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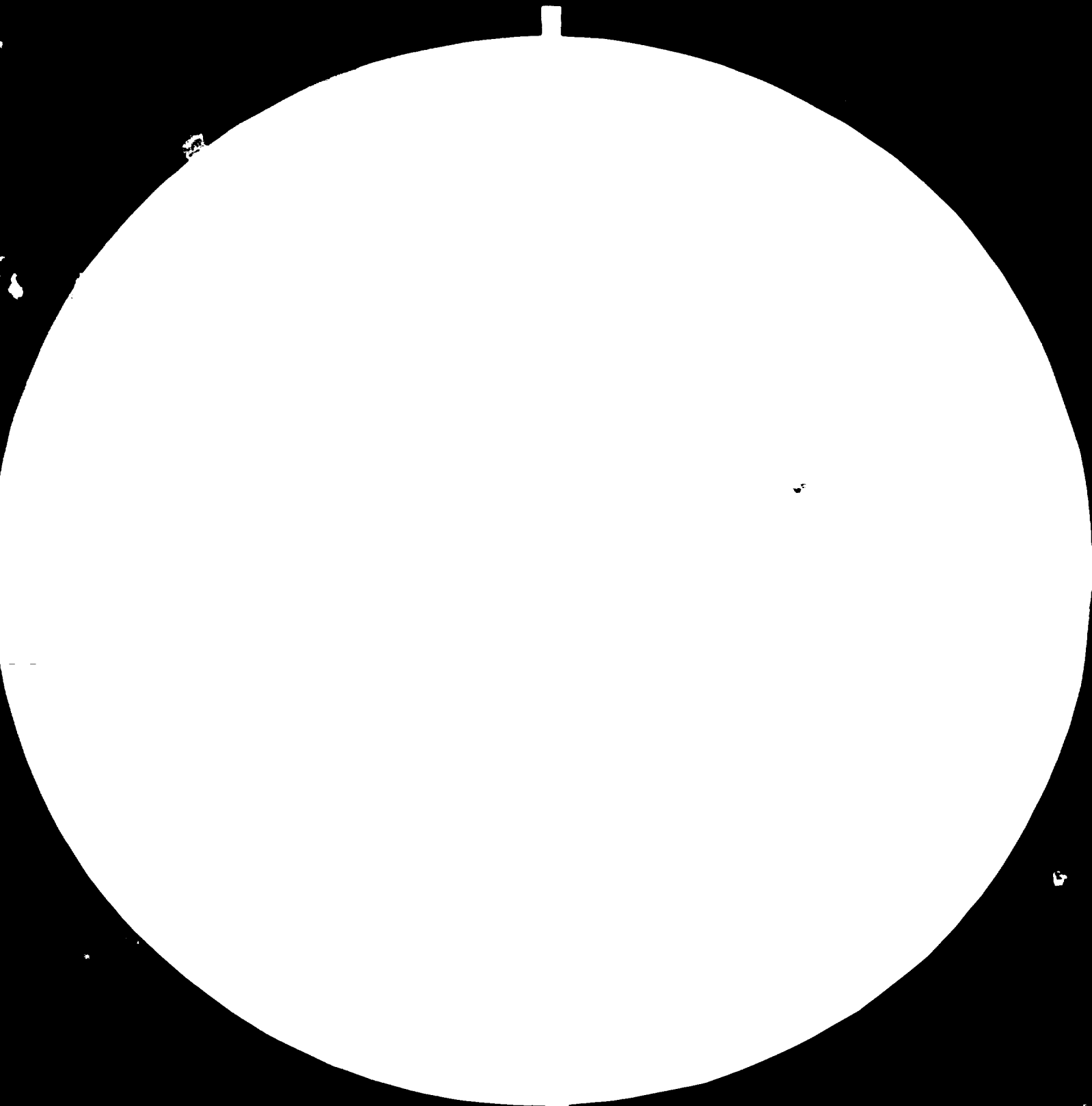
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SI/THA/82/011

Interim Report*

Prepared for the Government of Thailand

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INTRODUCTION

On request by the Government of Thailand a UNIDO Mission on Industrial Restructuring was carried out 28 October - 4 November 1982. The Mission consisted of Mr. Herman Muegge, Mr. Åke Liljefors and Mr. Peter O'Brien*

The purpose of the Mission was to jointly with members of the Government's Restructuring Committee (RESCOM) and its secretariat, the Economic Project Division of the National Economic and Social Development Board (NESDB), review the programme of industrial restructuring in Thailand and advise on the scope and approach of ongoing and future analytical work of the secretariat of RESCOM. More specially the Mission was asked on the basis of available studies and discussions with representatives from Government and industry to examine the structural adjustment needs and to review the current institutional development and on this basis to give its opinion on (i) the major issues pertaining to industrial restructuring both as concerns the manufacturing industry as a whole and selected industrial subsectors; (ii) policies and institutional measures conducive to restructuring; (iii) the scope and approach for conducting detailed studies of industrial subsectors; and (iv) the work programme of the secretariat to RESCOM.

The duration of the Mission was confined to six working days. There were thus limited possibilities for information gathering through interviews and assessments of relevant studies, especially since some of the important papers were not available for the Mission (for instance the two first sector studies on automobile and electric/electronic

* Messrs. O'Brien and Liljefors are UNIDO Consultants; Mr. Muegge is Acting Head, Country and Regional Studies Branch, Division of Industrial Studies, UNIDO, Vienna

industries).

Indeed, the role of the Mission is to be considered not as to provide a comprehensive assessment of the substantive and analytical aspects of Thailand's industrial restructuring, but as a first step in a longer term, continuous collaboration between UNIDO and the secretariat to RESCOM in this area.

The present report accordingly only provides some observations on the basis of first impressions and is a first contribution to the work being pursued in NESDB. It is envisaged that further work will be done in this area and that detailed reviews of sector studies and issue papers will be subsequently undertaken by UNIDO on the basis of its ongoing research work on industrial restructuring in developed and developing countries.

The Mission wishes to express its great appreciation for the efficient and very kind support provided by NESDB, members of the RESCOM and other representatives of government and industry. The list of persons contacted is attached to this report.

I. THE CONCEPT OF INDUSTRIAL RESTRUCTURING

In recent years there has been an intensive debate in practically all countries concerning the process of structural change in industry. Although a precise, universally accepted definition of the terms "structural change", "structural adjustment" and "restructuring" may not have been established, a basic notion has emerged of the meaning of the terms. Restructuring of industry thus seems to imply an intentional, systematic change over time of the current structure of manufacturing industry towards another structure in terms of composition of output, of factor inputs and material inputs, and linkages with domestic and foreign economic activities etc. This broad interpretation of the concept leaves room for a varying degree of details, directions of approaches and objectives of restructuring.

1. Global Environment

Structural changes in industry obviously are continuously taking place as part of the development process. The pressures for adjustment of industry in the 1980's will, however, in most countries require more fundamental, complex and painful restructuring than in previous decades. For both developed and developing countries basic parameters under which industrial development took place in the 1960's and 1970's seem to be radically changing, thus calling for a re-orientation and re-directing of the pattern of development through appropriate policy measures.

Several countries in South-East Asia have so far succeeded in relatively efficiently responding to and managing the adjustment process, but the majority of developing countries with a sizeable industrial sector are faced with significant challenges and adjustment constraints.

In the current period their structures seem to (i) have had little dynamic adjustment capacity built in; and (ii) have largely failed to meet long-term expectations for significant contribution to overall socio-economic development.

These countries need to firstly make radical, and painful changes of their already installed production capacities and secondly direct new investment to new goals and through new modalities.

All these features of the world economy indicate that Thailand, along with many other developing countries, must meet the challenge of industrial restructuring when external conditions are by no means favourable. Furthermore, the very fact that other developing countries are also facing this qualitatively new situation suggests that Thailand will be competing with them for export markets, foreign capital to support the extraction and processing of mineral resources, foreign capital to employ domestic labour competitive in terms of wages and productivity, as well as in the effective mobilisation of domestic materials and skills to serve internal requirements.

The world economy is growing at a much slower rate than in the 1970's and most forecasts suggest that slow overall expansion will persist throughout the present decade. Short term capital movements have now attained major proportions and are highly volatile in relation to expectations of interest rate changes and inflation in various parts of the globe. Foreign direct investment in fixed assets, however, has been much less significant in recent years and there are several cases of substantial disinvestment. Internationally, capital flows are responding more to profit opportunities arising from monetary factors than to productive opportunities. On the other hand, huge investments have been made within the principal OECD countries to develop new technologies which, in certain instances, are already affecting trade and investment prospects of developing countries : the influence of those innovations on patterns of global production, trade and investment seems destined to become much greater during the 1980's. Those innovations, moreover, are not sector-specific; they are changing industrial processes and products over a wide range of activities. Work within UNIDO and elsewhere has shown that intra-trade and the struggle for market shares among OECD countries and enterprises has been the principal reason for loss of industrial employment in these states. Yet the demands for (and implementation of) protectionist policies have been directed chiefly at imports from developing countries, above all the NIC.*

* Newly industrialized countries.

2. Thailand's Situation

Thailand is one of few developing countries to have given clear recognition to the importance of the issue by focusing thereon in the National Plan. The establishment of the Government's Industrial Restructuring Committee is another decision of fundamental importance. It is, however, felt that greater clarity and a conceptual base would be required to guide the work of the Committee and its Secretariat. The process of restructuring is obviously less a matter of formulating and pursuing a number of policies, sector programmes and promotional measures than the identification of a consistent set of general policies leading the current industry and new investments towards a nationally "preferred" structure in a period of say 10-15 years. This "preferred" structure would need to be outlined on the basis of national overall social objectives, current and prospective national resources, and estimated international future development.

The major issue which policy-makers would need to face would be the determination of the general direction of industry development as regards its internationalisation. The issue thus entails the drawing of a most desired line between on the one hand full international integration with higher trade - intensive, efficient industries and on the other hand a nationally integrated manufacturing sector based on national objectives, domestic resources and market.

The Government of Thailand has in the Fifth National Economic and Social Development Plan (1982-1986) laid down its programme for industrial restructuring and decentralisation (Part III, chapter 3 of the Plan). From this programme and from other pertinent documents as well as interviews undertaken by the UNIDO Mission, the following features seem to emerge as essential for the country's industrial restructuring process.

Based on a set of import substitution policies the industry sector has expanded significantly over recent years. The structure of production is dominated by the food processing and textile industries with the engineering industry and basic chemicals showing a rapidly increasing share in recent years. This industry structure has a high import content in terms of raw materials, intermediate goods, machinery and energy and has not attained major exports. As a result, manufacturing industry is a significant net user of foreign exchange earnings accrued through the exports of primary - mainly agricultural - commodities. Past policies are said to have led to this situation and in particular to

- . a general inefficiency in production.
- . inadequate utilisation of current comparative advantages, viz. labour intensive processes and domestic raw material processing.
- . import-dependent production processes.
- . a bias against exports.
- . lack of technological innovation.

The Mission had the impression that the restructuring work in Thailand to a large extent tends to focus the attention on enhanced manufactured exports as the major vehicle and/or goal for achieving a structural change. The Mission feels that such apparent focus might lead to fragmented approaches in the work of the Secretariat to the restructuring committee. Therefore, the Mission would like to initially revert to the question of the broad concept and approach of industrial restructuring and against this general context review the separate issues which are under discussion in the government's work on restructuring.

The use of the word restructuring shows that Thailand's efforts are taking place within a domestic industrial setting that is the product of past actions and policies. Whatever the merits or demerits of past processes, they have created interests and ways of doing things which will not easily be altered. It is not just that production capacities, systems of protection and privilege, administrative networks and even external channels of information are established and will be resistant to change. It is also that part of the response to a qualitatively new situation may be a reinforcement of existing methods and structures in the belief that accentuating current trends will provide a basis for dealing with new ones. Specifically, Thailand has experienced rapid industrial growth (measured in terms of domestic production and prices) accompanying the generalised promotion of industry. In that context little attention was given to providing specific orientations to such growth e.g. via conscious attempts to

strengthen key sectors. To cope with the future challenges, however, it may be necessary to try to start a fairly explicit industrial policy - that would be a new departure for the Thai government and the industrial sector.

That new departure would necessarily involve a more comprehensive approach than the examination of individual aspects of industrial restructuring. The approach should cut across both industrial branches and the fragmentation of industrial policy measures and should instead seek to encompass the total process.

3. Thailand's Approach

There are two schools of thought regarding the way in which industrial activity should evolve. The first emphasizes world market integration, while the second stresses the creation of a diversified, domestically integrated structure. In practice most countries opt for some way of combining a degree of world market integration with an effort to establish a nucleus of industries producing (with significant national participation in equity ownership and management decisions) goods particularly valued (for strategic or social reasons) by decision-makers in the economy. It would seem that Thailand's approach to industrial restructuring is heavily weighted towards world market integration. There are several features of that approach which require further elaboration.

First, considerable attention is given to expanding industrial exports, which in practice means manufactured exports. Relatively little is said, however, of the net foreign exchange impact of policies to expand gross export earnings at 2.5 times the rate of domestic sales; moreover, there does not appear to be any detailed examination of the supply and demand factors affecting the process.

Second, the restructuring for export will require active support from government policy. The experience of NIC in the region shows that competitiveness in exports has been closely associated with promotional efforts to that end on the part of government. The issue is thus not whether government should intervene but rather how, in what form and to what extent. The mission feels that more attention should be given to the linkages among private enterprise, domestic competition, competitiveness on world markets and the role of government policy. The mission has the impression that the Plan may assume that more of the first three are necessarily associated with less of the last : in practice the issues are likely to focus on questions relating to which sector, what policy instruments and so on.

Third, the policy instruments which seem to be favoured for industrial restructuring are those of a general type, especially reforms of tariff policy, tax policy and the legal system. These changes are necessary but are most unlikely to be sufficient. Work on particular sectors and perhaps even particular firms will also be needed and policies to help them restructure will be required. It is not a question of general policies or specific ones : considerable improvements in both are needed.

Fourth, the mission is aware that the information base for industrial restructuring has serious deficiencies. In part this is due to the difficulties of collecting information from many enterprises; in part to the fact that government departments often

seem not to ask pertinent questions; in part to the contradictions in the material which is collected; and in part to the limited degree of detailed analysis undertaken. The mission considers there are two inter-related reasons for this situation - Government departments do not seem to take a permanent interest in following developments in the industrial sector - the relation between the two is mainly of the sector coming to government to obtain special protection or privilege. By the same token, there is little evidence of government studies of industrial performance.

For example, there seem to be difficulties in the long run to measure changes in efficiency without access to facts or at least realistic approximations of productivity and profitability trends. It also seems to be important to have access to such information with a distribution on manufacturing firms that are or have been promoted and such firms that develop without special government programs.

Fifth, the three preceding points (government support, the preference for general policy tools and the information gap) ~~coverage~~ at the level of project preparation, implementation and monitoring. The reluctance of government to examine industrial projects with care before providing protection and/or finance for them, and the reluctance of industry to show government the basis on which investment decisions and the reorganisation of production are being made, mean that little systematic evidence seems

available about how industrial investment is actually decided upon and implemented. For the Industrial Restructuring Committee to make its fullest contribution to assisting future investment allocations, a much more thorough approach to project preparation and analysis is imperative. Indeed, it is hard to see how promotional packages for restructuring can be effectively defined and implemented without altering the current treatment of industrial projects.

Sixth, though the Fifth Plan formally covers the quinquennium to 1986, the time frame for transforming the industrial structure is not clear. The emphasis on world market integration in the sense of promoting exports implies that the structure should continually alter in response to (or, still better, in anticipation of) changing opportunities to sell abroad. It does not provide any strong indication of which sectors, products and processes are likely to be significant in Thailand industry a few years from now. In particular, no systematic efforts will apparently be made to move into higher value-added activities, build up selected capital goods production or implement technological strategies. The structural changes which seem to be visualised are essentially those aimed at improving efficiency within individual enterprises (a point discussed later in the report), orienting production towards exportables rather than the home market, and encouraging new investments especially in export-oriented activities. It appears that the concept of restructuring is an explicit attempt to build a

feasibility of attaining the export growth rate indicated (15% p.a. under the standard assumption or 25% p.a. in the optimistic scenario). Export promotion is apparently to take place via altering the trade and other policies affecting existing industries (so that they switch output towards exportable items) and seeking to attract new investments into export activities. Neither approach seems to go far towards encouraging manufacturing as a whole to be less of an enclave in the Thai economy than it now is. Under existing conditions it is an import substituting enclave, where production has a high import content and input-output linkages.

It appears that the concept of restructuring as an explicit attempt to build a particular set of industries over a specified period has not been prominent in Thailand's approach.

Seventh, there is insufficient consideration of the financial implications of industrial restructuring. International experience indicates that countries, both developed and developing, frequently underestimate the magnitude of financial requirements (including foreign exchange) for industrial restructuring. For Thailand the financial constraints affecting future restructuring programmes are likely to be particularly severe due to both the fact that most industrial sectors require substantial adjustment and the increasing difficulties of mobilising both national and international sources of finance.

Eighth, although a basic principle of industrial development policy is said to be "to make market mechanisms work for the benefit of the majority", it is sometimes unclear whether the majority of companies may not benefit more than the majority of the people. There seems to be some doubt that market conditions and forces alone would lead to favourable continued industrialisation. Thus one may ask whether the numerous incentive programmes are mainly an expression of desire to speed up the industrialisation process or whether they also reflect a wish to achieve a preferred industrial structure.

The Mission recognises that increasing attention is being given by the Thai authorities to many of the issues raised above. In this sense its visit occurs at a turning point, as Thailand starts to move away from indiscriminate promotion of industry and towards elaborating the building blocks of an industrial policy. The establishment of the Industrial Restructuring Committee and its Secretariat represent important steps in that direction.

II. SPECIFIC ISSUES

In the light of its study of available documentation and its discussion with Thai authorities and industry the mission believes that certain specific subjects require some further elaboration.

1. Financing Industrial Restructuring

There are two main aspects of the financing questions, viz the impact on the government budget of changing policies for industrial promotion, and the organisation of domestic capital markets and financial institutions such that they can make a contribution to putting companies based in Thailand on a stronger financial footing than they appear to be at present.

The policy changes already initiated, relating primarily to harmonising tariffs within a narrower band than in the past and amending some aspects of the tax law, coupled with the grant of additional privileges for export activities, suggest that government revenue from indirect taxes may fall. On the other hand government support for industrial restructuring is likely to involve significant outlays e.g. in the area of equity investments in basic industries. Consequently the net fiscal impact, at least for some time, will probably be negative. Given that tax revenues are in any case not expanding much, due to slow growth rates of industrial activity and the endemic difficulties of tax collection (the closer to the final stage of production, the greater the extent of the evasion) the restructuring costs for the government need more detailed examination. It should be recognised that there would be severe constraints to any tax reform proposals which might reduce total government revenue from the tax system. Consideration could be given to the establishment of a structural readjustment fund which would help to finance individual companies and sectoral programmes but at the same time would require repayment of loans with interest. The fund could supplement some of the financial market goals discussed in the next paragraphs.

On the whole, industrial enterprises in Thailand are markedly under-capitalised, i.e. they are operating on relatively high ratios of debt to equity. Moreover most of the debt is short-term, whether obtained from commercial banks (the main suppliers) or finance companies. The commercial banks obtain most of their loanable funds from fixed interest rate deposits, the earnings on which are well in excess of current rates of inflation. Since industrial investors would, if they were to borrow domestically over the long term, have to pay rates well above the fixed interest on deposits, the structure has created strong incentives for firms to borrow abroad. In the recent past this has meant that the balance of external financial payments has looked good due to capital inflows : but both the financial structure of the firms and the balance of external transactions are vulnerable to short term capital outflows via the non-renewal of loans.

In present conditions the IFCT is not financially strong enough to cope with such pressures or to provide anything like adequate medium to long term financing for industrial restructuring. The temptation is for commercial banks to try and encourage IFCT to lend to projects where the banks are also involved since the IFCT would thereby be effectively providing collateral for the banks' loans. Moreover, IFCT funds can be used for new industries or expansions of existing capacity and that may impose some limitations on their flexibility as an instrument for restructuring.

The vulnerable financial situation, coupled with the costs of reorganising, suggest that significant numbers of firms could be in severe financial difficulties in the future unless steps are taken to provide an adequate financial framework for restructuring. The mission understands that so far the financial dimensions of industrial restructuring have not been given much attention in the work of the RESCOM Secretariat (although consideration of some of these problems may be included in the agreed Structural Adjustment Loan of the World Bank). This item should figure prominently in the future work programme of the Secretariat.

2. Foreign Exchange and Trade Policies

In the past the design and effects of import substitution policies have created an industrial structure but at high cost. The substantial protection of "infant industries," which are frequently companies tied to powerful domestic and or foreign groups, are granted local monopolies, have high import content, and can readily call upon the import surcharge system if they need further help, has generated internal income transfers of an unfavourable type as well as encouraging the growth of a vulnerable industrial structure. It is thus not surprising that the Plan approach advocates great efforts in the export direction. The switch from one extreme to the other, however, may not be an improvement: rather, the mission feels that more attention must be given to the realism and likely consequences of policy shifts.

The principal concern of the government is presumably with the net foreign exchange impact of its policies and the objective seems to be to make the industrial sector less of a foreign exchange burden than has hitherto been the case. To accomplish this exports are to be promoted and imports to be (partially) liberalised. Any expansion of industrial exports could will have significant foreign exchange expenditure content, including costs of machinery and equipment, intermediate inputs, raw materials, loans for the purchase of these items (supplier credits), management and training contracts, and commercial collaboration agreements (for the use of trademarks). Where the export expansion takes place through joint ventures, the freedom of the foreign partner to repatriate profits and dividends adds to the account. None of this means that the move to exports will not be profitable : it may or may not yield a net foreign exchange gain depending on the circumstances.

The second issue which needs greater consideration by the Secretariat of RESCOM is what are the supply and demand factors affecting industrial exports? Put another way : even if a

particular project can be shown to have net foreign exchange earning potential, what are the chances those exports can actually be realised? Apart from the obvious remarks that government support may be needed to help investigate markets, create a quality image, assist with export credits and so on (all measures which have been central to the industrial export performance of NICs and imply a close working relationship between government departments and export industries), the supply conditions to "create comparative advantage" need investigation. The mission believes that processing of domestic raw materials and labour intensive manufacturing activities are regarded by Thai authorities as the two kinds of industry in which a trading edge could be created. The former will probably require a close link with foreign capital and the latter means the maintenance of labour productivity rates competitive with those of other countries. Are those implications compatible with those of other restructuring objectives? This issue seems to have received little attention so far.

3. Foreign Resources

Foreign resources can be involved in the restructuring process in several ways :- direct foreign investment, loans, machinery and equipment sales, supply credits, technical collaboration agreement (including management contracts), commercial collaboration. Although there is, at present, a serious absence of publicly available data on most of these forms of foreign participation and their likely implications for the achievement of restructuring objectives, the mission understands that the direct and indirect costs of such arrangements are substantial. Furthermore, although broad data suggest direct foreign investment is not great (and that in most cases via joint ventures), there seems to be a lack of information on the relative importance of foreign linked firms in their sectors and on the content and significance of promotional packages granted to these companies.

Suggestions have already been made for the establishment of a foreign investment register and a committee is working, under BOI on the possible creation of a technology transfer registry; these might help to fill some of the gaps.

The mission considers that industrial restructuring policy will require conscious decisions to be made concerning the kinds of foreign inputs to be sought, in which sectors, from which kinds of enterprises, for what duration and so on. At the moment the approach seems to be via a general support for private enterprise and market mechanisms bolstered by the BOI sets of privileges. We think this is inadequate. The role of foreign resources in the economy is a structural issue since the owners of these resources are frequently powerful corporations whose preferences and decisions can have major consequences for domestic resource allocation as well as the prospects for successful competition on foreign markets. The Secretariat of RESCOM should assist those groups already working on these matters and undertake (possibly within the sectorial studies) further investigations of its own. Such studies should include examination of the foreign exchange impacts of foreign investment by industrial groups.

4. Basic Industries

The Plan recognises that the industries using domestic raw materials (particularly minerals) must play a growing role in future industry and also recognises that no policy yet exists towards promotion of them.

The mission believes that the elements of such a policy should include:

- explicit consideration of the desired degree of domestic control over the exploitation of natural resources.
- examination of State participation in enterprises using these resources (perhaps building on the experience of some other developing countries in this field).

- methods for bargaining the use of foreign technology, capital and management skills.
- methods of utilising state procurement policies to encourage the growth of domestic industries, particularly those in the metal working and engineering branches.
- a practical definition of those areas where input-output linkages could be strengthened.
- environmental considerations.

Basic industries can produce several things besides goods for other sectors and demand for the outputs of those sectors. The characteristics of the projects usually mean that their balance of payments and government budget consequences are not negligible, while the industries can be an important source of local skill development. In a period of extremely rapid technological change a key question is: to what extent and in what ways can basic industries act as industrialising industries? The answers can only be sought by the examination of specific cases. That approach represents a sharp departure from customary policy measures in Thailand: the Secretariat of RESCOM could play a pioneering role through studies and specific project proposals in this area.

5. Small and Medium Scale Enterprises

The Thai tax structure, the deficiencies of information regarding the production capabilities of smaller firms, and the arguments about the unreliability of smaller suppliers, may all help to explain the absence of integration between smaller and larger industrial enterprises in the Thai economy. The latter have tended to become industrial islands, vertically integrating as much as possible of the production/distribution chain and using foreign rather than domestic supplies when forced to buy in.

The Plan proposals in this area seem to represent the most practical options, given the obstacles. They focus on amending the tax structure to avoid cascading of payments (cascading increases, costs to downchain buyers); trying to stimulate supply by offering credit, raw materials, training and better transport facilities to the smaller firms, and trying to encourage inter-firm transactions by offering some insurance to large buyers against problems of non-delivery, and some insurance to small suppliers against dramatic fluctuations in demand for their services.

The aspect on which RESCOM secretariat could perhaps do more concerns the preparation of inventories of suppliers (particularly medium scale) and their capabilities.

6. Efficiency

A basic element in suggested policies is to increase efficiency. In certain areas of policy - it should be emphasized once more - some measures seem to be detrimental to efforts to raise efficiency in manufacturing industry as a whole. This seems to be the case in the area of investment promotion, of the promotion of rural location and in the favouring of labour-intensive industries, specifically by abolishing import tax exemption for machinery. More efforts should be made to define and implement ways to increase productivity in manufacturing to match the higher wage costs that can be foreseen. Unit labour costs are a crucial factor for the success of export of manufactured goods.

A broad program for higher productivity should therefore be worked out. This may include studies on international developments of production techniques and methods to measure efficiency in manufacturing industry. Training programmes for shop foremen (supervisors) should be initiated to create a cadre of keymen for efficient industry production. Also broad programmes for management training are essential.

It is necessary to establish methods and data for measuring techniques, and to analyse whether policy measures to increase efficiency in manufacturing are given results or not. Cooperation with international institutions is recommended.

Attention should be paid to the change in productivity differentials, to the disadvantage of developing countries, that can follow with the increased use of automation in manufacturing techniques in industrial countries, allowing reductions of unit labour cost. Even if such reductions will probably to some extent be balanced by higher costs for capital, NICs and potential NICs might consider the risks for their competitive power and diversify their exports away from heavily labour-intensive and low skilled manufacturing. This asks again for ambitious training and education - and of course an open mind for new technology in manufacturing.

7. Technology

It can perhaps be argued that the awareness of new technology for industrial products and production techniques should primarily be the responsibility of industry itself. But understanding and practical support by governmental bodies are needed. Is there at present any joint forum in the country for general exchange of views on international trends in the field of industrial technology?

Although at the present level of industrialisation government should stimulate domestic companies to adopt new technology both in their product range and their production techniques, stimulus should in the first hand come from the markets. Product development must be market-oriented and market induced. Supporting policies should thus to the extent possible be general. Medium size companies need to be ~~activated~~ in the search for new techniques. This may call for special educational and information efforts, e.g. through professional seminars.

Attention should be given in the sector studies to the very rapid progress of automation through micro-processor controlled machinery and computerized assembly operations in leading industrial nations, not least in textile and garments industry and electronic products industry. Steps must be taken to ascertain that sufficient monitoring

be organised by industrial associations themselves or by those associations in cooperation with governmental bodies. Increased efforts should be taken to utilize new technology also for energy production.

8. Energy

It is difficult to judge from the available documents to what extent estimates of energy consumption are realistic. Taking into account the desired transformation of industry, it must be assumed that the relative consumption of electrical power per product unit is to increase. It should also be examined if the use of electrical power in agriculture will increase in years ahead, due to higher mechanisation.

9. Rural Areas

The constraints of setting up manufacturing operations in rural areas should be carefully examined. Experience from rural areas in highly industrialised countries indicates that unit costs are considerably higher for numerous years compared to urban production units. A substantial move of industrial units to rural areas therefore is likely to mean a low rate of efficiency, that has to be balanced by correspondingly higher productivity elsewhere. Even in a rather long time perspective the rural location program might thus be in conflict with other basic objectives. Attention should be given to this issue.

10. Use of Incentive

Incentive in the establishment of new companies should primarily be concentrated on the entrepreneurial function.

The following example may illustrate this approach:

For the establishment of new firms in rural areas.

- a) To the firm: substantially subsidised price when acquiring ground and/or building,
- b) To the entrepreneur: substantial financial incentive to start operation and time-limited, complete income tax redemption.

For the establishment of new firms in other areas

only when the entrepreneur starts his first firm (employment promotion).

- a) to the firm: nil
- b) to the entrepreneur: financial incentive to start operation and time-limited substantial income tax-redemption.

Incentive to stimulate certain other functions could be exemplified as follows:

- a) Energy savings.
Substantial direct contributions (subsidised prices) and financial incentives for the installation of new processes or equipment in relation to effective savings (and not the amount of investment).
- b) Training programs for hired managers and shop foremen in industry.

III. SOME REMARKS ON PLANNED SECTOR STUDIES

This section proposes a basic scheme for sector studies.

They should take place on an open ended basis, which will allow the creation of valuable statistical series. The studies should take into account international information, including key publications in the respective area of industry.

1. Proposed General Design of Sector Studies

All studies should follow a basic scheme that would allow a broad overview of manufacturing industry's performance and parallels to be drawn between manufacturing of a similar kind. In this connection it is particularly essential that studies are supplied with data on working capital as a basis for evaluations of productivity. These studies seem to offer a good opportunity to collect information on the capital structure that is a prerequisite for realistic estimates of the degrees of capital utilisation, productivity and efficiency in manufacturing. We therefore recommend the following scheme to be used.

Proposed Basic Scheme for Sector Studies

1. General characteristics of the industry.
2. Production and production factors:
 - a) Number of producers and factories (size and location), number employed, working capital.
 - b) Quantity and value produced, number of units produced, (distribution of producers and factories).
 - c) Value, average age and source of machinery and equipment.
 - d) Productivity: production/employee, production/working capital.
 - e) Capital and unutilised capacity.
 - f) Value and source of raw material and components.
 - g) Volume and estimated value of inventory.
 - h) Important changes in production techniques (recent years).
 - i) Important investments in machinery (recent years).

3. Sales, markets and marketing:
 - a) Sales in volume (numbers) and value on domestic and foreign markets.
 - b) Distribution of customers on domestic and foreign markets on categories such as:
 - public authorities and companies
 - private industry firms
 - agriculture
 - other private firms
 - households and private persons
 - c) Marketing activities on domestic and foreign markets such as sales organisation, advertising and other promotional measures.

4. Government policies:
 - taxation
 - investment promotion
 - export promotion
 - industrial control
 - trade control

5. Evaluation of efficiency in production with regard to labour and capital factors. Possible ways to increase efficiency. Need for innovation of production techniques.

6. Evaluation of the effects of and need for government policies with special regard to the industry's:
 - a) efficiency (investment)
 - b) imposts on balance of trade
 - c) imposts on employment

7. Examination of international trends in:
 - a) technology
 - b) market
 - c) trade policies

8. Guidelines for structural adjustment..

2. Some Comments on the Content of Sector Studies

According to documents a broad study on the Automotive Industry has been made. Since that study has, however, not been at our disposal no comments and special recommendations can be made at this stage.

In this sector it should be relatively easy to compare performance and cost structure per producer. Efforts should be made to get access to information on similar assembly factories abroad to allow that a "standard" be set up with regard to "reasonable efficiency".

This sector also seems to be suitable for realistic comparisons of quality, costs and so forth between a country with its own manufacturing in the full sense and on assembly country like Thailand. Such comparisons are likely to reveal the conflicts between for example possible reductions of cost per unit produced and policy preferences regarding labour intensity. Special attention should be paid to the international trend in car manufacturing to use successively higher automation, including wholly automated robot lines.

A study has been undertaken on the Electrical and Electronics Industry. This study was not made available to the Mission. Therefore no comments can be made on that study.

Generally speaking studies in this sector should pay special attention to differences in cost structure and efficiency between this industry in Thailand and one or two other countries with similar level of manufacturing/assembly for a couple of products, for example TV sets and motors for refrigerators.

Such studies should also seek to discover in which product groups the potential demand from the domestic market is likely to grow

at a rate above average as a consequence of the industrialisation process as such. It can be argued that demand for small motors (1hp), simple relays and low voltage apparatus and switch-gear is likely to increase considerably.

Regarding the study on Iron and Steel Industry the following comments are made.

Steel prices in foreign markets seem to affect local prices to a large extent. Overcapacities seem to be considerable. Study should concentrate on products which seem to have the biggest potential demand, presumably in big-scale construction industry and agriculture. Study should also focus on possibilities for high-grade concentration of production units to probably only a couple of locations; as well as higher content of advanced technologies.

The Chemicals and Plastics Industry is of course a very heterogeneous group of manufacturing. However, study is recommended to be pursued for at least plastic products, plastic polymers and fertilizers, both ingredients and ready-mixed. Possibilities to make imports unnecessary should be considered.

The study on Machinery and Equipment Industry (other than electrical), according to proposed scheme, has to be segmented due to the heterogeneous composition of this sector. Concentration should perhaps be on machinery used in agriculture and food-processing. Tractors and mini-tractors seem to offer special interest. According to international reports no major technical innovations are expected for these products in the near future.

Attention should be paid to the future need of equipment for environmental protection (water and air cleaning), and further to welding machinery, which seems to meet growing demand in connection with big construction projects.

IV. CONCLUDING REMARKS ON THE PROGRAMME OF ANALYTICAL WORK

1. General Approach

The Economic Projects Division, through its Industrial Planning Sector, serves as the secretariat to RESCOM and has thus the responsibility to carry out analytical work and present the findings to RESCOM.

The programme of the Secretariat is fairly ambitious, seeking to cover most of the key issues. The studies deal with general issues and industrial subsectors. Although available financial and human resources are limited, every effort should be made to ensure a more rapid completion of the ten sector studies. They should be carried out more or less simultaneously in the first stage of the programme followed in the next stage by analyses of across-the-board issues. Such timing would ensure first that common issues in sectors and techno-economic linkages between the sectors are more easily identified and second that the general across-the board issues could be examined on the basis of up to date information. The Secretariat (or RESCOM) may wish to revise detailed operational plan for the research work in line with these aims. The Mission therefore suggests that the following schedule be considered for the research programme of the Secretariat.

<u>Phase 1</u>	<u>Phase 2</u>	<u>Phase 3</u>	<u>Phase 4</u>
sector studies	issue studies (finance, technology etc.)	consolidated policy studies (taxation, trade policies innovation)	consistency checks of policy packages

Although the form of presentation of research findings by the Secretariat to RESCOM may already be determined, the Mission would nevertheless suggest that due consideration be given to ensuring clear differentiation in each study of:

- research findings on current and past developments.
- expected developments.
- brief summary of the facts and projections.
- controversial issues.
- suggestions for alternative policies and measures for consideration by RESCOM.

This format for presentation would facilitate the review and decision-making by RESCOM members.

To encourage active participation of concerned industries and the involvement of the public, RESCOM may consider having each sector study reviewed by an industry sector council with members from industry and governmental bodies concerned for comments and responses.

At a final stage the study should be made available to the public, so as to ensure transparency of the government's commitment to the course of restructuring.

2. Proposed Studies

Concerning the general issues to be analysed by the Secretariat, the mission has the following brief observations:

a) The Institutional Structure

At present the responsibilities for matters connected with industrial restructuring are fragmented among several organizations e.g. industrial licencing is handled by the Ministry of Industry, investment promotion is tackled by BOI, plan formulation is a task of NESDB, and so on. Moreover, the focus is on the operation of measures rather than the formulation of policy.

The formal structure fails to reveal some important aspects of the ways in which decisions are reached and implemented. First, in Thailand personalities tend to absorb institutions rather than vice-versa: hence the effectiveness of an institution may vary depending, among other conditions, on who is controlling it. Second, many key figures sit on several committees and it may be such committees, rather than the institutions as such, are the really important bodies.

Third, the channels of communication are often stronger vis-a-vis outside (non-Thai) establishments than among Thai agencies themselves. In practice, therefore, important decisions of policy may be decided more through external consultation than internal dialogue. Fourth, as noted earlier in the report, the government is just beginning to feel its way towards an industrial restructuring policy: not only the institutional location of responsibilities but also their content is very much in a state of flux - industrial restructuring means institutional restructuring.

The Mission understands that some steps have already been initiated:

- (i) To set up an organisation which would promote, select and administer foreign investment, as well as register it so that monitoring is facilitated. The organisation would apparently function (from the decision making side) as a committee with its secretariat located at the BOI.
- (ii) To establish a Thailand Development Institute, which would in essence operate as an industrial (as well as other sectors) consultancy arm of government departments. No decisions seem yet to have been reached on the exact status of the proposed Institute or on its institutional affiliation.
- (iii) To alter tariff rates and structures, to modify some parts of the fiscal system, and to streamline procedures within BOI.

The complexities of the system and the changes now occurring suggest the secretariat should undertake a study of the institutional system, designed to identify the areas in which functions could be streamlined and responsibilities allocated.

b. Finance

The work should attempt, on the basis of the sector studies, to estimate the requirements over the coming years for investments, for adjustments i.e. for changing products, production processes and organisation structures of existing major industries. It is

certainly essential to have a rough assessment of the need for financial resources including foreign exchange so as to arrive at an overview of the monetary costs of the restructuring process for the country and for the government: especially since a range of new investment projects are likely to compete with each other for available investible resources. Indeed, the mission felt that in the existing administrative machinery there is some bias in favour of new projects. The analyses of the financial dimensions of the restructuring process should thus examine the feasibility of generating adjustment investment funds and examine ways of overcoming obstacles and biases inherent in the current set-up against such investment.

Studies on the role of taxation should analyse in particular the limitations set by the need to at least maintain government revenues at their current levels and the endemic difficulties of actual tax collection.

In discussion on the expansion of domestic demand for manufactures through improved income distribution, it has been suggested that reductions in tax rates could bring about the desired results. An analysis of this issue might be warranted.

c) Technology

In the frame work of the sector studies assessments should be made of prospective technology developments in key industries in other countries and their implications for Thai industry. A major issue to be examined would be how companies might be induced and supported to introduce new technologies. International experience could be described. Since little knowledge seems to exist in companies about the availability, costs, application and organisation of technologies the analyses should examine the feasibility of setting up engineering consultancy capacities (possibly with foreign participation) so as to provide such services to selected industry branches in the process of restructuring and possibly establish a

linkage to the Thai engineering industry. International experience could be examined in this respect.

d) Basic Industries

It is recognised by Thai authorities that there should be a government agency responsible for the development of basic industries. The agency would have the responsibility to determine criteria of efficiency for the operation of Basic Industries which, by their nature, would most likely be activities run by public enterprises, and to ensure that project preparation and implementation were carried out in accordance with these criteria.

The secretariat study should try to spell out the principal features of such public enterprise behaviour, including developing skills for bargaining about technology and other foreign inputs, diffusing technologies locally, using public enterprise procurement policies in effective fashion. It should in general seek to develop principles of benefit-cost analysis for such institutions. Since the allocation of public investment funds will have a powerful impact on overall financing of industrial restructuring, and a significant proportion of those funds may be channelled through public enterprises in basic industries, the scope and institutional weight of the new agency could be very important. The secretariat should, in its study, draw on the experience of other developing countries, in Asia and elsewhere, who are also faced with similar decision problems.

e) Conceptual Studies

The review of the complex process of industrial restructuring and of the required policies shows that a number of conceptual issues will arise which would need due attention by the secretariat. Some of these issues could be listed here:

- (i) Establishing guidelines for preparation and evaluation of

industrial restructuring projects. This would assist companies to formulate programmes for adjusting their plant and strengthen the evaluation of the costs and such adjustment.

(ii) Establish standards for assessing efficiency in production.

f) Studies on prospects for special trade agreements

The Mission suggests that in addition to general studies and sector studies covering prospects for manufactured exports to the international market studies should be carried out on prospects and modalities for exports to individual or groups of countries on the basis of special trade agreements such as bilateral agreements, buy-back agreements, barter agreements, long-term subcontracting arrangements etc.

Special attention should be given to assessing prospects for exports of selected product groups to ASEAN member countries.

APPENDIXList of Officials Contacted

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Mr. Santi Bangor	Acting Chief, Industrial Planning Sector, NESDB
Dr. Narongchai Akrasanee	Adviser to RESCOM
Dr. Chirayu Israngkul Na Ayuthaya	Deputy Minister, Ministry of Industry
Mr. Chanchai Leetavorn	Secretary-General, Board of Investment
Mr. Chira Panupong	Deputy Secretary-General, BOI
Mr. Sukri Kaocharern	President, IFCT
Mr. Chatumongol Sonakul	Deputy Director-General, The Revenue Department, Ministry of Finance
Mr. Amaret Sila On	Vice President, Siam Cement Co.
Mr. James G. Miller	President, Reynolds Aluminum Co.
Mr. Kasem Sripuntanagoon	Controller, Reynolds Aluminum Co.
Mr. Kavee Vasuvat	President, Siam Motors & Nissan Co.
Mr. Chavarat Charnvirakul	Chairman and President, SINO-Thai Engineering & Construction Co. Ltd.
Mr. Winston R. Prattley	Regional Representative, UNDP
Mr. Charles H. Larsimont	Deputy Regional Representative, UNDP
Mr. William R. Millager	Senior Industrial Development Field Adviser, UNDP/UNIDO
Ms. Yumiko Saito	Assistant to SIDFA, UNDP/UNIDO
Mr. F. Chaudhri	Senior Economist, World Bank

