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REVIEW OF CURRENT METHODS AND PRACTICES
FOR CONDUCTING FEASIBILITY STUDIES -
THE MALAYSIAN EXPERIENCE ^{1/}

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I. Introduction

While pre-investment and feasibility studies are executed in various fields in both the public and private sectors - and these may have similar or different problems of organisation and follow-up - this paper is confined to studies of industrial projects alone.

It should be explained at the outset that the bulk of investment in industrial projects in Malaysia is carried out by private enterprise. Public sector, or Governmental, participation have no doubt increased in recent years but these have been initiated with specific social objectives, e.g., to develop certain regions in the country, or to enhance and assist the development of indigenous entrepreneurship. In Malaysia public sector participation in industrial projects is never aimed to stifle or replace private enterprise.

Concern for the proper execution of pre-investment and feasibility studies in Malaysia therefore came with acceleration of the development effort to meet social objectives. Projects ought to be fairly exhaustively studied firstly to ensure good use of limited resources, and secondly - and no less important - so that systematic selection of a project among possible projects can be made.

II. Demand for Studies

Industrial investors in Malaysia may comprise foreign private investors, local private investors or local public sector organisations. Any industrial project would involve any one of these investor categories, or a combination of two or all three.

In the Malaysian experience, private sector parties - particularly the foreign ones and the more organised local ones - pose little worry on how they carry out or obtain pre-investment or feasibility studies. In most cases, their need is principally to be informed in a general way the lines of promotable investment, i.e., projects that are welcomed by the Government. They will then come forward with specific proposals for approval. Provided that due care is taken by Government to ensure the availability of needed infrastructure and incentives, proposals will be forthcoming.

However, to meet certain social objectives, as mentioned earlier, pre-investment or feasibility studies are needed most by public sector organisations and by certain groups of indigenous investors. About 30 or more public sector organisations at Federal, Regional or State levels are in constant need of studied projects because they directly invest in projects. Of course a big portion of studies of the projects they participate in may originate from their partners. In such cases, these agencies need only to satisfy themselves as to the viability and suitability of the projects proposed to them. However, experience has proved that the wait-and-see approach is barely sufficient to meet development objectives and targets. Thus these public sector organisations have continuously to search for projects. They need the studies in order to select the projects and make investment decisions.

In addition to meeting the requirements of public sector organizations, studies have also to be conducted to guide the less sophisticated local potential investors regarding possible viable projects.

Some 400 to 500 industrial projects are approved by the Government annually. With the increased emphasis in the Malaysian Development Plans on the industrial sector, the demand for pre-investment and feasibility studies will inevitably increase.

The manufacturing sector has been accorded a strategic role in successive Malaysian Development Plans. During the Second Malaysia Plan (1970-75) value added in the sector grew by 10.9% per annum in real terms, while the share of manufacturing sector in the GDP rose from 12.2% in 1970 to 14.4% in 1975. During this period a total of 2,118 industrial projects were granted approval. During the Third Malaysia Plan (1976-80) value added in the manufacturing sector is projected to grow by 12.0% per annum in real terms, thereby increasing its share of the GDP from 14.4% in 1975 to 16.8% in 1980. To achieve these targets, it is estimated that about M\$10 billion will have to be invested in the sector over the period. Out of the total of M\$10 billion, M\$2.7 billion will comprise capital inflow from foreign sources. All this will require accelerated efforts in investment promotion. The need for more project identification and feasibility studies is greater in order to assist the investment promotion efforts.

III. Suppliers of Studies

With rapid increase in the number of industrial projects year by year, various organisations have tried to cater for the need. These organisations are placed both in the private and public sectors, and for many of them conducting feasibility studies is only one area of their consultancy activities. The major institutions are listed below:-

A: Private

<u>Company</u>	<u>Area of Expertise and Services</u>
1. Economic Intelligence Unit (M) Sdn. Bhd.	Market Research Management Consultancy Personnel Selection
2. SRM Sdn. Bhd.	Consultancy and Market Research
3. Essams (M) Sdn. Bhd.	Economic and Management Consultants, Feasibility Studies, Market Surveys, Financial Planning and Analysis.
4. Impact Sdn. Bhd.	Industrial and Management Consultancy
5. LC Management Consultants Sdn. Bhd.	Feasibility Studies, Financial Management, Marketing, Accounting and Auditing Etc.
6. MFRC (Asia) Sdn. Bhd.	Consultants to Management in Joint-Venture "turn-key" projects; Industrial Financiers, economic and Market Research.
7. Obanto Management Consultancy Sdn. Bhd.	Project Feasibility Studies, Financial Managements and Consultation, Market Studies
8. PA Management Consultants Sdn. Bhd.	Market Research, Economic Studies Corporate Planning, Personnel Recruitment, Project Planning, Financial Accounting.
9. SGV-Kassim Chan Sdn. Bhd.	Industrial & Management Consultancy
10. Tasek Jaya Sdn. Bhd.	Development, formation and organisation of industrial projects, Project Feasibility Studies, Market Surveys Financial Management.
11. United Consultant Services	Building Management and Project Management Consultants
12. Hanafiah Raslan Mohamed Sdn. Bhd.	Management Consultants
13. Perunding Bersatu Sdn. Bhd.	Management Consultants
14. RAH Management Consultant Services Sdn. Bhd.	Personnel Management Consultancy, Collective Agreement Negotiations, Executive Recruitment Services

B: Public

1. **FIDA - Federal Industrial Development Authority**
Industrial Studies and Surveys Division -
Established in 1967 to identify industrial projects for investment promotion and provide free selective consultancy services to public sector organisations.
2. **MIDFIC -**
Established in November, 1971. A subsidiary of the Malaysian Industrial Development Finance Ltd. (MIDF) to provide consultancy services to small and medium scale industries in production management, financial management, personnel management, office administration, marketing and distribution, technical and economic feasibility.
3. **National Productivity Centre -**
The Consultancy Department, established in 1970 to provide services on feasibility of setting up new business, corporate planning, management information systems, personnel recruitment and inplant training.
4. **MARA - (Council of Trust for Indigenous People)**
Project Development Section of the Business and Management Advisory Division - To provide general consultancy services to the small indigenous investors primarily in respect of their loan applications.
5. **KPM Khidmat -**
A subsidiary of the Agricultural Bank of Malaysia, was established in 1974 to provide consultancy services in the agricultural field including preparation of project studies in agribusiness.
6. **National Institute of Public Administration -**
Bureau of Consultancy & Research. A division recently set up to provide consultancy services to the public sector.

C: Industrial Project Identification in FIDA

FIDA's Industrial Studies and Surveys Division is engaged principally in project identification and development while the other institutions are mainly consultancy set-ups. In this section, therefore, is briefly outlined the activities and methods employed for this task.

In order to carry out work in systematic manner, the industrial sector desired to be looked into is first selected, and a multi-disciplinary team, comprising an engineer, an economist, a market analyst and/or a financial analyst, is constituted. As a first order of business an "industry analysis" is carried out with a view to achieve a comprehension of the sector and generation of analytical data culminating in the identification of gaps and opportunities for future development.

With the differences inherent in the various sectors taken into account, preparation of "industry analysis" comprises the following:

- identification of products or groups of products to be included in the study and their statistical coding BTN, SITC, etc.;
- collection of economic, market and trade data for these products or product groups;
- demand and consumption analyses and projections;
- collection of economic, market, financial, technical performance, management and operating data on the domestic industry;
- identification of current policies of the Government and financial institutions in respect of the industry;

- study and survey the local resources in respect of the industry;
- analysis of the industry in respect of its forward and backward linkages;
- formulation of conclusions on the directions for the development and growth of the industry; and
- identification of potential products or projects for preparation of project studies;
- promotion of studied projects

The project development phase is carried out in the form of project/product studies which have varying contents and substance according to the requirements. The project studies are classified into the following three broad categories:-

- (i) Investigative report consisting of a brief outline of the market potential of a specific product including preliminary guidelines on manufacturing and investment;
- (ii) Prefeasibility study consisting of a broader investigation of market, engineering, financial and management requirements in the absence of specific parameters set by an identified investor; and
- (iii) Feasibility study representing a detailed investigation of the market, engineering, financial and management aspects in relation to the specific requirements of an identified potential investor.

The product studies comprise the following:

- product definition, description, and characteristics;
- collection of market and trade data;
- market quantification and sales forecast through statistical analysis and/or market surveys including export market studies where possible;
- estimation of product pricing;
- product mix, marketing and distribution strategies;
- production plans and plant capacity estimation;
- process flow, plant layout and equipment estimation with special reference to the adoption of appropriate technology based on costs/benefit of alternative technologies;
- material flows and handling, manpower, utilities, quality control, standards and plant and production costing;
- investment cost estimation and scheduling;
- operating costs/expenses estimation;
- financial projections;
- financing needs and plans; and
- profitability analysis and investment appraisal.

The rationale behind the above methodology may be summarised as follows:-

- (i) To organise the work on systematic basis;
- (ii) To have continuous output generated;
- (iii) A small multi-disciplinary team of officers (comprising an Economist, an Engineer and a Financial Analyst or Market Research Officer) to comprehensively investigate the industry sector;

(iv) This Industry Team could thus be expected to have better commitment through dealing exclusively with one sector;

(v) To concentrate the expertise in the team thereby raising the standard of performance.

The above was set up through the assistance from United Nations Industrial Development Organisation. To-date, four Industry Teams, covering Rubber Products Industry, Food and Agro-based Industry, Metal Working Industry and Medical Electronic Equipment have been set up while another two, on Timber Products Industry and Chemical Industry, are in the process of establishment. Following the success of the above approach, it has been already proposed that in the next phase, another nine Industry Teams would be set up.

As and when a group of project studies is completed it is announced through a press conference and/or released to Chambers of Commerce, Business Associations and banks. Further publicity is given through various other means as a result of which the potential investors approach FIDA to buy these studies at nominal prices.

Efforts are also made to utilise the knowledge and expertise developed through project identification and development activities by way of providing selective consultancy services to the public sector organisations in project development studies free of charge.

The results of the activities outlined above have not quite satisfied the need for studied projects. However, they have, over the past three years or so, been able to make FIDA investment promotion more effective and concrete. Besides, the Authority has been able to collate data on the related industrial sectors, apart from building up a corp of trained local professional officers who can, in time, carry out the tasks of project identification, project development and consultancy in order to stimulate greater interest in industrial investment.

IV. Problems

A number of institutions have sprung up to provide feasibility study services. However, there are still deficiencies - on the one hand due to the infancy of the organisations and hence their limited capabilities in organising and following up of the feasibility studies, and on the other, it may be ascribed to the lack of interest in utilising these services by industry due primarily to the costs of these services. Whilst the established private industry sector has the resources as well as the expertise to cater for their needs independantly and/or through the consultants, it is the new entrepreneurs which face most difficulty in acquiring these services. It is this sector which is the target in the development efforts in the country. In order to assist them in initiating and effectively managing the enterprises there is the need to provide inexpensive services for in-depth and dependable pre-investment studies or feasibility studies.

Repetitive studies do not appear to be a significant problem in Malaysia. Since the investing agencies in the public sector can undertake activities in collaboration with the local and foreign

private entrepreneurs, the incidence of repetitive studies is generally low. Approval of industrial projects is followed by active assistance to the entrepreneurs in obtaining necessary facilities for implementation. Such activities are generally coordinated under the auspices of FIDA as well as other government agencies. Further studies may be carried out by the prospective enterprises to provide for refinements in respect of project implementation. These are however operational details rather than pre-investment or feasibility studies.

With regard to non-implementation or delayed implementation of projects which were studied, and approved, this may not necessarily be due to faults in the studies. Among factors accounting for non-implementation or delayed implementation are financial difficulties, disagreement among partners, changed market conditions or other bottlenecks. One key constraint in the proper implementation of studied projects is perhaps the inadequacy of management skills. The Government is fully aware of this problem and has taken various measures to overcome it.

FIDA being the principal agency for industrial promotion and coordination had implemented a programme of Industrial Project Identification and Development to develop its Industrial Studies and Surveys Division. While there has been progress, remaining problems include

- local staffing problem, more particularly, fairly high turnover of staff and non-availability of experienced *cr.s.*

- Delays and bottlenecks in formulation and execution of the assistance project particularly in fielding the UN personnel and fellowships.
- Inadequate allocation of assistance funds resulting in curtailed and insufficient inputs thus compromising the output and effectiveness of the project.

It is therefore strongly suggested that care should be taken regarding:

- proper project design and programming for its implementation.
- Selection of the experts required for the project.
- Active operational support of the project by the organisations supplying technical and financial assistance.

FEDERAL INDUSTRIAL DEVELOPMENT AUTHORITY

LIST OF STUDIES COMPLETED UNDER THE INDUSTRIAL
PROJECT IDENTIFICATION AND DEVELOPMENT PROGRAMME

I. INTERNAL MANUAL

INTERNAL STAFF MANUAL for Project Identification,
Feasibility Studies and project Evaluation

II. SECTORAL INDUSTRY STUDIES

1. Overview of Rubber Industry
2. Study of the Food Industry and its prospects in Peninsular Malaysia
3. Survey of the Metal Working Industry in Peninsular Malaysia
4. Study of Prospects for Medical Electronic Equipment Industry in Peninsular Malaysia
5. Survey of Rubber Chemicals and Textiles for Rubber Products Industry

III. FEASIBILITY STUDIES

1. Carboxy Methyl Cellulose (CMC) for Johore State Economic Development Corporation
2. Fish Meal - for Trengganu State Economic Development Corporation
3. Centralized Shared Palm Oil Mills - for Trengganu Tengah Development Authority
4. Combat Web Assembly - for Defence Personnel Provident Fund
5. Straw Paper Board - for an individual Bumiputra investor in Kedah

IV. PREFEASIBILITY STUDIES

1. Rubber Gloves
2. Softboard/Particleboard from Bagasse
3. Rubber Protective Footwear (Non-Industrial)
4. Swimming Fins and Bathing Caps

5. Crude Palm Oil Fat Splitting Plant
6. Hardboard Manufacture from Woodwaste
7. Bicycle Tyres (Reserved - not for sale)
8. Pre-fabricated Timber Houses
9. Refined Glycerine
10. Tennis Balls
11. Knock-Down Furniture (Dining Chairs)
12. Rubber Beltings

V. INVESTIGATION REPORTS

1. Packed Fried Ikan Bilis
2. Canning and Pickling of Local Malaysian Vegetables
3. Coconut Candy
4. Canned Kaya
5. Jelly Tablets
6. Rubber Moulded Articles
7. Toy Rubber Balloons
8. Rubberised Textile Fabrics
9. Car Mats and Mudflaps
10. Wiper Blades
11. Rubber Teats and Soothers
12. Rubber Auto-Components
13. Rubber Floor Tiles
14. Rubber Fingercots
15. Rubber Catheters
16. Clay/Building Bricks
17. Wooden Toys
18. Wooden Boxes
19. Wooden Pallets
20. Tyre Retreading
21. Spices and Condiments
22. Rubber Toys
23. Wooden Educational Items
24. Tapioca and Banana Crisps
25. Serunding Ikan

- 1 -
26. Talcum Powder
 27. Fish Satay
 28. Rubber Bath Room Requisites
 29. Rubber Components for Bicycles and Motor Cycles
 30. Blachan
 31. Canned Papaya Juice
 32. Radiator Hoses
 33. Precipitated Calcium Carbonate
 34. Chalk
 35. Peanut Butter
 36. Dessicated Coconut
 37. Suitcases
 38. Particle Board
 39. Centrifugal Pumps
 40. Sand Lime Bricks
 41. Cashew Nuts
 42. Hardboard
 43. Utilisation of Limestone
 44. Sliced Veneer
 45. Panel Products
 46. Placarol Doors
 47. Laminated Parquet
 48. Tapioca Chips
 49. Rubber Erasers
 50. Tapioca Starch
 51. Cement Wood Wool Boards
 52. Recombined Fluid Milk
 53. Ladies Leather Footwear
 54. Maize
 55. Cocoa
 56. Coffee
 57. Hand Tools
 58. Padi Straw Mushrooms
 59. Wooden Chopsticks

VI. CONSULTANCY SERVICES FOR SPECIAL PROJECTS

(Executed for Public Sector Agencies)

A. Project Evaluation Reports

1. Naphtha Cracker Project Applications
2. Coconut Complex
3. Sea Salt Project
4. Timber Complex
5. Housing Complex Project
6. Granite Quarry Project
7. Petro Chemical Complex Applications
8. Oil Palm Estates Projects
9. Protein Concentrate Project
10. Annual Crops Project
11. Dockyard Project
12. Hotel Project
13. Cattle Ranch Project
14. Tea Plantation Project
15. Integrated Sugar Mill Project
16. Paper Mill Project Applications
17. Wood Working Project
18. X-Ray Frame Manufacturing Project
19. Integrated Timber Complex
20. Saw Mill Complex Project
21. Proposal for Establishing a Tyre Plant in Kuwait Through Malaysia - Kuwait Joint Venture
22. Proposal for Establishing a Tyre Plant in Saudi Arabia Through Malaysia - Saudi Arabia Joint Venture

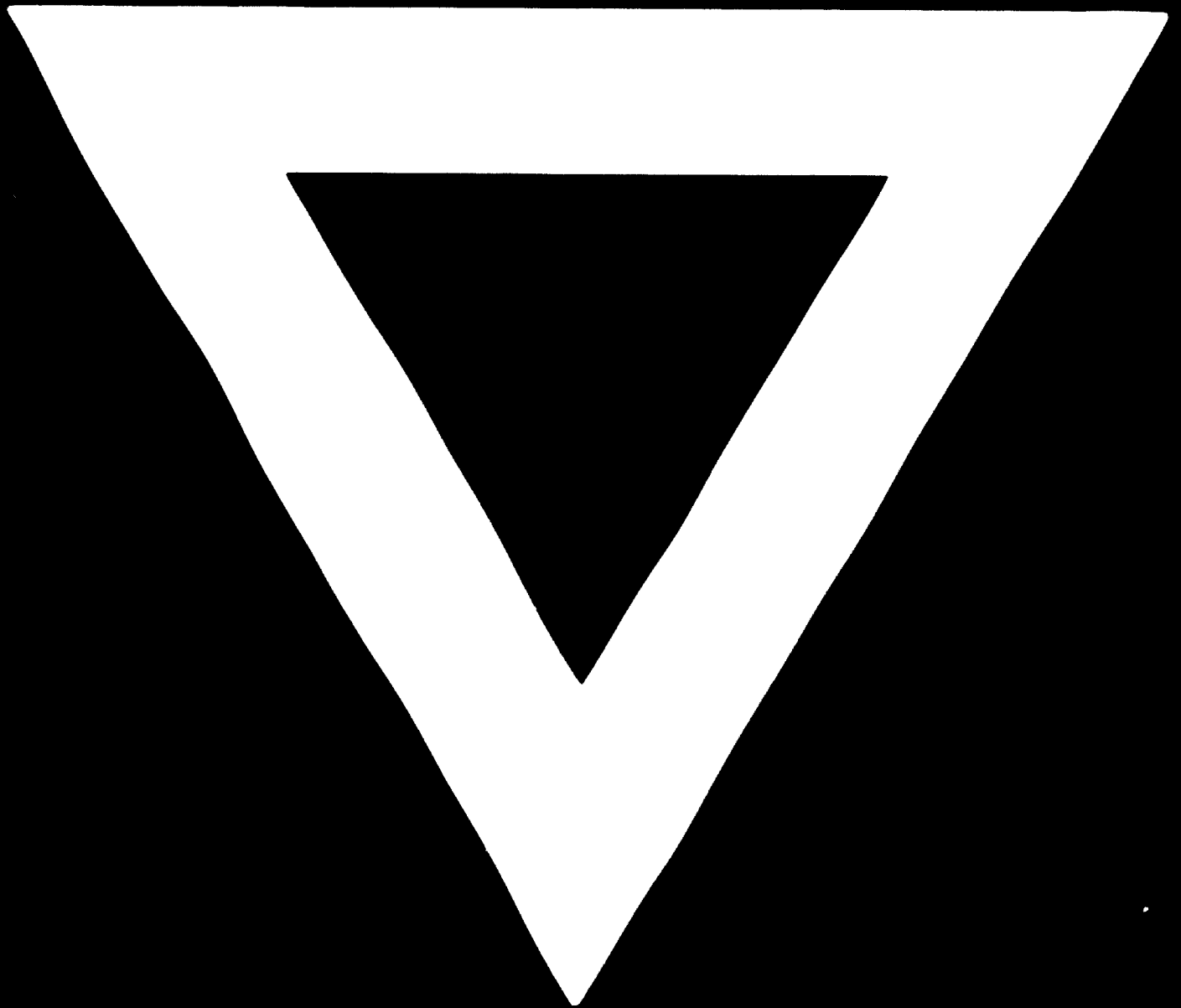
B. Studies & Surveys

1. Manufacture of Softboard/Hardboard from Empty Oil Palm Fruit Bunches (Market Study & Tech. Appraisal)
2. Leather Finishing and Leather Shoes Project
3. Manufacture of Dried Banana Chips
4. Poultry Farm Project
5. Thermodyne Moulding Manufacture (Market Study)

6. Manufacture of Sports Goods (Market Study)
7. Concrete Pre-Fabricated Housing
8. Softboard/Hardboard Manufacture
9. Centralised Shared Palm Oil Mills Establishment (See III-3)
10. Straw Paper Board Mill in Kedah (Technical Feasibility Study) (See III-5)
11. Straw Paper Board Manufacturing Potential in Kelantan (Survey & Investigation)
12. Paper Clips, Staples and Pins (Market Technical Feasibility)
13. Steel Re-Rolling Mill (Market & Technical Feasibility)
14. Sheep Farmers Pliers (- do -)
15. Changkols (- do -)
16. Straw Paper Board Manufacturing Potential in Hilir Perak (Investigation Study & Pre-Feasibility Report)
17. Oil Palm Processing Potential in Sabah (Preliminary Survey)
18. Manufacture of Cocoa Products in Perak (Investigative Study)



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