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ADVISORY SERVICES REPORT

FOR

THE ECONOMIC PLANNING UNIT
GOVERNMENT OF THE STATE OF BRUNEI

ON

# (R) PROBLEMS AND PROSPECTS OF INDUSTRIAL DEVELOPMENT IN THE STATE OF BRUNEI. (1975)



M.T. Haq
Regional Adviser on Industrial Economics

December 1975

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC, BANGKOK
UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION, VIENNA

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RESTRICTED

# PROBLEMS AND PROSPECTS OF INDUSTRIAL DEVELOPMENT IN THE STATE OF BRUNEI

BY

M.T. HAQ, Regional Adviser on Industrial Economics

December 1975

## TABLE OF CONTENTS



/The supply of gas

TABLE OF CONTENTS
(continued)



/Creation of

TABLE OF CONTENTS
(continued)



/The decision-makers

TABLE OF CONTENTS
(continued)



/ANNEXES

TABLE OF CONTENTS
(continued)

Page

ANNEXES

# PREFACE

## Background Information

The State of Brunei, a United Kingdom Protectorate, lies on the north-west coast of Borneo on the South China Sea. The total area of the country is 2,226 sq. miles about 70 per cent of which is covered by dense equatorial forests. Climatically tropical, Brunei has a population of some 150,000, sixty-five per cent of whom are Malays, twenty-four per cent Chinese with the rest being made up largely of indigenous races. Fifty-four per cent of the population live in or around the capital, Bandar Seri Begawan, with thirty-one per cent living around the main centre of the oil industry, Seria and Kuala Belait. Malay is the official language of the country, although English is widely spoken and used. Brunei's official religion is Islam.

The country's economy depends almost entirely on the exploitation of its rich oil and natural gas resources which account for some 95 per cent of the total value of its exports and some 51 per cent of its gross domestic product. Export earnings from the agricultural sector have declined in recent years and approximately 80 per cent of its food requirements are imported, despite government efforts to reduce the country's dependence on imports in this respect. Timber exports are somewhat restricted to ensure that local demand can be met. Measures are being taken to develop timber processing and manufacturing industries.

Brunei is the twenty-third largest oil producing country in the world. Some 86 million barrels were produced in 1973 worth B$ 762 million.[1/] Most of the crude oil is shipped from Seria with very limited amounts being refined in the country. The natural gas liquefaction plant at Lumut is the largest in the world with a capacity of some 4 million tons of liquid natural gas per annum. Other than the oil and the gas industry, there is very little industrial activity and practically all manufactured goods are imported.

The main sources of Government revenue are petroleum rents and royalties, income tax (applicable to companies only) and customs duties.

/The 1973

1/ US$ 1.00 = B$ 2.5 approximately

The 1973 budget showed expenditures of B$ 235 million, of which B$ 43 million went into the Development Fund. The expenditures from the Fund for 1973 showed that a total of B$ 15 million into civil aviation and B$ 11.6 million into the development of the sea-port at Muara.

With regard to external trade, Brunei recorded a trade surplus of B$ 529 million in 1973. One-third of the country's imports was made up of machinery and transportation equipment with another one-third representing food and manufactured goods. The main exports were crude oil and petroleum products, natural gas and rubber; other exports include jelutong, cow and buffalo hides, pepper and sawn timber.

To turn to social development, the estimated literacy rate for the population aged 10 years and above was 69.3 per cent in 1971. There are two teacher training colleges and two trades schools, one for building and another for engineering. Some 400 Brunei students are reported to be undergoing studies overseas in various subjects, the majority on Government scholarships. With regard to health, the Government provides free medical services and has made great strides in combating diseases throughout the country. Malaria has been reduced to negligible proportions as a result of a WHO-assisted eradication campaign started in 1962.

The first Development Plan of Brunei was started in 1953 which was really a collection of some projects. The second National Development Plan (1962-68) was designed to strengthen, improve and further develop the economic, social and cultural life of the people of the State of Brunei. It had two broad targets: (a) to reverse the declining growth rate of the country's gross domestic product with a view to achieving a 6 per cent increase per annum, together with an increase in per capita income to a level of at least 4 per cent; and (b) to maintain a capital investment in development at the rate of 12 per cent and preferably 14 per cent of the gross domestic product.

The Plan slipped in regard to timing and certain activities continued upto 1972-73. By the end of 1972 B$ 492 million had been expended. The implementation of the plan resulted in a large increase in roads, the development of the deep-sea port at Muara, and the

/construction

construction of the new airport at Bandar Seri Begawan. Sewerage schemes for Bandar Seri Begawan and Kuala Belait were completed and potable water supplies have been introduced to all populated areas. The main electric power grid was completed and rural demands are being met through extensions. New hospitals for Kuala Belait and Tutong were completed and over 50 schools and training institutions have been constructed and expanded.

The Plan also succeeded in arresting the decline in the rate of growth of the gross domestic product. Statistics show that the average growth rate for 1961-71 was 6.8 per cent per annum. Population over the same period increased at an annual rate of 4.5 per cent. The overwhelming predominance of oil and gas declined in terms of percentage of the gross domestic product. The mining sector (oil and gas, including quarrying) with some 7.1 per cent of the work force produced 52 per cent of the gross domestic product.

The Third National Development Plan (1975-79) has, as its main objective, the creation of employment opportunities for some 10,000 persons. The Plan also seeks to bring about a diversification of the country's economy through an accelerated development of the agricultural and industrial sectors. These objectives are intended to reduce the overdependence of the country on the mining sector.

The new Plan is designed to increase the State's GDP per annum at the rate of 6 per cent. This increase is considered to be a minimum for an improvement in the standards of living of its people. In order to achieve this growth rate, it is estimated that investment expenditure must be in the region of B$ 2/2.5 million per annum of which the Government expects to provide some B$ 100 million per annum. The rest is expected to come from the private sector. The full amount of the Government input will come from its own resources.

The Economic Planning Unit created in 1973 is charged with the planning responsibilities. The Unit functions under the supervision and direction of its present energetic Director who is responsible to the State Secretary and the Chief Minister of the State.

/Significance

## Significance of the Study

The second National Development Plan greatly transformed Brunei. The emphasis of the Plan was, for very good reasons, on the building up of economic and social infrastructures and considerable success in this field was achieved. The Government embarked on the preparation of a new National Development Plan with the aim of strengthening, improving and further developing the economic, social and cultural life of the people of Brunei. The new National Development Plan (1975-79) was formulated with the problems and needs of the people of the state in mind and is now under implementation. Two important requirements of the state have been recognized and its Government has laid down definite objectives to fulfil them. These are (i) the need to diversify the economy of the state by emphasizing the development of alternative occupations with a view to reducing the state's overwhelming dependence on its oil resources; and (ii) the need to create employment opportunities for its growing labour force.

In realizing both the objectives, industrialization of the state is being relied upon as an important means. In view of the smallness of the country, the consequent limited size of its market, the dearth of technical skill and know-how among the citizens of Brunei, and the lack of an institutional machinery for industrial development, industrialization of the state has its problems. It is, therefore, in the fitness of things that the problems, the prospects and the requirements of the industrial development of Brunei are reviewed and examined so that appropriate measures may be taken by the Government to remove the bottlenecks to its industrialization.

## Terms of Reference

The UNIDO/ESCAP Regional Adviser on Industrial Economics attached to the joint ESCAP/UNIDO Division of Industry, Housing and Technology of the Economic and Social Commission for Asia and the Pacific (ESCAP) was requested by the Economic Planning Unit, Government of the State

/of Brunei

of Brunei to undertake the following work:

1. To advise on the strategy for industrial development planning and policies in the context of the broad strategy of the National Development Plan, 1975-1979;

2. To identify the special problems of, and the possible obstacles to, industrial development and recommend policies and measures to deal with them;

3. To advise on industrial project development and evaluation and the preparation of a proforma for decision-making;

4. To indicate the main elements of a small and medium scale industry development programme including a credit scheme in particular to facilitate the operation of such a programme;

5. To render advice on the establishment, administration and further development of industrial estates and the appropriate body to manage the estates;

6. To advise on the establishment of a training centre to promote industrial manpower; and

7. To make other recommendations deemed necessary for promoting industrial development.

Preparation of the Study

The study was carried out in Bandar Seri Begawan from 28 June to 5 August 1975 with the support of the Economic Planning Unit staff.

My tasks involved discussions and consultations with a large number of government departments and agencies and other organizations, namely, the State Secretariat, the Economic Planning Unit, the Treasury Department, the Departments of Education, Fisheries, Agriculture, Forestry, Town and Country Planning, Labour, Ports and Lands, the Brunei Shell Petroleum Company Ltd., and the Brunei Liquefaction of Natural Gas Ltd., U.K. High Commission in Brunei, the Brunei State

/Chamber of

Chamber of Commerce, the Brunei State Association of Banks, Brunei Museum, Liang Hong Industrial Development Company and P.S. & Sons Trading Company. The exchanges of views with the representatives of government departments and agencies and private industry on the present position, problems and prospects of the industrial development of the country were very helpful in the preparation of the report.

I would like to point out that the report is the work of a short period of a one-man mission for six weeks. Moreover, the terms of reference before the mission were comprehensive. The report is, therefore, bound to be of a preliminary nature. It has, however, sought to identify the main areas where action should be taken to promote the development of industries, particularly of small scale industries in the State.

Structure of the report

Chapter I deals with the background of economic and social planning in Brunei and the main objectives and strategies of the third National Development Plan, 1975-1979. The need for emphasis on industrial development is emphasized and the measures and policies to facilitate it are pointed. In Chapter II, the special problems of, and the possible obstacles to, industrial development in the State are also pointed out and the policies and measures necessary to overcome them, are advocated. In Brunei the matter which is of particular significance is the development of small-scale industries in view particularly of the small size of the domestic market. The elements of a small industry development programme on a comprehensive and on an integrated basis is, therefore, elaborated in Chapter III. An essential infrastructural requirement for facilitating the industrial development of Brunei is the setting up of a limited number of industrial estates in suitable locations. The planning, development and the management of the estates require an urgent attention. This subject receives consideration in Chapter IV. For a new starter in the development of industries - local crafts, small-scale and large-scale one essential requirement is the identification, formulation and appraisal of industrial projects so that the decision-making process for industrial development is facilitated. This important aspect of

/industrial

industrial development is examined in Chapter V. One major handicap in respect of the development of manufacturing industries in the state is the lack of technical man-power at all levels. The question is briefly examined in Chapter VI and the measures to improve the position in this respect are suggested. In Chapter VII, a brief observation is made on strengthening the machinery for industrial development planning and policies and for the co-ordination of the industrial efforts of the government and the private entrepreneurs. In the concluding remarks in Chapter VIII, emphasis is placed on building up the local industrial skill and enterprise and on Brunei's participation in the development of co-operative industrial projects on a sub-regional basis. The main recommendations embodying, among other things, suggestions as to how international organizations, namely, UNIDO, FAO, ESCAP and others can assist in facilitating and accelerating the state's industrial development are given separately.

**Acknowledgements**

I had many meetings with Mr. Selamat bin Munap, Director, Economic Planning Unit and Mr. Chua Pheng Siong also of the Economic Planning Unit and greatly benefited by their views on the subject matter of this report. Professional and administrative assistance was very liberally given by Mr. Chua Pheng Siong and other staff members of the Economic Planning Unit. My discussions with the heads of the various government departments were cordial and very useful. My two meetings with Mr. J. Halliday, Deputy Regional Representative, United Nations Development Programme, Kuala Lumpur, were very instructive. I had very inspiring and fruitful discussions with P.N.B. Pengiran Abdul Momin bin Pengiran Haji Ismail, Chief Minister of the State, Dato Haji Abdul Aziz bin Haji Umar, State Secretary, Mr. Selamat bin Munap, Director, Economic Planning Unit, H.E. Mr. J.F. Davidson, OBE, High Commissioner and Mr. J.W. Moffat, First Secretary, U.K. High Commission in Brunei. I am very grateful to them and other officials of the government departments for the help and guidance they have given me in the preparation of the report and also for their kind hospitality.

/MAIN RECOMMENDATIONS

## MAIN RECOMMENDATIONS

In the body of the report, various suggestions or recommendations have been made. Important recommendations are put together in this section.

1. While the creation of the Economic Planning Unit in 1973 has rightly been considered to be a very useful planning organization, the Unit needs expansion in certain directions. In the context of an industrial development programme, it is both desirable and necessary to strengthen the Unit by adding an industrial development section with an industrial development or promotion officer in charge. The creation of an industrial development section is of special importance in view of the fact that, in the administrative set-up of the State of Brunei, there is no department of industry. The proposed industrial development section will fill this gap and will strengthen the planning machinery for industrial development. Such a planning section of the Economic Planning Unit will still be necessary even when the Brunei Economic Development Board starts functioning, because the Board's functions in relation to industrial development will be concerned more with operational activities than with industrial development planning on a national basis. [Chapter I]

2. The existing sections of the Economic Planning Unit are (i) Human Resources Development Section; (ii) Natural Resources Development Section; (iii) Project Appraisal and Evaluation Section; and (iv) Statistics Section. In para 1, the creation of an industrial development section has been strongly recommended. In Brunei, there is no organization to undertake researches on socio-economic problems. The importance of researches on economic and social problems for planning cannot be ignored. In the absence of any such institutional arrangement for economic and social research in the State of Brunei, the Economic Planning Unit, as an organization concerned with the problems of overall economic and social development of the State, is the appropriate organization to make a beginning in this area by creating an Economic and Social Research Section to be headed by a well-qualified and experienced person competent to organize initially researches on selected problems

/relevant

relevant to economic and social development in the State of Brunei. [Chapter I]

3. The formulation of the National Development Plan, 1975-1979 has been the first attempt of the Economic Planning Unit in preparing an integrated plan for the State. While this has been a commendable effort on the part of a young planning organization, the plan is a skeletal outline needing a lot of meat on its bones. To sixteen sectors allocations of Government investment have been made for the period 1975-1979. While such allocations are bound to be tentative and in rough estimates in many cases subject to subsequent revisions, sectoral allocations to be meaningful should be supported by well-conceived, viable and good projects. To ensure this as far as practicable, within the constraints, each major department of the Government should have a programming unit charged with the function of identifying and working out well-justified projects feeding each sectoral programme. In Brunei where the history of planning is rather short, there is, therefore, a strong case for creating programming unit or cell for each important sector looked after by a major government department. Some such sectors are agriculture, industry, education, forestry, public works and utilities and the like. The activities of such units will give a realism to the contents of the National Development Plan. It may not be difficult for the major departments of the Government to provide for such programming units within them by reorganizing and adding to their existing staff members. [Chapter I]

4. As programming is a highly technical job, it is recommended that the Government of Brunei should ask for the services of the UNIDO/ESCAP Regional Adviser on Industrial Plans and Policies for a period of at least 3 weeks. The Adviser will assist the departments in organizing small programming units and will formulate guidelines for their work. This step will achieve the objective of the Economic Planning Unit to strengthen the process of planning by establishing the right kind of organization for planning at key levels of government and to guide departments in formulating concrete action programmes in selected sectors for dealing with critical problems in their respective areas of

/responsibility

responsibility. Each department should set objectives for its sector and prepare suitable policy packages and project lists in each area. The Economic Planning Unit should ensure co-ordination of all this development activity within the Government. This process will assist in the elaboration of the National Development Plan, 1975-1979, which is much desired. [Chapter I]

5. The Government of Brunei, working through the British High Commission in Bandar Seri Begawan, should profit by the technical assistance activities of the United Nations agencies and bodies. There is as yet not provision for UNDP country programming for Brunei. It should be possible for the state to profit by the introduction of the UNDP country programming the second cycle of which begins in 1977. The earmarking of an IPF of an appropriate amount (say, US$ 1 million, to suggest very tentatively), for the second cycle of UNDP programming for the state will open the way for more effective United Nations technical assistance particularly in the field of agricultural and industrial development on which considerable emphasis has recently been placed by the Government in their efforts to diversify the economic structure of the country with a view to reducing its overwhelming dependence on oil and gas and to create alternative avenues of employment for its growing work force. In the context of the Government's strong intention to diversify the economic structure of the state, agricultural development and the development of alternative industries, mostly medium and small-sized, will play an important role. In the development efforts in these two specific and other areas, the Government may take advantage of the UNDP, UNIDO and FAO technical assistance in the form of experts and consultants by initiating and developing a UNDP country programme for Brunei. Funds in this respect need not be a problem if the Government will like to work out, with these organizations, cost-sharing and funds-in-trust arrangements for the purpose of obtaining technical assistance. [Chapter I & II]

6. In 1975, two enactments of considerable significance from the point of view of industrial development of the state have been passed,

/namely,

namely, the Brunei Economic Development Board Enactment, 1975 and the Investment Incentives Enactment, 1975. These enactments have happily coincided with the beginning of the National Development Plan, 1975-1979. The establishment of the Brunei Economic Development Board will provide a framework for the creation of institutional arrangements needed for industrial development. It is recommended that, under the Board, the following institutional arrangements for industrial development are created as early as possible:

(i) Industrial Development Division;

(ii) Industrial Estates Development and Management Division; and

(iii) Industrial Credit and Investment Division.

7. The functions of the Economic Development Board and its constituent divisions will be operational rather than policy-making resting with the State Government. The three divisions of the Board, concerned with the vital aspects of industrial development will work in close liaison with the Economic Planning Unit particularly, the proposed industrial development section of the Economic Planning Unit, the financing agencies and the entrepreneurs for the purpose of promoting industrialization and investment. The Brunei Economic Development Board is expected to be organized initially on lines very similar to those of the Singapore Economic Development Board, and the officers selected for the Board are being familiarized with the organization and working of the Singapore Board. While this is undoubtedly a step in the right direction, it is recommended that the Government of Brunei acting through the British High Commission at Bandar Seri Begawan and UNDP office should seek the services of a UNIDO industrial adviser having training and experience in industrial economics and finance, for a period of at least six months to assist the Government in building and organizing this important institution on sound lines. /Chapter II/

8. With the strengthening of the machinery for industrial development, as suggested above, the Government should make clear its intentions in regard to industrial development by laying down the objectives and the

/measures

measures for realizing them. A clear-cut statement of an industrial policy including the strategy for industrial development, the administrative procedures to be followed in promoting industrial investment, the use of incentives as provided for under the Brunei Investment Incentives Act, the role of foreign investment and management, etc., will facilitate industrial development by encouraging the participation of both domestic and foreign entrepreneurship and investment. [Chapter II]

9. The device of setting up industrial estates or areas has been accepted as one of the best means of facilitating industrial development in the developed and developing countries of the world. Industrial estates or areas have been used as an approved method of organizing, accommodating and servicing industry and are recognized as an effective means of promoting industrial development, modernizing industrial enterprises and enhancing their productivity. In the State of Brunei, the only large scale industries are the oil industry at Seria and the associated natural gas industry at Lumut. These major industrial enterprises have acquired their own site requirements, have their own expansion plans and have made provision for their additional land requirements. The Government of Brunei are now trying to develop a number of large industrial projects for implementation and also to formulate a programme for the development of small and medium-scale industries. An essential requirement for an industrial development programme is the development of industrial estates or areas which will provide the entrepreneurs with developed factory sites with the required basic services such as electricity, water, gas, communication facilities, etc. In Brunei where acquiring or leasing land is a difficult problem, the policy of establishing industrial estates and the earmarking of industrial areas or zones which will greatly facilitate the growth of entrepreneurship and investment should be vigorously followed. [Chapter IV]

10. In the absence of any existing organization specifically in charge of the development of industrial estates or areas, the Town and Country Planning Office has identified 10 industrial areas, in the whole country, taking into consideration the long-term land

requirements for industrial development. A policy of developing industrial estates or areas on a priority basis should be followed. There are four existing industrial areas - one in Kuala Belait (69 acres), two in Seria (5.5 acres and 25.5 acres) and one at Muara (100 acres). As part of a short-term policy, these areas should be fully developed and steps should be taken to see that these areas are occupied. Also as part of the immediate policy, the old airport with an area of 140 acres near Bandar Seri Begawan should be converted to an industrial estate without further delay so as to meet the site requirements for industry. Gradually the development of other industrial areas such as the areas at Gadong and other places, as identified by the Town and Country Planning Office, should be taken up for development by stages as the land requirements for industry increase. As already suggested, the Industrial Estate Development Division of the Brunei Economic Development Board should be placed in charge of the development and management of industrial estates or areas. This Division, of course, will work in close co-operation and co-ordination with the Town and Country Planning Office for the purpose of developing industrial estates or areas. The Government of Brunei should seek the services of an industrial estates planner from UNIDO for a period of at least three months to assist the proposed division of the Board in this specific field. [Chapter IV]

11. The major resources of Brunei are oil and liquefied natural gas which have been developed and exploited by two large scale enterprises - (i) the Brunei Shell Petroleum Company Ltd. and (ii) the Brunei LNG (Liquefied Natural Gas) Ltd., as the two export products of the State. Apart from these large scale highly capital-intensive enterprises employing together some 3,000 employees, the State has the potentials for the development of a number of sizable industrial enterprises based mainly on local raw materials. Some of these projects are:

(i) Glass manufacturing project based on locally available silica sand;

(ii) Ammonia and urea project based on locally available natural gas;

/(iii)

(iii) Pulp and paper project based on local raw materials;

(iv) Sago processing plant;

(v) Timber-complex based on locally available forest resources. [Chapter II]

12. The preliminary feasibility studies of the projects mentioned above have been completed by the concerned companies or consultants. These projects are now under the consideration of the Government for further action. As Brunei is a small country with an extremely limited domestic market and technical know-how, these projects will have to be developed as joint ventures with substantial foreign participation in respect of both capital and technical know-how and will have to depend predominantly on export markets for their products. A perusal of the developments in regard to some of the projects will perhaps show that, inspite of the willingness of foreign capital and enterprises to participate in the development and implementation of these projects, the progress appears to be very slow. It is, therefore, recommended that at least two from among these projects are selected by the Government after a careful scrutiny for implementation as joint ventures as early as possible without further delaying action. Even the implementation of at least two sizable manufacturing projects which may appear to be the most promising ones will have a considerable impact on the industrial development of a small country like Brunei and will strengthen its economic structure by broadening its industrial base. Such concrete action will further stimulate the process of industrial and economic growth. [Chapter II]

13. The Government of Brunei should actively promote the development of small and medium-scale industries which will mostly satisfy the requirements of the domestic market, with appropriate incentives as provided for under the Investment Incentives Enactment, 1975, by encouraging the growth of local initiative and entrepreneurship, and by utilizing local raw materials as far as practicable. The UNIDO Advisers working for the Government of Brunei earlier emphasized this aspect of the industrial development of Brunei and the Government itself

/is now

is now contemplating to encourage the growth of small and medium-scale industries in the State. The present adviser strongly recommends the development of an integrated and well-coordinated programme for the development of small and medium scale industries in Brunei mainly in the light of local demand conditions and raw material availabilities. [Chapter III]

14. Brunei is a small country inhabited by some 150,000 people. The country is well endowed with oil and natural gas and hence can afford to, and does import, almost everything it needs from abroad. In conformity with the present Government policy of reducing such overdependence on imports, diversifying its economic structure and creating alternative avenues of employment, it will be a wise strategy to adopt a policy of developing appropriate import substitution industries to which import statistics will give clues. As the market is small, the development of small and medium-scale industries will make a useful contribution to achieving this objective of the policy. To strengthen the institutional basis for such a programme, it is strongly recommended that a "Small and Medium Scale Industries Development Section" is created under the proposed "Industrial Development and Promotion Division" of the Brunei Economic Development Board. [Chapter III]

15. Apart from the lack of institutional bottleneck to the industrial development of Brunei, which is now being removed by setting up the Economic Development Board, a shortage of trained and technical personnel within the country at almost all levels has acted as an impediment to economic and social development. It is interesting to note that a few young university graduates who were subsequently trained at the United Nations regional institutes are holding some key positions in the Government and are doing valuable work in the field of economic and social development. It is recommended that the Government of Brunei should increasingly take advantages of the training facilities available within the ESCAP region by sending its officers to attend their regular and specialized courses in the field of economic and social planning, statistics, development administration, development of small and medium scale industries, project development and appraisal and the like. [Chapter VI]

/16.

16. Besides, it is advisable for the Government of Brunei, acting through British High Commission and the UNDP office, to request the regional and international training institutes to hold country courses in Brunei on the identified needed areas under which arrangement a fairly good number of officers concerned with development work can be trained at one time. It will be very useful if the Government could enable its senior officers concerned with economic and social development to attend the training courses organized by the Economic Development Institute of the International Bank for Reconstruction and Development (IBRD), in addition to their taking advantages of the courses organized at the regional institutes, namely, the UN Asian Development Institute, Bangkok; the Asian Statistical Institute, Tokyo; and the Centre for Development Administration, Kuala Lumpur. [Chapter VI]

17. As regards the high level technical and administrative personnel required for large enterprises like Brunei Shell Petroleum Company and Brunei LNG Ltd., the country has heavily depended on expatriate personnel. The same applies to other organizations where higher level personnel of the administrative and managerial grade are required. The citizens of Brunei with general education are reported to have a preference for "white collar" jobs either in the Government where the opportunities for work are extremely limited or with other organizations. With such a preference, they are not very inclined towards technical education preparing them for lower grade technical jobs. In the event, there is a scarcity of trained personnel at all levels and the country has to substantially depend on immigrant workers from some Asian and other countries. To improve the position of the country in respect of technical skill, the Government should consider creating further training facilities to promote industrial man-power. [Chapter VI]

18. There are at the moment two trades schools - the Engineering Trades School at Kuala Belait and the Building Trades School at Bandar Seri Begawan. In the Engineering Trades School, training is given in electricity and refrigeration, fitting, vehicle and automobile mechanism, welding and fabrication and telecommunication, whereas in the Building Trades School, training is provided in carpentry, bricklaying, polishing,

/plumbing

plumbing and construction work. The minimum educational qualification for admission to the training course is a pass in at least one subject of lower certificate of education examination and the duration of the course is 3 years leading to a certificate of City and Guilds (London). A reorganization of the technical training courses given by these schools is now under active consideration of the Education Department and schemes are being worked out by the Department with the help of an expert for consideration of the Government. [Chapter VI]

19. An interesting suggestion of the expert seeks to deal with an important social and educational problem. While the boys and girls come to school, many of them drop out before completing their school education and it is these young people who are looking for jobs but who cannot be gainfully employed in suitable work because of a lack of any skill. The expert has suggested the starting of short-term technical courses particularly for this category of young persons and also for others who need jobs but have not acquired any skill. These courses intended to give them on-the-job training will cover such fields as carpentry and joinery, bricklaying and knitting, etc., and will be organized by utilizing the facilities available at the Building Trades School. This adviser also recommends the adoption of this specific suggestion for short-term industrial courses which are expected to produce the desired result of training those who need training for developing some skills. The desirability of reorganizing the courses available at the existing schools on effective and sound lines need to be carefully examined. Industrial training courses should be a part and parcel of the training institutes of the country and as such the idea of setting up a new industrial training centre does not appear to be useful. [Chapter VI]

20. Besides the Trades Schools, the Brunei Shell Petroleum Company maintains an Artisan Training School where its potential employees are trained in engineering trades. This school also provides training for operators for employment in the Brunei LNG Plant. While technical training at the low and medium levels in Brunei is being or may be

/taken care of

taken care of in the ways mentioned above, there appears to be a strong case for initiating a programme for training abroad (in both Asian and non-Asian Countries) an increasing number of Brunei citizens in higher level education in such fields as engineering, medicine, economics and commerce, accountancy, business administration and the like. Such a programme will eventually facilitate the replacement of the higher grade expatriate personnel by the citizens of Brunei. Eventually perhaps the Government should go in for the establishment of a college or university providing for higher learning in these fields. [Chapter VI]

21. The State of Brunei is well located in relation to South-east Asia, the Pacific Region, Australia and New Zealand. The country has modern infrastructures in the form of good roads, and air and sea transport. The hotel facilities are being created. The country has a scenic beauty and some tourist interests such as the museum and the 'Kampong Ayer' - the water villages. The country has the potentials for the tourist trade. It is, therefore, recommended that the Government of Brunei should initiate an active policy of promoting the tourist trade and give preference to the growth of service industries in selected areas to attract tourists. The creation of a tourism promotion board will be a good beginning in this respect. [Chapter II]

22. Currently an attempt has been initiated in the State to revive interests in local arts and crafts such as weaving, production of silver wares and brasswares, basketry, wood carving, etc. The setting up of an arts and crafts training centre is in hand and a sum of B$ 220,000 only was allocated by the Government for this purpose during 1975. This is a laudable attempt which, if carried out, will stimulate the growth of certain types of small industries in the country and will create opportunities for employment. The scheme is supervised by a well represented Advisory Committee of which the Chairman of the Public Service Commission is also the Chairman of this body. The scheme needs to be made effective by substantially increasing the fund for the project. [Chapter II]

/23. The present

23. The present adviser's report deals mainly with the problems and prospects of industrial development in the State of Brunei. Industrial development, however, cannot be thought of in isolation and has to be related to the other sectors or sub-sectors of the economy. Unlike most oil-producing countries of the Middle East, Brunei has some good agricultural land only a small proportion of which is cultivated. The country imports about 80 per cent of its food requirements. It produces some 20 per cent of its rice consumption. The contribution of agriculture to the gross domestic product is negligible. There is a low dependence on agriculture for living because of high labour costs, the problems of land rights and perhaps the attitude of the people. The development of agriculture in Brunei presents difficulties but these should not stand in the way of efforts to increase its contribution to the national economy by making agriculture an attractive occupation to the people of Brunei. Farming in Brunei needs to be intensively developed on commercial lines and should be integrated with industrial development. It is of great importance to investigate the special problems of, and the obstacles to, agricultural development in the country and, in the light of the findings, to evolve an agricultural development policy which will help to bring about social transformation in the country. The Government of Brunei should approach UNDP for the services of a UNDP/FAO joint mission consisting of a development economist and an agricultural scientist for a period of four months (a) to inquire into the institutional problems involved in agricultural development, (b) to work out an agricultural development programme, (c) to indicate the linkages between such a programme and industrial development and (d) to suggest policy measures required to implement the programme. /Chapter II/

24. It must be emphasized that in the State of Brunei there is a need for technical assistance in various fields. The Government of Brunei should be able to increasingly use technical assistance available from United Nations agencies and bodies such as UNDP, FAO, ILO and UNIDO, as already stressed. For historical reasons and political ties, the country is too dependent on UK for technical assistance. The

/Government

Government should try to diversify the sources of its technical assistance by seeking it from other countries as well, particularly from some developing countries of Asia which could substantially assist Brunei in its development efforts perhaps at lower costs.

25. Lastly, it must be recognized that the economic position of Brunei is very different from that of the many other developing countries of the ESCAP region. Brunei is a small country with an area of 2,226 square miles inhabited by a little over 150,000 people. The country is well endowed with oil and gas which are and will remain the main sources of its income for many years to come perhaps for 30 years or so, according to the prevailing view. The per capita income of its people is well over US$ 2,000.00. This secure situation may have created a sense of complacency in the mind's of the people of Brunei, which is, however, not conducive to its economic and social progress. The main resources of the country are subject to depletion and the Government will do well to bring about an awareness of this fact among its people whose participation in the Government's effort to promote economic and social well-being is of paramount importance. [Chapter VIII]

# CHAPTER I

## THE NATIONAL DEVELOPMENT PLAN, 1975-1979, AND THE STRATEGY FOR INDUSTRIAL DEVELOPMENT AND POLICIES

### Economic Planning

1. The history of economic planning in Brunei goes back to 1953 when a plan for economic and social development was formulated for the period, 1953 to 1958. That plan was, however, little more than a collection of projects - mainly infrastructure projects - for the creation of physical and basic services. Effective development planning in Brunei, however, began with the launching of the National Development Plan, 1962-66, which was designed to strengthen, improve and further develop the economic, social and cultural life of the people in the State of Brunei. The plan laid down as many as fourteen objectives. These objectives are given in Annex I of this report. These were many - economic, physical, social and cultural. It is difficult to say what the order of priority was or whether any such order was really worked out. However, from what the plan actually achieved, it could be broadly gathered that the plan was oriented to the creation of economic and social infrastructures in the state which had significant impact on its subsequent economic development.

2. The plan stipulated two broad targets: (a) to arrest the declining trend in the rate of growth of the gross domestic product and to increase it by at least 6 per cent per annum and the per capita income to a level of at least 4 per cent per annum; and (b) to maintain the rate of capital formation for development at a level of 12 per cent to 14 per cent. It slipped in regard to timing and certain activities continued upto 1972. By the end of the year 1972, B$ 492 million had been spent under the plan.

### Achievement under the plan

3. The implementation of the plan made a substantial impact on the State of Brunei. The total mileage of main (sealed) roads increased from 179 in 1962 to 274 in 1973. There is a fine network of roads in the Temburong District which is separated by sea and a part of East

Malaysia from the other part of the country. The completed deepsea port at Muara and the new Brunei international airport have facilitated the opening of the country to sea-borne and air-borne traffic, respectively. The main population centres, Kuala Belait and Bandar Seri Begawan, have completed sewerage schemes and the supply schemes for potable water to all settled areas are well under completion. The main electrical power grid has been completed and the supply of electricity is being extended to the rural areas. The new hospitals at Kuala Belait and Tutong were completed for operation. Fifty schools and training institutions were built and expanded. In 1960, about 48 per cent of the population was literate; in 1971 the percentage rose to about 70. " These achievements would show the success of the plan in the field of economic and social overheads having far-reaching implications for Brunei's economic and industrial development.

4. Until 1962 the gross domestic product of the country had a declining trend, but since 1963 it had an upswing and between 1961 and 1971, the average growth rate in gross domestic product per year was 6.8 per cent. The population in Brunei increased at an annual rate of 4.5 per cent between 1960 and 1971. These figures show that an encouraging growth did take place due to the operation of the second plan, although an assessment was rendered difficult because of the lack of any reliable information about the private sector investment which was no doubt facilitated by the public sector investment.

Distribution of gross domestic product among sectors

5. The figures of percentage distribution of the gross domestic product among the various sectors, as given in Annex 2, would still show the overwhelming predominance of the oil and gas sector and the relatively insignificant contributions of other sectors to the country's economy, such as agriculture, forestry, fisheries, manufacturing, etc. The position is bound to remain so for quite a few years, because the oil and gas sector constitutes a very large percentage of the

/gross domestic

gross domestic product in relation to all other sectors. Only a vigorous attempt to develop other sectors could bring about structural changes in the economy of the country over a fairly long period of time. The extreme dependence of the country on oil and gas surely calls for a vigorous initiative on the part of private enterprise stimulated by public measures for the development of other sectors, particularly the manufacturing sector which, over a period of years, can achieve a reasonable measure of diversification of the economy which, however, cannot be defined in precise terms. In a small country like Brunei where a very large part of the economy belongs to a particular activity (oil and gas), as is well-known, the efforts at diversification cannot be pushed too far. Indeed, it is also not necessary beyond reasonable limits, but some diversification must remain an essential objective of the economic policy of the Government of the State of Brunei.

Employment

6. The employment situation at present does not present any serious problem. According to the 1971 census, out of a total work force (from age 15) of 41,099 only 1,087 persons or 2.6 per cent were unemployed. But there were then 11,709 immigrant workers in the various groups of economic activities. The position will, however, change in the future. It has been estimated that, based on current fertility and mortality rates, the population of the State will increase from 136,256 in 1971 to 156,000 in 1976, to 179,000 in 1981 and to 204,000 in 1986. The labour force was 41,099 in 1971 and it has been estimated that between 1975 and 1979 there will be an addition to the labour force at the rate of 2,000 persons per year. The labour force is expected to increase from 49,000 in 1976 to 65,000 in 1986. Thus productive employment has to be found for this increased labour force in the future.

7. The creation of employment opportunities will have to depend on sectors other than the mining sector such as agriculture, forestry, fisheries, manufacturing and tourism. The mining sector (oil/gas) is technology or capital intensive and will not be a source of increasing

/employment.

employment. The services sector already employs a very high proportion - 36.5 per cent of the total working force according to the 1971 census. It is the secondary industry - the manufacturing sector which is the leading and most dynamic sector of the economy and as such employment should be created by developing this modern sector in which productivity is high. The development of this sector will give a stimulus to the developing of other sectors of the economy such as agriculture, transport, etc. and will be a source of the accumulation of skill and technical knowledge for further development of the economy. The development of manufacturing again needs to be integrated with agricultural and other sectors because of the interdependence of the sectors in respect of the supply of raw materials and the demand for manufactured products. Manufacturing offers the best scope for diversifying the economic structure of the country.

Objectives of the National Development Plan, 1975-1979

8. The main objectives of the National Development Plan 1975-1979 were, therefore, rightly laid down as follows:

1. To maintain a high level of employment; and
2. To diversify the economy through accelerated development of agriculture and industry.

Three important deductions can be made from the general strategy of the National Development Plan, 1975-79: (a) the structural imbalance has to be redressed by emphasizing the growth of agricultural, forestry, fisheries and industry; (b) in order to achieve (a), the Government will adopt necessary measures and policies in order to encourage and promote the participation of the private sector, both local and foreign; and (c) to remedy the situation, the Government will consider playing a more active and meaningful role than hitherto in order to give effect to the general development strategy and the optimum achievement possible of the objectives of the present plan. In the context of the special economic position of the State of Brunei, these are commendable lines of action which have been included in the framework of the current Development Plan.

/9. During

9. During the period from 1976 and 1981, the population of Brunei is expected to increase at a rate of natural growth of 2.8 per cent per annum (excluding immigration). In view of the past trends, the gross domestic product should grow at the minimum rate of 6 per cent per annum during the plan period, 1975-79, which is a modest rate of growth for Brunei. To achieve this rate of growth during the plan period, the authors of the Plan calculate that a minimum investment of B$ 1,212.5 million will be required. Out of this total amount, Government investment will account for B$ 500.0 million and private sector investment for B$ 712.5 million. The objectives, the targets and the financial requirements of the Plan are considered to be practicable and are not overambitious. The important points for consideration, however, are if the financial requirements have been worked out on the basis of sound knowledge and information. For instance how realistic are the criteria for working out the total investment necessary for ensuring a 6 per cent growth rate and for determining the required private sector investment?

10. In the allocation of government investment, as shown in Annex 3, admittedly, priority has been given to the directly productive sectors of the economy, notably agriculture and industry in the sense that greater resources were allocated to them under the present plan than under the former one. Other sectors such as public utilities, health and education, giving a stimulus to industrial development have also been emphasized. A look at the allocation of public investment shows the concentration of Government expenditures on the building up of infrastructure of one kind or the other. Further, in an effort to promote private enterprise by encouraging the indigenous entrepreneurs and businessmen, the Government will consider provision of fund principally for the following purposes:

a. Loans (corporate) financing;

b. Equity participation; and

c. Financing of small and medium scale industries.

11. The Plan envisages an active role for private enterprise in the

/development

development programmes in the fields of (a) agriculture, forestry and fisheries, and (b) industry and commerce. The former includes areas like rice production, livestock production, upland crops, orchards, markets, gardens and tree crops and fresh water and marine fisheries and the latter covers activities such as forest-based industries, the development of mineral resources other than oil and gas, the tourist industry and its associated activities, the oil-and-gas-based industries, agro-based industries and housing for residential and commercial buildings

12. In respect of the finances for the plan these will come, as mentioned earlier from (a) Government investment and (b) private investment both domestic and foreign. Foreign investment is to be encouraged in view of the limited extent of the domestic market and the shortage of technical and entrepreneurial know-how because such investment is regarded as consistent with the national and public interests of the state. Private domestic savings have, however, to be increased and encouraged for participation in the development process.

13. The plan rightly emphasizes that, for the successful implementation of the Plan, necessary policies and measures have to be taken by the Government and administrative arrangements have to be strengthened at all levels by taking suitable action. It also makes a very valid reference to three basic elements on which the success of the Plan will depend, namely, the political will to develop, administrative capacity and the support and participation of the people including the private sector, both local and foreign, in the development process of the country. If the political leadership of the country is able to create and promote these elements, and can motivate all those involved in the planning process, then the task of the implementation of the plan will become relatively easy. A few observations on the National Development Plan, 1975-1979 may now be in order.

Observations on the Plan

14. The National Development Plan, 1975-1979 is sketchy but a useful outline. It needs to be revised and elaborated. The sectoral allocations of Government investment for the plan period need to be reworked on the basis of reliable data. This necessitates breaking down each sector

/in more

in more specific terms, namely, in the form of projects implementable during the plan period. This is of course a difficult task but for the planning purpose it is a necessity. The Planning Unit which, in its present form, came into existence only in 1973 could not possibly have done more in view of its inadequate trained personnel. This brings in the question of strengthening the institutional arrangement for planning. The duties and responsibilities of the Economic Planning Unit have been laid down as follows:

a. The formulation and revision of national development plans;
b. The preparation of annual plans;
c. Recommending policies, measures and machinery required; for the implementation of plans;
d. Reporting and evaluating plan implementation; and
e. Co-ordinating technical assistance activities.

15. To enable the Economic Planning Unit to perform all these functions effectively, its organization should be expanded and its staffing has to be improved both in number and skill. The Unit services the State Development Board which is chaired by the Chief Minister and of which the Director of the Economic Planning Unit is the Secretary.

16. The next important thing is to set up a programming unit or cell in each of the major departments of the Government concerned with development work. The function of this unit or cell will be to prepare its own departmental programmes and projects not only in terms of identifying the projects but also in specific terms, namely, the feasibility of a particular project and its interrelationship with other activities, its various requirements in terms of both financial and physical requirements, etc., for submission to the Economic Planning Unit which, in its turn, will examine the sectoral programme from the overall viewpoint before it is incorporated in the State plan. The main function of the departmental programming unit or cell will be to identify project in its own area and to have preliminary project evaluations before it submits its proposals or projects to the Economic Planning Unit for eventual submission for approval to the Government.

/17. The departmen-

17. The departmental planning unit will be involved not only in the identification of projects and their appraisal but also in the approval, follow-up and the implementation of the projects in its own area. Guidelines on the various aspects of the identification, formulation and appraisal of projects are given in Chapter V. The unit will naturally work in close co-operation with the central planning unit. This arrangement will enable the central planning unit to make allocation of funds on a more realistic basis.

18. The acceptance of the above recommendation will require some expansion and reorganization within a department which should not be difficult. Meanwhile the Economic Planning Unit and the major departments will need assistance and guidance in the matter of working out sectoral allocations in terms of projects. It is, therefore, recommended that UNIDO/ESCAP Regional Industrial Adviser on Economic Plans and Policies attached to ESCAP, Bangkok, be requested to assist the Unit and the concerned departments in working out guidelines for the preparation of sectoral programmes and the evaluation of projects.

19. Secondly as the need for training in development planning, programming and project planning is of great importance for development personnel, it is recommended that a training course in these fields is initiated and organized at Bandar Seri Begawan by the Economic Planning Unit for a period of 4 weeks in co-operation with international organizations such as UNIDO, ESCAP and regional training institutes such as the United Nations Asian Development Institute, Bangkok and the United Nations Asian Centre for Development Administration, Kuala Lumpur. This will have the effect of training a number of government officials (say 20) at a time and will have an important impact on the country.

20. In the field of industry, there is at present a vacuum in the sense that there is virtually no institutional arrangement for industrial development. Such a gap is contrary to industrial development and promotion. It is hoped that, in the future the creation of arrangements for industrial development, industrial credit and investment and an industrial estates development under the auspices of the proposed Economic Development Board will fill this gap. It is, however, strongly

/recommended

recommended that a suitably qualified person be appointed to head an industrial development section within the Economic Planning Unit. His job will be to assist the Unit in preparing an integrated programme for the development of the industrial sector, taking into account the existing the potential industrial opportunities in the State.

## CHAPTER II

## THE SPECIAL PROBLEMS OF, AND THE POSSIBLE OBSTACLES TO, INDUSTRIAL DEVELOPMENT AND THE POLICIES AND MEASURES NECESSARY TO OVERCOME THEM

### Industrial Structure

21. The industrial structure of Brunei consists almost wholly of small-scale industrial enterprises. According to the Annual Report, 1971, out of 964 establishments which submitted returns to the Labour Department, 90 per cent employed less than 25 employees. The structure is largely dominated by the Government and the oil industry. Outside the oil and gas industry, the Government itself is the principal supplier of essential community services, such as medical and health, welfare, municipal services, public utilities and education. Next in order of size are the construction, service and distributive industries stimulated by an extensive development programme of public works over the last few years and by the demands of a growing and prosperous population for goods and services. The farming and fishing industries are operated mainly by individuals or small groups usually self-employed with occasional hired help. A small logging and sawmilling industry operates under annual licences for the production of timber for local use. Finally, there are a variety of very small manufacturing and processing establishments producing furniture, bricks, aerated water and other articles for local consumption. This shows the importance of small-scale industrial enterprises in the State of Brunei.

### The economic structure of Brunei

22. Annex 2 gives the latest available figures (1971) relating to the percentage distribution of the gross domestic product among the various sectors. The economic structure of Brunei is very different from that of other developing countries of Asia. In 1971, manufacturing accounted for only 2.03 per cent of the gross domestic product while the share of agriculture was only 2.48. Mining oil and gas is the main source of the country's wealth accounting for 51.33 per cent of the country's gross domestic product whereas the percentage shares of

/Government

Government services, construction and community, social and personal services and commerce were 17.38, 10.07, 6.71 and 5.76 respectively. The figures clearly show the low dependence of the country on manufacturing and agriculture. Mining dominates the economy. Government services, construction, community, social and personal services and commerce play an important part. These characteristics of the economy are also reflected in the figures in Table I showing the percentage distribution of the employed labour force and the gross domestic product among the major economic activities of the country. The major problems facing Brunei are (1) to raise the share of agriculture in the gross domestic product; and (2) to stimulate industrial development based mainly on local raw materials and to integrate it with agricultural development. The problems of agricultural development are, however, outside the scope of this report and need to be considered by a separate mission. It is, however, important to emphasize the interdependence of agriculture and industry both of which should be developed in Brunei in an integrated manner.

TABLE I

Percentage Distribution of the Employed Labour Force And the Gross Domestic Product in Brunei

| Major Economic Sectors | Percentage of the Employed Labour Force | Percentage of the Gross Domestic Product |
|---|---|---|
| Services | 36.5 | 24.1 |
| Construction | 19.4 | 10.1 |
| Agriculture, Forestry and Fishery | 11.6 | 2.6 |
| Mining | 7.1 | 52.2 |
| Commerce | 10.1 | 5.6 |
| Transport and Communications | 5.1 | 1.0 |
| Manufacturing | 4.3 | 2.0 |

Source: National Development Plan, 1975-1979, p. 41

23. The development of agriculture, forestry and fisheries is very desirable for Brunei because these sectors will provide raw materials for industrial development which must be stimulated because the industrial sector is looked upon as the leading sector of growth. These sectors

/as well as

as well as industry should be developed in Brunei as they are needed to diversify the economy, to create employment and to reduce the undue dependence of the economy on the mining sector. The development of industry is of importance to the growth of all other sectors of the economy. It will provide a market for agricultural raw materials and also valuable inputs for agriculture. In Brunei, it will provide the market for energy as well as the equipment needed by the energy producing activities. Thus the development of industry will make possible the allround growth of the economy. Further, industrial development helps develop the skills, attitudes and discipline necessary for a modern economic organism. It is regarded as a catalytic sector which will help break down the traditional barriers to growth. Modern technology, attitude of experimentation and innovation organized co-operative work in factories, etc., are some of the attributes that industry will help traditional societies to acquire.

Industrial Possibilities in the State of Brunei

24. The formulation of an industrial development programme in the State of Brunei must be based on an assessment of the industrial potentials which the country has. This is particularly important in a small country like Brunei where the size of the domestic market is also very small. An assessment of the industrial potentials will help identify the projects which can be usefully undertaken. It can be made in terms of the possible substitution of imports, the development of additional exports and the generation of new industrial activities for which the country has resources and markets domestically available. The available industrial potentials of the country must be fully utilized in view of the fact that the share of manufacturing in the gross domestic product of Brunei is extremely small. In 1971, manufacturing industry accounted for only a little more than 2 per cent of the country's gross domestic product.

25. The import statistics available for the latest year, namely, 1974 are given in Annex 4. These statistics show that some of the various commodities that are imported might be produced locally.

/From the import

From the import statistics which need to be analysed in detail, it is possible to indicate commodities the local production of which may have a reasonable chance of success. On the basis of this evidence, projects could be identified initially and their feasibility studies prepared.

26. For the preinvestment study of an entirely new industry, the basis of identification may be a regular annual import level of B$ 200,000 which is the imported value but not the retail price paid by consumers. Below this level, there may be opportunities for existing industries to achieve self-sufficiency by import substitution. Industrial projects intended to produce products to replace imports are well worth investigating for establishment in Brunei. Another way of identifying projects is to seek for many opportunities that may be there to process raw materials for the home market and probably for export later on. Let us turn to the different sectors which have industrial potentials.

Agriculture

27. In 1971, agriculture accounted for only 2.48 per cent of the gross domestic product. The position of agriculture remains the same upto the present time. Agricultural products account for well over 10 per cent of the total imports in value. Large quantities of processed and packed agricultural products are imported at enhanced prices. Increased agricultural production could reduce this growing burden of imports, provide raw materials for small industries and increase employment opportunities both directly and indirectly, as an earlier UNIDO Adviser to Brunei rightly expressed.

28. The basic importance of agriculture to the economy and social development has not been realized in Brunei. Agriculture in Brunei has held a very secondary position, although the country imports 75% of the total food requirements. There is less dependence on agriculture for living. According to 1971 census, agriculture, forestry and fisheries employed 11.6 per cent of the work force while producing only 2.6 per cent of the gross domestic product. Agriculture is still largely at a subsistence level with very many part-time small holdings. Young people are reluctant to work on the land and there is hardly any full-time work on commercial farming. Although there is no shortage

/of land,

of land, agricultural development has been extremely difficult. About 20 per cent of the total land is actually under cultivation.

29. There may have been difficulties about agricultural development in Brunei. Land may not be very suitable for ordinary crops. Permanent or tree crops are said to be more suitable for development in Brunei than usual annual crops. Most areas in the country are not flat and the flat areas are in many cases swamps. There is virtually no dry season and it rains all the year round. There is a scarcity of agricultural labour which is very costly. Mechanized farming is also difficult due to the unevenness of the land.

30. While there are difficulties in the way of agricultural development, Government expenditure on agriculture in the past was negligible - perhaps less than 1.5 per cent of the total expenditure. Irrigation facilities are non-existent. This shows that, no serious consideration till now was given to agricultural development. This is evidenced by the fact that Brunei supplies only 20% of its rice requirement. It is encouraging, however, that there is now a growing realization of the need to stimulate agricultural development. The present Plan has allocated B$ 21,000,000 which represents a little over 4 per cent of the total government investment to agriculture. The local citizens of Brunei in particular need to be encouraged for greater and more effective participation in agricultural development and should emulate the Chinese section of the population in developing commercial farming.

31. Opportunities for development in the agricultural sector and other sectors are pointed out below:

(i) Increased rice production to reduce dependence on imports;

(ii) Increased livestock production;

(iii) Increased production of fruits such as pineapples, passion fruits and citrus fruits for fruitjuice production;

(iv) Animal feeding stuff production

(v) Production of raw materials for which there are opportunities in Brunei.

/The wide

The wide variety of imported agricultural commodities is also given in Annex 4. Industrial development should be integrated with agricultural development which should supply raw materials to many small industries and as such the close interrelationships between industry and agriculture must be recognized.

32. For developing a practical programme for agricultural development with a bearing on industrial development, a former UNIDO Adviser to the Government of Brunei made the following suggestions which are worth serious consideration:

(a) To increase as quickly as possible the production of commodities which are known to grow well in Brunei in order to satisfy the domestic market and also to meet the increasing needs of industrial development.

(b) To undertake an experimental programme to ascertain what additional products, for which there could be a demand for the home market, industrial development or export, can be grown satisfactorily and in sufficient quantities.

Mineral Products

33. Oil and gas are the chief mineral products. Other mineral products are scarce and only glass sand and gravel have any economic importance. The mineral and associated imports for the latest year, 1974, are shown in Annex 4.

Forest Products

34. Timber as a raw material is readily available in sufficient quantities for the development of industries. Even then considerable quantities of timber products were imported.

Oil and gas by-products

35. This is a promising area. The oil/gas industry could be an important source of raw materials for the development of by-products for the domestic market and possibly for export. Mr. F. Bowles, a previous UNIDO Adviser to Brunei, mentioned that in 1968 there was some

/correspondence

correspondence between the Government, UNIDO, UNDP and ESCAP about a proposed three-week exploratory mission by a senior interregional adviser on Industrial and Marketing Surveys on Petroleum Derivatives and Natural Gas. The LNG Plan has since been established and has been successfully operating since 1973. There is, however, still a strong case for such a mission to investigate the possibilities of an industrial and marketing survey on petroleum derivatives and consider the possible production of by-products from the oil/gas industry.

Fish and fish products

36. Brunei has large rivers and more than a hundred miles of sea-board but not much has virtually been achieved in the development of a fishing industry and associated activities, although substantial quantities of fish and fish products are imported annually, as is shown in Annex 4. Small subsidiary industries may be developed if the raw materials are made available by the fishing industry. The closest possible co-operation between the development of fisheries and industrial development is necessary. River and sea prawn fisheries are now somewhat well-advanced. There are 4 trawlers for the purpose and these are based at Muara. There are other small fisheries on the beach. According to a 1968 survey, there are potentials in this area. Investors both from Brunei and outside are interested in the development of fisheries.

37. The main problem in regard to the fisheries is that the fish mongers or the middlemen get most of the benefits out of the fishing trade because it is these people who finance the fishing trade. An alternative to replace the fish mongers gradually should be provided by making credit or loans available to the fishermen. There is a good deal of scope for upgrading the existing traditional fisheries and developing new fisheries. The fishing resources remain to be ascertained and fully exploited. The country imports considerable quantities of fresh and processed fish. It does not produce enough fish to satisfy the domestic market. High quality fishes are mostly imported. Labuang, a Malaysian island supplies quite a lot to Brunei. There is a possibility

for developing

for developing a fish meal industry on a small scale with low grade fish. In this sector, there is a need for financial assistance which if properly applied, will produce good results. A good export trade could be further developed by increasing the catches of prawns which are of a very good quality. It may be possible to develop the following small industries in this sector, which should be investigated further:

1. Fish drying, salting, smoking, etc.;
2. Fish meal;
3. Canning;
4. Fish pastes,
5. Fertilizers; and
6. Fish for acquaria.

Special problems of, and obstacles to, industrial development in Brunei

38. The State of Brunei is a small country inhabited by some 150,000 people. The domestic market of the country is small and, therefore, its industrial development is limited by this factor. For sizable manufacturing projects, export markets will have to be treated as an important factor.

39. Another major obstacle to the industrial development of Brunei is probably the complacency that is due to the wealth derived from the oil/gas industry. There is a belief that the increasing living standards can be maintained indefinitely with wealth derived from oil and gas and that the diversification of occupations or sources of income is not an urgent matter. Government departments and agencies and the capital-intensive enterprises like the Brunei Shell Petroleum Company and LNG Ltd., can offer only limited opportunities for employment in the future and the increasing numbers of school leavers must have access to alternative sources of employment. The oil and gas industry has been and will remain for years the major source of wealth and employment in Brunei, but, as oil is a wasting asset, undue reliance on it in the future is not conducive to the stability and continued prosperity of the society. The future of the oil industry is linked up with international conditions such as the discovery of oil in other areas of the globe, the international price of oil, the invention of

/competing

competing substitutes for oil as a fuel and so on. The country's overdependence on oil and gas as the main source of wealth should be reduced by diversification which has rightly been accepted by the Government to broaden its economic structure and to create alternative avenues of employment for the increasing number of school leavers.

40. Diversification is the opposite of specialization and should involve the presence of contrasting types of economic activity in the State of Brunei. In the context of Brunei it may be taken to mean simply the introduction of alternative industries of the new, light and expanding type of a small and medium scale with a view to reducing the dependence of the country on the highly localized industries for employment. Such industries should have strong linkages with agriculture and local raw materials, should be expanding with the rising living standards of the people, be largely chosen on the basis of import substitution and also be export-oriented, wherever possible.

41. In Brunei, the supply of capital and the availability of foreign exchanges are not major handicaps to industrial development. Even if there is a shortage of private capital for major industrial projects, such a shortage could be made up partly by foreign and state participation in joint industrial ventures. Domestic private investment, however, needs to be stimulated by adopting appropriate measures to mobilize it. The greatest handicap is, however, the lack of local entrepreneurship. For industrial development, what is necessary is not only capital but a group of entrepreneurs willing to invest their own resources and to mobilize other domestic resources for productive purposes. Further, there is a shortage of trained and experienced personnel at all levels which makes the task of industrialization of any kind much more difficult. Measures are, therefore, needed to encourage the growth of entrepreneurship and industrial skill among the Brunei citizens.

42. An essential requirement for industrialization in Brunei is to create an industrial climate. This climate needs to be created by bringing about an awareness among its people as to the need to develop

/industries,

industries, stimulate industrial investment both domestic and foreign, encourage local entrepreneurship and facilitate technical training of the right kind.

43. Above all what is generally required is to bring about a change in the attitude and outlook of the people of Brunei. Such a change can be brought about through education aimed at making the people, particularly the younger people, more enterprising and ambitious so that they are fully equipped to work in other occupations instead of depending too much on the Government service and the oil and gas industry. The introduction of a system of counselling and guidance at schools and industrial training programmes in selected fields will produce desirable effects in this direction.

The need for an industrial policy and measures

44. A dynamic and well-organized effort can bring about more industrial development of an economically sound nature than would otherwise occur. There is much that a country can do to remove barriers to the growth of industry and to create positive incentives for the development of industrial technology. The country itself must perform the task of finding industrial opportunities, developing them and attracting the interest of those who can supply the industrial capital, equipment and skills which the country needs. In the mixed economy of today, the Government is intimately concerned with decisions and actions which determine whether or not an industry is established and it will turn to those with more industrial and commercial experience to establish and operate new industries.

45. In Brunei, the oil/gas industry has played an important role in the economy of the country. It has been possible for Brunei to import its requirements with oil income and it is only recently that the Government has turned its attention to industrial development and has proposed a number of measures to stimulate industrialization. There is as yet, however, no clear-cut statement of an industrial policy of the Government which will accelerate the pace of the country's industrial development.

/46. What is

46. What is necessary, therefore, is to formulate a well-conceived industrial policy indicating the role of private enterprise, mixed enterprise and public enterprise in industrial development. In Brunei the largest operating enterprises are the Brunei Shell Petroleum Company Ltd. and the Brunei LNG Ltd. in which the Government has acquired substantial interests in the form of shares. Both enterprises are managed and controlled by Brunei Shell Petroleum Company Ltd. Other large industrial enterprises under consideration for development will need to be developed as joint ventures financed with both local and foreign capital and managed in the same way. Then there is the medium and small scale industrial sectors the development of which will be facilitated by the Government in various ways. Local handicrafts and the tourist trade will also come under this category. Brunei has a free enterprise economy the working of which should be facilitated by government action. The role of the State in such a system lies in the provision of infrastructural facilities for industrial development such as the basic services and facilities like water, gas, light, heat, means of transport, the establishment of industrial estates, the creation of an industrial climate, the provision of technical training at all levels and research, the encouragement of both domestic and foreign investment, the development of local initiative and entrepreneurship, the import of appropriate technology, the Government participation in the financing of industries and the like. More will be said about this later and for the time being it may be worthwhile to deal with the composition of an industrial development programme for Brunei.

Industrial programme

47. Any future industrial programme for Brunei will be composed of the following categories of industries:

1. Large scale industrial enterprises;
2. Medium and small scale industrial enterprises;
3. Handicraft industries; and
4. Tourist industry.

/I. Large scale

## I. Large scale industrial enterprises

48. There are a few large industrial projects under consideration of the Government. These projects are of special significance from the point of view of diversification of the State's economy. A reference is made to these major projects.

### (i) The glass manufacturing project

49. A number of companies submitted their firm proposals to the Government for the establishment of a glass manufacturing plant based mainly on (a) the locally available silica sand in the Tutong area, although imported raw materials will also be needed. Investigations have shown that there are glass-making sands of a high quality available along the coastal area between Tutong and Muara. The silica sand available in Brunei is not considered costly to mine and remains to be developed for domestic industrial utilization; (b) the markets for the products are to be found mostly in the ESCAP countries; (c) the location of the factory would be governed mainly by such factors as the availability of gas, an abundant supply of water, transport relations and the availability of raw materials; (d) the project has to be developed as a joint venture and is expected to employ some 200 workers. The Government expected further proposals to be submitted and would arrange for technical expertise to be brought in for the purpose of evaluating the proposals. The capacity of the project would range from a low annual production of 5000 tons to as high as 34,000 tons and the end products would either be sheet glass, plate glass, decorative glass wares, glass pellets, silicate plant glass, silicate soda cullet, glass fibre or a combination of these. The Government was negotiating with Crown Agents, London, for an independent review of the proposals.

### (ii) The fertilizer project (Ammonia/urea)

50. There is a proposal for the setting up of a fertiliser plant (Ammonia/urea) based on the local supply of gas. Davy Ashmore Pty Ltd. has submitted a proposal for a 900 MTPD Ammonia/1,300 MTPD urea fertilizer plant for establishment near Seria.

/51. The project

51. The project proposes to use 'waste' natural gas obtained at the Seria LNG site as feedstock. According to available information, nearly 1,800 million $M^3$ natural gas was flared during the first six months of 1974. When the LNG plant is operating at 100% capacity (5 streams) gas flared will probably be 1,500 million $M^3$ per annum.

52. The ammonia/urea plant will require about 310 million $M^3$ per annum as feedstock and electrical power generation plus a small percentage for sea-water desalination. The plant is expected to be similar to a plant built by Davy at Qatar, United Arab Emirates and will be based on the most up-to-date technology available. There is a good demand for the urea product and in the years to come, there will be a world-wide shortage of nitrogenous fertilizers. The project is expected to employ some 500 workers who will be Brunei nationals out of a total of some 550 people to be employed. The revenue from the sale of the full output of the plant when operating at 100% capacity is expected to be at least US$ 73 million and this figure is likely to continue to rise due to world-wide continuing increases in feedstock/energy costs.

53. Davy Ashmore Pty. Ltd. (Australia) is prepared to act as consultants of the Government and to be responsible for the overall design and implementation of the project. The company has an impressive record for designing and building all types of fertilizer and process plants. The firm requested the Government of the State of Brunei to have discussions with Brunei Shell Petroleum Company Ltd. and to obtain their confirmation that a sufficient quantity of natural gas per annum would be available for feedstock. If a greater amount of gas is available, the plant design can be such that additional plant streams can be added subsequently. The total capital requirement for the project was estimated by the firm at US$ 150 million.

<u>The supply of gas</u>

54. It is relevant to consider here more carefully the supply position in regard to gas. The adviser had an interesting and useful discussion on this matter with Mr. J. Cordingley, Managing Director,

/Brunei Shell

Brunei Shell Petroleum Ltd. The position is that the known sources of oil and gas deposits in the State will easily last for 25 to 30 years. Exploration work has been going on and small deposits are being found. The prospects are bright. Even the on-shore deposits of oil are plentiful and its supplies can be vastly increased in the future with the application of improved and sophisticated methods of extracting of mining oil from the on-shore deposits. So there should be no concern about the supplies of oil and gas for Brunei in the foreseeable future, which have been very important resources of Brunei as a valuable source of power which is the basic requirement for every industry.

55. The supply of oil and gas for the glass industry based on silica sand will be no problem because the quantities required are rather small. As regards the proposal of the ammonia/urea project, the requirement for natural gas is rather large and the question of the supply of natural gas to this proposed plant has to be very carefully looked into. The Brunei Shell Petroleum Company Ltd. has a contract with the LNG plant to supply the latter, its subsidiary with gas for 20 years. Only two years have now passed. Natural gas must be supplied to this plant in adequate quantities to keep it going for many years. This plant has been a very important development which then meant an investment of some US$ 200 million.

56. The amount of flared or vented gas is not very much. Moreover, to create pressure for the extraction of oil, a lot of natural gas is reused, that it, a sort of recycling is resorted to, About 10 - 12% of the daily production is flared or vented and, with more effective utilization of gas for the production of oil, the proportion will come down perhaps to 7 - 8%. So there is a need to be cautious in this respect. But then new sources may be discovered and supplies may be increased. In such a case there will be no problem. Even now, the requirement for the ammonia/urea plant may be carefully worked out and it can be examined if the Government becomes really serious about the project.

/(iii) Timber

(iii) Timber complex

57. A number of companies have submitted firm proposals to the Government to establish a timber complex in Brunei. The companies interested are the Settsu Paper Board Manufacturing Company, Itaka and Company Ltd., Brunei Wood Complex Company Ltd., the Fletcher Timber Co. Ltd., Worldwide Timber Corporation Ltd. and Sarawak Company Ltd. One company (Worldwide Timber Corporation Ltd.) conceives of the project as an integrated timber complex at Muara consisting of one saw mill factory, one plywood factory, one block board line and one furniture components factory.

58. A project proposal and a feasibility study of the proposed timber, industrial and agricultural complex for establishment in Temburong and Muara have been prepared by the National Lumber Company Ltd. with the permission of the Government. The project is concerned with the extraction, processing, utilization, marketing and regeneration of the timber resources from the Temburong district of the State. It consists of an integrated wood processing industry in Brunei, utilizing the most advanced and recent technological developments available. The project will stimulate industrial development in the forms of logging operation, plywood and veneer manufacturing, sawmill and drying kiln, block board manufacturing, particle board manufacturing, urea-resin glue manufacturing, moulding, flooring, waggon plank, furniture and furniture parts manufacturing. It will bring about agricultural development in such forms as reforestation of logged-over area, tree plantation, land clearing and utilization and the setting up of agricultural experimental station to study the suitable crops to be planted.

59. The implementation of such a project will lead to future development in the forms of coconut/palm plantation; rice plantation; maize plantation; soya beans and other related agricultural plantation; processing plant for extraction of coconut oil, palm oil and corn oil; manufacturing of high protein feed meal from maize and soya beans; and cattle ranching and other livestock production. The project

/will employ

will employ some 1,000 workers. It will require finance from external sources and external market for many of its products. It will be a modern integrated wood complex employing a small number of highly technical and skillful workers. The majority of the workers required will be semi-skilled or unskilled.

60. The project will stimulate the home-based wood cottage industry at present non-existent in Brunei. The State imports about 80% of its food requirements, spends annually two-thirds of its imports on food amounting to B$ 51.8 million in value in 1974. The development of import substitution industrial activities is, therefore, necessary with proper planning, implementation and encouragement by the Government. The economic viability of the project is not in doubt because the world prices and the demands for food are increasing at a high rate. The project will promote diversification of the economic activities of the country and will reduce its dependence on oil which is a depletable and non-regenerative natural resource. The Middle East countries are diversifying their economies. The estimated investment in the project stands at about US$ 46 million and the company will require various investment incentives from the Government, as a pioneering industry - such as a tax holiday for 10 years, tax-free importation of capital equipments, the issue of work permits to foreign technicians and skilled labour for entry into Brunei, factory complex sites and log pond at the Muara Industrial Area.

61. There is, however, at the present no further progress in regard to this project and the applications of the companies have been shelved pending the further progress of the paper and pulp mill and a complete assessment of the State's timber resources in a short time.

(iv) <u>The paper and pulp project</u>

62. This project to be based on local forest resources seems to be competing with the timber complex. The feasibility study of the project has been made by the National Paper and Pulp Co. Ltd. whose proposal for the project has been approved by the Government in principle. The project is to be located at Kampong Taraban, Kuala

/Belait.

Belait. It will be a joint venture in which Brunei will have 30 per cent capital participation, Oettsu Paper Board Manufacturing Co. Ltd. will have 35 per cent, Japanese firms and banks 30 per cent, and the Development Bank of Singapore will have 5 per cent. The total employment to be created by the project is estimated at about 350 in all divisions - administration, forest and production. The Sandwell Management Consultants of Canada will act as the Government consultants for the project which is under very active consideration of the Government.

(v) Other projects

63. In addition to the four projects mentioned above, there are a number of industrial projects of some size under the consideration of the Government. Asia Min Industrial Company has applied for permission for the establishment of a sago flour plant to process local and imported sago, near the Muara Industrial Area. There is a proposal to import bulk cement and to repack this cement at the Muara Industrial Area for local and external consumption. There is also a proposal for the creation of shipbuilding and repairing facilities in the same area. Another industrial activity on which a concrete and detailed proposal is expected is concerned with the setting up of a steelmill based on scrap iron. The activity will be concerned with processing local scrap iron into steel with the possibility of linking it to process rubbish into plastic bags.

II. Medium and Small-Scale Industrial Enterprises

64. The Government of the State of Brunei has rightly emphasized the development of medium and small scale industrial enterprises which should be encouraged in all possible ways. The elements of a development programme for these industries and the measures to be adopted are dealt with in Chapter III, with special reference to the credit scheme which the Government has contemplated to adopt to stimulate the development of such industries.

/III. Handicraft

## III. Handicraft Industries

65. Another industrial area to which the Government has rightly given its attention is the development of handicraft industries in Brunei. The traditional handicrafts industry in Brunei is now practically non-existent. Brunei silverwares were once very famous, but there were few silversmiths left at present. Whatever handicrafts there are now, they are not flourishing. Sarongs are woven with patterns of gold and silver thread labouriously in small quantities. Brasswares such as knives and other weapons are also produced. In some places blowpipes and parangs are produced but not on any commercial scale. Basket-work produced from 'nipa' leaf could be developed and increased considerably. Very attractive lampat floor coverings from rattan and tikar mattresses from the pandan leaf are still made and could be developed considerably.

66. The local crafts are, however, dying for lack of any assistance and patronage and even a modest programme to revive and stimulate the development of these crafts will be a step in the right direction. The Government has already initiated some action in this respect.

## IV. Tourist Industry

67. The Government of Brunei should recognize the importance of the development of the tourist industry in the country. In fact, with the completion of various infrastructural facilities, the development of this industry has been facilitated. To promote tourism, however, a variety of high standard facilities at reasonable costs are necessary. A former UNIDO Adviser, Mr. Bowles, enumerated as many as 27 facilities in his report. These are listed in Annex 9, and it is not necessary to add more. As a small country, Brunei has considerable existing and potential tourist attractions, as mentioned in that report.

68. As there are good opportunities for developing a tourist trade, the Government of Brunei may like to promote it by taking appropriate measures. One of the first measures needed in this connection is to

/set up

set up a Tourism Promotion Board charged with the responsibilities for creating the various facilities required for the promotion of the tourist trade. To start with, only a few selected centres could be earmarked for development as tourist centres. Provision should be made in the current development plan for the creation of the Board.

Policies and measures

69. The policies and measures to be adopted by the Government of the State of Brunei to encourage and promote the participation of the private sector in industrial development are embodied in two important legislations known as "The Investment Incentives Enactment, 1975" and "The Brunei Economic Development Board Enactment, 1975". The enforcement of the Investment Incentives Enactment will provide the necessary facilities and incentives to private investors especially in the field of industry and agriculture. The powers to administer the Enactment and to consider applications for facilities and incentives under the Enactment will rest with the Economic Development Board to be created under the Brunei Economic Development Board Enactment, 1975.

The Investment Incentives Enactment, 1975

70. The act provides for a large number of incentives as mentioned below:

(i) The act provides for the declaration of a pioneer status for an industry and product.

(ii) A pioneer company may be exempt from the payment of income tax for a period of time. The period of tax exemption is related to the amount of fixed capital. The tax relief period of a pioneer company will continue for a period of two years, where its fixed capital expenditure is less than B$ 250,000; three years, where its fixed capital is not less than B$ 250,000 but is less than B$ 500,000; four years, where its fixed capital expenditure is not less than B$ 500,000 but is less than B$ 1 million; five years, where its fixed capital expenditure

/is not less

is not less than B$ 1 million. The scheme provides for further extension of the tax relief period. The total of all extensions given would in no case exceed three years.

(iii) The act lays down the power and procedure for declaring an industry and a product, an approved industry and an approved product, and provides for tax relief for a certain period and the issue of expansion certificates. All this arrangement, of course, also applies to the expansion of established enterprises.

(iv) The act also deals with foreign loans for productive equipment and lays down the procedure and power for applying and issuing an approved foreign loan certificate where a company engaged in any industry is desirous of raising a loan of not less than B$ 200,000 from a non-resident person called "foreign lender" by means of a financial agreement by which credit facilities are granted for the purchase of productive equipment for the purposes of its trade or business It may apply to the Board for a certificate certifying such foreign loan to be an approved loan. It provides for restriction on the disposal of such productive equipment and also for the exemption of approved foreign interest from tax.

(v) The act has also provided for the exemption of a pioneer company from the payment of the whole or any part of any customs duty which may be payable on any machinery, equipment, component parts and accessories.

<u>The machinery for industrial development</u>

71. The administrative machinery for industrial development in the State of Brunei has been created by the Brunei Economic Development Board Enactment, 1975, which is now in the process of enforcement. The enforcement of this act is being expedited to give effect to the Investment Incentives Enactment 1975. Under the act, the Brunei Economic Development Board has the following functions:

(a) to promote or undertake any residential, industrial,

/agricultural

agricultural or commercial development on areas in the State designated for such purposes;

(b) to promote or undertake any kind of business, trading, and commercial enterprises including agricultural, industrial housing and mining enterprises in the State;

(c) to promote any company or companies for any of the purposes specified in (b);

(d) to establish a bank or a financial institution, etc.

In order that the Board may perform its functions, the Board may

(a) purchase, exchange, lease and hold land, buildings and other immovable property;

(b) build houses, flats, tenement, shops and shop-houses, convert any house, shop or shop-house into flats or tenements;

(c) purchase, exchange, lease and hold land for the purpose of development and resale to the public and building lots, or industrial land and for the purposes of providing open spaces and recreation grounds;

(d) do any work on land necessary for the purpose of its development, as building or industrial land;

(e) purchase, exchange, lease and hold mining, agricultural and timber land for the purposes of mining, agricultural development and logging respectively;

(f) sell land, buildings or other immovable property,

(g) enter into contracts with other persons on behalf of the Board;

(h) underwrite the issue of stocks, shares, bonds or debentures by industrial enterprises;

(i) to guarantee on such terms and conditions as may be agreed upon, loans raised by industrial enterprises which are floated in the public market;

(j) grant loans or advances or to subscribe to stocks, shares, bonds or debentures of industrial enterprises;

/(k)

(k) manage, control or supervise industrial enterprises by nominating directors, or advisers, etc.

(l) establish, sell shares of, invest in and manage industrial enterprises;

(m) provide technical advice and assistance to industrial enterprises and build up a corps of engineering and managerial staff to provide such assistance;

(n) receive in consideration of the services rendered by it such commission as may be agreed upon;

(o) act as agents for any industrial enterprise.

72. A fund for the Board to be known as the Brunei Economic Development Board Fund will be established. The Board has been given very wide powers in respect of economic development in general and industrial development in particular and its creation is an important landmark in initiating and implementing the development efforts of the Government of the State of Brunei. The Chairman of the Board and its Director, the Chief Executive of the Board would be appointed by His Highness the Sultan. The three ex-officio members of the Board will be the State Financial Officer, the Commissioner of Lands and the Director of the Economic Planning Unit in addition to 3 to 5 "appointed members".

73. It is expected that the Economic Development Board will presently be organized in divisions and sections. The divisions which are immediately relevant to industrial development may be suggested as follows:

1. Industrial Development and Promotion Division.
2. Industrial Estates Division
3. Industrial Credit and Investment Division.

1. <u>Industrial development and promotion division</u>

74. The division will work under a senior official and will be entrusted with the discharge of various functions relating to industrial development and promotion, some of which are mentioned below:

(i) to receive all applications for industrial development,

/and examine

and examine these in the light of the strategies and policies for industrial development;

(ii) to keep records to facilitate the selection of suitable industries for development;

(iii) to prepare pre-investment and feasibility studies;

(iv) to encourage entrepreneurs to extend or diversify existing industries or to develop new projects;

(v) to prepare project proposals for approval in principle;

(vi) to assist entrepreneurs in the preparation of feasibility studies for submission to the credit and investment division;

(vii) to supply all relevant information regarding specific projects to the credit and investment division;

(viii) to assist the entrepreneur in every way possible in the planning of the project after it has been approved by the credit and investment division;

(ix) to recommend the release of funds for projects which appear to be sound and profitable; and

(x) to follow up the implementation of projects and to assist the entrepreneurs in this work.

2. Industrial credit and investment division

75. The important functions of the industrial credit and investment division are stated as follows:

(i) to control government fund for industrial development;

(ii) to develop and mobilize funds for investment in industries;

(iii) to control the financial and ownership aspects of industrial projects;

(iv) to negotiate terms of investment, ownership and any special conditions acceptable to the entrepreneur and the Government;

(v) to approve investment capital to enable entrepreneurs to proceed with the development of projects;

(vi) to consider and recommend suitable incentives either general or in specific cases to encourage industrial development;

/(vii)

(vii) to consider and recommend suitable protective measures to safeguard the interest of the entrepreneurs;

(viii) to consider and recommend suitable measures to encourage the export of locally produced commodities; and

(ix) to consider and recommend suitable measures for maintaining reasonable price levels in the domestic market.

3. Industrial estates division

76. The main functions of this division of the Board will be as follows:

(i) to acquire land for industrial uses;

(ii) to develop land and provide all basic services such as water, electricity, sewerage, access roads, etc.;

(iii) to let out or lease lands for industrial uses to the entrepreneurs on a rental basis for industrial construction;

(iv) to construct standard type factory buildings to be let out to the small entrepreneurs at cheap rents;

(v) to be responsible for the operation and management of the industrial areas, zones or estates.

Industrial estates and facilities division will be under the administration of a senior official.

77. Admittedly, the Brunei Economic Development Board will be organized on the same lines as the Singapore Economic Development Board was initially organized. Originally, the Development Bank of Singapore and the Jurong Town Corporation were parts of the Singapore Economic Development Board. Subsequently, these two organizations were separated away from the Board as independent entities. To start with, it will be appropriate to set up the three divisions, industrial development and promotion, industrial credit and investment and industrial estates and facilities as parts of the Brunei Economic Development Board.

Staffing problem

78. The most important problem concerning the establishment of the Board will, however, be the staffing problem. The number of

/experienced

experienced and qualified persons available in Brunei to man the different sections or divisions of the Board is limited. At the time the adviser visited the country, the Government selected some officers and were sending them to the Singapore Development Bank for appropriate short-term training. This was certainly a step in the right direction. The Government should, however, explore the opportunities for training the personnel of the Board in the fields of industrial development and promotion, industrial credit and investment and industrial estates development and administration in other developing countries such as the Republic of Korea, Malaysia, India and Pakistan which have gathered considerable practical experience in these fields over the years. The experience of these countries will be valuable. Further, as the Economic Development Board is in its formative stage, UN assistance, particularly from UNIDO in all the three fields will be desirable and fruitful. UNIDO has considerable experience and expertise in industrial programming and policies, industrial investment and promotion and industrial estates development in the developing countries. The Government of Brunei acting through the British High Commission there and UNDP, Kuala Lumpur, could ask for the services of an industrial economist to advise the Board on the organization of its activities and recruitment policy related to industrial development.

79. In addition, the Government should take advantage of the training facilities available in the regional and international institutes in such fields as project development and appraisal, development banking, investment promotion, industrial estates development and management, small-scale industries development, etc. The organization of country courses in selected fields under which arrangement a fairly good number of officials connected with related activities can be trained in co-operation with regional and international organizations such as ESCAP, UNIDO, ILO, FAO, Asian Development Institute and Asian Centre for Development Administration, will be extremely useful. It will be well to work out a training programme in the light of short-term and long-term requirements. In this programme, the importance of training abroad promising Brunei citizens cannot be ignored.

## CHAPTER III

## SMALL AND MEDIUM SCALE INDUSTRIES DEVELOPMENT PROGRAMME

### Definition of small and medium scale industrial enterprises

80. It is not easy to give precise definitions of small and medium scale industrial enterprises. Small industrial enterprises may be taken to extend from household and cottage establishments at one end to medium-sized factories at the other. It would be possible to classify firms as small, medium and large by drawing arbitrary dividing lines on the basis of the number of workers employed, the amount of capital invested, the value of output, the use of power, the method of management and other criteria. For certain purposes such as the application of laws and regulations that apply to some enterprises but not to others, it is both useful and necessary to have hard and fast definitions although they may not be appropriate for all purposes.

81. Small industrial enterprises may consist of both factory and non-factory establishments. Non-factory establishments may be composed of household or cottage establishments as well as workshop establishments. A small industrial enterprise may have several of the following characteristics:-

a. Relatively little specialization in management;
b. Close personal contact of top management with production workers, customers, suppliers and owners;
c. Lack of access to capital through the organized securities market, and often difficulty in obtaining even short-term credit;
d. No special bargaining strength in buying or selling;
e. A relatively close integration with the local community through local ownership and management dependence on nearby markets and sources of supply.

### Employment as a criterion for measuring size

82. For statistical purposes, we may tentatively suggest for Brunei to regard all manufacturing establishments as small if they had fewer than 20 employees each and to regard all manufacturing establishments as medium if they had more than 20 but fewer than 50

/workers each

workers each. A firm employing 50 or more workers may be regarded as large in the Brunei context. Even for administrative and policy purposes, all firms employing fewer than 50 workers may be brought within the purview of the small and medium scale industries credit programme which the Government is contemplating to develop. This suggestion which is advanced for the initial period may be revised subsequently. It has its limitations but may be recommended for tentative acceptance.

83. The criterion of the number of employees for the measure of size has not passed unchallenged. There are other criteria suggested such as capital cost, area, dimensions of an establishment or the annual economic value of the output of an establishment. The criterion of the number of employees, however, seems to be the least objectionable of the indices of size. It has certain positive advantages. First, it is non-monetary and frees the comparison between countries and between periods from the complication of different monetary units, different standards of living and changing price levels. Secondly, persons are more easily visualized as the unit of quantification than are values. People can see in their mind's eye and thus distinguish between a group of ten or of fifty or a hundred persons when they cannot see an output or certain given values.

84. It is emphasized that a definition is necessary for some purposes such as a survey of small industries, the designing of a small and medium scale industries development credit programme and the implementation and administration of such a programme. It is necessary to define an upper limit beyond which enterprises are not called, "small" or "medium" and also perhaps a lower limit to differentiate small enterprises from home or cottage industries.

85. The definition of the size of an industrial establishment is relative, varies from country to country, from industry to industry and also depends on the particular purpose. It is not easy to classify industrial enterprises as small, medium and large and any boundary line is bound to be shadowy and arbitrary.

/Capital as a

Capital as a criterion for measuring size

86. An important alternative criterion for measuring the size of a firm is capital. How the term "capital" may be thought of as follows for this purpose:

a. Total capital
b. Total assets
c. Fixed assets
d. Fixed assets excluding land and buildings.

The criterion most commonly used is the total amount of capital in terms of either total assets or total assets excluding land and buildings.

87. Most developing countries like India, Ceylon, Pakistan and Nepal prefer to use capital as a criterion for measuring the size of industrial establishments whereas developed countries like Japan and USA use the employment criterion. One possible explanation for this difference may be that developing countries are usually short of capital (perhaps not applicable to Brunei) and have an abundance of labour, particularly unskilled and semi-skilled labour, whereas in the developed countries the situation is just the opposite. It could, therefore, be presumed that in developing countries it is the amount of capital which probably sets a limit to the size of industrial establishments rather than the number of employees.

88. We should, however, take account of the fact that manufacturing activities in developing countries are usually labour-intensive, with the low productivity of labour. The number of workers may differ substantially as between enterprises belonging to the same type of industry in developing countries. In developed countries, however, the manufacturing enterprises, small, medium or large are more modernized and as such they have high capital labour ratios. This means that for a given investment in machinery and equipment, there is a given number of workers employed; in other words, there is a close relationship between the number of workers and the invested capital. It will thus appear that the number of workers is an equally good criterion for measuring the size of a manufacturing enterprise. A large number of workers employed in an enterprise also implies a large invested capital.

/89.

89. However, it has been suggested that the invested capital may also be a suitable criterion for measuring the size of industrial enterprises in developing countries. There are, of course, difficulties in adopting this criterion, one of which is presented by the frequent changes in the value of money, particularly due to devaluation. In case this criterion is adopted in defining the size of industrial enterprises, frequent changes in the capital level will have to be made. If capital is used as the criterion then the question remains whether the yardstick will be fixed assets, total investment, equity, etc. The level of capital below which an enterprise will be called "small" has to be determined. In the same way the capital level of a medium-sized industrial enterprise has to be fixed.

90. If the definition of small and medium scale industrial enterprises is based on capital then it will be appropriate to base it on the total invested capital composed of both fixed capital and working capital. Working capital is an important need of small and medium-sized industrial enterprises although it is again difficult to assess the requirements of working capital for different enterprises belonging to different types of industries. As regards the upper limit to the size of small and medium sized industrial enterprises, the limit should not be set too high so as to enable large establishments to qualify for the help and support which are designed particularly for small and medium scale enterprises, nor too low so as to equate the small enterprises with cottage or home enterprises. The capital levels for small, medium and large industrial enterprises in the State of Brunei remain to be worked out. But it is necessary to work out these levels for the formulation, implementation and administration of a small and medium scale industries credit programme in the country.

The justification for a small and medium scale industries development programme

91. The policy of the government of the State of Brunei of placing an emphasis on the development of small industries is undoubtedly a step in the right direction in the context of the present economic structure of the country. The country's economy depends largely on

/the exploitation

the exploitation of its rich oil and natural gas resources which, to repeat, account for some 95% of the total value of its exports and some 51% of its gross domestic product. The oil and natural gas sector, however, employs only about 7% of the country's labour force. There are declining trends in the shares of agriculture and industry in the gross domestic product of the country, as evidenced by the recent statistics. It has been estimated that during the Third Development Plan period from 1975 to 1979, about 10,000 persons will join the labour market. There is, therefore, the need for the twin objectives of (a) maintaining a high level of employment and (b) diversifying the economy through the accelerated development of agriculture and industry - the two strategies well put forward in the Third National Development Plan, 1975-1979.

92. Industrialization is regarded as the centre piece of the development process and has a dynamizing effect on the rest of the economy. It is, therefore, advisable for the Government of the State of Brunei to direct its efforts to some measure of industrialization. The nature and the extent of her industrial development will, of course, have to be determined by the availability of her resources for such development. In determining her industrial possibilities, interrelationships between industry and agriculture and other linkage effects have to be duly taken into account, as emphasized in Chapter II.

93. What has been said above offers a powerful argument for stimulating the growth of small and medium scale industries in the country. More specifically, the following criteria may be mentioned in favour of this strategy:

(i) The State of Brunei is new in the field of modern industrialization and lacks in technological skill and know-how. Small and medium scale industries do not require a high level of technology.

(ii) Small and medium scale industries are generally more labour-intensive than capital-intensive. Brunei, of course, will not be handicapped in developing particular industries of this class, which may be capital-intensive because the

/country is

country is not short of capital resources and foreign exchanges.

(iii) Small and medium-sized industrial projects can be formulated and implemented in a relatively short period and hence they are important from the point of view of increase of production and employment in the short run.

(iv) The State of Brunei is rich in some agricultural, forest and extractive resources and hence some industries can be based on the processing of local raw materials available in these sectors.

(v) The country, which is in a much better position in respect of foreign exchanges compared with many other developing countries, imports a variety of goods some of which could surely be produced within the country. The pattern of industrial development may thus partly be based on import substitution in the initial stages. This pattern will eventually be foreign-exchange saving.

(vi) Brunei is, however, a country where the size of the domestic market is small and where "the division of labour is limited by the extent of the market". From the very beginning, therefore, unlike most other developing countries, the new industries to be developed in Brunei should be export-oriented wherever possible. The export processed indigenous raw materials will be a desirable line to start with.

(vii) Small industrial enterprises are really a training ground for the local entrepreneurs and business decision-makers. It is through the process of the development of small industrial undertakings that industrial knowledge and skill will accumulate in the country.

(viii) Small industrial enterprises create opportunities for the small man and their growth will help bring about a more equitable distribution of income.

(ix) The growth of small industrial enterprises brings about stability in the society by diffusing prosperity and by acting as a check to the growth of anti-social monopolistic practices.

/(x)

(x) Lastly, for decentralization and dispersal of manufacturing activities, perhaps not so important for Brunei, the small firms whose location can be easily guided are suitable.

94. It is interesting to note that, more recently, some of the developing countries of the ESCAP region have attached considerable importance to the development of small industries by trying to integrate it with rural and agricultural development.

Elements of a small and medium scale industries development programme

95. There is a need for a broad integrated approach to small and medium industry development. The small and medium scale industries development programme should be fairly comprehensive. It is not enough to set up an institution charged with making capital and credit more readily available to small industry. The results of development are likely to be very small, because opportunities for making sound developmental loans to small entrepreneurs will be limited by such factors as lack of technical knowledge, poor marketing, bad design of products, and lack of skill in planning and managing the expansion of an industrial enterprise. In the same way, a technical advisory service by itself or an industrial research institute, or a demonstration centre showing improved practices, or a management training course will have a rather limited impact if set up in isolation rather than as part of a more comprehensive programme. The small entrepreneurs, for example, may be impressed by demonstration of mechanized production methods but, without access to suitable financing, be quite unable to acquire even a modest amount of machinery. An action programme to be effective in developing small and medium scale industries must consist of simultaneous measures to deal with a number of limiting factors.

96. It is, therefore, advisable to recommend that, in the State of Brunei, a programme for small and medium scale industries development will include the following elements:-

1. Financial or credit support

/2. Technical

2. Technical assistance
3. Marketing support
4. Industrial research and advisory services
5. Procedure to facilitate the procurement of raw materials and equipment
6. The establishment of industrial estates
7. Industrial training programme.

97. The financial support is one of the most important requirements of the small and medium-scale industrial enterprises and the Government of the State of Brunei is seriously considering to develop a credit scheme to stimulate the promotion of such enterprises. This aspect is, therefore, discussed first in considerable detail.

Small and Medium Scale Industries Development Loans or Credit Programme

98. The State of Brunei has just passed two important Acts, namely, the Brunei Economic Development Board Enactment, 1975, and the Investment Incentives Enactment, 1975, which are now in the process of implementation. It will be appropriate to consider the small and medium scale industries development loans or credit programme, taking into account whatever implication or bearing these enactments may have on such a programme. This is an aspect of the matter which remains to be carefully examined.

Finance for small and medium scale industries

99. Financial problems are usually high on the list of the difficulties which the owners and managers of small and medium sized industrial firms have. Some of these difficulties are inherent in the nature of small firms. Others are the result of the particular institutional and non-institutional arrangement through which credit is made available to small firms.

100. It is important to look at certain aspects of the problem of such finance in the State of Brunei, such as, (i) the sources of finance that are available to small and medium scale industries in the country and the terms and conditions on which credit is offered from existing sources; (ii) the financial requirements of small and medium

/scale industries

scale industries; and (iii) the types of financial needs which are not being met by the existing system at the present time. An investigation in this respect will be useful and, in the absence of any such investigation, the following observations are perhaps in order.

Source of finance for plant and equipment and short-term credit

101. Small and medium scale industries typically finance their plant and equipment from personal savings, supplemented by loans from friends and relatives and other informal sources. These sources are, however, inadequate and in Brunei credit for these purposes should be made available from institutional sources.

102. The sources of short-term credit to small and medium scale industries are usually informal sources such as loans from friends, relatives and professional money lenders; credit from suppliers and advances from customers and institutional sources such as commercial banks and some other types of banks. In Brunei whish is placing a new emphasis on industrial development, such sources of finance are not commonly available on suitable terms or are inadequate. There is, therefore, a great need for this type of finance as well for the promotion of industrial development.

Financial requirements of small and medium scale industrial firms

103. Any type of industrial operation, small or medium or large, requires the following types of financial assets:-

(i) Fixed assets, including land and buildings, machinery and equipment; and working capital;

(ii) Current assets which consist of inventories of raw materials, semi-finished goods and finished goods; accounts receivable; and cash to cover operational expenses such as workers' wages, utilities and fuel, taxes, etc.

104. The proportion of these various types of assets varies from industry to industry. For example, heavy industries such as steel rolling requires more fixed assets than simple assembly operations such as garment manufacturing. For light manufacturing operations

/working

working capital occupies a larger percentage of total assets. In addition there are significant differences within the same sector between large and small firms. Small industries are generally more labour-intensive than capital-intensive. They require a lower investment per worker for plant and machinery and working capital occupies a high percentage of the small firm's assets. Experience elsewhere shows that for handicraft products, for example, working capital might occupy upto 95% of the total required investment with the other 5% for the workshop. For certain types of small industries such as small sugar mills, fish meal plants, saw mills and the like the same figures appear to be fairly representative of their actual requirements. Light manufacturing operations, including those producing labour intensive products for export would have approximately the same proportion of assets. These examples are merely illustrative.

Financial needs of small industry

105. An important and urgent financial need of the small and medium-sized industrial enterprises appears to be the need for working capital. The sources of the supply of working capital are limited and inadequate. The small firms do not have adequate credit worthiness and securities to offer as the large firms and hence they are unable to obtain working capital from institutional sources such as commercial banks. It is difficult for established small industrial enterprises to have adequate working capital to meet their needs. It is all the more difficult for new small industrial firms to have an easy access to working capital because they have no resourceful guarantors and have few resources in the form of adequate machinery and inventories to be offered as securities for obtaining working capital by way of loans. Small business owners have to borrow money from professional money lenders and even from friends and relatives at fantastically high rates of interest. Credit from informal sources are thus very expensive and difficult to obtain. Credit from suppliers and advances from customers could not be relied upon. The lack of working capital thus constitutes an important obstacle to the development of small and

/medium scale

medium scale industries.

Requirements of a small and medium scale industries development credit or loans programme

106. All that has been briefly said in the foregoing section goes to show that the development of a small and medium scale industries credit or loans programme is of great importance if the small entrepreneurs are to be attracted to the industrial field. Now what are the requirements or requisites for initiating and implementing such a programme?

Creation of a fund

107. The first requirement, of course, is that the Government of the State of Brunei should earmark a fund to be known as the Brunei Industrial Development Credit Fund for Small and Medium Scale Industries. The amount which will constitute the Fund may be determined by the Government. The initial Fund need not be very large. It will, however, be appropriate to set up the Fund for an initial period of 5 years to coincide with the Third National Development Plan Period (1975-1979). The programme will be on a long term basis and will be continued afterwards according to the requirements of the programme. The fund will be provided from the public sector investment resources and should be in two parts - (i) local currency component and (ii) foreign exchange component. This is necessary because credit will have to be given in both local currency and foreign exchange.

Machinery for the administration of the fund

108. The next question is to what organization will the administration of the Fund be entrusted. This brings in the question of institutional arrangements necessary for administering the Fund. The State of Brunei requires some institutions and the Government has taken a major action in passing the Brunei Economic Development Board Enactment, 1975. It is not yet clear what the organizational structure of the

/Board will be

Board will be. For the purpose of facilitating industrial development in the State of Brunei, two institutions are essential. One is an Industrial Development Board or Centre and the other is an Industrial Credit and Investment Bank. The creation of these two institutions will immensely facilitate the task of industrial development in the country, just as the setting up of the Economic Planning Unit has facilitated the task of planning for the whole country.

109. Whether the two institutions will be set up immediately or not is a matter for Government decision. But an alternative is already in the process of development. The Brunei Economic Development Board which will soon be set up under the 1975 Enactment should have, among others, two important divisions and one of them could be called Industrial Development Division and the other Industrial Credit and Investment Division each under a senior official, as suggested in Chapter II. The Industrial Development Division will do all work connected with detailed industrial planning including the development, formulation and appraisal of industrial projects, whereas the Industrial Credit and Investment Division will be concerned mainly with the financing of industries. The staffing of the two divisions with suitably qualified personnel will be very important. If this arrangement is acceptable then the institutional problem of operating the credit, and financing programme will be easily solved. The fund referred to earlier will be administered by the Division of the Board on behalf of the Government. This Division could eventually be replaced by a Credit and Investment Bank, as provided for under the Act. During the initial settling-in period, the suggestion, as put forward here, will perhaps be a better alternative.

110. An alternative suggestion is if the existing commercial banks operating in the State could be used as the mechanism for the administration of the credit programme for the small and medium scale industries. If this alternative is desirable and feasible then it remains to be settled which commercial bank or banks will be used for

/the purpose

the purpose. The idea is that all commercial banks will be expected to participate in the financing of small scale industries. There are problems which will have to be sorted out if the participation of the commercial banks in the proposed programme is called for. To cut across these difficulties, it will perhaps be advisable to prefer the other alternative under which the two divisions will work closely together. The commercial banks may be encouraged to fulfil the working capital requirements of the small and medium scale industries by liberalizing their policies and through some new arrangement for the purpose. This is an important area where the active participation of the commercial banks will be necessary.

Other considerations

111. In addition to the institutional mechanism, other problems which will require consideration and will have to be sorted out in this connection include the following:

(i) Credit will be given to both new industrial projects and existing industrial enterprises for expansion but under different conditions to give better advantages to the former in respect of the amount of credit, the rate of interest, the method of payment, the duration of period for which the credit is given, etc. The details of course will have to be worked out.

(ii) The list of industries or industrial projects to which credit will be given will have to be worked out in the light of the various criteria, which have been mentioned earlier in this chapter. It will be the responsibility of the proposed Industrial Development Division to work out a priority list. The intention of the programme is not to confine credit to manufacturing activities only. Industrial activities in a broad sense, so as to include other activities, will be entitled to this facility. Initially at least the programme should be rather liberally operated.

/(iii)

(iii) The amount of credit given or allowed will depend on the nature of the project itself, although a ceiling has to be determined carefully after taking into account the equity capital.

(iv) Credit will be given towards the acquisition of existing premises if available, the cost of construction of the factory building and the purchase of plant and equipment. To give examples, credits upto 50 to 60 per cent of the cost of construction and 80% of the cost of machinery and equipment may be admissible. The arrangement can be flexibly operated according to the requirements of a particular case.

(v) Credit will be given for medium terms (say 3 to 5 years) and long terms (upto 10 or 15 years).

(vi) This kind of credit is in the nature of "soft" loans given at subsidized rates of interest (say from 3 to 5%). Differential rates will be applied according to the nature of the project in hand.

(vii) For this programme also, the proposed Industrial Development Division and the Industrial Credit and Investment Division will work in close co-operation and co-ordination with one another. The project report to be submitted by the promoter will be examined and appraised by the Industrial Development Division. The applicant will make a loan application to the Industrial Credit and Investment Division through the Industrial Development Division. The contents of the project form and the loan application form will have to be carefully worked out. Credit will be sanctioned by the Industrial Credit and Investment Division. The loan repayments will be received by the Division according to an agreed arrangement.

(viii) The factory building, machinery and equipment will serve as securities according to the terms of the agreement between

/the applicant

the applicant and the Industrial Credit and Investment Division. The terms of the agreement will, among other things, stipulate the method of payments.

(ix) The Industrial Credit and Investment Division will carry on the follow-up work connected with the operation of the project.

(x) In granting credit, local entrepreneurs and businessmen will be given preference over others.

112. The provision of working capital falls within the normal functions of the commercial banks. As emphasized, the easy availability of working capital is an important requirement for the small and medium-sized enterprises but they are handicapped in this respect. The commercial banks are often unable to meet their requirements because the clients do not strictly fulfil the required conditions, such as securities, etc. There is perhaps a case for setting up an Industrial Credit Guarantee Fund which will ensure the provision of working capital to small industries.

113. It must be recognized that financing the small firms involves a much higher risk than lending to a small number of large firms. The credit institutions involved in financing small and medium sized enterprises need to maintain adequate reserves for bad debts. This is justified if a developmental effort of this sort is to be undertaken. The risks and costs of a small and medium scale industries development programme which is both economically and socially desirable are well worth taking.

114. There are the preliminary views and recommendations regarding the introduction of a credit scheme for encouraging and supporting a small industry development programme. There are, however, other aspects of formulating a programme for the development of small and medium scale industrial enterprises. These aspects cannot be ignored and must be briefly considered in this connection.

/2. Technical

## 2. Technical Assistance

115. The owners of small and medium scale industrial firms usually come from the small trading class or are persons who have worked in some factories or trades previously or have inherited their businesses from their families. Although they may not be quite unfamiliar to their jobs, they have often not received any formal training in industrial activities such as the type of machinery to be used, production processes, product quality, product mixes, etc. Technical considerations thus become important for the small entrepreneurs. Some of them may get help from their suppliers in the installation and operation of their machinery but for some it may be difficult to get the technical services. For instance, the testing of the quality of the local raw materials may be an important factor, but the facility for this is not available. In many areas, the questions of improved methods of production and improved and new designs of the products play an important part, but the small firms can scarcely do anything about these because of lack of technical assistance and services. Small entrepreneurs need assistance in these respects for which provision should be made.

## 3. Markets and Marketing Support

116. One important need of the small and medium scale firms in the area of marketing is for assistance to develop new markets particularly export markets for their products. They need to establish their contacts with customers both at home and abroad. The Government could give assistance in this area by encouraging travels so that businessmen could go out and contact foreign buyers, investigate market conditions, new products and processes and stimulate Brunei exports. In Brunei, the Government should publicize the industrial opportunities available in the country and encourage domestic production of the goods for which the facilities and demand exist in the country. Attention should be given to market research and advice should be made available to the small firms in respect of the choice of products.

/4. Industrial

4. Industrial Research and Advisory Services

117. Industrial research and advisory services should be regarded as a very important component of any small and medium scale industry development programme. Bigger firms have the resources to hire specialized assistance - the services of consultants and advisers - to solve their technical and management problems but the small firms are scarcely able to have resources for this purpose. It is, therefore, important that the Government takes the initiative in providing the type of advice and assistance that small firms need at least initially. The areas of industrial research and advisory services should cover the following:

(a) Market surveys, feasibility studies and research to identify promising opportunities in the small industry sector;

(b) Product design and development with an emphasis on labour-intensive products produced from local raw materials for export market.

(c) Consultancy and extension services in industrial and production engineering covering plant lay-out, use of machines and materials, quality control, production planning and control and the development of new manufacturing techniques; and

(d) Managerial advisory services in organizational planning and control practices, financial management, cost accounting, tax accounting, personnel management and marketing.

5. Procedure to facilitate the procurement of raw materials and equipment

118. Small firms usually have problems in obtaining imported raw materials and equipment due to two factors. First, there may be import regulations and difficulties the administration of which involves red-tapeism and delays. Secondly, there are shortages of working capital which make the small firms depend on local wholesalers for their raw material supplies on a very short-term basis.

/6. The establishment

6. The establishment of industrial estates

119. This is an important device to facilitate the development of industries by providing the basic infrastructures. This question is discussed in Chapter IV.

7. Industrial training programmes

120. The question of industrial man-power training is discussed in Chapter VI.

121. It is recommended that the Industrial Development and Promotion Division of the Brunei Economic Development Board should have a section called "Small and Medium Scale Industry Development Section", which will deal exclusively with the several aspects of the programme discussed in this Chapter.

## CHAPTER IV
## INDUSTRIAL ESTATES OR AREAS

### Importance of the industrial estates or areas

122. The Government of the State of Brunei intends to diversify the economic activities of the country through industrialization. Diversification serves as a check to extreme specialization. In order to achieve a certain measure of diversification through industrial development, some essential related measures must be taken to facilitate industrialization. As Brunei is in the early stage of her industrialisation, it needs to develop infrastructural facilities which may be classified broadly under the following headings:

(i) Physical infrastructure
(ii) Institutional infrastructure
(iii) Financial infrastructure
(iv) Social or psychological infrastructure

123. All infrastructural requirements as mentioned above are important for industrial development and appropriate policies and measures are necessary to create them. One of the most essential requirements for industrial development is the availability of building sites or premises needed for the location of industries. This is part of the physical infrastructure mentioned above. In Brunei where manufacturing industries are yet to be started, the factory sites are not easily available particularly because there are many formalities involved in acquiring titles or leases to land for industrial use. This problem will be largely solved if a number of industrial estates or areas at suitable locations in the country are set up. The establishment of industrial estates or areas has been used as an approved method of organizing, accommodating and servicing industry and are recognized as an effective means of promoting, modernizing industrial enterprises and enhancing their productivity. Even then the case for easing the conditions in acquiring titles or leases to land for those who want to participate in industrial development is very strong because all factories will not necessarily be located in the industrial estates. Some industries

/will be

will be located outside the industrial estates as well. This is an important aspect to which urgent attention should be given.

Industrial estates and the terms used

124. The term "industrial estate" is generally used to designate an undertaking to acquire, improve and sub-divide tracks of land according to a comprehensive plan for the use of industrial enterprises. Apart from the provision of such basic facilities as energy and water, this comprehensive plan includes the building of factories either for sale, lease or rent to entrepreneurs. It is an area of land developed and sub-divided for use by a number of industrial enterprises. It is established and controlled according to a plan incorporating zoning and restrictive regulations. An industrial estate is created for the benefit of both the developing organization and the tenants and it usually provides some or all of the following facilities for use, rent or lease; streets and roads; railway tracks; water; power; sewerage; and sanitation; fire stations; banks, post and telecommunication; medical facilities; recreation facilities (canteen, etc.); common service facilities (workshop, storage, etc.); arrangements for technical and economic assistance (advice, demonstration, training); factory buildings (general-purpose or custom-built); and housing for labour.

125. Many terms are used for "industrial estate" as shown below:

(i) Industrial Park (USA)
(ii) Industrial District (USA, Nepal)
(iii) Industrial Area (India, Mexico)
(iv) Industrial Town or City (Mexico, Brazil, Ghana)
(v) Industrial Tract (USA)
(vi) Industrial sub-division (Puerto Rico)
(vii) Industrial Zone (Italy)
(viii) Trading Estate (United Kingdom)
(ix) Industrial Trading Estate (United Kingdom, Pakistan)
(x) Industrial Estate (United Kingdom, Canada, India, Pakistan Sri Lanka, Jamaica and elsewhere)

/126.

126. The term "industrial estate" is increasingly used for smaller areas of the type described or for those offering factory buildings, whereas the term "industrial district" or "industrial area" is being applied more to those covering larger areas.

Classification of industrial estates

127. Industrial estates can be classified according to:

1) Types of facilities offered;
2) Purpose;
3) Size;
4) Location; and
5) Degree of planning

Industrial Estates in Brunei

128. There are a number (four or five) of areas in the country which either are being developed or have been earmarked as industrial zones for development as industrial estates regarded as an accepted technique for facilitating and stimulating industrial development not only in developing countries but also in highly industrialized countries like United Kingdom and elsewhere. In the State of Brunei these areas or industrial estates are as follows:

1. Bandar Seri Begawan Industrial Estate;
2. Muara Industrial Estate;
3. Seria Industrial Estate;
4. Kuala Belait Industrial Estate.

129. The industrial estates mentioned above are in different stages of development. The most developed industrial estate so far is the Muara industrial area which will be further extended in the future. Access roads have been built and other basic facilities such as the provision of water, sewerages, power, etc. have been made. Other industrial estates, namely, Kuala Belait and Seria are small. The industrial area in Bandar Seri Begawan (the old airport) remains to be converted to an industrial estate. There are other industrial areas or zones which have been earmarked for use as industrial areas in the future. They still remain to be cleared and there has been no provision

/of public

of public services except along the roads which they adjoin. No vigorous effort has been made to clear the earmarked zones on the outskirts of Bandar Seri Begawan and at Muara. So it will be quite some time before the plots on these estates with essential services can be made available for allocation and development.

130. Brunei is a small country with five districts, namely, Bandar Seri Begawan, Brunei/Muara, Belait, Tutong and Temburong. For the present, the location of at least one industrial estate or area in each district, would appear to be a suitable decision.

131. The proposals for the development of the industrial estate on the outskirts of Bandar Seri Begawan were prepared by the consultants, Vallentine, Laurie and Davies. Other zones need to be planned and their development carefully studied by those concerned with industrial development and the setting up of industrial estates to facilitate it.

132. Mr. F. Bowles, a former UNIDO Adviser to Brunei, proposed in his 1971 report that, as an alternative to the industrial estate at Bandar Seri Begawan, planned by Vallentine, Laurie and Davies, the old airport should be developed as an industrial estate. The new international airport has now come into operation. The old airport is well-located in relation to transport relations and market and has a levelled area of about 130 acres with good foundations, convenient access, the runway which could be used as a foundation for many small factories with a suitable layout of roads, with public services and the reuse of most of the existing buildings. The cost of converting the old airport to an industrial estate would be much less than that of developing the proposed new site. This alternative is desirable to save money, time and additional work.

133. The new deep-sea port has been developed at Muara where the decision to set up an industrial estate has been commendable. In the future if Brunei develops favourable conditions for exports, perhaps a suitable part of the Muara estate could be developed as an export processing zone. Brunei may develop possibilities for this in view of the country's convenient geographical position in relation to transport

/relations

relations with the Pacific region, the Southeast Asian and other countries.

The type of estates

134. Brunei is a small state and general facilities should be made available on the industrial estates or areas for different types of industries. This will be a suitable policy at least in the initial stages of their development. There are different types of industrial estates, as pointed out earlier. For Brunei, the "general purpose" estates will be a suitable type for development. Blocks may, of course, be earmarked for factories producing similar products. Similar factories need to be grouped together. One block in particular should be marked out or designated for projects which may belong to "obnoxious" industries giving rise to environmental pollution. While this kind of arrangement will be desirable, the estates may be developed on the basis of some specialization with long-term objectives of industrial development in view, as mentioned below:

1. Bandar Seri Begawan Industrial Estate - Food processing
2. Muara Industrial Estate - Timber processing
3. Seria Industrial Estates - Oil/gas industry by-products
4. Kuala Belait Industrial Estate - Textiles

The above suggestion is based on market and raw material availability considerations, but should not be pushed too far.

Several aspects of industrial estates development

135. There are several aspects of industrial estates development which must be carefully looked into. The technical aspects of the development are as follows:

(i) Site selection
(ii) Zoning
(iii) Layout and plot-sizes
(iv) Utility lines
(v) Industrial buildings

/136.

136. It is important to examine the topographical characteristics which determine costs through investments in the levelling of land, road building, drainage systems, industrial buildings and costs. The zoning of an industrial area or estate may cover such distinctive categories as residential area, industrial area, commercial and administrative area, educational and institutional area, open green area and sports areas. The layout and plot-sizes are important considerations. The utility lines for the supply of water, electricity, gas, etc. are further considerations. The types of factory buildings to be constructed for rent or high-purchase need to be planned. The planning of all these activities on sound lines will require the services of physical planners, industrial and civil engineers.

137. The economic and social aspects of the development of industrial estates include such considerations as their favourable location in relation to the transportation networks of the country by sea, road and air. Raw materials have to be procured or imported to the manufacturing centre and the finished products must be distributed to the scattered markets. The availability of service facilities, and the supply of labour - skilled and unskilled - are dominating considerations. Often the location of industrial estates is determined by the policy of a government in regard to industrial sites such as the decentralization of industry and industrial population from the already congested areas.

Lessons from other countries

138. It will be instructive for Brunei to profit by the experience of other Asian countries in industrial estates planning and development which has a number of aspects - physical, economic and social.

Present industrial estates or areas

139. At present, the only areas of Government land specifically allocated for industry in Brunei are (1) the one at Muara which will eventually provide an area of 100 acres of industrial land; (2 & 3) the two small areas at Seria and (4) one at Kuala Belait. The only

/large scale

large scale industry in Brunei is the oil industry at Seria and the associated natural gas industry at Lumut. These large industries have their own plans for land requirements for future expansion and housing construction.

140. The problems created by the lack of industrial land were appreciated in the past and attempts have been made to provide areas for light industry in various parts of the state. Two small areas have been approved for light industry at Seria and one at Kuala Belait, but so far no roads or services have been provided and industry is only being allowed to be located in the areas on a temporary basis. In Bandar Seri Begawan, there was a feasibility study concerning an industrial area of approximately 300 acres of land - south of Jalan Gadong and west of Sungai Kedayan - eventually reduced to about 220 acres to allow for the construction of main distributor roads and the exclusion of some private land already in industrial use. According to the information by the Government Valuation Officer, in economic terms this industrial area could be successfully developed for industrial use. A further possible site for an industrial area is part of the old Brunei airport site - an area of 140 acres approximately. These are the major areas under consideration. A possible small area at Gadong will be suitable for industrial use. Industrial areas should be developed on a firm basis. The present system of one year Temporary Licences for industrial land is not at all satisfactory.

141. There is a case for small industrial sites in Tutong and Temburong districts to encourage the growth of small light industries. The industrial areas - existing or proposed - are shown in Annex 5 and are distributed as follows:

| | | |
|---|---|---|
| Brunei district | - | 6 proposed industrial areas |
| Kuala Belait | - | 2 " " " |
| Seria | - | 2 " " " |

/Identification

Identification of firms or projects for location in the industrial estates

142. As the task of developing industrial estates progresses, an effort should be made to collect up-to-date information about existing industries for transfer to the plots on the estates when they are ready and about potential projects that may be developed on the estates. After such information has been collected, the work on the estates should be phased so as to accommodate the intending industrialists on the estates, taking into consideration the accommodation of the expected industries which may ask for plots on the estates.

143. The provision of plots on the estates for existing and new industries will be made, but the policy of stimulating industrial development in Brunei and attracting industries to the estates must be pushed further by constructing standard type advanced factory buildings for small and medium-sized industrial enterprises to be rented to the entrepreneurs at low subsidised rates. The level of rent may be revised upwards subsequently. This type of incentive to small and medium level entrepreneurs will be very useful - a situation in which, instead of bothering about the industrial sites and planning the layout of their factories, the entrepreneurs can concentrate on the production and distribution of their goods. This incentive has been found very useful for industrial development in other countries. The idea is not that a larger number of advanced factory buildings will be constructed, which may remain unoccupied for a long time for lack of tenants. The concept rather should be that about half a dozen advanced factory buildings should always be available on the most developed estates so that any lack of factory buildings should not be an obstacle to industrial development.

144. In general all the four or five estates should be developed as industrial estates with all the necessary basic services - roads, electricity, water and sewerage facilities and extension services rather than merely as areas earmarked for industrial use. The estates should be planned with this objective in view and there should be fullest co-operation between the consultants and those

/responsible

responsible for planning and industrial development. They should become the nuclei around which industries will develop and should be served with the necessary facilities.

Administration and management of industrial estates

145. After taking the decision to set up industrial estates or areas in several parts of the country, the Government of Brunei has left the actual task of planning and developing the estates to the Town and Country Planning Office which is, of course, advised by the firms and consultants. Although this task needs to be co-ordinated and integrated with town and country planning work, the present arrangement is not satisfactory. This arrangement should not continue for long in view of the specialized nature of the work associated with industrial estates development and planning. It is certainly desirable to have a separate organization for the administration and management of the estates. It is recommended that a separate division for the purpose is created within the Brunei Economic Development Board under a senior official. The Division should be known as the Industrial Estates Development and Management Division. The Division will take over the entire task of acquiring land for industrial estates, prepare plans for them, develop the estates in detail, allocate plots and factories to the industrial tenants and will carry on the administration and management of the estates on behalf of the Government. It will, of course, work in close co-operation and co-ordination with all concerned departments of the Government such as Land Commissioners' office, the Economic Planning Unit, the proposed Industrial Development Division and the Industrial Credit and Investment Division of the Brunei Economic Development Board, Office of the State Financial Officer, etc. The development and management of the industrial estates will involve the co-operation of a large number of departments and the usefulness of a separate organization for this purpose cannot be denied. The new division must be manned by administrators and planners who have experience in estate development and planning. In addition,

/the division

the division will need to establish contacts with local and foreign entrepreneurs who will participate in industrial development. In other words, it will have to engage itself in industrial promotion work and will need to recruit suitably qualified persons for this purpose.

## CHAPTER V

## THE IDENTIFICATION, FORMULATION AND APPRAISAL OF INDUSTRIAL PROJECTS

### Importance of projects

146. National development planning has to be done at three levels - macro, sectoral and project levels - because of the interrelationships between them. A macro plan or a sectoral plan has to be supported by well-conceived and well-engineered projects. Project planning has great operational significance. In some cases, however, there appears to be an artificial separation between the formulation and implementation of plans. There are examples where the formulation of a sophisticated and comprehensive aggregative plan has lacked well-planned individual projects. This deficiency is due to the fact that it takes a long time to identify and prepare a sufficient number of good projects needed to implement a plan. Pre-investment and investment studies of projects forming part of the aggregative plan are necessary well in advance. But very often few projects are carefully worked out in all their aspects before the work of implementing them begins. As a result, many projects are carried out at unduly high costs and over longer periods than feasible. Attempts to reduce the time spent in preparing projects frequently result in the choice of low-yield projects; substantially increased costs and delayed construction because of technical and other problems that were not foreseen; poor phasing of raw materials, transport, staffing or other requirements; failure to provide adequate financing; shoddy construction; and inability to make full use of completed projects.

147. In most developing countries, the basic weakness is a shortage of soundly conceived projects. Most countries run into difficulties, not in formulating overall plans, but in preparing and carrying out projects and in operating them with efficiency when completed. Even before a country embarks on a comprehensive plan, the following steps should be taken:

(i) to select well-conceived and well-engineered projects with

/potentially

potentially good demand for their products or services;

(ii) to rank them in order of their contribution to economic development;

(iii) to work out the scope of each project, its forward and backward linkage and the extent to which it could generate productivity impulses and the need and possibilities of other projects;

(iv) to estimate the domestic currency and foreign exchange requirements with a sufficient degree of accuracy;

(v) to lay down realistic time schedule for their execution;

(vi) to make available the administrative capacity and the political will to take these steps; and

(vii) to execute the projects in accordance with carefully developed programme of action.

148. Experience has shown that countries with well-prepared projects implemented by sound budgetary procedures and controls can achieve high rates of growth even without a comprehensive plan and that countries with excellent aggregative plans elegantly worked out could not achieve the desired results as they were not able to provide well-conceived projects. This emphasizes the importance of project plan formulation in advance of the sectoral and aggregative plan. The essential point to keep in mind is that actual economic development takes place in the form of projects being implemented. It is, therefore, essential for those concerned with planning at all levels to have knowledge of the principles and techniques involved in the identification, selection, development and appraisal of projects.

Definition of a project

149. Although the definition of a project may appear to be a simple matter, one should not confuse the project with the physical results of the project, such as a garment factory and the like. A precise definition of the term "project" is necessary for a proper analysis

/or appraisal

or appraisal of the projects. Three recent precise definitions of the term may be given as follows:

(i) A project is the basic unit for decision-making in the investment of the nation's resources;

(ii) A project is a plan of action encompassing some activity that is part of an economy;

(iii) A project is the smallest unit of activity that can be separately planned, analysed and administratively implemented.

150. A good and adequate definition of the project could be obtained by combining all the three definitions in the sense that a project is a plan to eventually bring about the physical existence and successful operation and maintenance of a facility to produce goods and services for which there is a real need. The project is thus a basis for decision-making and is the smallest articulate basis for this. It should also be recognized that a project is completed when the facility is ready to perform the function which it is designed to perform. This recognition is necessary because often there is a tendency to loosely apply the term"project" to the plan for the facility and to the facility itself.

151. The World Bank usually has interpreted the references to a project to mean a "proposal for a capital investment to develop facilities to provide goods and services". Projects in this sense can vary widely in size, character and complexity. They can consist of an investment to build something entirely new, quite specific and virtually a unit in itself (a paper plant); or of investments for the expansion or improvement of existing facilities such as the installation of additional generators in an existing power plant or several expansions of an existing iron and steel plant; or a much more generalized investment involving a great many facilities and activities such as the modernization of the existing railways.

Types of decisions on projects

152. There are generally three types of decisions that may be made

/with respect

with respect to projects:

1) Whether or not to undertake a project
2) Which of the two or more projects, each of which is intended to produce the same stream of future benefits, should be preferred to any of the others.
3) Given a certain budgetary limitation or constraint, which group of projects should be undertaken and what ranking should they be given within that limitation.

153. These are really three formulations of the problem of choice among alternatives. Choices among alternatives have necessarily to be made on the basis of certain objectives desired to be achieved, criteria upon which to base a comparison among the different alternatives with as much objectivity as possible and decision rules that will point out the nature of the best decision to take.

154. Some of the most difficult questions in project planning and appraisal or evaluation are:

(i) Have all the significant alternatives, particularly in the first type of decision mentioned above been included in the analysis?

(ii) Have the proper criteria or decision rules to apply been correctly chosen?

155. In project analysis efforts should be made to try to learn as much as possible to answer these questions. It should be recognised that there are some questions which can be answered only with the exercise of judgement rather than arithmetic. One significant thing to be learnt in project analysis is the fact that there is no project where the analysis can be exclusively quantitative or exclusively qualitative.

The decision-makers

156. The decisions to undertake projects or not, to prefer one project to another, or to prefer one set of projects to another are exercised

/by the following

by the following types of decision-makers:

(i) The entrepreneur or owner;

(ii) The owner of resources loaned to finance the project;

(iii) The individual government agency, such as a ministry or a department, which has to approve a project or authorize the grant of some kind or public assistance to the project as administrative regulations may provide;

(iv) The established formal planning organization which has to decide on what projects should be included in its sectoral plans and is concerned with problems of budgeting, ranking, optimization of the use of resources, etc.

157. It is to be noted that no clear-cut and rigid distinction between these categories is always possible. The financing institutions, both national and international, have a dual role. The relevant point that is noteworthy in this connection is that the attitude of those who are responsible for the planning, formulation and evaluation of projects and for the recommendations of projects to the decision makers for acceptance are necessarily influenced by the particular type of decision maker they are dealing with because each type has his or its own basic motivation.

158. The private entrepreneur or owner of an enterprise generally bases his decision on whether or not he can expect to get a return on his investment satisfactory to him, usually measured in money after all his costs have been deducted from his receipts. He is not particularly concerned with whether or not the project will yield maximum benefit to the economy as a whole. The lender or creditor, whether an individual or a bank or other financing institutions, looks at a project in terms of the interest he can collect on the loan and its repayment in accordance with an agreed schedule.

159. The government policy maker looks or should look at "candidate" projects in terms of the economic return to the nation as a whole.

/In centrally

In centrally or nationally planned economies he is obsessed with the problem of optimizing the allocation of resources. The World Bank and similar institutional resources of international finance and a growing number of national finance institutions, private or public, have usually a dual motivation. They test projects on their profit potential, both for the economy as a whole and for the owner or enterprise as well as for prospective creditors.

160. Some large, privately-owned business corporations, particularly those whose operations cut across national boundaries, have long been aware of the need to look beyond the traditional profit motive into the economic health of the countries comprising their markets, to assure security of their investments, and remitability of their profits and capital from country to country, as well as to preserve and expand these markets.

161. There are two basic approaches to project analysis which are wide apart when they should preferably mesh into each other - the theoretical and the practical (or rule of thumb). Those who advocate the first approach charge that the methods of the second are too crude, while the advocates of the latter charge that the methods of the former are inapplicable to real cases. In fact, there is substantial truth in both charge and countercharge. There is no happy compromise between the two as yet. Despite the encouraging developments of analytical tools and of new applications, the fact remains that the role of analysis must be that of an aid to the decision maker, not that of a substitute for him and operations research and kindred activities can assist, but not supplant the exercise of judgement as to which policy is best.

## Types of projects

162. Every project involves the investment of resources which generates over the life of the project, a stream of benefits and a stream of costs. The common objective of every project is to set up

/a facility

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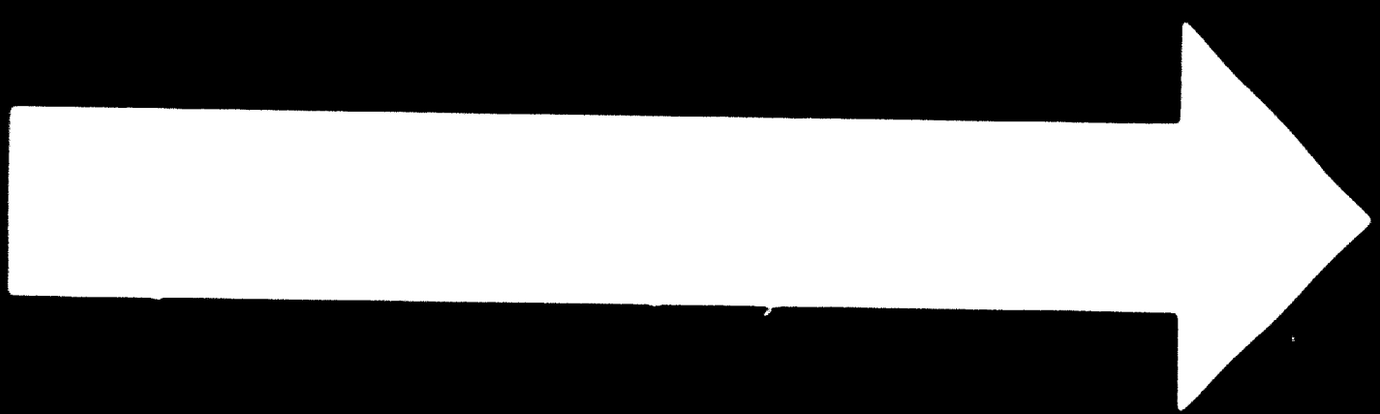

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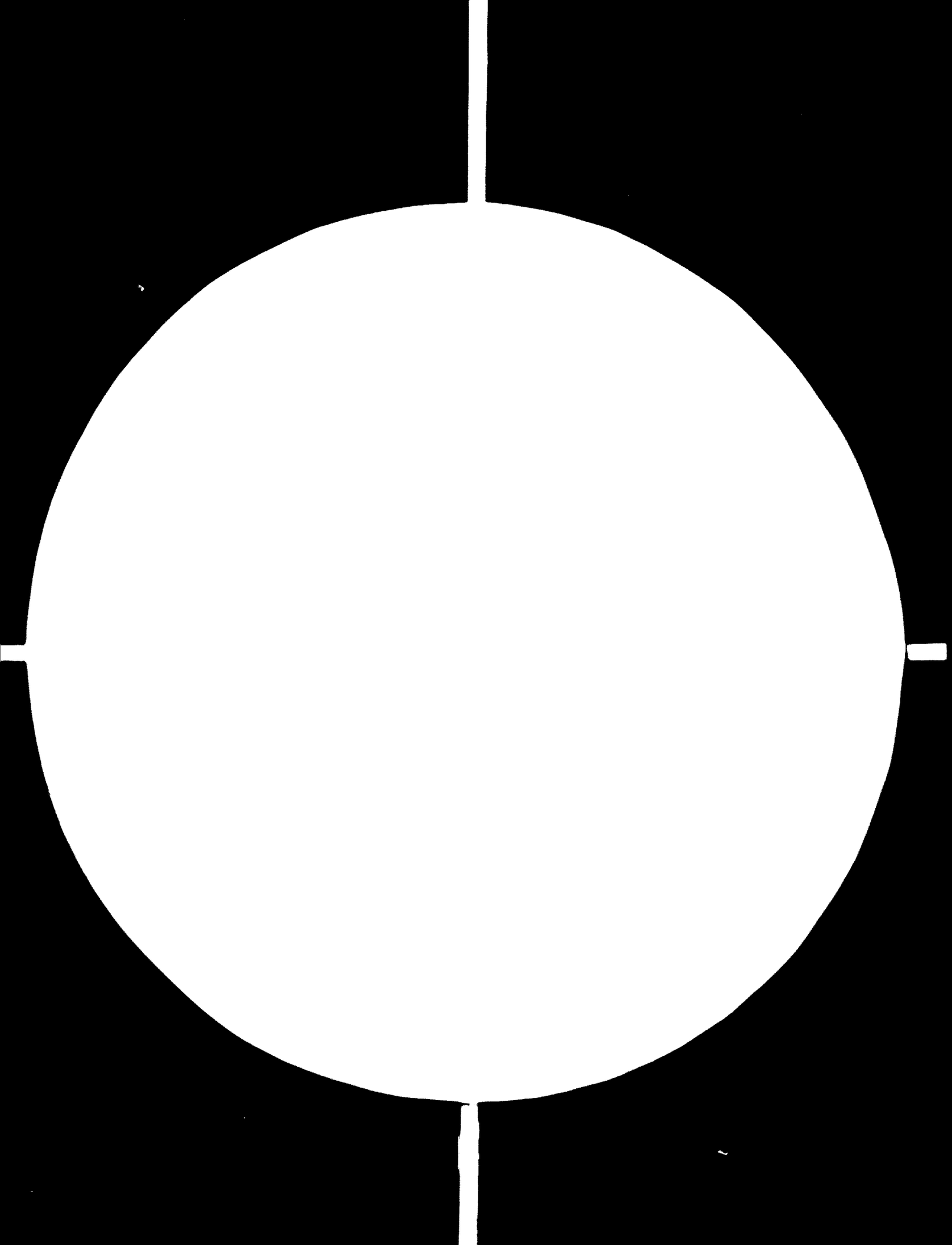
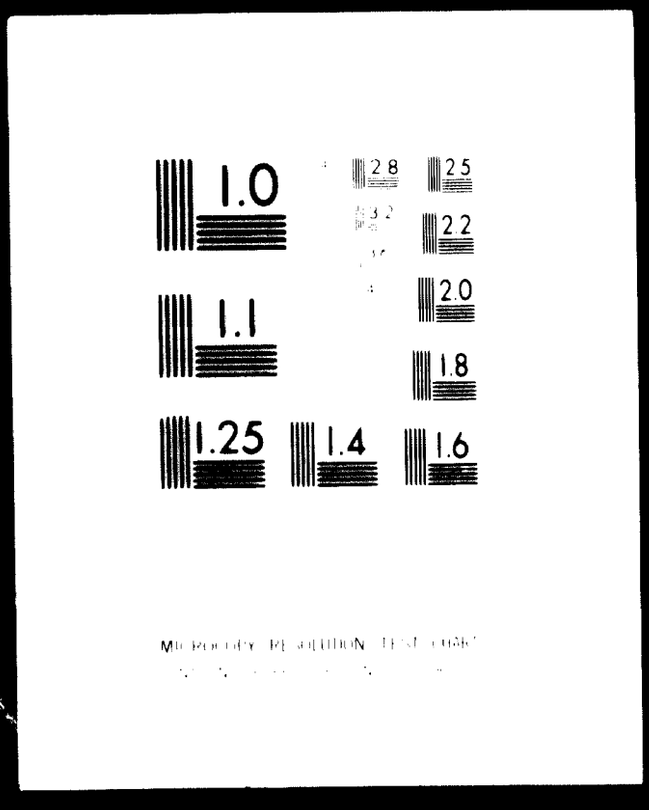




a facility to produce either goods or services or both. These streams of benefits and costs and the capital invested are the essential elements in the quantitative determination of the financial and economic soundness of the project. The identification and the measurement of these benefits and costs are the central theme of project analysis. But not all the costs and not all the benefits are readily identifiable or measurable. Some are direct and some indirect. Some are tangible and thus reasonably measurable, others are intangible. The extent to which the identification and measurement of benefits and costs can be achieved and the methodology be applied depend in large part on the type of project to be analysed.

163. Projects can be classified in several ways:

(i) One way of classifying projects may be to consider their revenue aspect, that is, whether they are revenue-earning or not. This simplifies analysis somewhat because if the project does not earn revenue then at least the determination of its financial profitability may be ignored or minimized. The examples of such projects are irrigation works or hydro-electric projects;

(ii) A second way may be to classify projects according to the type of activity - whether the projects are directly productive or whether they are economic infrastructure or social overhead projects;

(iii) A third way would be to classify projects according to ownership - public, private or mixed.

164. The revenue-earning projects will have to be subjected to both financial and economic profitability tests as well as to other tests. Non-revenue yielding projects may not be subjected to financial profitability test but will pose more difficult problems of identification and measurement of their benefits and costs. Directly productive projects are at the same time revenue-earning projects. Factory projects, whether publicly or privately-owned, will thus have to be

/subjected to

subjected to all the tests and, in their case, the benefits and costs generated by them are more easily identifiable and measurable. The main or only concern of the owners of this type of projects is to obtain a financial return on investment. Their benefits and costs are easily determined and valued for financial analysis and these can be utilized, with suitable modifications, for determination of economic profitability. The analysis of non-revenue earning projects involves more difficult problems of identification and measurement of benefits and costs, particularly benefits. In partly revenue-earning projects like multi-purpose river-valley development, the proper allocation of joint costs is often a difficult process which compels the analyst to resort to some rule of thumb.

165. On the criterion of ownership, projects fall into three main types: public, private and mixed. Public enterprise projects are those projects that are both owned and operated by government entities, but may also include those projects which are privately owned but are closely regulated by government. The characteristics of each type and the differences between the types are of particular relevance to the project analyst. Generally speaking, public projects are much more difficult to analyse or evaluate than private projects and infrastructural projects like flood control, education, etc. are more difficult to evaluate than directly productive projects.

Characteristics of good projects common to all types

165. These are:

(i) Technical, manpower and economic soundness;

(ii) Logical linkages with the economy, present and future, so that they mesh into the economic development strategy and contribute to it; and

(iii) Capability to produce early profits for and benefits to the economy, at appropriate rates.

166. Characteristics of bad projects common to all types would be

/the opposite

the opposite of the above. In each type there are additional characteristics of the good and the bad project. In manufacturing, for example, a good project would have, in addition to those mentioned above, the following:

(i) Existence of a market, either domestic or foreign or both, ready to accept the product provided that it complies with reasonable standards of quality and price;

(ii) The project has, under normal conditions, prospective production cost advantages over domestic and foreign competitors;

(iii) Capacility of generating early profits for the entrepreneur at the desired rate of return or greater.

The characteristics of bad projects would be the following:

(i) Weak or unreliable financing;

(ii) Incompetent management;

(iii) Lack of adequate market;

(iv) Lack of production cost advantages over prospective competitors.

Identification and formulation of projects

167. What has so far been said in very simple terms has a bearing on the identification and formulation of projects. The identification of projects may be done in several ways. First, in the private sector, the projects are identified by the private entrepreneurs. Secondly, the public sector projects are identified by the planning organization of a country or by the Government departments or the ministries or agencies concerned. Lastly, they are identified by the national, regional or international financing institutions from the standpoint of financing and development like the development banks of a country, the regional development bank like the Asian Development Bank or African Development Bank and the World Bank. It is the several types of decision-makers who are also broadly responsible for the identification and preparation of projects.

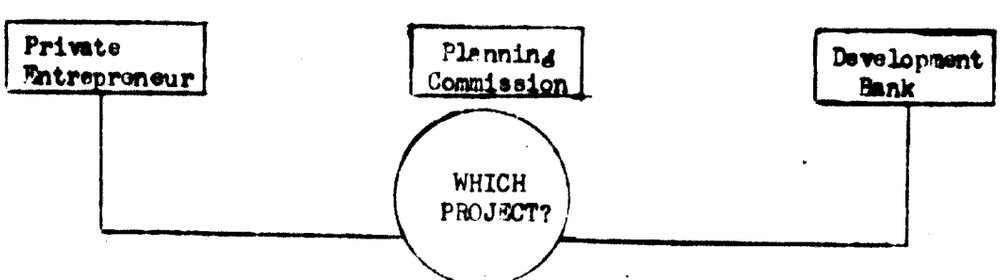
/168.

168. Irrespective of whether a proposed industrial project is to be established by the Government or private investors, it should be developed in an orderly way through investigation and analysis to prevent loss through undertaking an unsound project. There must be a sequence of project investigation and development carrying a project from the initial idea stage to the completion of construction. An industrial project usually originates as nothing more than a vague idea in the head of a private businessman or a government official. He observes the need for certain goods, that is, a potential and concludes that the feasibility of establishing an enterprise to manufacture them should be investigated. Usually the potential market is evidenced either by imports or by unsatisfied local demand. Alternatively, the project originator may think that local raw materials or skills might provide the basis for an exporting industry. If it appears that a proposed project would have market of reasonable size, investigations into the overall feasibility may be warranted. The various aspects to be considered in preparing feasibility studies are given in annex 6 as an example.

169. The process of identification varies with the point of view

CHART I

Project Identification




Example of (3): The World Bank Approach:

1. PURPOSE: To develop a continuous flow of good projects into the Bank's "pipeline".

/2. TEST

2. TESTS OF A GOOD PROJECT

a. Do the sector in which the project falls, and the project itself, appear to be of high priority in the country's development plans?

b. Is the project feasible?

c. Is the Government willing to support the project?

3. DIFFERENT WAYS OF IDENTIFYING GOOD PROJECTS:

a. Through "repeater loans" to the same borrower for subsequent stages of the same or a similar project.

b. New projects discovered during process of supervision of old ones.

c. Through the "piggyback" operation: in granting loans for specific projects, additional funds included for feasibility studies of subsequent projects.

d. Through specific identification missions sent to a country to examine sectors not previously aided.

e. Through economic missions sent to countries to review major sectors, establish priorities, and identify projects suitable for lending.

f. Through identification by others - new borrowers or private business organizations - and brought to the Bank for prospective financing.

Project preparation or formulation

170. In regard to the preparation or formulation of projects (a) decisions have to be taken at various levels - technical, economic, financial, etc., (b) then the feasibility studies have to be prepared in the light of various considerations, (c) finally, the project will be presented for financing and for approval by the planning organization and/or other government bodies. The process of industrial project preparation may be explained below:

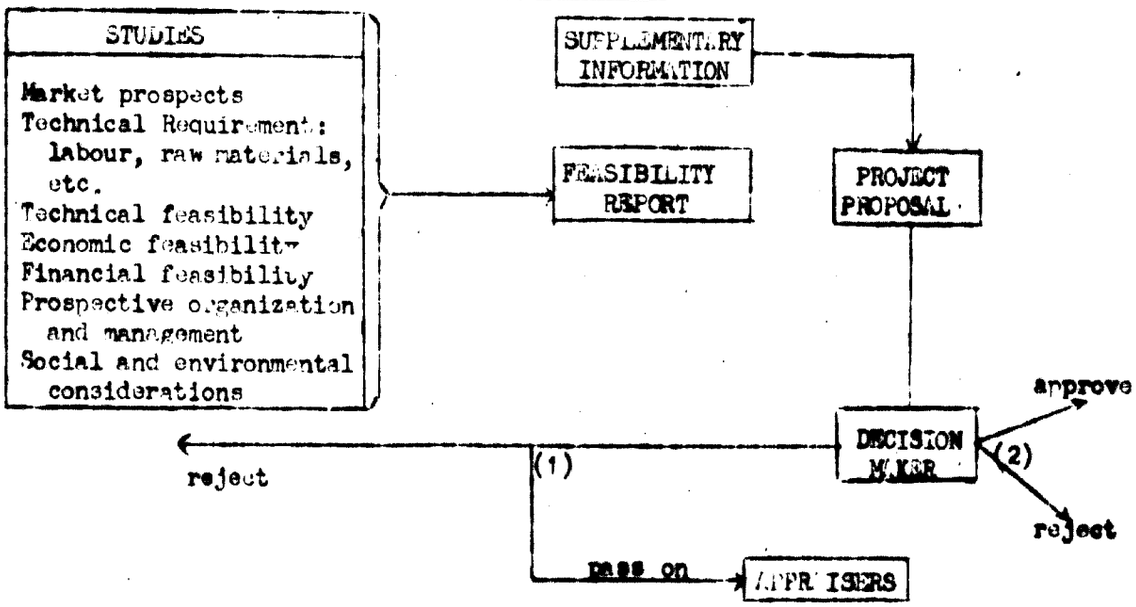
Purpose: To obtain approval by satisfying the requirements of the decision-maker concerned which may be any of the following:

/1. The

1. The Prospective Financier
2. The Planning Commission
3. Some particular Ministry or Agency of Government

CHART II

Steps in Project Preparation

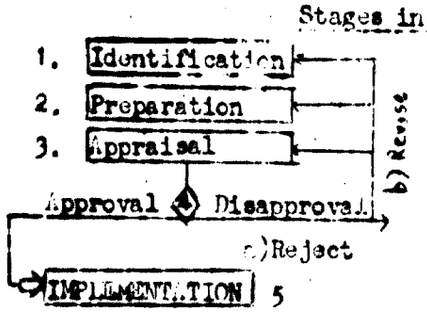



## The Project Cycle

171. The several stages in project development is called the "project cycle" as shown in the chart below.

CHART III

Stages in the Project "Cycle"




The Project "Cycle"

/Appraisal of projects

## Appraisal of Projects

172. The appraisal of industrial projects has several dimensions or aspects. These aspects and the basic questions connected with them are shown below.

### Appraising the Dimensions of a Project[1/]

| Aspects | Basic Questions |
|---|---|
| 1. Technical | 1. Is the project sound from the technical and engineering point of view? |
| 2. Economic | 1. Is the project in a sector of high priority?<br>2. Is the project likely to contribute effectively to the development of that sector?<br>3. Will that contribution justify the investment of scarce resources in the project? |
| 3. Financial | 1. Is the enterprise to construct and operate the project financially sound? If not, how can it be made so?<br>2. What financing will be needed to bring the facility into operation and from what sources?<br>3. What will be the probable operating costs and revenues? Prospective liquidity and rate of return? |
| 4. Commercial | 1. Have adequate arrangements been made for the supply of goods and services needed for construction?<br>2. Have adequate arrangements been made ofor the supply of inputs needed in the operation? |
| 5. Organisational | 1. Is the organization proposed to carry out and to operate the project likely to be successful?<br>2. Would outside help be needed?<br>3. Are prospective controls adequate? |
| 6. Managerial | 1. What is the quality of the proposed management? |

/Is it likely

1/ Abstracted from King, J.A. - Economic Development Projects and Their Appraisal

Is it likely to be adequate to ensure performance not inferior to that to be expected from the appraisal? To the six dimensions mentioned above, two more should be added, (7) social, and (8) environmental.

Considerations in project appraisal

173. The basic purpose of project appraisal is to provide a rational basis for choice between alternative projects by estimating prospective performance of each alternative. The basic methodology should involve various considerations as follows:

(i) Identification of goals or motives to be served, depending on the decision-maker in question;

(ii) Selection of the most responsive criteria for choice;

(iii) Identification of all possible alternatives that should be considered;

(iv) Determination of the project data that will serve as inputs into the chosen criteria - investment and annual costs or expenditures, annual benefits or revenues, etc.;

(v) Application of the chosen criteria to each alternative;

(vi) Preparation of the appraisal report.

Within the space and time available, it is not possible to examine all these questions and, instead, some simple approaches to the appraisal of projects will be put forward.

Some simple approaches to the economic evaluation of projects

174. Decision-makers require a methodology and criteria for formulating and evaluating alternative projects. Unfortunately, there is no universal criterion by which one may assess the benefits of a project. The usual criterion for a private investment is the commercial profitability which is not appropriate to the national context. Some government policies are applied to the pricing system, the techniques of production, new investments, etc. Here we make an attempt to

/introduce

introduce some simple techniques for a cost-benefit analysis and to provide some tools which responsible administrators and decision-makers may find useful. However, one must not forget that these techniques are no substitute for experience and common sense. Hardly a set of general proforma for project evaluation and decision making could be used.

175. The first essential thing is that the cost-benefit analysis should naturally be the outcome of a detailed technical study of a project. Most of the elements of the technical study would be incorporated in the project evaluation study. Often the defects of a project would be found in the technical study and, if so, there is no further need to carry out the cost-benefit analysis. It remains true, however, that there is a tendency on the part of project initiators to make optimistic forecast of the demand for the products of their projects and of the supply of their inputs and their pricing, in order that the projects may be approved.

176. The project is an investment unit - a technical unit or a firm - in which commodities are produced. Its owner will have to invest, transform inputs - raw materials, labour, energy, spare parts, etc. - into outputs according to the technique of production that has been adopted. The difference between his revenue from the sale of the outputs and the cost of its inputs is his profit if positive, or is his loss, if negative.

The cash flow

177. A first test of the viability of the project is the study of its cash flow balance. A cash flow is a table recording all the outlays and the receipts of the project on an annual basis during its life time. The outlay is the cost of running the project in the economic sense - the cost of inputs - taxes, royalties, etc. It does not include depreciation and amortization. If the owner of the project does contract a loan, then the interest and the yearly instalment should be recorded. The receipt of the project is its total receipt including

/subsidies,

subsidies, royalties, etc. The net gain or loss is the difference between the receipts of the project and its outlays during the year and are noted as follows:

$R_t$ = Total receipts for the year (t)

$O_t$ = Total outlays for the year (t)

$P_t$ = Net profit (or loss if negative) during the year (t)

Then, by definition, $P_t = R_t - O_t$; t = 1,2.....n; and n = the life time of the project. At the beginning, the outlays are the investment which is usually denoted by I. After the investment period the normal outlay is the running cost of operating the firm which is denoted by $C_t$.

178. During the first year of exploitation, the firm is usually operating at a loss because it reaches its normal capacity of production only after a time and there is a delay between the sale of, and the payment for, its output.

179. The firm usually shows a deficit during the first year. The number of years after which $P_t$ is positive is important because it shows the necessary span of time needed for the firm to have self-sustained growth. However, the total profits $P_1 + P_2 + \ldots P_n$ must be positive, because the enterprise must increase his capital in the monetary sense. During the years of deficits, the firm needs cash or credit to cover its running expenses. This additional capital is called working capital which is the cash or credit needed until the cash receipts are equal to or in excess of cash outlays. In the cash flow balance, the balance of the previous year is carried over to the subsequent year. If the total at the end of the year is negative then the working capital should be equal to this amount.

(i) <u>The pay-back period</u>

180. The pay-back period is the span of time k such that the total benefits of the exploitation during the first years: 1,2...to k cover the cost of the investment. The pay-back period is considered as an

/important factor

important factor by banks which dislike uncertainties.[2/]

(ii) The value added

181. The total of the sum $P_1 + P_2 + \ldots P_n$ during the life period of the n years of the firm is the value added. This term is not significant economically because it has not taken into account the time factor.

(iii) The benefit-cost ratio

182. The ratio of the value added and the investment is the benefit-cost ratio.

Profitability in a commercial sense

183. As it has been mentioned earlier, the value added is not a useful criterion because it has not taken into account the rate of interest mostly for a long-term project such as public utilities project, etc., for which n could be 30 or 50 years. It is easy to understand that a sum S at a given rate of interest i, would yield after 1 year a sum $S_1$ which is equal to $S (1 + i)$ and after two years a sum $S_2$ which is equal to $S (1 + i)^2$ etc.

184. Reciprocally a sum g gained after one year is equivalent to a sum $g (1 + i)$ gained at the present year. A sum g gained after two years is equivalent to a sum $g (1 + i)^2$ gained at the present year.[3/]

185. The terms $\frac{g}{1 + i}, \frac{g}{(1 + i)^2}$, etc. are called the present value

/of g gained

2/ The term I (Investment) does not appear because according to our notation, it is already included in the term $P_1 .. P_2$, etc. with a negative balance. In conventional notation, if the time is recorded as t = 1 when the firm starts its operation, the investment period is then supposed to be done before this period of time. The method of notation makes a clear distinction between the investment and the operating cost. However, during the life time of the firm, it would be difficult to make such distinction for new investment and it is not convenient to include the discount rate in the calculation of the present value.

3/ If the rate of interest changes from year to year, the term $(1 + i)^2$ etc. would be the product of $(1 + i_1) (1 + i_2)$, etc.

of P gained in the next year, in the next two years, etc; i is the rate of discount for the project.

186. The sum $\frac{P1}{(1+i)} + \frac{P2}{(1+i)^2} + \frac{Pn}{(1+i)^n}$ is called the present value added of the investment. The present value added is denoted by PVA.

187. The principle is simple. Once the rate of discount is known, we calculate the pay-back period, the benefit-cost ratio, etc. straightforward, while using the present value of the benefits instead of its nominal value and the project selected is usually the one which has the highest PVA-cost ratio. As the aim of these studies is to compare the relative merits of alternative projects, all the investments are supposed to be auto-financing.

188. The crucial problem is the rate of discount to be used. On this question, views differ. The usual criterion for private firms is to use the rate of discount which is equal to the cost of raising capital or the rate at which the firm has to borrow from some lending institutions. Herein lies the main difficulty for developing countries where capital is scarce. The market rate of interest is high, usually over 20%. With such a rate of interest not many investments would be profitable. If a low rate of discount is used then it is equivalent to subsidizing capital for investment. This policy has been used in many of the developing countries in the initial stages of their industrialization. But this policy has many draw backs: first, it encourages high capital investment, and less labour-intensive techniques and, since capital is cheap but not sufficient to satisfy every demand, it creates discrimination in favour of large firms in respect of borrowing, distortion in the supply of capital by depressing the saving rate, etc.

Profitability in the national economic sense

189. Others recommend that the social discount rate is the rate to be used in the appraisal study. Some define the social discount rate as the ratio of marginal value of consumption over time or the rate of interest used by households in their saving-spending decisions. It is a function of the growth rate of per capita consumption and of

/the elasticity

the elasticity of the marginal utility of consumption. The formula has been given by P. Samuelson as follows:

$1 + i = (1 + r)^E$ where,

r represents growth rate of per capita consumption, and

E elasticity of the marginal utility consumption in absolute value. E is a positive number but the elasticity of marginal utility is negative.

By approximation: $i = E \times r$ (approximation formula)

190. The conclusion is that the social rate of discount increases proportionally with the rate of growth of per capita consumption. Thus the higher the rate of growth of consumption in the absence of the project, the harder it will be for any given project to be acceptable on the basis of its future contribution to aggregate consumption. The time preference of the marginal consumption pattern is sometimes linked with the survival probability of the individual concerned.

191. Other authors define the social rate of discount as the marginal productivities of the capital. This assumption implied that the economy would follow an optimum path of growth because the logic of optimization required that investment should be carried to the optimum point where the net social return would just compensate for the lower value relative to marginal present consumption.

192. From the preceding discussion, the choice of the rate of discount must remain a value judgement, but this digression is useful to show a relationship between different elements of national planning. The social rate of discount is a function of the consumption pattern and the rate of growth of the GNP which usually are fixed in the national plan.

Key indicators

193. The practical method for the planner is to fix the rate of discount. The rate of discount is usually low for public utilities which are high capital cost projects. It usually varies from 4 to

/6 per cent.

6 per cent. The project to be chosen is the one which has the highest PVA-cost ratio. In USA, for water resource development projects, this process is used with a cut-off ratio. It means that any project with a benefit-cost ratio below a certain ratio is rejected. For an industrial project which is related to the export markets, the rate used is usually the international rate of interest. For small-scale and medium-scale projects, the usual rate used is the prevalent local rate which is usually high due to the rate of inflation and the uncertainty elements in the capital market. The government action should be to take charge of this risk factor to bring down the lending rate to medium and small-scale enterprises.

Internal rate of return

194. Another method consists of calculating the internal rate of return of the project which is the rate of discount which would make the PVA equal to zero. There is such a rate because when the rate of interest is zero then the PVA which is the value added in a monetary sense is positive. When the rate of interest is sufficiently high, all the present values of discounted benefits are small comparatively with investment, then the PVA is negative. Somewhere between these values there should be a rate which renders the PVA equal to zero. Then the project selected is the one which has the high rate of return. This procedure is meaningful only under a regime of perfect competition, in which the capital markets contain no rationing and is equated by the interest rate serving as the price.

195. In all these calculations the repercussions effects must be taken into account. These could be classified as local interdependence or the effect on the economy as a whole. As local interdependence, one could list the physical interdependence, economic interdependence or the external economies effects, local employment, local market, social overhead, etc. The effects on the economy as a whole could be the structural unemployment and underemployment, capital and foreign exchange scarcity and the population effects. That is the

/reason why

reason why a detailed technical preparation of the project could help to isolate these factors.

196. Thus a straightforward method is first to calculate the value added of the project, then the commercial profitability or the PVA and then the national profitability. These steps should be taken. From the technical data, we could estimate the accounting profitability or the PVA-cost ratio by undertaking the following:

1. The pricing of the inputs and outputs;
2. The calculation of the direct benefits and indirect benefits as well as the disincentives (pollution, etc.)
3. The calculation of the value added of the project;
4. These costs and benefits should be detailed in two parts - in local currency and foreign currencies;
5. On the labour side, it should be divided into local and foreign technicians - skilled and unskilled labour;
6. The calculation of the present value added of the project is done straightforward for different rates of discount, 4%, 5%...

National economic profitability

197. Corrections should be made for foreign exchange, skilled labour and unskilled labour. The foreign exchange premium is usually positive because usually the ratio of market clearing to official cif price is greater than 1. The price used for the foreign exchange is the shadow price, which is a weighted average of the ratio of market clearing to official c.i.f. price, the weights reflecting the content of the marginal import bills. A practical method is to use the parallel market of the foreign exchange to make the correction (which is not exactly the shadow price as defined previously but could reflect to some extent the market price of the foreign exchange). The second correction is relative to labour. A distinction is made between local skilled labour and unskilled labour. Usually there is an additional positive premium for skilled labour. It means that the

/market wage

market wage of the skilled labour is relatively low and does not reflect the scarcity of skilled labour in the country. An upper limit for this premium is the wage of similar skilled labour in developed countries. A practical method is to use the salary of the skilled labour paid in private firms mainly in foreign companies which usually reflects the market wage prevailing in local conditions.

198. As regards unskilled labour, it is usually regarded that the opportunity cost for unskilled labour is equal to zero and the premium is equal to one. It means that the social cost of wage should be equal to zero. This method of accounting could inflate the social cost accounting system because what is prevalent in the developing countries could be much more the situation of underemployment rather than that of unemployment. Moreover, in a developing country, an unemployed person earns nothing in monetary terms but still contribute somehow to the national production. Thus for the practical purpose, a minimum wage criterion could be used considering local conditions. The premium for unskilled labour could be the minimum wage in the urban areas and in the rural areas could be the minimum wage of this area.

199. Other criteria such as the redistribution effect of the project could be analysed too. However, it is more a political and social consideration rather than an economic one. The UNIDO publication on Guidelines on Project Evaluation would provide more insight into the problem.

200. Another aspect of the project study which should be constantly kept in mind is the management aspect of the project. In project evaluation a careful consideration should be given to the management staff and its qualifications. The figures given in the project were only a plan, whereas the implementation and the operating of the project would be most important factors in realizing the indicated figures.

201. To sum up, in a viability study, the aspects of the project which should be particularly considered would be as follows:

1. The technical aspect;
2. The economic aspect; and
3. The management aspect.

/CHAPTER VI

## CHAPTER VI

## INDUSTRIAL MAN-POWER TRAINING AND THE ESTABLISHMENT OF AN INDUSTRIAL TRAINING CENTRE

### Importance of industrial man-power training

202. Successful industrial development considerably depends on the availability at the right time and place of workers with certain skills. Without skill of one kind or the other, unemployed persons cannot also be employed in productive operations. Often it is cheaper to train local labour than to recruit foreign workers. To give training to industrial workers is, therefore, of paramount importance and training is particularly important for a state like Brunei where there is a shortage of local skilled workers at all levels.

203. It is necessary for the government authorities to decide on a policy for the provision of sources of industrial skills, both national and foreign, and vocational guidance (including scholarships and other appropriate incentives) for potential trainees. There are four sources of industrial skills:

(i) General education;

(ii) Academic institutions for specific vocational training at secondary and tertiary levels such as technical schools, colleges and universities;

(iii) On-the-job training;

(iv) Training abroad.

204. In the State of Brunei, the rate of literacy is very high - 70 per cent. There are good opportunities for general education at different levels at government cost. It is important for Brunei to create opportunities for and utilize three other sources of industrial training, namely, vocational training, on-the-job training and training abroad. The creation of facilities for these types of training has to be determined in the light of both short-term and long-term requirements of the country.

205. There is a need for assessing future demand for industrial

/man-power

man-power and creating training facilities accordingly. A number of factors determine such demand. These are (i) expansion in the establishment, (ii) attritions due to death, retirement and other reasons from among those who are currently employed; (iii) shortages of man-power and vacancies not presently filled; and (iv) replacement of expatriate personnel by the citizens of Brunei according to a phased programme. On the supply side, two important factors must be taken account of: (i) the rapid expansion taking place in the field of education should be adapted to the man-power requirements of the country so that people can be easily employed; and (ii) the policy in regard to immigrant workers which should be related to the future supply. An ILO expert highlighted some of these aspects of man-power planning and training.

206. Many senior posts in the Government as well as private concerns are filled by expatriates. There is a general shortage of skilled workers who are brought from abroad for the Brunei Shell Petroleum Company, the LNG Ltd., and other projects under implementation. There are immigrants for professional, technical and administrative posts in addition to labourers employed in various occupations such as construction. All these considerations point to the need for training industrial man-power.

Technical training

207. There are two trades schools which have diversified education to some extent. These are the Engineering Trades School at Kuala Belait, and the Building Trades School at Bandar Seri Begawan. In the engineering trades school training is given in electricity and refrigeration, fitting, vehicle and automobile mechanism, welding and fabrication work. At the Building Trades School, training is provided in carpentry, bricklaying, polishing and plumbing trades. The minimum educational qualification for admission to the training course is a pass in at least one subject of Lower Certificate of Education Examination and the duration of the course is 4 years leading to a certificate

/of City and

of City and Guilds (London). The first batch of trainees passed out of these schools in 1974. Besides these trades schools, the Brunei Shell Petroleum Company maintains an Artisan Training School where its potential employees are given training in engineering trades. The Artisan School is also providing training for operators for employment in the Liquefied Natural Gas Plant.

208. The educational composition of Brunei consists of the following:

(i) A small number of graduates returning from abroad;

(ii) Those who pass high school (Malaysian Certificate of Education or General Certificate of Education, 'O' level);

(iii) Those who pass lower certificate of education or primary standard of education;

(iv) Those who pass general certificate of education 'A' level.

Reorganization of technical training courses

209. A reorganization of the technical courses given at the two trades schools is now under active consideration of the Education Department and schemes are being worked out for consideration of the government by a technical education adviser attached to the Department. An interesting suggestion of the expert seeks to deal with an important social and educational problem. While the boys and girls come to school, many of them drop out before completing their school education and it is this section of the young people who are looking for jobs but who cannot be gainfully employed in suitable work because of a lack of any skill. The expert has suggested the starting of short courses of six months' duration particularly for this category of young persons and also for others who need jobs but have not acquired any skill. These courses intended to give them on-the-job training will cover such fields as carpentry and joinery, bricklaying knitting, etc. and will be organized by utilizing the facilities available at the Building Trades School. This is a laudable suggestion which, when implemented, will enable Brunei young persons to acquire simple

/types of skill

types of skill and to obtain jobs which they need. Two short courses will be run during the year. They will cover the following fields: carpentry and joinery, brick work, pipe-fitting, painting, welding, metal fabrication, automative work, vehicle body repairs, electrical work, homecraft and catering, knitting, and typing and office practice. Training in these fields is justified on two grounds. First, the output from the existing trades schools is too small to satisfy the needs of the State. Secondly, the level of craft training, particularly in the building trades is considered to be rather too high. At the end of a course, a Leaving Certificate will be given. The trainees will be mostly Form 3 drop-outs.

210. The adviser has also suggested that the duration of the existing courses should be reduced from 3 years to 2 years by increasing the hours of tuition per week. The candidates selected will be from those who have completed Form IV or Form VI but not necessarily have passed the Cambridge School Certificate examination. Some students who have shown outstanding performance in the short courses will also be accepted. Although the duration of the course is intended to be reduced, the effective time spent on training will not be reduced because the trainees will be working longer hours. The two-year craft courses will be in the following fields: fitting and machining, carpentry and joinery, bricklaying, plumbing, painting and decorating, welding and fabrication, automative work, electrical installation, refrigeration, radio & T.V. mechanics.

211. The adviser on technical education has also suggested that the 18-month Basic Engineering Course held at the Engineering School, Kuala Belait should in the same way be reduced to 12 months and transferred to the Building Trades School. A further suggestion is that the existing 2-year Telecommunications Technicians Course at the Engineering School should be expanded to include a course on Radio and Television Servicing and that a two-year course for Construction Technical Assistants should be opened at the Building School. The composition of the training courses at this lower level with estimated

/output

output is as follows:

| | | |
|---|---|---|
| (i) | short courses | - 416 |
| (ii) | 2-year craft courses | - 168 |
| (iii) | 2-year technician courses | - 48 |
| | Total | 632 |

212. On completion of these courses the students will be suitable for further training to become technical teachers or, after a suitable period of experience in industry, to become supervisors or foremen. Some of them might be able to set up their own business after a number of years' experience in industry. The present adviser is of the definite view that in Brunei there is a need for organizing or reorganizing technical training on the lines suggested. This arrangement will produce quicker results in the way of the formation of technical skill and will also encourage the growth of small entrepreneurs whom Brunei needs for her industrial development. For the present, the existing arrangements for technical training should be strengthened, reorganised and expanded instead of going in for the creation of a separate industrial training centre for training at the levels indicated.

Training programmes needed

213. While the requirement for technical people at a relatively low level may be met by following the arrangements as suggested above, there is a need for working out a more active programme for imparting higher education to the citizens of Brunei in the fields of engineering, economics, business administration, accountancy and other relevant technical fields. There are Brunei citizens who are abroad for higher education, but their number is not adequate. It appears to the present adviser that this problem should be tackled by taking action in several directions. First, promising Brunei citizens in good numbers should be sent for undergraduate and higher education in the relevant fields to both Asian and non-Asian countries. Secondly, a larger number of junior and middle level officers connected with development planning

/should be sent

should be sent to national and international institutes for training in the appropriate fields and some of these institutes should be requested to organize short-term country courses in specialized areas such as project development and evaluation, development finance, industrial administration and the like. Thirdly, it is anticipated that Brunei will gradually go in for the establishment of a college or university where opportunities for undergraduate and post-graduate education in science, arts, engineering, economics and other subjects will be created. This will lay the foundation for higher education and research within the country and will eventually facilitate the replacement to some extent of expatriate personnel at present largely manning the management of large industrial enterprises as well as public administration in Brunei as senior officials.

## CHAPTER VII

## STRENGTHENING THE MACHINERY FOR INDUSTRIAL DEVELOPMENT PLANNING AND POLICIES

214. The work of providing facilities and guidance for the development of a particular industry or an industrial sector in any country rests necessarily with a large number of government departments and agencies. It is essential, however, to designate or create one organization through which the government policy in regard to a particular industry or an industrial sector is expressed. The emphasis on the development of manufacturing industries in the State of Brunei is relatively new and hence the new institutional machinery for industrial development there needs to be created and whatever machinery exists remains to be streamlined and strengthened to facilitate industrialization. It is worthwhile first to indicate briefly which government departments, agencies and bodies are concerned with the development of manufacturing industries particularly of small scale industries.

### Concerned organizations

215. In the State of Brunei, there is the State Development Committee of which the Chief Minister of the State is the Chairman and the Director of the Economic Planning Unit is the Secretary. The State Secretary, the State Financial Officer, the Land Commissioner, and the departmental heads are the members of the Committee. The State Development Committee works as a body responsible for the approval of projects and for the co-ordination of development activities.

216. As earlier said, in Brunei there is still no department of industry and the Economic Planning Unit is looking after industrial development. This shortcoming will now be removed with the setting up of the Economic Development Board which is a statutory body. The organization and responsibilities of the Board in so far as industrial development is concerned have been discussed earlier in Chapter II. With the Economic Development Board in existence along the lines already suggested and application of the incentives measures embodied

/in the Incentives

in the Incentives Act also discussed earlier, the stage is well set for the development of a carefully concerned industrial development programme of which small scale industrial enterprises will be an important component part for the reasons already mentioned in Chapter III, on the development of small scale industries. Within the Economic Development Board, there should be a separate section on small-scale industries established to supervise, co-ordinate and promote small industry development programmes. The functions of this section should be as follows:

(i) To formulate guidelines for the planning and programming of small-scale industries and the policies to promote them.

(ii) To co-ordinate programmes of agencies and organisations involved in small-scale industry development.

(iii) To review and simplify administrative procedures concerning small-scale industries and to remove the constraints on their development.

(iv) To encourage the development of entrepreneurship and the interests of the small entrepreneurs by providing incentives for the establishment and development of small industries. The development of the small-scale industry sector in Brunei is emphasized because the scope for developing medium and large scale industrial enterprises is extremely limited by the size of the market.

217. With the strengthening of the Economic Planning Unit for industrial planning and the establishment of the Economic Development Board, the institutional machinery for the formulation of a co-ordinated industrial development programme and its implementation will be well established.

## CHAPTER VIII

## CONCLUDING REMARKS

218. The State of Brunei has for many years been an oil-rich country. Oil and gas have enabled its people to enjoy a fairly high per capita income and prosperity. These resources which are known will exist for a few more decades and will perhaps govern the economic scene of Brunei. They are, however, wasting resources and will not last forever. Moreover, the role of oil/gas in the economy of Brunei will be determined by the new sources of supply, their international prices and the availability of new sources of energy. In the event of a relative decline in the importance of oil in its economy, in the distant if not in the immediate future, the country may be faced with difficulties. Hence there is the need for diversification of its economic structure so as to reduce its dependence on oil by developing other industries of the expanding types, as emphasized earlier. Such an approach will need a change in the attitude and outlook of the State's people. The existing sense of complacency and the lack of adequate thinking and enthusiasm of the people are, therefore, not conducive to the future generation of the Brunei citizens. This is a matter which they will do well to appreciate. A sort of educational campaign among its people will be of great help in bringing home the need for a change in their outlook and encouraging the growth of initiative and enterprise in new fields of economic activities particularly industrial activities.

219. In the field of the oil industry itself, there is also a need for researches which the government should encourage and promote in co-operation with the industry on the various aspects of the oil industry - the present known deposits, the potential deposits, the international market and price conditions, the creation of diversified activities based on gas and oil, etc.

220. In writing this report it has been emphasized over and again that Brunei is a small country and the size of its domestic market is limited. This factor sets a limit to the setting up of sizable manufacturing enterprises in the country based on local demand. Brunei has, therefore,

/to look outward

to look outward for the development of such technically feasible, economically viable and financially sound enterprises as joint ventures based substantially on foreign market and foreign participation in the form of capital and management. The state should try to explore such areas of industrial co-operation with other countries both developing and developed, with the help of international assistance from UNDP and UNIDO. The examples of some such projects lie in the field of urea/ammonia, glass, paper and wood processing projects. This is an idea which is well worth consideration particularly at a time when the two international organizations, just mentioned have, launched a programme to promote such co-operation among the developing countries.

ANNEX 1

## The Objectives of the National Development Plan, 1962-1968

The National Development Plan 1962-1966 was designed to strengthen, improve and further develop the economic, social and cultural life of the people in the State of Brunei and this broad purpose embraces the following fourteen objectives:

(i) Diversify the economy so that it will not be so heavily dependent upon one industry such as oil;

(ii) Reduce and avoid marked disparities in the prosperity and growth of different areas or regions of the country;

(iii) Maintain a high level of employment;

(iv) Increase per capita income through increases in productivity;

(v) Maintain a relatively stable price level;

(vi) Encourage and foster good industrial labour relations which would result in increased efficiency and greater productivity for the benefit of employees, employers, Government and the public;

(vii) Achieve a more equitable distribution of income;

(viii) Develop an adequate and comprehensive national system of education comprising all levels of education from primary to adult which will ultimately eliminate illiteracy and provide training of an adequate supply of teachers at all levels and training in trades, arts, crafts, technical skills and commercial subjects;

(ix) Develop a comprehensive system of national health services so as to provide adequate facilities necessary to raise the level of all aspects of health of the people;

/(x)

(x) Provide adequate public service facilities such as:-

(a) improved means of communications and transportation, including port facilities, as means of access to and connection of the various parts of the country;

(b) adequate water, sewerage and sanitation facilities to all areas of the country for maintaining the health of the people and meeting the requirements of industry and commerce; and

(c) drainage and irrigation facilities required for agricultural development, land reclamation and anti-malarial work;

(xi) Provide for the orderly growth and development of municipal and rural areas through community development, proper zoning and town and country planning;

(xii) Provide adequate power facilities to meet the requirement of urban and rural areas for Governmental, industrial, commercial and domestic residential uses;

(xiii) Advance the cultural arts and preserve, improve and develop the cultural institutions of Brunei; and

(xiv) Encourage and promote the participation by the private sector in fulfilling the broad purpose of the National Development Plan.

Source: National Development Plan, 1975-1979, pp. 34-35.

ANNEX 2

Percentage Distribution of the Gross Domestic Product in the Various Sectors in 1971

| Industries | 1971 |
|---|---|
| Agriculture | 2.48 |
| Forestry | 0.5[illegible] |
| Fishery | 0.51 |
| Mining Oil and Gas | 51.33 |
| Other Quarrying | 0.88 |
| Manufacturing | 2.03 |
| Electricity | 0.89 |
| Construction | 10.07 |
| Commerce | 5.76 |
| Transport & Communication | 1.03 |
| Community, Social and Personal Services | 6.71 |
| Domestic Services | 0.02 |
| Government Services | 17.38 |
| Income from Government Property | 0.33 |
| | 100.00 |

Source: National Development Plan, 1975-1979, p. 40

ANNEX 3

Allocation of Government Investment for the Period 1975-1979

| SECTOR | | Estimated amount for each sector $ | Percentage |
|---|---|---|---|
| I. | Agriculture | 21,000,000 | 4.2 |
| II. | Forestry | 400,000 | 0.1 |
| III. | Fisheries | 1,500,000 | 0.3 |
| IV. | Industrial Estates | 9,000,000 | 1.8 |
| V. | Commerce | 19,000,000 | 3.8 |
| VI. | Education | 36,000,000 | 7.2 |
| VII. | Primary Roads | 35,000,000 | 7.0 |
| VIII. | New Secondary Roads | 9,300,000 | 1.9 |
| IX. | Civil Aviation | 17,500,000 | 3.5 |
| X. | Marine/Port | 7,000,000 | 1.4 |
| XI. | Electricity | 40,000,000 | 8.0 |
| XII. | Telecommunications | 26,000,000 | 5.2 |
| XIII. | Radio and Television | 36,600,000 | 7.3 |
| XIV. | Postal Services | 1,400,000 | 0.3 |
| XV. | Government Housing | 31,000,000 | 6.2 |
| XVI. | Medical and Health | 58,000,000 | 11.6 |
| XVII. | Sanitation | 10,000,000 | 2.0 |
| XVIII. | Water Supplies | 37,000,000 | 7.4 |
| XIX. | Municipal Services | 4,500,000 | 0.9 |
| XX. | Public Buildings | 40,000,000 | 8.0 |
| XXI. | Town and Country Planning | 15,400,000 | 3.1 |
| XXII. | Religious Affairs | 15,000,000 | 3.0 |
| XXIII. | Contingency Fund | 29,400,000 | 5.9 |
| | TOTAL | 500,000,000 | 100.0 |

ANNEX 4

Import Statistics, Brunei, 1973 and 1974 (in B$)

Source: Statistics Section, Economic Planning Unit

Mineral Stones - Building and Road Making Materials

| | | 1973 | 1974 |
|---|---|---|---|
| 273120 | Marble and Similar Stone | 11679 | 12423 |
| 273130 | Granite etc. roughly worked | 11300 | 47811 |
| 273210 | Gypsum | 6848 | 2706 |
| 273220 | Limestone slux for cement mtt. | 752 | -- |
| 273300 | Natural Sands | 56722 | 168344 |
| 273400 | Flint stone, Macadam pebbles and Gravel for roads | 1102408 | 982606 |
| 276100 | Bitumen and Asphalt | -- | 12222 |
| 276219 | Other Clays | 466593 | 1115906 |
| 276520 | Mica and Waste | 57161 | 66066 |
| 276990 | Other Mineral Substances and Broken Pottery | 1112399 | 1333145 |
| 661100 | Lime | 18052 | 95691 |
| 661200 | Cement and Clinker | 5684858 | 300000 |
| 661300 | Flagstones Monumental/Bldg stone iworked | 116088 | 38229 |
| 661811 | Asphalt Tiles | 2497 | 12423 |
| 661819 | Bldg Materials of Asphalt | 45430 | 18492 |
| 661821 | Roofing Tiles of Veg. Fibre | 17784 | 23129 |
| 661831 | Bldg Materials of Asbestos Cement | 949147 | 1379435 |
| 661832 | Pipes of Asbestos Cement | 234474 | 486175 |
| 661839 | Other Articles of Asbestos Cement | 113873 | 272262 |
| 662300 | Head Insulating Perfactory bricks, Blocks tiles | 81103 | 15752 |
| 662421 | Roof Tiles of Baked Clay | 114 | -- |
| 662430 | Piping Conduits etc. of Baked Clay | 42611 | 22067 |
| 662441 | Tiles floor and Wall Ceramis Unglazed | 739369 | 807753 |
| 662451 | Tiles floor and Wall Ceramis Glazed | 339025 | 472133 |
| 663621 | Cement Tiles Floor, Wall | 43442 | 302886 |
| 663629 | Other Articles of Cement | 41441 | 7119 |
| | TOTAL | 11249743 | 7994775 |

/Timber

## Timber

| | | 1973 | 1974 |
|---|---|---|---|
| 241200 | Wood Shell and Nut Charcoal | 9174 | 13387 |
| 242200 | Sawlogs and veneer logs (conifer) | -- | -- |
| 242900 | Piling poles | 5659 | 6063 |
| 243311 | Wood sawn lengthwise over 2" thick (conifer) | 36647 | 17982 |
| 243313 | Wood sawn lengthwise over 2" thick (Teak) | -- | -- |
| 243316 | Wood stuced or peeled over 2" thick (Teak) | 2851 | 714 |
| 243315 | Wood sawn lengthwise over 2" thick (non. conifer exd, teak, ramin) | -- | 4736 |
| 243321 | Blocks for flooring (teak) | 69234 | 85503 |
| 242323 | Wood planed tongued etc. (teak) | 22160 | 14500 |
| | | 145725 | 142885 |
| 631211 | Plywood etc., plain | 1067129 | 975261 |
| 631212 | Plywood veneered panels | 8844 | 11478 |
| 631219 | Plywood etc. faced with other materials | -- | 9265 |
| 631890 | Other Wood simply shaped or worked | 3148 | 3177 |
| 632400 | Builders wood work incl. prefab sections | 26025 | 12167 |
| 632710 | Wooden frames for pictures, mirrors, etc. | 19689 | 20435 |
| 632720 | Household Utensils wood | 41637 | 63799 |
| 632733 | Ornamental Woodenware | 8859 | 11172 |
| 632810 | Wooden Tools Handles Brush Bodies, etc. | 14650 | 22872 |
| | | 1226684 | 1153589 |

## Fishery

| | | | |
|---|---|---|---|
| 031101 | Marine fish (FCF) | 263023 | 562138 |
| 031102 | Fresh Water fish (FCF) | 3868 | 20451 |
| 031201 | Fishmaws | 9588 | 3509 |
| 031202 | Sharkfins Salted or Dried | 9588 | 73347 |
| 031203 | Marine fish (SD) | 325423 | 365196 |
| 031204 | Other fish (SD) | 16583 | 58335 |
| 031205 | Smoked Salmon | 6250 | 2060 |
| 031206 | Other Smoked fish | 5894 | 8426 |
| 031301 | Crabs, Lobsters, Prawns, etc. (FCF) | 21681 | 33519 |

/031302

| | | 1973 | 1974 |
|---|---|---|---|
| 031302 | Crabs, Lobsters, Prawns, etc. (SDS) | 232990 | 281089 |
| 031303 | Oysters fresh | 8637 | 49433 |
| 031304 | Other Molluscs (FCF) | 6089 | 20402 |
| 031305 | Molusca (SDB) | 312187 | 204984 |
| 031306 | Beche De Me- | 17619 | 21484 |
| | | 1229838 | 1200033 |

Canned Sea Food

| | | | |
|---|---|---|---|
| 032011 | Sardin canned | 323468 | 573920 |
| 032012 | Herrings and Brislings | 6059 | 8657 |
| 032013 | Pilchards | 1531 | 2495 |
| 032014 | Salmon | 10920 | 27931 |
| 032015 | Fish Paste exd. Blachan | 23475 | 39993 |
| 032016 | Shark fins Prepared | 79774 | 61416 |
| 032018 | Fish Preps not canned | 7044 | 13521 |
| 032019 | Fish and fish preps canned | 136330 | 255904 |
| 032021 | Abalone Canned | 138127 | 130486 |
| 032022 | Blachan | 17866 | 10093 |
| | | 744594 | 1124416 |

Livestock

| | | | |
|---|---|---|---|
| 001101 | Bovine Cattle except Buffaloes | 33010 | 2058 |
| 001102 | Buffaloes | 1225735 | 38016 |
| 001202 | Goats | 6556 | 1299 |
| 001300 | Swine | 22510 | 325950 |
| 001401 | Fowls | 1895 | -- |
| 001402 | Day old Chicks and Ducklings | 373092 | 613289 |
| 001409 | Other live Poultry | 1021 | 436512 |
| 025002 | Eggs | 912907 | 1353687 |
| | | 5863447 | 8632337 |

/Meat Products

## Meat Products

| | | 1973 | 1974 |
|---|---|---|---|
| 011100 | Beef and Veal (Fresh, Chilled or Frozen) | 576496 | 728732 |
| 012901 | Beef and Veal (Smoked, Oried or Salted) | 12196 | 3383 |
| 011300 | Pork (FCF) | 159479 | 197051 |
| 012101 | Bacon not canned | 108017 | 138651 |
| 012102 | Ham not canned | 98598 | 117436 |
| 012103 | Salted Pork not canned | 12816 | 768 |
| 011401 | Fowls killed (FCF) | 790630 | 913794 |
| 011409 | Other Poultry (FCF) | 206316 | 436512 |
| 011200 | Mutton Lamb (FCF) | 166453 | 213696 |
| 011600 | Offals of Cattle Sheep, Swine (FCF) | 70161 | 145058 |
| 011800 | Other Meat and Offals (FCF) | 301086 | 388270 |
| 012909 | Other Meat (SDS) | 41656 | 34393 |
| 013300 | Meat Extracts, not soup | 252894 | 353208 |
| 013401 | Sausages (FCF) | 229179 | 292567 |
| 013402 | Sausages canned | 65741 | 100537 |
| 013409 | Other sausages | 37671 | 52118 |
| 013802 | Meat canned | 852054 | 1112914 |
| 013809 | Other Meat Preparations | 39653 | 9806 |
| | | 4021096 | 5238894 |

## Rice and Other Cereals

| | | | |
|---|---|---|---|
| 042100 | Rice in husks | -- | -- |
| 042203 | Rice Milled Whole | 5666852 | 9706784 |
| 042204 | Rice Milled Broken | 5870089 | 1626791 |
| 042205 | Rice Glutinous | 154132 | 3461011 |
| | | 11691073 | 14794586 |
| 044000 | Maize Unmilled | 8604 | 18332 |
| 046001 | Wheat Meal and Flour | 998097 | 1257696 |
| 047001 | Flour of other Cereals | 14879 | 13973 |
| 047009 | Other Cereal Grain | 55057 | 49372 |
| 048120 | Cereal Preparations swelled or roasted | 109513 | 266858 |
| 048300 | Macaroni Mee | 845123 | 1257007 |
| | | 2127152 | 1733238 |

| | | 1973 | 1974 |
|---|---|---|---|
| 042421/2 | Biscuits | 1355283 | 2389239 |
| | **Sugar** | | |
| 061101 | Sugar Refined | 3562282 | 3291400 |
| 061109 | Sugar not Refined | 18578 | 49531 |
| 061600 | Natural Honey | 16645 | 16563 |
| 061902 | Sugar Syrups and Caramel | 12044 | 31112 |
| 061909 | Sugar Confectionery | 38436 | 32471 |
| | | 3653605 | 3425819 |
| | **Beverages** | | |
| 071107-071103 | Coffee (all forms) | 603062 | 6389723 |
| 072100-072300 | Cocoa | 332163 | 349094 |
| 074101-074104 | Tea | 129888 | 453244 |
| 111012 | Aerated and Spa waters not flavoured | 526965 | 525977 |
| 111021 | Not Aerated Drinks ready for Consumption | 216383 | 274887 |
| 111022 | Aerated water flavoured and others | 977778 | 1086350 |
| 112301 | Beer and Ale | 1714533 | 2009378 |
| 112302 | Stout and Porter | 290797 | 383041 |
| | | 4791669 | 11471694 |
| | **Tobacco** | | |
| 122100 | Cigars and Cheroots | 45809 | 78410 |
| 122201 | Cigarettes | 3782413 | 37841241 |
| 122301 | Snuff | 16011 | 84965 |
| 122302 | Manufactured in Retail Packings airtight | 178535 | 144539 |
| 122309 | Others | 22435 | 27206 |
| | | 4045193 | 4176361 |
| | **Animal Feeds** | | |
| 081201 | Rice Bran | 1100 | 8017 |
| 081309 | Oil Cakes | 9817 | 1744 |

/081401

| | | 1973 | 1974 |
|---|---|---|---|
| 081401 | Prawn Dust | 54437 | 101014 |
| 081403 | Flour Meal of Fish, Molluscs, Crustaceans Meat and Offal | 51076 | 27200 |
| 081902 | Sago Refuse | 3846 | 28418 |
| 081903 | Broken Rice for Animals | - | - |
| 081904 | Rolled Oats for Animals | 240 | 5174 |
| 081905 | Maize for Animals | 600237 | 754959 |
| 081909 | Others | 2284331 | 2368511 |
| | | 3191902 | 3295230 |

**Fertilizers**

| | | | |
|---|---|---|---|
| 271101 | Crude Fish Fertilizers and Fish Refuse | 158 | 2136 |
| 271102 | Guano | 28099 | 28302 |
| 271109 | Other Natural Fertilizers (Animal or Vegetable) | 53610 | 126123 |
| 561100 | Nitrogenous Fertilizers in Bulk | 9230 | 4188 |
| 561200 | Phasphatic Fertilizers in Bulk | 745 | 5275 |
| 561300 | Potassic Fertilizers in Bulk | 785067 | 1581268 |
| 561900 | Other Fertilizers in small packs | 45647 | 307877 |
| | | 925256 | 2055169 |

**Animal and Vegetable Oils and Fats Unprocessed**

| | | | |
|---|---|---|---|
| 421200 | Soya bean oil | 17924 | 17231 |
| 421400 | Groundnut | 481722 | 997538 |
| 421500 | Olive oil | 4599 | 10254 |
| 422301 | Coconut oil refined | 932994 | 1922842 |
| 422902 | Gingelly seed oil | 19236 | 18261 |
| | | 1394475 | 2966126 |

**Petroleum Products**

| | | | |
|---|---|---|---|
| 332101 | Motor Spirit refined | 2146302 | 62979 |
| 332102 | Aviation Spirit 100° Octane | 1551680 | 2470254 |
| 332103 | Other Aviation Spirit | 11656 | 586 |
| 332109 | Other Petroleum Spirit 73F below | - | 366 |

/332201

| | | 1973 | 1974 |
|---|---|---|---|
| 332201 | Kerosene | 255021 | 62979 |
| 332202 | Vapouring oil | - | 11851 |
| 332209 | Other Petroleum Spirit 73F over | - | - |
| 332309 | Fuel oils | - | - |
| 332511 | Lubricating oil min. 70% petroleum | 1742429 | 3134264 |
| 332512 | Lubricating grease min. 70% petroleum | 128767 | 142548 |
| 332521 | " oil below 70% petroleum | 224713 | 38048 |
| 332522 | " grease below 70% petroleum | 1649 | 1655 |
| 332911 | Hydralic Brake min. 70% petroleum | 16447 | 21611 |
| 332919 | Other non-lubricating | 28712 | 39139 |
| 332950 | Petroleum Bitumen | 246228 | 262056 |
| 332960 | Bituminous Mixtures of Asphalt etc. | 418608 | 497280 |
| | | 6772212 | 6745586 |
| | **Plastics** | | |
| 581108 | Condensation Products in Pr. forms | 3309130 | 5581571 |
| 581109 | Condensation Products in Semi-mtd forms | 105332 | 169768 |
| 581111 | Plastic laminated boards, paper or textile based | 101361 | 198037 |
| 581201 | Phenoplasts | 10421 | 54350 |
| 581202 | Polyethylene | 10187 | 967 |
| 581204 | Polystyrene | 6818 | 1044 |
| 581205 | Polyvinyl | 11319 | 3514 |
| 581206 | Pipes and tubes of Polyvinyl | 67773 | 92161 |
| 581216 | Rect. Floor tiles and other articles of Polymers | 25184 | 47227 |
| | | 3647525 | 6148639 |
| | **Chemical Products** | | |
| 599211 | Insecticides liquid | 257391 | 307307 |
| 599212 | Mosquito Coils | 310575 | 211577 |
| 599213 | Insecticides non liquid | 97309 | 146592 |
| 599221 | Disinfectant liquid | 28977 | 28248 |
| 599223 | " non-liquid | 2006 | 2694 |
| 599231 | Weed killers liquid | 30918 | 111340 |

/599232

| | | 1973 | 1974 |
|---|---|---|---|
| 599232 | Wood Killers non-liquid | 20470 | 16138 |
| 599241 | Wood Preservatives liquid | 18774 | 15362 |
| 599579 | Starch Glues | 455994 | 926887 |
| 599590 | Other Prepared Glues | 83273 | 129138 |
| 599750 | Anti knockpreparations & similar additives | 1574897 | 3574299 |
| 599931 | Preparations for Fire | 1964 | 6070 |
| 599940 | Soldering Fluxes | 47543 | 29238 |
| 599950 | Solvents and Thinners for Paints | 117994 | 168339 |
| 599991 | Hydraulic Bake Liquid | 778027 | 56249 |
| 599999 | Other Chemical Products | 2461518 | 1570905 |
| | | 6287620 | 4300112 |
| | Rubber Fabricated Materials | | |
| 621010 | Unvulcanized Rubber Sheets and Strips | 15196 | 84508 |
| 621020 | Other Unvulcanised Rubber Manufactures | 172737 | 216128 |
| 621051 | Rubber Hose for Industrial Uses | 425515 | 348203 |
| 621059 | Other Piping of Unhardened Unvulcanised Rubber | 40517 | 64134 |
| 629101 | Motor Car Tyres Pneumatic New | 756370 | 1080311 |
| 629102 | Motor Lorry & Bus Tyres Pneumatic New | 445113 | 571799 |
| 629103 | Motor cycle Tyres Pneumatic New or Used | 1000 | 2577 |
| 629104 | Cycle tyres Pneumatic New or Used | 11713 | 11251 |
| 629105 | Motor car inner tubes | 13746 | 41498 |
| 629106 | Motor lorry and bus inner tubes | 63954 | 77185 |
| 629107 | Motor cycle inner tubes | 39227 | 32220 |
| 629108 | Cycle inner tubes | 4163 | 2971 |
| 629109 | Other types and tubes | 9638 | 30787 |
| 629111 | Pharmaceutical articles of unhardened rubber | 38002 | 57206 |
| 629403 | Coveyor belts of vulcanised rubber | 17493 | 8856 |
| 629901 | Unhardened Rubber goods exd. Matiresses | 289 | 770 |
| | | 2054672 | 2630404 |

/Paper

## Paper

| | | 1973 | 1974 |
|---|---|---|---|
| 641102 | Newsprint in sheets | 144300 | 183492 |
| 641211 | Printing paper uncoated | 278662 | 285846 |
| 641212 | Writing paper uncoated | 34852 | 39170 |
| 641213 | Duplicating paper | 181349 | 274793 |
| 641221 | Printing paper coated | 70591 | 71354 |
| 641222 | Writing paper coated | 7251 | 34296 |
| 641301 | Kraff paper | 45457 | 92727 |
| 641501 | Packing and wrapping paper | 37544 | 65329 |
| | | 800016 | 0147007 |

## Paper Products

| | | | |
|---|---|---|---|
| 642110 | Boxes and bags of paper and paper board | 254044 | 256444 |
| 642120 | Box files trays of paper or paper board | 41987 | 63759 |
| 642910 | Cigarette paper cut to size | 24565 | 230 |
| 642921 | Carbon paper | 53758 | 65602 |
| 642922 | Duplicator stencils | 42776 | 77873 |
| 642939 | Other paper or paperboard cut to size or shape | 229643 | 330961 |
| 642991 | Cards for statistical machines | 24248 | 29819 |
| 642993 | Facial cleansing tissues | 121607 | 169838 |
| 642999 | Other articles of paper board, paper or cellulose | 119872 | 150583 |
| | | 9120500 | 1145109 |

## Paperboard

| | | | |
|---|---|---|---|
| 641502 | Paperboard exd. Draft and bldg board | 49070 | 43980 |
| 641601 | Hardboard max. 1/16th" thick | 50014 | 112884 |
| 641602 | Hardboard over 1/16th" to 3/16" thick | 80367 | 268602 |
| 641603 | Hardboard over 3/16th" thick | 45877 | 72045 |
| 641604 | Softboard max ½" thick | 233999 | 105717 |
| 641605 | Softboard over ½" thick | 133400 | 92880 |
| 641910 | Parchment and like paperboard in rods or sheets | 42823 | 132783 |
| 641951 | Paper and paperboard coated with | 17308 | 38374 |

/641959

| | | 1973 | 1974 |
|---|---|---|---|
| 641959 | Other coated paper and paperboard | 50670 | 96463 |
| 641970 | Wallpaper and Linerusta | 52476 | 43089 |
| | | 756004 | 1006617 |
| | **Paperboard Products** | | |
| 642200 | Writing blocks envelopes, letter pads etc. | 141770 | 202337 |
| 642301 | Registers, exercise and account books | 343390 | 407385 |
| 642309 | Other stationery of paper or paperboard | 139704 | 224778 |
| 642923 | Copying and transfer papers cut to size | 8330 | 31725 |
| 642931 | Toilet paper in rolls or packets | 170809 | 303994 |
| 642992 | Sanitary towels of paper or cellulose wadding | 42776 | 79287 |
| | | 846779 | 1249506 |
| | **Glass** | | |
| 664300 | Glass drawn or blown. Rectangular Unworked | 3790 | 9540 |
| 664400 | Glass polished ground Rectangular | 386773 | 495552 |
| 664500 | Glass cast rolled rectangular unworked | 3610 | 1883 |
| 664600 | Bldg. materials glass | 42396 | 47515 |
| 664801 | Glass mirrors exd. for vehicles | 55816 | 83561 |
| 664910 | Glass cut to shape exd. rectangular | 5359 | 11550 |
| 664922 | Glass envelopes for elect. lamps | - | 540 |
| 664941 | Glass fibre wool or silk exd. yarn | 101935 | 24019 |
| 664949 | Other articles of glass fibre | 6567 | 8342 |
| 665111/9 | Glass containers | 55710 | 100627 |
| 665200 | Glassware for household use | 222701 | 338724 |
| 665810 | Laboratory or hygienic glassware | 122891 | 93925 |
| 665820 | Ornamental Articles of glass | 59972 | 19828 |
| 665890 | Other Articles of glass | 24768 | 10230 |
| | TOTAL | 1092288 | 799936 |

ANNEX 5

## Industrial Estates and Areas, Brunei, with Acreages

| | | |
|---|---|---|
| Site No.1 | Area at Gadong, Bandar Seri Begawan (subject of report by Valentine, Laurie and Davies) | 220 acres |
| Site No.2 | Old Airport Site, Bandar Seri Begawan | 140 " |
| Site No.3 | Private Land at Gadong, Bandar Seri Begawan | 150 " |
| Site No.4 | Kampong Beribi, Gadong | 45 " |
| Site No.5 | Kampong Bunot, Jalan Tutong | 22 " |
| Site No.6 | Behind Malay College and Trade School, Jalan Muara | 70 " |
| Site No.7 | Existing industrial area, Kuala Belait | 69 " |
| Site No.8 | Existing Industrial area, Seria, Lurong Tengah | 5.5 acres |
| Site No.9 | Existing industrial area, Seria, Jalan Pelkiah | 25.5 acres |
| Site No.10 | Proposed Industrial Area, Kuala Belait (including area now being developed by B.S.P. Co. Ltd.) | 131 " |

Source: Town and Country Planning Office

ANNEX 6

## Various Aspects to be considered in Feasibility Studies

1. Data required:
   1) materials and supplies
   2) market
   3) economic and technical factors
   4) personnel
   5) financial factors
   6) social factors

2. Re materials and supplies:
   1) availability
   2) Is local material market competitive?
   3) local materials: price and satisfactory delivery?
   4) materials and supplies to be imported
   5) availability and price in world markets of needed imports

3. Market:
   1) Existing demand? Principal consumers? Prospective additional consumers?
   2) Present supply sources. Details re volume, % supplied by local production, etc.
   3) Additional demand projections for five-ten years. How obtained?
   4) Will product find acceptance in market? Price, quality, etc?
   5) Prospective competitive power?
   6) New Markets or expanded markets - can these be developed and how?
   7) Problems of consumer acceptance?
   8) Prospective customer types, etc.?

4. Economic and technical factors:
   1) Itemised costs in domestic and foreign exchange. Terms of procurement of machinery, equipment, technical assistance, etc.
   2) Foreign exchange earnings or savings?
   3) Exchange and trade controls and their effects?
   4) Economic benefits expected from the project?
   5) Relevant laws and regulations.
   6) Process of selection of machinery and equipment, etc.?

/5. Personnel

5. Personnel:

1) Adequacy of labor supply in vicinity. If not, how would labor be procured?

2) Training of management and skilled labor.

3) Technical advice - availability or need for external procurement.

6. Financial factors:

1) Plan for financing the project.

2) Probable sources of delay and increased costs.

3) Possibility of financing working capital?

4) Inventories, etc., as components of costs, etc.

5) Allowance for future price changes?

7. Social factors:

1) Health facilities available? Hospitals, etc.?

2) Schools?

3) Housing and utilities?

4) Social overhead costs of the project - health facilities, schools, in-service training, water supply and sewerage, power, telephone, transport, insurance, taxes, social security, pension fund, housing, incentives such as bonuses, prizes, profit sharing, etc.

8. Technical vs. economic feasibility:

Feasible production scale from market research; nature of industry; availability of inputs - materials, power, skilled and unskilled labor, etc. Choice of technique; exports vs. import substitution policies.

9. Determination of technical and economic requirements:

1) Need for consultants on engineering and commercial arrangements.

2) Return on capital.

10. Manpower and managerial requirements:

11. Location:

Site choice will depend on nature and source of materials, markets and transport costs.

12. Financial projections of outlay and income:

1) Cost to bring into operation, sources and conditions.

2) Operating costs and revenues. Liquidity.

/Money requirements

Money requirements for:

a) Goods and services needed for the project

b) Contingency and escalation allowances

c) Interest during construction.

Types of projections:

a) Cash flow - to show if funds available at right time to meet expected requirements.

b) Periodical balance sheets during the construction period.

Forecasts must take into account: time to overcome initial operating problems, rate of absorption by the market, taxation, bank, private and social insurance charges, and labor incentives.

Break down estimates into domestic and foreign currency requirements, according to time schedule and different main elements of the project.

13. Risks:

Account must be taken of various risks - political, social, monetary, commercial, technical, physical, etc. many of which cannot be minimised through insurance.

For export projects - instability of foreign demand and prices. Physical risks - typhoons, earthquakes, etc. Careful tabulation of favourable and unfavourable factors.

14. Safety reserves in projecting financial requirements:

Physical contingencies, inflation, government subsidies and penalties.

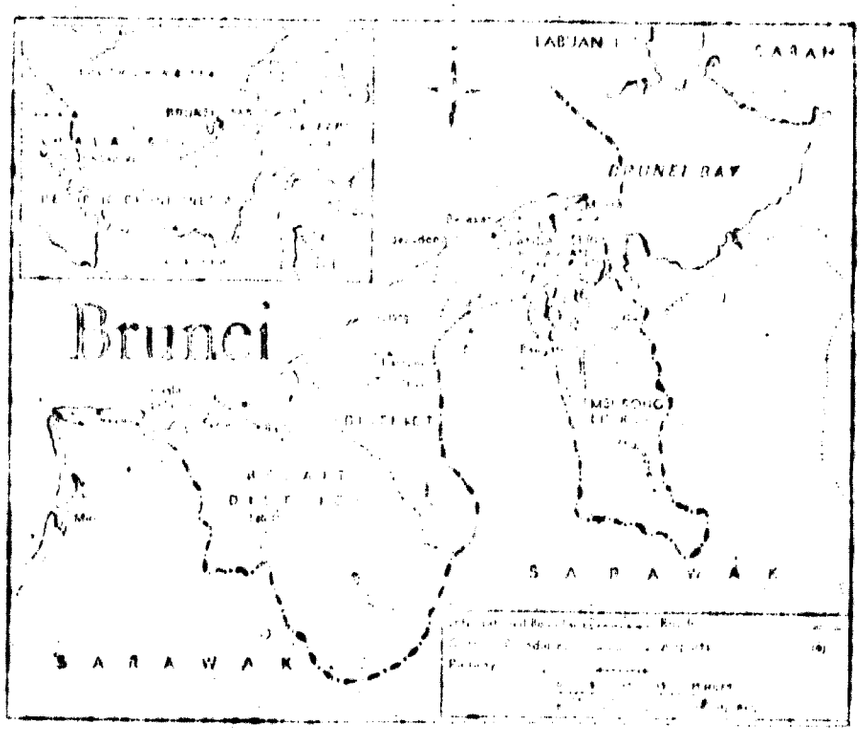
15. Market research:

Stability of markets and trends are bases for economic forecasting.

16. Availability of maintenance, transport, and distribution services influence feasibility.

17. Effect of underdevelopment: Bottlenecks - infrastructure, financial institutions, government services.

Source: Compiled from Hersdarff, "The Making of Feasibility Studies" in Ettinger, ed., International Handbook of Management, New York; McGraw-Hill.


TABUAN I.
SABAH
BRUNEI BAY
Brunei
SARAWAK
SARAWAK

## ANNEX 8

### Documents Consulted


| | |
|---|---|
| **Bowles, F:** | The Planning of Small Industries in the State of Brunei, 1971, BRU-111-A(SIS) |
| **Rano-Ericson:** | Report No. BKK/33(76), 1970 |
| **ESCAP:** | Industrial Development in Asia and the Far East |
| **State of Brunei:** | National Development Plan, 1975-1979 |
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| | State of Brunei Annual Report, 1971 |
| | The Brunei Economic Development Board Enactment, 1975 |
| | The Investment Incentives Enactment, 1975 |
| **United Nations:** | Man-power for Industry, UNIDO Monograph No.14 |
| | Guidelines for Project Evaluation, 1972 |
| | Small-Scale Industry, UNIDO Monograph No. 11 |

ANNEX 9

## Facilities Considered for Tourism Development

1. A healthy, pleasant climate with plenty of sunshine which Brunei has.

2. Easy access which the new Muara port and the airport have provided.

3. An efficient, well-informed, friendly and helpful information service to deal with postal and on-the-spot enquiries. Good maps and brochures are essential. This is generally a tourists' first contact with a country and initial impressions are extremely important.

4. Immigration and customs formalities reduced to the minimum for genuine tourists.

5. An advantageous rate of exchange or alternative incentive for tourists.

6. Duty-free shopping areas at the new port and airport for the convenience of tourists.

7. Good, clean, well-managed hotels of different standards to cater for different cultures and income levels preferably with no tipping.

8. Good, clean food in a variety of cuisines in hotels and restaurants both indoor and in the open air.

9. First aid and hospital facilities readily available in emergencies.

10. Adequate public transport including buses, taxis, hired cars, organised town, etc. to facilitate travel to any part of the country. Fares should be reasonable and at standard rates. Drivers of public vehicles should be registered.

11. Attractive, well-stocked shops with goods at reasonable prices.

12. Clean towns with interesting buildings, good architecture, etc.

13. Well laid out public gardens in convenient places for relaxation.

14. Interesting events, public and religious, ceremonial occasions, etc. particularly when spectacular.

15. Diverse entertainments to suit all tastes.

16. Archaeological remains.

17. Pleasant safe beaches with adequate facilities but not overcrowded.

18. Plentiful facilities for sports of all kinds with competition to attract personalities and enthusiasts.

/19.

19. Places of outstanding scenic beauty.

20. Botanical gardens, orchid culture, etc.

21. A national park readily accessible from the new port and airport where visitors can see examples of traditional buildings, costumes, mode of life, etc.

22. Wild life and nature reserves, zoos, snake-pits, crocodile farms, etc.

23. Opportunities to see the traditional life and culture of the country, particularly when different from elsewhere.

24. Traditional music and dancing by performers in national costume.

25. Opportunities to see traditional crafts and to purchase the products as souvenirs.

26. Package tours within the country and further afield by road, sea and air accompanied by competent guides. Hovercraft or hydrofoil and other trips on rivers.

27. Arranging package cruises starting from and ending at Bandar Seri Begawan.

ANNEX 10

Persons and Organizations Met

| | |
|---|---|
| P.D.N. Pengiran Abdul Momin bin Pengiran Haji Ismail | - Chief Minister |
| Dato Haji Abdul Aziz bin Haji Umar | - State Secretariat |
| Pehin John Lee | - Treasury Department |
| Mr. Salamat bin Munap | - Economic Planning Unit |
| Mr. Chua Pheng Siong | - " " " |
| Mr. Omar bin Haji Serudin | - " " " |
| Ms. Hajjah Jusnani bte Haji Lawie | - " " " |
| Mr. Julaihi Haji Abdul Kadir | - " " " |
| Mr. Hamzah bin Haji Ja'afar | - " " " |
| Mr. A.D. Dumford | - Department of Education |
| Mr. J.A. Banyon | - " " |
| Mr. R.W. Beales | - Department of Fisheries |
| Mr. Adanan bin Haji Ja'afar | - " " |
| Mr. R.J. Woodroofe | - Department of Agriculture |
| Mr. J.F. Tamworth | - Department of Forestry |
| Mr. Mahari bin Mohd. Said | - " " |
| Mr. J. Cordingley | - Brunei Shell Petroleum Company and Brunei Liquefaction, Natural Gas Ltd. |
| Mr. F.C. Harper | |
| Mr. A.J.W. Ploum | |
| Mr. J.A. Davidson OBE | - U.K. High Commission in Brunei. |
| Mr. J.W. Moffatt | |
| Mr. K. Harris | |
| Mr. Abdullah Haji Ja'afar | - Belait District Office |
| Pengiran Ali Hassan | |
| Mr. Zakaria Haji Nordin | |
| Mr. Sidney Litherland | - Town & Country Planning Department |
| Miss Nina Keshishian | |
| Mr. Lim Jock Seng | - Brunei Museum |
| Mr. Mohammad Ali bin Haji Awang Besar | - Labour Department |

/Mr. Md. Hassan

| | |
|---|---|
| Mr. Md. Hassan Haji Yusof | - Department of Ports |
| Mr. Md. Salleh Haji Hidup | - Lands Department |
| Mr. C.R. Beames | - Brunei State Chamber of Commerce |
| Mr. Liw King Koon | - Liang Hong Industrial Development Company |
| Mr. Sun Kong Kai | - P.S. & Sons Trading |
| Haji Omar bin Dush | - The Brunei State Association of Banks |
| Mr. J.A. Northwich | |

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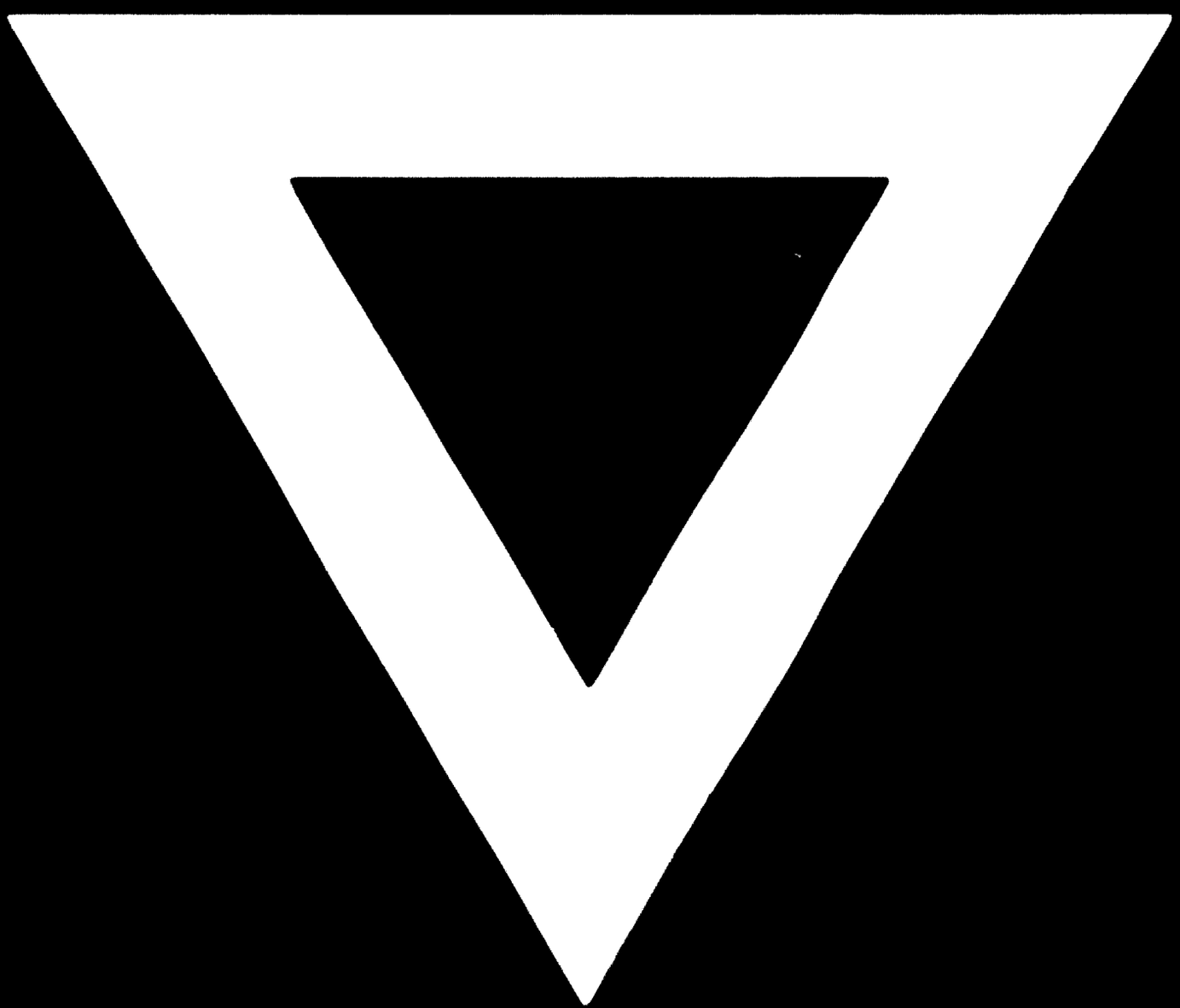

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