with developing countries,
- to promote the sales of mainly Swedish goods and services, and
- to design the cooperation in a way which stimulated economic and social development .

The concessionary credits are all tied to the delivery of Swedish goods. It is probable, in the case of the machinery supplied to Phoenix certain, that the Swedish manufacturers would not

have received these orders, had it not been for the concessionary terms of the financing made available.

Since the monitoring of performance of a venture and the provision of advice to the sponsors and management are important ways to influence development, we have also examined into how BITS and Sida have participated in making these investigated projects come true. We found that, until this mission was appointed, the parties involved in putting up Swedish financing (Nordbanken, EKN and BITS) have not taken any steps to monitor the investments or the effects thereof. Thus, no further contacts were maintained by the Swedish financing agencies, after construction was completed.

It is our conclusion that these credits were relevant both to the over all objectives of the Swedish development cooperation and to promotion of sales of Swedish equipment. That the application of the financing in terms of delivery of Swedish equipment was efficient and that the monitoring of the projects there after was very poor to non existent, from a Swedish point of view. However, due to the independence of the recipient parties, the impact of the projects, has been satisfactory. In the case of Siam Kraft, expectations were met. It has delivered clean water. In the case of Phoenix Pulp & Paper Co, the impact has been of great importance to the entire region.

Based on our evaluation of these two projects, financed partly by concessionary credits, we have concluded that the availability of concessionary credits can be of vital importance for Swedish companies selling equipment to developing countries. It leads to a increased active presence of Swedish industry in these markets. Further more that commercial projects supported by concessionary credits can be of imperative importance for the development of Third World countries. We conclude that it is the design and professional management of a project that determines its success. Its sustainability depends on its commercial viability.

In the present financial situation, Thailand has of much need for foreign capital for investments. It is our opinion that among the many projects not possible to realise today, due to lack of financial means and high interest rates, there should be many well suited for Swedish development support.

Scope of Work

Sida has contracted Eliasson & Partner AB in association with Swedegroup International Consulting AB to make a Comprehensive evaluation of Sida's support to the Kingdom of Thailand. The industry part of the study, that concerns concessionary credits allocated to the pulp and paper industry investment, has been performed by Messrs Ulf Weidling (Scandiaconsult / Industrial Segment) and Göran Levin (Swedegroup). This report, which is part of the overall report, focuses on the evaluation of concessionary credits, as well as the use of such credits, in Sida programs.

The study commences with lines of credit given to two companies, the Siam Kraft Industry Co. Ltd., and the Phoenix Pulp & Paper Co. Ltd. We consider the structure of these companies, how the companies and the credits allocated to them fit into a development perspective, how they have fared since the credits were given, and where they stand today. We have also gathered information on the situation of the Thai economy today, almost a year after the collapse of the economies of south east Asia, the so called "Tiger Economies". This information has been used to evaluate the credits at hand and to discuss and exemplify how concessionary credits are used and what effects they can have in broader terms. Finally, we discuss what we can learn from the credits studied and try to find more generalised conclusions

The Companies

Of the two projects discussed, Phoenix Pulp & Paper Company is the major beneficiary. Phoenix received a total credit supported by BITS/Sida amounting SEK 100 000 000 (denominated in USD) at a total cost for the subsidised part of SEK 38 900 000. The credit helped to finance investments in a second production-line at the Phoenix pulp plant in Khon Kaen, in the North East of Thailand. It covered 85% of the payments for deliveries from Sweden. Phoenix has been open and co-operative towards the mission and all information asked for was provided.

Siam Kraft Industry Co. Ltd, on the other hand, did not shown any interest in the mission. After several days of continuous efforts to arrange a visit we were offered to send our questions by fax. We were promised an answer which we have not received. Therefore, our information is limited to the contents of the telephone conversations, to what has been published about the company and to what could be found out through the Industrial Development Corporation of Thailand (IFCT), one of the shareholders. The concessionary credit from Sweden amounted to SEK 42 000 000 and in this case carried a cost for the subsidised part of SEK 16 000 000.

EMPIRICAL STUDIES

Phoenix Pulp & Paper Company

The Company

Phoenix was conceived in the late 1970-ies. It was the first national project of its kind in Thailand. The location to the north-east in the province of Khon Kaen was at the time considered to be adventurous due to political unrest and the conflicts in Laos and Cambodia. The area was considered one of the least developed regions in the country. The sponsors at the time were the Ministry of Finance, the Industrial Finance Corporation of Thailand (IFCT), the European Overseas Development Corporation (EODC) and Ballarpur Industries which is the pulp and paper segment of the Thapar Group in India.

Phoenix I was designed to produce some 70,000 ton per year (tpy) bleached market pulp based on bamboo and kenaf to be supplied from some 30,000 farmers in the region and production started in 1982. In 1994 the mill was expanded with a second production line for eucalyptus pulp, Phoenix II, and the first line, Phoenix I, was modernised. The design production became 200,000 ton per year after this project and the mill has now been further improved to be able to produce 215,000 ton per year (the production scheduled for 1998).

The Credit

The new investment in the beginning of the 1990-ies was estimated at USD 217 million. Of the investment some USD 17 million represent construction material and contracts, which were purchased locally. USD 30 million was allocated for installation; training and start-up costs. A contingency of USD 20 million was left to cover cost escalation and additional requirements.

The remaining USD 150 million were intended for investment in process equipment and machinery. Running capital was calculated at another USD 12 million. This resulted in a total investment cost of USD 229 million. Approximately 80% , or USD 183 million of the investment, was foreign currency dependent.

Out of total investment, Baht 1 625 million (USD 70 million) was financed by the owners through the issue of new shares. USD 144 million was financed internationally with credits in foreign currencies and USD 15 million locally in credits in Baht. The investors anticipated that most of the loans in foreign currency would be concessionary credits and thus subsidised. The important supplier countries were Canada, Finland, Sweden and Austria.

The Development of the Company

Phoenix II started to produce in a difficult situation, just after the pulp market-slump in the years 1992-93; but already in 1994 it returned to profit :

Results in millions of Baht :

ITEM/YEAR	1997	1996	1995	1994	1993
Sales Volume	2,748	2,046	3,340	1,903	900
Gross Result	863	177	1,563	781	(38)
Net Result	193	(421)	973	460	(175)
Extraordinary	(3,069)				103
Net Earnings	(2,876)	(421)	973	460	(72)

It is not surprising to learn that during the years when a strong turnaround to improved cash flow could be expected for Phoenix, attempts were made to take over the company. This has been the case in 1994, and now latest at the general assembly meeting in April 1998. So far the present owners have been able to maintain, control.

The Present Situation

Phoenix is today the leading exporter of market quality bleached chemical pulp in Thailand and the export volume scheduled for 1998 is 62% of the projected production of 215,000 ton. In June 1997, when cash flow was tight due to the losses in 1996 and the low pulp prices, Phoenix negotiated a rescheduling of the debt service with the creditors. The result was that the lenders of concessionary credits accepted to move some payments of principal from 1997 to 1999.

When the financial turmoil in June of 1997 caused the Central Bank of Thailand to permit the Baht to slide from the "peg" of about 25.8 Baht to the USD to some 47 Baht per USD in December, Phoenix opted for the direct write-off option and carried a devaluation loss of some 3 billion Baht (USD 64 million) in its declared results for the financial year 1997. Alternatively, Phoenix could have distributed this adjustment over a maximum of 5 years according to the instructions from the Thai authorities.

Since then, the situation has improved considerably. The Baht has recovered a to rate of about 38 per USD (end of April 1998) and the pulp price has gone up to the range of 400 - 440 USD/ton form a previous level of 350 - 380 USD/ton.

At the same time Phoenix's costs have been reduced in dollar terms (90% of the cost base except for debt service is in local currency). Already after the first quarter 1998, about 1 billion Baht (USD 26 million) or 1/3 of the adjustment was recovered.

Siam Kraft Industry Co. Ltd.

The Company

Siam Kraft is a fully owned subsidiary to Siam Pulp & Paper Co. Ltd. (SPP) that is quoted on the Bangkok Stock Exchange (SET). The company forms part of the large Siam Cement Group, the most important industrial group in Thailand.

Siam Cement owns 38% of Siam Pulp & Paper. Two banks associated with the state sector hold another 20-25%, and some 15% is placed on the SET with other investors. The balance is held by the Crown Property Bureau which is a major shareholder in Siam Cement. This places Siam Pulp & Paper and its subsidiary Siam Kraft well within the state industry sector in Thailand.

The production within the group is integrated to a great deal, meaning that the production is consumed essentially within the group. This is the case for Siam Kraft producing sack paper grades and general purpose un-bleached packaging paper grades to be used for the consumption of sacks and bags.

The Credit

At the beginning credits for a co-generation plant (steam boiler plant and turbogenerator) were discussed but this deal was never realised.

The only credit from Sweden that was allocated, was solicited through Messrs Handelsbolaget HB Elof Hansson and represented an effluent treatment system to be installed during the expansion program 1991-92. The installations were started up in 1992.

The Development of the Company

The credit line offered from Sweden was only used to purchase the process equipment for the effluent water treatment. The plant was designed for a higher flow than was the case for Siam Kraft at the time. The reason given for this over-capacity is that Siam Kraft was expected to expand. Our information is that this has in fact happened and the treatment plant is today fully utilised.

The Present Situation

The Siam Cement Group has suffered financially from the recession in the construction industry. The foreign debt, estimated at USD 3-4 billion in the group, made it necessary to absorb a significant balance sheet adjustment (non-liquidated loss) in the financial year 1997.

The Ministry of Finance and the Crown Property Bureau are expected to implement a financial restructuring plan for the Siam Pulp & Paper group later this year. Siam Cement is such an important industrial conglomerate for the Thai state, that all persons contacted were in agreement that the state will in fact solve the companies financial situation in one way or another.

More detailed information on the companies can be found in appendix 1.

THE GENERAL SITUATION IN THE THAI ECONOMY

Thailand belonged to the so called tiger economies which for more than ten years experienced a tremendous economic expansion, mainly based on the expansion of the light industry sector. In Thailand's case, an expanding tourist industry contributed to the economic growth.

The Thai Devaluation

The rate of exchange of the Baht against the USD was fixed in an interval at around 28 Baht to a dollar. At its strongest the Bath achieved 25.8 to the USD. In July 2, 1997, it was permitted to float. It had, together with the other currencies in the region, been under strong pressure since the beginning of the year. The exchange rate hovered around 48 Baht to a USD at the end of the year 1997. A low point was registered in January 1998 at 55 Bath. The total outflow of currency was dramatic. In 1997, the total outflow of capital reached USD 18 billion, resulting in a total deficit in the balance of payment of USD 19,7 billion for that year.

Results of the Devaluation

The effects of the crises were staggering. The boom of the late 1980-ies and early 1990-ies had lead to heavy speculation in real-estate. Many new commercial building projects saw the light of the day based on speculation in rapidly rising property prices. Companies making good profits both from the local market and from exports invested their cash in new building projects. Credit was easily available since the banks and the financial companies based their lending on expected future values. Investors from all over the world swarmed the market of Thailand, as well as of Malaysia, Singapore, Indonesia, South Korea and Japan. Construction activities were intense and construction costs inflated.

When the crash came it all stopped. The Bangkok skyline is today littered with buildings in all stages of completion. Almost overnight, no more funding was available. Construction companies that were not paid went bankrupt and their workers went home, leaving building equipment, machinery and unfinished construction behind.

During the year of 1997, the Thai government closed 56 financial institutions in default. In order to stabilise the major financial institutions, the Central Bank and its institutions borrowed short term on the domestic market at rates up to 20-25 %. The domestic financial market was drained and interest rates soared, if commercial credit was at all available. Many banks became unwilling to lend money to companies, even for the financing of operational transactions.

Most major companies, such as the Phoenix Industries and the Siam Cement group, had to make substantial reservations for the increase of the value of foreign debts in their annual reports for 1997, resulting in significant unrealised losses accounted for in the books.

In economic terms, the rate of annual growth of the GNP in Thailand was in 1995 around 7%, in 1996 around 6%, and in 1997 it fell to a negative growth-rate of -1.7%.

The Economic Crises

The opinion of the Asian Development Bank (ADB), as explained on its annual meeting at the end of April this year, is that the Asian economic turmoil that has affected the south-east Asian countries for the last twelve months is different from previous financial crises. It was not fuelled from "over-consumption," but from a weakness in the financial systems and from a poor supervision of the corporate sector by the governments. The massive inflow of capital in to the region, because of the globalisation of the financial markets, left many countries unable to monitor and control the influx of investment capital.

In countries such as Thailand, the money was to a great deal invested in the speculative property market or it was used to finance infra-structural projects with long gestation periods. Poor corporate governance, due to lack of transparency, as well as to inadequate accounting standards also contributed to the emergence of risky behaviour by banks and financial institutions. The ADB's strategy to assist the affected countries is to help them to build better financial systems and to introduce improved economic surveillance. Asia must "develop adequate institutional capacities for financial regulation and risk management" the president of the ADB, Mr Mitsuo Sato, has stated.

Today's Situation

The Financial Institutions Development Fund (FIDF), a fund managed by the Central Bank of Thailand, that is the prime financial institution at the Thai monetary market, has due to the closing down of 56 financial institutions and to the weakness of the around 30 remaining ones come into a difficult situation. The fund now depends on the short-term money market for more than 80% of its borrowing. But with expenses exceeding revenues, its dept is rising steadily. More money is continuously borrowed which continues to drain liquidity from the market. This leaves no financing available for the provision of running capital to the commercial sector. In the table below, the present situation for FIDF, as of March 31, is demonstrated. (source: the Finance Ministry of Thailand).

Borrowings

	Amount (bt bn)*	% of total	Annual interest rate	Maturity
Interbank (normal)	139	15	1887	call
Interbank (recycled)	4256	500	2225	call
Bond auctions	4709	553	1396	mostly 3-6 months
Bond repurchase	71493	8393	2105	overnight/1 month
Bank of Thailand	4578	538	971	1 year
Total	**85176**	**10000**	**2043**	

Red ink

Category	Amount March 31	Estimated loss (bt bn)
Loans to 56 closed finance companies	41052	29131
Depositor/creditor guarantees for 56 companies	29120	182.8
Loss from cap. write-down of Bangkok Bank of Com	2604	2604
Total	**72776**	**5001**

* 1 bath = SEK 0,20

The government has decided to issue Bath 500 billion worth of bonds to refinance the debts of the IFDF, at an expected interest rate around 15%. This is, however, not expected to result in immediate lower interest rates. Local financial institutions are today earning 18% interest by making risk-free loans to the Fund through the bond repurchase market, leaving little money available for lending to anyone else. The situation is expected to change when IFDF has managed to place it's presently decided loan.

The government plans to issue USD 5 billion in bonds on overseas financial markets starting at mid-year 1998. This is expected to help stabilise the Bath and the domestic financial market.

The Government is also taking action to reorganise the financial framework of Thailand. Financial institutions are being restructured and new legislation is being prepared. It was announced on the day when our mission left Thailand, that the management of the Bank of Thailand was substituted. The newspapers also informed that foreign "expertise" was to be recruited to the bank. New and stricter regulations of the financials markets is being prepared.

THE IMPACT OF THE CREDITS

At the time when these Concessionary credits were arranged, Swedish development aid to Thailand was channelled through different governmental organisations. BITS was the organisation that provided the concessionary element for the credits now under study. The credit guarantees were issued by EKN, that in turn requested institutional or bank guarantees from the purchaser. The actual lender and manager of the credits was a Swedish commercial bank. In those days, BITS and Sida had different objectives and different ways of working. After the latest reorganisation, both operations are now incorporated in Sida. When the credits given are evaluated, we do that using the set of objectives and the criteria used by BITS at the time, and also compare with the additional criteria developed later. In discussing the future, we use the objectives and criteria presently in force and use the experience from the two studied projects to discuss what possible future role concessionary credits could play in the development in Thailand.

The general objectives of BITS at the time when these credits were given were:

- to promote Swedish co-operation with a number of developing countries
- to promote the sales of Swedish goods and services
- to organise the co-operation in such a way that economic and social development is stimulated.

The Swedish Concessionary Credit Scheme, as it is described in the policy document from January 1998, contains guidelines about the certification of project execution and completion. However, very little is said about monitoring and follow-up during the credit period, when it could be seen to what degree the general development objectives can be met.

Concessionary Credits as a Development Tool

The Concessionary credits given to Siam Kraft Industry Co. Ltd. and to Phoenix Pulp & Paper Co. were approved in the beginning of the 1990-ies. These credits came as a response to an initiative from the Thai part and were approved for the purchase of different types of equipment, both production machinery and for effluent water treatment. The credits were not part of any elaborate plan or development project discussed between Sweden and Thailand. No training package or other development aid activities were combined with the credits, other than what was considered normal assistance from any supplier of new industrial equipment.

The Export Promotion Objective

We have understood from our interviews that the original contacts were in both cases made by the Thai companies. In the first case the Swedish suppliers HB Elof Hansson, in the second

ABB , Svenska Fläkt AB and Sunds Defibrator AB contacted BITS to enquire if it was possible to include Swedish concessionary credits as a part of the bid package for the equipment in question. The objective of the supplier companies was to create more competitive offerings. We have also understood from our interviews, and from correspondence, that in one case, it is likely, in the other certain, that Swedish equipment would not have been chosen had it not been possible to finance the purchase with concessionary credits.

Furthermore, it is doubtful whether the Phoenix investment would have been realised at all had not Finland, Sweden and Canada all accepted to provide concessionary credits. Suppliers from these three countries were invited to offer soft financing, as were competing firms from other countries, such as Japan and Italy. Considering that the European Overseas Development Corporation, the leading partner in the consortium owning Phoenix Pulp & Paper, had the utilisation of concessionary credits as part of its financial plan, the loans on subsidised terms are not surprising.

Our interviews indicat that the availability of credits on soft terms was instrumental in convincing the investors to purchase more modern and environmentally friendly equipment. This is particularly the case for installations aimed at to protecting the environment through effluent treatments, filters and scrubbers for flue gasses and collection and incineration of non-condensable-gasses. Such installations are not directly profitable in financial terms.

In the case of the investment in the second production line at Phoenix (Phoenix II), all process installations were in practical terms purchased with the help of concessionary credits from different suppliers from a range of countries. A feasibility study was made by Jaakko Pöyry from Singapore, including an environmental master plan where developmental aspects were considered.

We have also noted that the initial documentation of the credit approval process concentrated on the promotion of Swedish exports and on financial risks. The volume of documentation in Sida's files tells its own story. We estimate that the number of pages concerned with sales and financial risk analysis for the projects exceed the number of pages concerned with environmental issues and development impacts of the investment by more than hundred to one.

In the case of Siam Kraft, our interviews have led us to believe that no feasibility study including development objectives of effluent treatment system investment was ever made, neither a PA-study (*pollution assessment study*) nor a environmental impact assessment study. The investment had at the time of the installation a capacity in excess of the requirements of approximately 30%. Today, that the treatment plant is utilised to its full capacity. So it can safely be assumed that the plant is adequate for the treatment of the paper mill effluents. In that respect the credits have been used for a purposes in coherence with the Swedish development objective of assisting the preservation of the environment.

The Development Objectives

It was clearly stated from the management of Phoenix, that without access to the concessionary credits, Phoenix would have had to adopt a "minimum investment, high maintenance" concept which would most certainly have been less environmentally friendly.

As a result of such a development, the stringent environmental standards that now are being imposed on all major pulp and paper producers in Thailand would not have been implemented as quickly as became the case - and now Thailand is setting an example for the whole region !

As BITS evaluated the phase II of the project, it included in the evaluation a study of the development effects of the project. The set of objectives used by BITS to analyse credit proposals at the time were:

- Poverty alleviation through the creation of job opportunities and a possibility for regional farmers to develop and maintain forestry plantations as an alternative to low-yield-agriculture.
- Positive environmental impact - through reduction of pollution from existing installations and through the selection of environmentally friendly alternatives for the new investments.
- Economic growth - the project must be economically feasible both from a business point of view and based on costs and benefits for the society.

The evaluation team could verify that expected development has come true at least in the case of Phoenix. Today, 60 000 - 70 000 small farmers, within an area of 200 km from the plant, are part of the forestry plantation scheme. These farmers regularly sell pulp wood, bamboo and kenaf to the plant and have been able to increase their annual revenues by a factor of 2 to 4. The transportation is made by an extensive force of small trucks, adding considerably to the transport capacity in the area. The pulp plant itself employs approximately 1 160 staff and support services in the surrounding society, probably essentially more. In an area where the soil is not very productive in agricultural terms, the pulp industry has, in our opinion, considerably contributed to poverty alleviation and to economic growth.

The Phoenix mill is, after the installation of the new process equipment in 1994, a modern state-of-the-art pulp mill comparable with the best mills in Sweden or Finland from an environmental point of view.

From an economic point of view, it must be said that the venture has survived and is at present the major market pulp producer in Thailand. It is at present exporting over 60% of its production on the international market, which is a proof of both competitive position and of product quality.

Later, further objectives have been added to Sida's scope :

- Gender issues meaning the equal opportunity principle for employment and the improvement of the situation of women in the society in general; and
- Cost/benefit balance favourable to the region and to the society in the host country.

Also in these areas, at least Phoenix has been doing well. It has maintained a level of 23% of female staff in its permanent cadre of 1160 employees, which is a good position also compared with, for instance, Swedish pulp mills. Out of the 22 managers , 3 are women.

A rough cost versus benefit analysis demonstrates that the benefits from phoenix exceed the costs by a factor of around 2.

Contribution to Poverty Alleviation

In Thailand some 60% of the population is engaged in farming activities in rural areas, although these activities represent only about 12% of the GDP in the country. The annual growth in the agricultural sector has been 3%, compared to 10% in the non-agro sector. Based on these facts, the World Bank has defined rural development and the absorption of agricultural labour into non-agro activities as important elements of the development strategy for Thailand.

Siam Kraft is basing its production on bamboo and eucalyptus from the regions Ban Pong and Tham Vang to the West of Bangkok. At the time of approving the credits, it was said from the sponsors that " the project is considered to be of importance for the social and economic development in Thailand..." This is of course true of any industrial venture of the importance that Siam Kraft has in terms of employment opportunities, raw material supply and transport requirements. It is not as easy to see the connection to the social development of Thailand, of this specific investment.

In the case of Phoenix more precise data are available. From the outset, about 30,000 small farmers were engaged in eucalyptus and bamboo plantations. From the start in 1984, Phoenix decided on a policy of "contract farming" to get the raw material for its pulp mill. The strategy was suggested by the Indian company Ballarpur, one of the original shareholders. This system of raw material production is widely practised in the Indian pulp and paper business. Originally, some 30,000 farmers were engaged. After the expansion in 1994, the number of farms involved reached 60,000 to 70,000 and a population of about 500,000 are now considered to live off their plantations. The farmers are producing eucalyptus wood (81%), bamboo (15%) and to some degree also kenaf (a grass). The arrangement contains the following main features :

- the farmers receive free seedlings from nurseries operated by Phoenix;
- advice and training for forestry plantation operations by Phoenix extension workers;
- fertilisers at subsidised prices;
- a support per area and year until harvest (typically 500 Baht per rai / year for 4 years);
- a posted price of some 800 Baht per ton (typically 20 ton per rai) at first cut:
- second rotation from the stumps after 4 years paid with the same price.

The average revenue for the farmer from the plantation cycle (two harvests) amounts to some 3 700 - 3 800 Baht per year and rai (one hectare land is about 6.25 "rai"). The average farm size is 10 - 15 rai. This crop compares favourably with sugar cane, which yields some

2 000 Baht/rai and year. Other crops yield less, e. g. rice at 1 245, kenaf 820 and cassava 1 220 Bath/rai and year.

The average income for participating farmers has increase by as much as two to four times, depending on the present yield and the quality of the soil. This is a significant increase in revenue to small farmers that have hardly been achieved in any other way.

Impact on the Environment

The credit to Siam Kraft did go entirely to the installation of a 2-stage effluent treatment plant which included biological, plus chemical treatment and sedimentation for the paper mills requirements. The technology selected was state-of-the-art at the time and the installations have been operational since the start-up in 1992.There is no doubt that the plant has an impact on the environment.

The credits to Phoenix were used to purchase production machinery of various kinds as an integrated part of the production process. It is clear that the concessionary credits were instrumental in convincing the investors to select modern and environmentally friendly processes and equipment. As a result of this, today Phoenix is comparable with the best Swedish pulp mills from an environmental point of view. In many respects it has been pioneering in implementing, monitoring and control of emissions and water re-circulation to reduce the water consumption.

The concessionary credits permitted Phoenix to modernise the existing line (Phoenix I), including the replacement of elemental chlorine with chlorine dioxide bleaching to enable the production of "ECF", or elemental chlorine free pulp. In addition, a modern state-of-the-art technology with oxygen delignification, treatment of gas emissions to the atmosphere and an effluent treatment plant for the new line (Phoenix II) was installed.

The environmental improvements included:

- water consumption reduced from 126 m cube/ton to about 35 m cube/ton of pulp;
- expansion of electrical energy generation up to 80% of the mill's requirement;
- installation of filters and scrubbers for flue gasses from boilers and from lime kiln;
- non-condensable gasses collected and incinerated;
- scrubber for bleach plant off-gasses;
- recycling of condensates;
- treatment of effluents (activated sludge process with oxygen injection).

The water consumption corresponds to 22 800 m cube per day or 0.26 m cube / sec. The water flow into the river varies with the seasons and with the regulation from the upstream Ubolrat dam. During minimum water flow conditions (about 1/8 of high flow conditions), the water intake corresponds to some 10 - 30 % of the water flow, which is significant.

The ashes from the boilers, lime sludge (from the bamboo pulp production) and the effluent sludge are disposed of as landfill. Plans are to investigate possibilities to use the wastes as soil improvement materials in the plantations that Phoenix is developing in the vicinity of the pulp mill.

An area of about 2 500 rai has been developed as an eucalyptus plantation by the pulp mill for the use of treated effluent as water for irrigation. It is planned to develop the plantation to some 4 000 Rae and to include contract farmers in the process. Since March 1997, no effluent water has been discharged into the recipient river. Only cooling and storm water (surface drainage) is discharged into the river. As a result of the improvement in effluent water quality, 55 km of irrigation piping has been installed to distribute over 20 000 m cube of treated effluent water to the plantations.

Below is a table that shows the improvements in water quality and relates the improvements to standards in Sweden and Finland.

Comparison of effluent water quality, kilograms per metric ton of pulp produced

	Phoenix 1992	*Phoenix 1997*	*Swedish* codes*	*Finnish codes*
BOD5	4.6	0.5	7.5	6.8
COD	63.5	15	30	65
SS(solids)	9.9	1.2	0.3-5.8	5.0-15

* values from 1994, the Swedish codes have since been developed further.

This means that as far as basic values for biological and chemical oxygen demand and suspended solids go, the mill effluent is better than the raw water intake in the Nam Pong river. The values compare favourably with current quality requirements in Sweden and Finland. Phoenix is apparently setting an example for the future Thai pulp and paper industry when it comes to environmental concern.

The river is subjected to flow vareations due to seasonal rains and to water regulations by the Ubolrat dam. The river is used for fish farming both upstream and downstream of the mill. During periods of low water flow, the river water quality deteriorates significantly causing fish to die due to low oxygen levels, even upstream of the mill.

The old line (Phoenix I) of the mill has been closed twice. The first closing took place in May 1993, after a court decision based on a water test submitted by an organisation linked to local interests, called the National Fisheries Organisation. After repeated tests analysed by different international laboratories, the mill was permitted to start up again. In an out-of-court settlement, compensation was paid to the fish farmers downstream the mill, regardless of the unclear reasons for the problem. Later, the same year the mill was closed for 30 days, due to

extremely low water level from the Ubolrat dam. Since then, the mill has operated without water and effluent problems.

Forestry operations are controversial issues in Thailand, due to illegal logging in natural forests and transit through Thailand of wood from illegal logging operations in neighbouring countries. The strong point of Phoenix (and also for Siam Kraft) is that the production is based on plantation material only. Phoenix I was earlier also "tree-free" as raw material production was based on bamboo and kenaf (no pulpwood). This is still true for the bamboo pulp exported.

The major investment in forest plantation around the Phoenix paper mill, in the North-East of Thailand, has obviously an impact on the environment. Turning a bushy terrain with low productivity soil, not suitable for agriculture, into forests, probably has a positive impact on the environment as such. The fact that the production of planted wood decreases the pressure on natural forests for firewood and construction material is a highly desirable effect as the natural forests of Thailand are under a heavy pressure and need to be protected.

Economic Growth

When Phoenix I was built, it was the only industrial investment in the Khon Kaen region. The start of plantation forestry meant a significant change in the economy of the whole region.

In summary, the following points highlight the development in terms of economic growth:

- the dependence on the local rice and sugar cane traders was broken; the pulpwood business is conducted directly with farmers or co-operatives, through trucking companies and through wood traders;
- the farmers can sell wood and bamboo to the mill all-year-around while the sugar mills worked only about 6 months in the year. The need for "bridging credits" to farmers, that were necessary for survival between seasons of sugar cane, were eliminated.
- the income of the farmers engaged in the plantation program has increased with a factor of 2 - 4 . In 1997, some USD 25 million was paid by Phoenix for cash purchases of raw materials for pulping (eucalyptus wood, bamboo and kenaf);
- the mill directly employs some 1160 staff and indirectly, via contractors, another 700;
- the export earnings have gradually increased - in 1997 about 50% of the pulp was exported and for 1998, over 60% of the production is planned to be exported. The pulp price during 1998 is expected to average 400 USD/ton, which may result in export earnings of some USD 60 million.

THE MONITORING AND RISK MANAGEMENT OF CONCESSIONARY CREDITS

Nordbanken

The bank has not involved itself in any closer analysis of the project concept but relied on the EKN guarantee for risk cover. Well aware of the subvention of the interest offered, the bank has levied the loan with all the possible charges : a flat fee, commitment fee, agency fees, a fixed financial fee to arrange the loan, and an amount for legal charges (in Sweden and in Thailand).

No monitoring has been performed by the bank during the credit period so far. When Phoenix asked for a rescheduling of one repayment of principal from 1997 to 1999, the bank acted on the information submitted by sending it onwards to EKN and to Sida. The decision process took over 2 months (first letter to Nordbanken dated June 18, 1997 and the decision by Sida reached Nordbanken on 18 of August 1997, the actual receipt of the decision in Thailand must have been a few days later), which compares very unfavourably with the ways things were handled by the corresponding institutions in Canada and Finland. The impression in Thailand is, that the Swedish decision in fact came forward only because of earlier positive answers from the other countries.

EKN

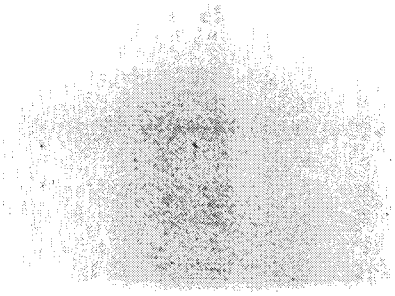
EKN has not analysed the project's feasibility or the market potential but used its negotiating power to solicit a financial guarantee from IFCT (the Industrial Finance Corporation of Thailand) that in practical terms equals a guarantee from the state of Thailand. The EKN guarantee charges have been quite high regardless and the accumulated "guarantee cost" amounted to about 9% of the credit amount in the case of Phoenix.

The Suppliers

The role of the suppliers (Elof Hansson, ABB, Fläkt and Sunds Defibrator) has been to maintain communications with the lender / and purchaser and to assist in bringing forward all the documentation requested by Sweden. The suppliers were expediting matters, checking when decisions were being delayed by the banks and by the institutions, and also submitting supporting arguments to the Swedish side (information about competing proposals and about positive employment consequences in Sweden). The entire process in Sweden went on for several years (2 years for Siam Kraft and 1½ year for Phoenix) and no lender in Thailand would have had either the channels or the knowledge to succeed in managing the approval process to a successful end. Only the suppliers in Sweden with their network of contacts in Sweden and their export financing expertise could do this!

Sida-Finance

Sida Finance, or BITS at the time, had the role of deciding about the donor element (the subvention of the interest on the principal) based on the criteria used at the time. To get the basic information about the ventures, BITS employed a consultant (Swedish Development consulting partners)who visited Thailand and collected the required information. This input was the only professional approach made to analyze the project from the Swedish side. The basic facts in the report submitted to BITS can still be said to be correct.



Conclusions

General

Concessionary credits were generally allocated to the forest based industry. In the case of

Siam Kraft, credits were received only for technical installations related to the effluent treatment plant, while Phoenix has used such credits for various parts of the processing installations.

The Phoenix plant systematically utilised concessionary credits. In addition to credit funds from Sweden, sources from Canada, Finland, Austria and Japan were used for different components of the investment. The evaluation must be seen as a general impression of the impact of these credit lines.

Criteria for the evaluation

At the time the set of objectives used by BITS were:

- poverty alleviation
- environmental protection, and
- economic growth

Additional criteria were later included in the general policies of Sida Finance, that now has replaced BITS :

- gender issues, and
- costs and benefits to the society in general.

As these later criteria were not available at the time of the allocation and application of the credits, the comments to the projects in the lite of these criteria has only been made in the conclusion.

Poverty Alleviation

An important impact of Phoenix Pulp & Paper is its orientation towards plantation forestry development in the Khon Kaen region. The region has traditionally been one of the poorest in Thailand and the economy depended on small scale agriculture activities, mainly in sugar cane, rice, kenaf and cassava production.

The project has had a tremendous impact on living standards in the Khon Kaen region. Not

only have work opportunities been created at the plan, but the plantation forestry development has made it possible for small farmers in the region to find a new and better income from their activities. The necessary transport to collect wood within an area of 200 km from the paper mill has resulted in the development of a transport fleet and better roads through out the region. It is estimated that more than half a million people are now dependent on the Phoenix Pulp & Paper Co. for their principal income. In addition to the technical investments, also job opportunities for educated persons and health schemes for workers and associate farmers have contributed to the general rise in living standards.

We have not been able to document any poverty alleviation effects from the credits allocated to the Siam Kraft Co.

In summary:

- new working opportunities for family farmers in pulp wood production. This has lead to an income increase of two to four times;
- the benefits has been spread to a large number of people, due to contracting of small farmers and the supply of necessary input;
- work opportunities, also for other groups than farmers, both in the plant and in industry related services. This has lead to the development of the service sector in the area as well as the infrastructure.
- the massive production of a product with low local consumption has paved the way out of a small scale subsistence economy life style into a modern market economy for a vast number of people in the region.

Environmental protection

The development of plantations has taken place within a radius of 200 kilometres from the mill. The land used for development of plantations by the farmers is usually depleted farmland or land for grazing cattle. No natural forests existed prior to the commencement of the mill operations. The mill has never used wood from natural forests. It can be argued, that since the farmers get an alternative use of the land as well as increased value from the low production farmlands, the migration into natural forests to obtain new land by slash and burn methods may have been slowed down as a result of the interventions in the form of contract farming by Phoenix.

In summary:

- by international standards the mill is a modern state-of-the-art installation at the level of the most environmentally friendly mills of its kind that can be found anywhere in the world or, for that part, in Sweden;
- the development to close the water cycle totally through the irrigation of forest plantations is a unique concept and a pioneering development for pulp mills world-wide;
- the concessionary credits were instrumental in convincing the investors to select these environmentally friendly technologies.

Economic growth

The economic growth recorded is, as a whole, an addition to the region due to the investment in the Phoenix project. The utilisation of new forest plantations, and the transformation of the produce into paper pulp and the sales thereof outside the region emphasise the effect of an additional source of income for the region.

All in all, the establishment of Phoenix Pulp & Paper in the region meant a general upswing, that has touched the whole community and changed the social and financial structure in the province.

Gender issues and safety at work

Of the 1160 staff permanently employed by Phoenix at the mill 23%, are women. This is surprisingly high compared to Swedish mills. In this respect, Phoenix can be seen as an example to follow. Of the mill management staff totalling 22, three are women. One of them is the personnel and human resources development manager, which may explain the relatively high number of female staff. Labour participation by women in Thailand is generally quite high by regional standards. The situation at Phoenix can be said to reflect the way in which Thai society is developing in general.

It appears, that Thai women nowadays tend to continue their professional careers also after starting a family. This is made possible because the salaries received allow the employment of domestic services. The fact that career opportunities are emerging for staff with professional training meant that the University of Khon Kaen was able to attract more students in general, including an increasing number of female students. Phoenix is supporting several R&D programmes in co-operation with institutions at the University.

Phoenix has received the "Outstanding Award" for its achievements from the Ministry of Employment. In the beginning of 1984, some 70 expatriates were employed, most of them connected with the Indian shareholding company Ballarpur. At present the number is 45, including some Europeans. The plans are to gradually reduce the number of expatriates. The mill is guided by an "equal opportunity" policy when it comes to race, religion or sex.

Regarding safety issues, the policy is that all staff is to participate in a compulsory safety training course. Safety officers are nominated for all departments and inspections are made regularly. Last year, 64 accidents (more or less serious) were reported. None, however, was fatal. The accident ratio is one per 36 000 working hours,which is comparable with European standards, even if it is higher than in Swedish mills. The mill has in-house first aid facilities including an ambulance to take serious cases to the hospital in Khon Kaen, some 30 minutes away.

Costs and benefits to the society in general

To carry out a detailed and accurate evaluation of the economic impact of the establishment of Phoenix, requires resources beyond this assignment. However, in order to make a very rough assessment we have derived a method comparing the opportunity cost/benefits of a fictional development without Phoenix. The opportunity costs are treated as costs or benefits foregone as a result of the Phoenix investment. These opportunity values are then compared to what we have assessed Phoenix to generate. Basically, we are comparing alternative uses of the society's resources. The comparison is based on the accounts of year 1997. No attempts have been made to value external impacts such as accidents, emissions from the burning of fuels, effluents etc. The justification for not doing this is that the mill has invested in a state-of-the-art technology to reduce negative environmental impacts.

We have also not included possible benefits from slowing down the practice of slash and burn farming, since the actual change that is said to have taken place has been difficult to assess.

Also, the fact that a cost efficient consumer of electricity, such as Phoenix, is paying the same unit price as farmers and households has been disregarded since this is a general policy in the region, although it involves an indirect subvention of small consumers.

Below follows a table showing costs and benefits with and without the investments:

VALUE: BAHT MILLION

ITEM	**WITHOUT PROJECT**	***WITH* PROJECT**	**IMPACT NET**
1.Value added from alternative use i. e. a mix of agriculture production without the project averaging 1,500 Baht / Rai compared to current payments to farmers	+380	+ 950	+ 570
2.Water use for pulp production 35 m^3 per ton of pulp valued at 0.5 Baht/m^3	0	- 4	- 4
3.Electrical power procured from the national grid 2.2 Baht per KWH 330 days per year	0	- 94	- 94
4. Manpower of 1,900, 10 % management level Baht 26 and 90 % semiskilled Baht 31	0	- 57	- 57
5.Services and maintenance assistance to contractors	0	+700	+700
6. Salaries and benefits to permanent staff	0	+ 70	+ 70

7. Supply of some 85,000 ton of pulp to domestic market which otherwise would have had to be imported	-1,365	-1,300	+ 65
8. Cost for the use of the site area is assumed to be the same			0
9. Depreciation of the investment	0	- 350	- 350
10. Export of some 130,000 ton of pulp paper, estimated at USD 52 million, is assumed to be offset by dept services			0
Summary of impact			**+ 905**

Comments to some of the items above :

2 value of raw water corresponds to charges used to farmers for irrigation;

3 corresponds to the part of the power purchased from the grid;

4 value of human resources using average rural income (World Bank);

5 information from Phoenix management;

6 from the annual report;

7 imported pulp at the paper mills would be about 5% more expensive according to Phoenix;

8 the land is not purchased but leased, annual lease paid by Phoenix is considered to represent the value of the usage for alternative purposes;

9 the export of pulp does not directly include benefits for the region although it may improve Thailand's trade balance or forex position.

In conclusion, it can be said that the benefit exceeds the costs and the project is a net contributor to the society of almost 1 billion Baht per year. It can also be seen that the benefits of Phoenix exceed the costs by a factor of about 2 .

The sustainability of the results

Pulp and paper industry is a long term development by itself. It takes time to build customer confidence and establish a market share. It also takes time to develop a raw material base in the form of plantations, which in Thailand is the only raw material available to the industry, since the cutting in natural forests in prohibited.

Thailand has a great potential for plantation forestry since large areas have been judged to be of limited interest for agriculture, but are well suited for forestry. Since over 60% of the population still is rural, the labour for nurseries (to develop the seedlings) and for the planting and care (pruning, maintenance and surveillance) of plantations is available. The activity can also serve as a tool to reduce the migration to the urban areas since the climate permits plantation work and harvesting during all seasons.

Since the beginning in the early 1990s, Thailand has emerged as a major producer and the leading industries (Phoenix Pulp & Paper, Advance Agro and the Siam pulp & Paper group) meet world-standards in regard to product quality. All these producers have developed export markets, but Phoenix has by comparison the largest export share of its production (62%). Pulp and paper consumption is expected to outgrow production in many of the countries in the region. Thailand is expected to maintain and strengthen its position in view of its comparative advantages which include:

- political stability
- plantation raw material potential
- competitive production costs, and
- modern regulations (terms and conditions for industrial activities).

Attachment A

to "Concessionary Credits
Fact finding mission to companies that have received concessionary credits April 25 throughout May 6, 1998

Phoenix Pulp & Paper ("PPPC")

The background and the battle against an hostile take-over

Phoenix I was created as an investment project at the end of the 1970:ies. The project was the first "national" project of its kind in Thailand and the location in the north-east of Thailand (North of Khon Kaen) was at the time considered to be risky due to continuing political unrest (spill over from Laos and Cambodia) and to the fact that this was the poorest and least developed part of the country.

The sponsors at the time were the Ministry of Finance, the Industrial Finance Corporation of Thailand (IFCT), the European Overseas Development Corporation (EODC), Ballarpur Industries of India (part of the Thapar Group), and private interests. Phoenix I was designed to produce 70,000 metric ton per year (tpy) with a possibility to trim production up to 100,000 tpy, and production started in 1982. The raw material base was initially bamboo and kenaf, all to be supplied through some 30,000 farmers in the region.

In 1994 the mill was expanded with a second production line for eucalyptus pulp, Phoenix II, and the total capacity reached the 200,000 tpy level, a production that was realised in 1996. For the current year, 1998, management has stated that a production of 215,000 ton can be reached. Export levels have been fluctuating between 50% and 60% depending on the domestic and international market price levels.

Once Phoenix proved to be a successful investment the infighting between groups of shareholders to take over the company started. In 1993 the Governor of Khon Kaen ordered the mill to close for 30 days due to alleged killing of fish in Nam Pong, the recipient river. Negative reporting about Phoenix and the environment appeared in the press as a result. Water samples were said to demonstrate toxic levels of chemical pollutants. Independent sampling and renewed analysis in 3 different laboratories, however, confirmed that effluent quality was acceptable. At the same time it was concluded that the water levels in the river were exceptionally low and that the oxygen content in the water was low upstream as well as downstream the mill. This natural reduction of oxygen content in the water was generally affecting the large size fish adversely in the whole river. The mill was permitted to start operations again.

In 1994 the "Rakesh Saxena" take over bid was posted. Mr Rakesh Saxema had already been taking over some 8 companies in Thailand together with a group of Thai politicians and Members of Parliament and based on funding from the Bangkok Bank of Commerce (BBC), a bank with close contacts with political fractions in Thailand. A number of newly formed companies with no record of previous operations were at the same time buying Phoenix shares

on the market : "Good Prospect Co", "M.O.U. Consultants Co", "Executioner Industrial", "New Renovation Co" and others, and in addition the BBC itself was buying through its investment funds.

To counter this move the EODC together with associated private interests also entered the market to purchase shares.

A tender offer for 21% of the Phoenix shares was posted by a group of investors through the BBC in 1994 :

- Globex (controlled by Mr Kirit Shah)
- Jalaprathan Cement, controlled by Mrs Ma Khine Zaw (Burma and Singapore), Mr Adnan Khashoggi and a group of Thai MP:s ;
- A Singapore firm owned by Mrs Ma Khine Zaw ;
- Mr Sora-art Khinprathum, a MP in the Thai Parliament.

Only a small number of shares was sold to these investors and the seller was a company called "Alpha Global". In 1993 Ballarpur Industries ("BILT") subscribed to a rights issue of 3.8 million shares and then immediately transferred the shares to Alpha Global, a company registered on the Virgin Islands. It later appeared that BILT used funds from Alpha Global to pay for the shares, and that the shares never were accounted for in BILT's books. This way of acting is illegal also in India and the transaction is still under investigation. When Alpha Global sold the shares to the group of investors above in 1994 an off-shore profit of some 60 Baht/share was made (about USD 9 million).

In an extraordinary general meeting with the shareholders that was convened at October 20, 1994, an attempt to a take over was ultimately defeated by the present board of directors. In April 1997 in the Annual General Assembly meeting Messrs L.M. Thapar (Bellarpur Industries) and Kirit Shah (Globex) had to leave the board since not enough voting rights could be mobilised by their group to support them. Kirit Shah and his allies are now believed to control about 30% of the Phoenix shares and the chairman, Mr George Davison, and his group, 38.5%. The troubled bank, BBC, is said to hold 6.6%, but it is not clear if it can hold on to this investment in the long run, in view of the ongoing restructuring of the bank.

In advance of the Annual General Assembly meeting at last April 29, 1998, the Governor of Khon Kaen, and Mr Kirit Shah and his Globex, mounted a campaign against the sitting board of directors including new allegations about pollution, accusations that the 23 year old land-lease for the site was not valid, and statements meaning that the company was not correctly managed. Since the interests behind the take over attempt could not demonstrate enough voting rights to get majority, the board of directors was once more able to retain its position and continue to lead the company.

The opposition is now rumored to take legal action against the General Assembly resolution, so the final verdict may come through the courts. On the other hand the bank behind these aggressive attempts to gain control, BBC, is in difficulties, and the government has found it necessary to intervene to save the bank from foreclosure. The group trying to take over is also financially exposed and is said to face financial difficulties if they want to continue the battle over the shares in Phoenix.

At least three reasons can easily be found behind the battle for control over Phoenix:

- Phoenix is purchasing pulpwood, kenaf and bamboo from about 60,000 to 70,000 farmers in the north-east and paying cash, which could provide MP:s that would like to secure their re-election with a powerful political base;
- The cash flow for the purchases of raw material and local services can provide certain business interests, that possess surplus cash coming from undisclosed sources, with an excellent opportunity to launder money, and finally,
- The take-over attempts have coincided with periods of time when the pulp market has been strong with rising prices and good prospects of a strong cash flow for Phoenix such as the situation in 1993 - 1994 and now in the beginning of 1998. Anyone gaining full control over the cash flow in such a situation could well finance the take-over and get paid back from the company's cash flow.

The Market

As a result of the ASEAN Free Trade Agreement (AFTA) the Thai government reduced import tariffs for paper and board from 35% to 20% in 1995 and the tariff on pulp to 5%. Imports will be further liberalised and tariffs will go down to the 0-5 % range in 2003. This development will be painful for some small mills that do not maintain the productivity and quality standards of modern major suppliers.

Thailand has a significant number of small and market size paper mills. The domestic consumption is 38.5 kgs/person and year, which is almost the double compared with China but less than for instance Malaysia. Some highlights:

- installed papermaking capacity 2.8 million ton/year
- imported during 1996, all paper grades 0.4
- exported during 1996, all paper grades 0.2
- consumed during 1996, all paper grades 2.36

This means that the degree of utilisation in 1996 was about 77% for the paper mills and that Thailand was in principle self sufficient in papermaking in most grades. The paper and board capacity was some 120-130% of the consumption.
The chemical pulp production shows a different picture altogether (1996) :

- installed capacity 626,000 ton/year
- imported 345,000
- exported 131,000 (mainly Phoenix)
- consumed in Thailand 715,000 and
- produced in Thailand 501,000

Capacity utilisation according to this has been over 80% for the year 1996.

Thailand has many paper manufacturers but so far only a few important pulp producers :

- Phoenix that produces some 215 000 tpy and, despite its name, has no paper mill but sells market pulp; Phoenix is however associated with a Thai paper mill, Thai Union Paper (Siamoenix Paper), that will take significant pulp volumes from Phoenix, thus rendering it less exposed to international price fluctuations;
- Advance Agro, that maintains two pulp production lines and is now commissioning two paper machines scheduled to start up later this year; the company is controlled by the Sun Hua Seng family and the production capacity is said to be 427,000 tpy eucalyptus pulp after expansion; the new paper machines will convert this pulp to some 470,000 tpy paper (printing and writing grades, coated and uncoated papers);completion is expected at the end of this year;
- Siam Pulp & Paper in the Siam Cement Group, pulp production now said to reach 200,000 tpy of which most is consumed internally by its own paper mills.

Thailand still is importing pulp and paper products for about BHT 20 billion per year. Earlier the domestic price was controlled but now the market is free meaning that domestic pulp prices are usually higher than export prices.

The eucalyptus pulp prices hit a low point of USD 340/ton in the beginning of 1998. Then prices started to rise and the price for deliveries in April was up to USD 400 and in may to USD 440/ton. Phoenix average price for the first quarter 1998 was USD 350/ton.

The spread between long fibre (softwood) pulp and eucalyptus pulp is now USD 60/ton compared with the traditional level of USD 30 - 40 / ton and this could indicate that eucalyptus pulp prices could go up still further. NORSCAN inventory levels have declined recently which also supports this view. At the end of 1997 Phoenix had a product inventory in storage of some 25,000 ton but this is going to be reduced during the current year and the product storage is in the future going to be maintained at an average level of 15,000 ton, which is close to the industry's normal levels of inventory (corresponding to 4 - 6 % of annual production or about 10,000 ton).

Negative public debate about the industry's environmental track record has led to the strictest environmental regulations in south-east Asia. The industry stands to gain from this in the long term since many industrialised markets tend to purchase pulp and paper products only from environmentally friendly sources.

A rising literacy rate and an economic expansion of some 10% per year led to a paper consumption growth of 15% per year for the period 1989 - 1996. It is not likely that the increase in paper consumption can continue at this pace and Thailand is expected to become a net exporter in 1997 - 1998 and onwards. Thai production costs are very competitive after the devaluation of the Baht and shipping costs to regional markets in China/Hong Kong, Malaysia, Singapore and Taiwan are inexpensive.

The Thai government has selected the north-east as a region suitable for the plantation of Eucalyptus and other fast-growing species as the raw material base for the industry. In the period 1998 - 2001 Thailand's pulp and paper industry will increase its capacity due to several new investments in progress or planned. Thailand may very well develop to be a serious

exporter in the region.

Phoenix started marketing bamboo and kenaf pulp, "tree-free pulps", but since the expansion in 1994 the "elemental chlorine free" or ECF eucalyptus pulp has been readily accepted in the marketplace and at least one US based buyer accepts bamboo pulp so the production plan for 1998 is:

- eucalyptus 82%
- bamboo 15%, and
- kenaf 3-4 %

The export share of 51% in 1997 is expected to increase to some 62% in 1998 when the production is planned at 215,000 ton for the year.

Financial performance

During the year 1997 the Baht vas devalued from the constant level of some 25.8 Baht per dollar in April 1997 down to 47 Baht per dollar in December 1997 and a low point of 55 Baht in January 1998. Since than the recovery has been considerable and the present level (April 1998) is 38 Baht per dollar and the target is to stabilise the currency at 35 - 40 Baht per dollar.

At the yearend 1997 Phoenix decided to balance a currency exchange loss of some Baht 3 billion in its books resulting in a net loss in its P/L statement. Since the Baht has recovered during the beginning of 1998 and the pulp prices gone up at the same time as Phoenix has reduced product inventory, more than Baht 1 billion has been recovered during the first quarter of 1998.

During 1997 Phoenix negotiated a restructuring of the Finnish, Swedish and Canadian concessionaire credits and in general meaning that the repayment of part of the principal scheduled for the second half of 1997 has been moved to the year 1999.

The improvement in world market pulp prices and the devaluation of the Baht has significantly strengthened the cash flow of the mill in the first quarter of 1998 and prospects are that this will continue throughout the year. Phoenix cost base, except for debt service, is over 90% domestic (Baht denominated). Export share of the production has increased from 51% during 1997 to over 60% the first quarter 1998 and a market for ECF (elemental chlorine free) bamboo pulp has been developed in the USA.

Some financial highlights (million Baht) :

Share capital 1,200 (about USD 31 million)

	1997	*1996*	*1995*	*1994*	*1993*
sales	2,748	2,046	3,340	1,903	900
gross result	863	177	1,563	781	(38)
net result	193	(421)	973	460	(175)

	1997	*1996*	*1995*	*1994*	*1993*
extraordinary:					
adjustment for devaluation	(3,069)				103
net earnings	(2,876)	(421)	973	460	(72)

The average operating result during the period has been 30% of the sales income which is a good result compared to European mills. The devaluation write-off charges amounting to over Baht 3,000 million were made after considering also the possibility to revalue the fixed assets, a method accepted by the authorities and in the current accounting practices in Thailand. But because the company's performance was improving (operating at a profit since June 1997), due to the improved market situation and the improved terms of trade due to higher export earnings and devalued domestic production costs, it was decided to make the full adjustment in the results at end of the year 1997.

During the first quarter 1998 Phoenix is said to have already recovered about Baht 1,000 million of the write-off. With a strong market demand and improved terms of trade (90% of the production cost base is Baht denominated) Phoenix could well achieve good results during 1998 and 1999, at the same time as the write off in the books of 1997 can be carried forward for tax purposes and in order to consolidate the balance sheet.

Environmental strategies

Phoenix is, after the modernisation and expansion program 1992 - 1994, a modern pulp mill that employs the state of the art technologies to protect the environment and can well be compared with Swedish or Finnish pulp mills in this respect.

Oxygen delignification was then installed in both production lines and the bleaching modified meaning that the production became "ECF" or elemental chlorine free, spill waters and condensates were recycled and a state of the art effluent water treatment plant was built. Water consumption was reduced to about 35 - 37 m cube of water per ton of pulp (from initially a level of 126 m cube).

Since March 1997 only cooling water has been discharged to the river, all treated effluent has been consumed for irrigation in the "project green" plantations that will be expanded from 2,500 rai to 4,000 rai (400 to 640 Hectares). 55 km pipelines have been laid and some 22,000 m cube of water per day is distributed now.

On the air pollution side the new recovery boiler (with scrubber installation after electric precipitators for gas treatment), filter and scrubber for the lime kiln and treatment of malodorous gases meant that Phoenix achieved the same level of pollution control as modern Scandinavian mills.

Current targets for emissions to the atmosphere are:

- only carbon dioxide, stem and air to be released to the atmosphere;
- NCG (non-condensable-gases) collected and burnt;
- filters and scrubbers for recovery and power boilers and for lime kiln;
- ventilation gases from bleach-plant treated with scrubber.

The monitoring of polluting components (BOD5, COD and TSS) also have demonstrated good results for Phoenix. One difficult aspect for all chemical pulp mills is that the effluent can be strong in colour (brownish) due to drainage from woodyards and spillage from pulp cooking and washing and chemical recovery areas. The appearance of the colour is often striking to the eye although the actual quality of the effluent water can be quite acceptable, so it is sometimes more of a psychological or aesthetic problem than an environmental danger.

This can be part of the reason why local NGOs and farmers have accused Phoenix of causing pollution to the recipient river. Another reason is the fact that the Nam Pong river goes through periods of low water flow due to dry weather periods or low by-pass flows from the upstream Ubolrat dam system. At low water levels the oxygen levels get to be low also upstream the mill enough to cause the death of larger fish and at the same time dilution levels become unfavourable for the mill effluents even if the pollution levels are acceptable.

It has clearly been the case that the opposition to the present owners and managers have been using accusations about water pollution for political and commercial motives during 1992 - 1994 and now latest during 1997 - 1998.

In the effort to take over Phoenix they have supported local NGOs and planted information in the press. These actions have prompted the mill to close down for short periods at two different occasions, once in 1992 when repeated sampling and laboratory analysis of the effluent had to be used to get permit to start again, and once in November 1993 when Phoenix acted upon a warning from the Ubolrat dam that low discharge would mean unusually low water levels in the river. The mill has only been forced to close once in 15 years for this reason.

The water flow in the river has a significant variation depending on the season and on the situation at the Ubolrat dam upstream the mill. At situations with a low water level the mill intake could correspond to as much as 10 - 30 % of the flow. At normal or high water level the mills consumption would be around 5% of the flow which is insignificant.

To counteract these moves the Phoenix management implemented the "project green" meaning that land areas were acquired in the vicinity of the mill and used for eucalyptus plantations. The treated mill effluent water was used for irrigation which would mean that only cooling water and surface water (storm water) would be dispersed in the river. Some treated effluent water did, however, spill over into the neighbouring farmlands and caused farmers to become concerned. To appease the local opinion Phoenix has voluntarily paid out compensation to local fishermen and to farmers (Baht 1 million to farmers in 1996) since the system was at that time not enough developed to handle all the effluent waters.

The monitoring of the results is focused on the possible absorption of salts (mainly chlorides and sodium) in the top layer of the soil. So far low levels of absorption of sodium (Na) salts has been demonstrated but the long term effects can not yet be projected. The mill no plans to

recycle also cooling waters to be able to close the mills entire water cycle in practical terms. If this concept is implemented Phoenix will become one of the few mills in the world with a "closed" process water concept and from an environmental point of view one of the leading mills of its kind.

The focus on environmental issues and the advanced strategy adopted by the board and the management in this field can be said to be a result of :

- the Jaakko Pöyry study and masterplan for the expansion in 1992 - 1994 that introduced the modern environmental friendly mill concept;
- requirements from the Office of Environmental Planning and Policy (OEPP) in Thailand;
- the requirement to defend the environmental policy against repeated more or less well founded accusations from NGO:s and local interests:
- the management running the operation that has maintained a modern view on environmental issues from the start;
- policy requirements suggested by the providers of concessionaire credits (BITS, Finida, CADC), without the concessionaire credits the modernisation and expansion of Phoenix would hardly have been possible.

Sampling and monitoring of effluent qualities is performed through an independent firm (3rd party audits) and test results are recorded to the Department of Environmental Protection and Policies.

Typical levels for treated effluent from Phoenix are:

(kilograms per ton ADMT of pulp produced)

	Phoenix levels 1992	Phoenix levels 1997	Swedish codes	Finnish codes
BOD	4.6	0.5	7.5	6.8
COD	63.5	15	30	65
SS (solids)	9.9	1.2	0.3-5.8	5.0-15

The pH values after the treatment average about 6.7 which is well within acceptable limits (ideal range pH 6.5 - 7.5).

The river water quality is highly affected by the variations in the water flow. When the level is low, the river water deteriorates in terms of suspended solids and low oxygen levels (high level of BOD5 contamination) due to natural causes. At low water level the suspended solids can reach 300 to 500 PPM and the biological oxygen demand (BOD5) around 400 PPM. Corresponding values for treated effluent from the mill is 80 - 90 PPM for solids and 40 - 45 PPM for BOD5 so in fact the raw water quality in these respects is inferior to the effluent.

In terms of energy Phoenix is self reliant up to 80% of its requirement that can reach some 27 MW electrical power including the demand from the chlorine dioxide plant. The energy is generated through the burning of black liquor from the pulping process and bark and wood wastes from the pulpwood intake. The high pressure steam is reduced to process pressure through back pressure turbo-generators. This is the conventional way of co-ceneration of electrical energy in pulp mills.

The rest of the energy is purchased from the grid at a cost of 2.20 Baht per kWh (some USD 0.058 per kWh) which would make it profitable for Phoenix to generate electrical power from steam generated from the burning of woodfuels. The Thai power companies apply a straight tariff for all consumers regardless type of consumption. If the low distribution cost for large industrial consumers is considered, this means an indirect subvention of the small consumers (farms and households) which obviously is a policy determined by the Thai government.

The lime kiln uses fuel oil. Emissions from the kiln are processed through a precipitator and a scrubber.

The following wastes are deposited as land fill :

- effluent treatment sludges after drying;
- ashes from the boilers;
- lime sludges from the bamboo pulp production (15% of volume, 85% is re-circulated); the silica contamination of lime sludge from bamboo pulping is a recognised problem that has yet not been solved technically.

Forestry

Forestry is one of the most controversial and unresolved issues in Thailand today. In theory RDF (the state forestry department) controls 25% of the forests, most of which have been designated as national parks and wildlife sanctuaries. All cutting in natural forests is in principal forbidden inside or outside the protected areas. However there is a huge grey area of unclear ownership related to the definition of sanctuary areas and there is no surveillance.

In global terms there is some 30 million hectares of forested lands in Thailand and only about ½ million hectares of plantations (1.7 %) would be enough to produce the raw material for the pulp and paper products consumed in the country including what is now imported.

But the problem is in reality very complex :

- Thailand is essentially a land based on agriculture, some 60 - 70 % of the population depend on farming for their livelihood;
- migrant villagers practice slash and burn methods to develop areas for the expansion of farmlands;
- charcoal is still a major fuel for cooking in the countryside; wood consumption for firewood or charcoal production is probably still the biggest threat;
- although cutting of natural forest is prohibited cutting is practised in neighbouring countries

(Burma, Laos and Cambodia), where government control is lacking, and the timber is smuggled via Thailand; in practical terms the governments encourage the regional military establishments to use logging to get earnings to support their living expenses;

- the concept of ownership of land and of restrictions in the use of land for environmental purposes are not understood in remote areas and the practice of subsistence farming on available land is regarded as a right with its roots in history.

Already from the start Ballarpur Industries, the partner and investor in Phoenix, introduced the contract plantations method to supply the mill with raw material. This method is common in India. The original motive was that the purchase of land was restricted up to 1992.

The scheme included training, the provision of free seedlings from nurseries operated by Phoenix, subventioned or free fertilisers, assistance from plantation advisors, and a guaranteed purchase price for the pulpwood (eucalyptus, bamboo or kenaf) at the factory. Gradually the operation has grown to encompass some 60,000 contract farmers that have found this land use profitable compared with the production of rice, cassava (tapioca) and sugar cane. The mill has never experienced raw material shortages. Posted prices are announced on information boards set up in the villages and on the radio and through loudspeakers. Farmers are paid cash upon delivery. At present the mill has a raw material storage on the woodyard of some 170,000 ton corresponding to about 2 months of production, more than the average raw material storage for this type of industry (4 - 6 weeks).

It is in fact likely that the policy of small farm pulpwood production has helped to save the natural forests to a certain degree; the mill can only take wood from a distance of about 200 km which means that the farmers tend to concentrate on tree plantations within this catchment area where no natural forest exists.

The mill has entered upon a development scheme to use treated effluent water for the irrigation of eucalyptus plantations and some 400 hectares have been used to find out the suitable methods. Results are promising and an incentive scheme is planned for the expansion of these plantations involving:

- free treated effluent water for irrigation;
- free seedlings and fertilizers;
- financial incentive 500 Baht per Rai and year (1 Hectare = 6.25 Rai) for 4 years;
- guaranteed purchase price of 800 Baht per ton of eucalyptus pulpwood for a minimum yield of 20 ton per Rai for one rotation (4 years);
- medical coverage scheme membership; and
- assistance in developing alternative means of income between harvests.

From a risk distribution point of view our feeling is that Phoenix should acquire long term leases or outright ownership of sufficiently large areas to make commercial forestry a worthwhile investment. The portion of the raw material to be supplied through the in house forestry operation can always be discussed.

Just recently (May 1998) the prime minister in the Thai government has ordered the army to engage in the suppression of illegal logging and smuggling of natural wood which until now

has been the responsibility of the Forestry Department and that the army should be included in the "committee for suppression of illegal logging of natural forests". The Governors should be regionally responsible to supervise and co-ordinate the efforts. In this way the forestry officers will for the first time have resources available to effectively monitor and control the development.

Community development and gender issues

It is estimated that the forestry (60,000 farmers), mill staff and services for the operations altogether, directly or indirectly, support some 500,000 people in the region. If the expansion plans to increase production to 300,000 tpy were to go ahead the forestry would be expanded to encompass some 90,000 farmers but the number of staff employed in the mill would hardly change. The fact that the farmers have an alternative to the conventional crops has had a great impact on the rural situation, in particular since the conditions offered by Phoenix have meant that the farmers do not need to borrow money from moneylenders to get started. In addition the training and advice included has meant an increased understanding of basic agricultural techniques.

Phoenix applies the policy of equal opportunity, which is not really a problem in the Thai society. Still several Indian middle managers that were recruited through Ballarpur are still with the company and the Indian culture tends to be less tolerant that the Thai culture when it comes to the advancement of women to management positions. In general the presence of a large company like Phoenix has meant that opportunities for men and women with education have been expanded considerably and that young people have got an incentive to get education.

The community programs introduced by Phoenix include :

- sponsorship for the Udompat Phoenix Patronage School, primary and secondary levels of education;
- assistance for central libraries in villages in the district where Phoenix is situated;
- help to repair and maintain local temples;
- free medical check-ups in 8 villages and availability to assistance from the mill ambulance when required;
- garbage truck and bins for garbage collection in the district;
- improvement and maintenance to local roads;
- bulletin boards and amplifiers and loudspeakers in the villages;
- assistance to repair residential fences and beautification campaigns for the villagers.

A more elaborate description of the community support activities can be found in the brochure issued by Phoenix and enclosed in this document. The obvious reasons for these activities is to achieve a positive response from the employees, the regional population and from the regional government. This must be said to have been successful. On the other hand it is only natural

that an industry that has such an important economic role in the region enjoys general support from the public. Some NGO:s are monitoring Phoenix activities through offices in Khon Kaen and Bangkok:

- *"Goong at CARE"* or "Project for Ecological Recovery" (Bangkok);
- *"Saneh at Khon Kaen"* (in Khon Kaen), working in conjunction with the University of Khon Kaen, at an early stage involved in "Project green" or the concept to use treated effluent to irrigate eucalyptus plantations.

These NGO:s maintain close contacts with the press and at occasions articles, critical or positive, appear in the press based on information from these NGO:s. The articles positive for Phoenix suggest that other Thai pulp and paper industries should follow the example set by Phoenix. The critical views are focusing on negative events (usually doubts about the long term impact of irrigation with treated effluent, the water usage conflict at extreme situations with low water levels such as November 1993, and worries about the future for fish farming in the recipient river). The variations in the water flows due to seasonal variations and dam regulation are significant, the low water flow volume is only about 1/8 of the high level flow.

Siam Kraft Industry Co.

Background

Siam Kraft is a fully owned subsidiary to Siam Pulp & Paper Co (SPP) in the large Siam Cement Group, the most important industrial group in the country. The main owner in Siam Cement is the Crown property Bureau, it is the state of Thailand in practical terms.

Siam Pulp & Paper is owned by Siam Cement to 38% of the shares and two banks associated with the state sector hold another 20 - 25 % and some 15% is placed on the SET (the Bangkok Stock Exchange). The balance, around some 30% is held by the same Crown Property Bureau as in the case of Siam Cement, so Siam Pulp & Paper is well placed within the state industry sector in Thailand and in practical terms controlled by the Siam Cement Group.

The entire group was heavily exposed to the exchange rate of the Baht through up to USD 1 billion in foreign currency denominated loans, which meant that the devaluation inflated the debt side by some 30 - 40 billion Baht during 1997. The going rate (the "peg") was 25.8 Baht per USD in the beginning of 1997 and the central bank posted an exchange rate for accounting purposes of 47 Baht per USD at the end of December 1997. As a result SPP posted a loss amounting to some 35-36 Baht per share which is more than the going share price for SPP and around three times the registered share capital. If the importance of the Siam Cement Group is considered, it is likely that the Thai government will support the group financially, as they have already indicated. No restructuring plan has been published yet, however.

Concessionary credits to Siam Kraft and SPP

The only Swedish company involved was Handelsbolaget HB Elof Hansson, that sold an effluent treatment system to be installed at SPP and Siam Kraft during the expansion program in progress 1991 - 1992. Contract was made in 1990. The Thai party in this case contacted the Swedish Embassy and requested a concessionaire credit line. The installations were delivered and started up in 1992.

The case officer from Elof Hansson stated that :

- no request for reporting or monitoring was made from the Swedish side;
- regardless of this Elof Hansson reported progress with 6 month intervals, but nobody seamed to be interested in the reports;
- no environmental impact study was asked for or performed;
- the treatment plan was activated sludge plus aeration type , in principal the state of the art process used also in Sweden at the time;
- the Thai side requested over capacity for the installation since further expansion of the production was in their plans, since then the expansion has been implemented and the plant's capacity is now fully utilised.

The energy plant offered from the Swedish side, and for which concessionary credits was also solicited, was never contracted and the credits never realised. The only investment with Swedish component is therefore the effluent treatment plant sold by Elof Hansson.

Since the effluent treatment plant in itself is mainly an environmental protection installation there is no doubt that it fulfils at least that target for the concessionaire credit program. As regards the other objectives it is almost impossible to evaluate the performance of the company due to several reasons :

- the Crown Property Bureau is more or less immune to serious investigation of its management practises or environmental policies;
- being essentially a state industrial group, the companies are not in any way sensitive to criticism from the public, the media or NGO:s of any kind and they have never been subject to any interest from these groups;
- the companies have never published any information about their operations so there is nothing for external and interested parties to build on;
- traditionally nobody criticises public or state bodies in Thailand, this can be an heritage from the earlier days when military rule was the order of the day.

Some financial information for the parent company Siam Pulp and Paper (SPP) is available from open sources (May 1998) :

SPP number of shares 156.3 million, nominal value 10 Baht, market price 33.50 Baht (posted May 7, 1998).

Result per share (loss) : (36.69 Baht). This means that the global loss can be estimated at 5.7 billion Baht or about USD 147 million for the year 1997.

The loss accounted for is higher than the registered share capital and also higher than the market value for the whole company ! In the market it is expected that the government shall publish measures to restructure the Siam Cement Group /Siam Pulp and Paper Company and thus also Siam Kraft financially.

Attachment B: List of contacted persons

to Concessionary Credits

Mission to Thailand April 25 throughout May 8, 1998

Industrial Finance Corporation of Thailand (IFCT)

Finance Department

Nutta Ratanachaichan Senior Vice President

Corporate Finance Department No 2

Chesta Moo-Ming	Officer
Visut Kittisamuth	Ass Vice president
Vorayuth Charoenloet	Senior Vice president
Ronnarit Virachanang	Officer

Phoenix Pulp and Paper Co

Ralph G Mattsson	Managing Director
S.K. Mittal	Deputy M.D.
Subhash Maheshwari	Research & Development Mgr
Paiboon Chattranuchat	Administrative Mgr
William J. Riopel	General manager (Finance)

Siam Pulp and Paper / Siam Kraft

Apinya	Financial mgr (phone)

Communication resources (Thailand) Ltd

Mark Graham	Owner and M.D. (NGO-contacts)

Connector Asia

Anders Lundquist	M..D.
Håkan Skoglund	Dir.
Johan Winlöf	Dir.

SEASCAN Co (Deutsche Grenfill)

Sudhisakdi Manibhandu M.D.

Skandinaviska Enskilda Banken (South East Asia)Ltd

Benjamin Swedberg Commercial Banking

World Bank Group / HQ Washington

Johan Åström Project Finance & Guarantee Dept. (phone)

Environmental Technology AB

Christer Johansson_ M.D.

Recent Sida Evaluations

98/4 Den mänskliga faktorn. Samarbete mellan svenskt postväsende och den regionala posten i St Petersburg, Ryssland. Lars Rylander
Department for Central and Eastern Europe

98/5 Apoyo de Asdi al Programa Nacional de la Mujer en Bolivia. Marina Subirats, Åsa Westermark
Department for Latin America

98/6 Sustainability and Partnership. Sida supported cooperation between Swedish and Baltic Non-governmental Organisations. Peter Winai
Deparment for Central and Eastern Europe

98/7 Sewerage and Water Sector Projects in Egypt. Nigel Nicholson, Nemat Guenena
Deparment for Infrastructure and Economic Cooperation

98/8 Sida Support to ten Projects at the Geological Surveys of Estonia, Latvia and Lithuania. Torsten Toksvad, Janis Prols.
Department for Central and Eastern Europe

98/9 Programas de MCED/DERECHOS del Niño de UNICEF en América y en el Centro Internacional para el Desarrollo del Niño de UNICEF(ICDC). Benno Glauser, Eva Lithman, Riccardo Lucchini
Department for Latin America

98/10 Swedish Support to the Power Sector in Vietnam. Bo Sedin
Deparment for Infrastructure and Economic Cooperation

98/11 Public Auditing in Southern Africa. Kathy M Higgins, Matsobane Putsoa
Department for Democracy and Social Development

98/12 The Asian Regional Research Programme in Energy, Environment and Climate. J M Christensen, G A Mackenzie
Department for Research Cooperation SAREC

98/13 Selected Aspects on the University System of Nicaragua. Yolanda Rojas, Jörgen Dahlgren
Department for Research Cooperation SAREC

98/14 Expanded Programme on Immunization in Zimbabwe. Per Anders Björkman, Davies Gordon Dhlakama, Birger Carl Forsberg
Department for Democracy and Social Development

98/15 Community-based Rehabilitation Programme in Zimbabwe. S Chidyausiku, J Munandi, M Marasha, D Mbadzo, F Mhuri, H Oppelstrup, C Nleya
Department for Democracy and Social Development

98/16 SAREC Supported Dryland Research Programmes in East Africa. David Gibbon, Bruce Campbell
Department for Research Cooperation SAREC

98/17 Environment-friendly District Heating in China: Five Investment Projects Supported by Concessionary Credits from Sweden. Karlis Goppers
Department for Infrastructure and Economic Cooperation

Sida Evaluations may be ordered from:

Infocenter, Sida
S-105 25 Stockholm
Phone: (+46) 8 795 23 44
Fax: (+46) 8 760 58 95

A complete backlist of earlier evaluation reports may be ordered from:

Sida, UTV, S-105 25 Stockholm
Phone: (+46) 8 698 5133
Fax: (+46) 8 698 5610