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ASSISTANCE TO THE DEPARTMENT OF TRADE AND INDUSTRY
SI/PNG/85/801
PAPUA NEW GUINEA

Terminal report*

Prepared for the Government of Papua New Guinea
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

Based on the work of N. Mohanty,
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Vienna

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Explanatory Notes

Value of local currency in terms of United States dollars on

14 July 1986: 1 Kina = US\$ 1.0204

1 Kina = 100 toea

Abbreviations

CFTC	Commonwealth Fund for Technical Cooperation
DID	Department of Industrial Development
DTI	Department of Trade and Industry
NIDA	National Investment and Development Authority
PNG	Papua New Guinea
PSC	Public Service Commission

ABSTRACT

The purpose of the project "Assistance to the Department of Trade and Industry" (formerly Industrial Development) SI/PNG/85/801 was to initiate steps for strengthening the professional capability of the Department and assist the Government in preparing the conditions for a subsequent large-scale technical assistance project for realising this objective. It was implemented during 17 February to 16 August 1986 (Six months).

PNG is still in the first stage of industrialisation, with potential for industrial development in a number of areas. DTI is a relatively new agency in the Government and is in the need of outside technical assistance for developing the professional capability of its staff. An advisory team of international experts in the fields of industrial policy and planning, project preparation, evaluation and promotion and small-scale industry development should be located in DTI for working with its national personnel and for providing 'on-the-job' training to them. This institution-building project should be implemented over a period of five years.

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INTRODUCTION

In the first decade following its independence from the colonial rule in 1975, Papua New Guinea (PNG)'s development strategy gave priority to distributional goals; higher economic growth was given secondary importance. Since the early 1980's there has, however, been a change of emphasis and the major objectives of PNG's current development and investment programme are the promotion of economic growth and generation of productive employment opportunities. A five-year or medium term development plan/programme has replaced the annual rolling National Public Expenditure Plan (NPEP); and the development programme now seeks to focus on sectoral development strategies and policies as a means of realising the overall development objectives. The Economic Sector is given the highest priority in the country's five-year development programme in view of its potential for making the greatest contributor to the nation's growth and employment objectives. The industrial sub-sector is a vital component of the overall Economic Sector as the development of industrial and manufacturing activities is seen as an important means of developing a balanced economic structure in PNG.

As part of this process of policy reorientation the Government, in February 1984, issued a White Paper on Industrial Development outlining the first ever industrial development policy of PNG. Earlier, in January 1983, it had created the Department of Industrial Development (DID) in order to function as the nodal agency for industrial promotion in the country.

In late 1984 the Government approached UNIDO (the United Nations Industrial Development Organisation) for assistance in strengthening the Department of Industrial Development and improving the capability of its national personnel in promoting industrialisation through industrial policy

analysis and planning, project identification, promotion and implementation, creation of industrial data base and the like. UNIDO approved the project - SI/PNG/85/801 - under which an international expert who had had substantial work experience in PNG was to be made available to the Government for identifying the areas for long-term technical assistance for strengthening the institutional capability for promotion of industrial development. Specifically he was expected to undertake the following activities:

- analyse the industrial structure of PNG and identify potential for development as well as the areas requiring Government assistance;
- in the light of the above analysis, review the existing institutional structure for promoting industrial development, identify its deficiencies and needs including the training needs of its personnel (based on the analysis of their educational qualifications and professional experience) and the areas requiring strengthening in order to make it an effective professional agency for industrial promotion;
- based on the above findings, prepare a draft Project Document with proposals for large-scale technical assistance and get it cleared by the Government and local UNDP office before submission to UNIDO.
- identify the areas which require specific expertise for analysis and define the tasks to be undertaken under two man-months of consultancy; and
- summarise the findings and recommendations in a terminal report.

The project (SI/PNG/85/801) was scheduled to start in July 1985 as requested by the Government. This could not happen due to the reasons beyond the control of UNIDO and the

Government. The project started only on 17 February 1986 (when the expert Nilmadhab Mohanty started work as the Chief Technical Adviser/Industrial Economist) and would be completed on 16 August 1986 (six months). The project was executed as per the revised work programme drawn up in February 1986 at the start of the project. The expert worked in close cooperation with Mr Wep Kanawi, Secretary of the Department of Trade and Industry, Government of Papua New Guinea and Mr Rima Ravusiro, Assistant Secretary (Policy and Planning) who acted as the national counterpart officer. Their assistance in carrying out the project is gratefully acknowledged.

I. . RECOMMENDATIONS

- (1) In the medium-term the Government's efforts should be directed at streamlining and refining the policy-framework for industrial development and strengthening the institutional arrangements for project preparation, evaluation and promotion. Also an appropriate data base should be established as soon as practicable.

- (2) The Government's request for UNDP/UNIDO assistance for institution-building is justified and should be acted upon by the concerned international agencies.

- (3) There are three areas to which assistance should be directed under the proposed large-scale technical assistance project. These are:
 - (i) industrial policy analysis and planning;

 - (ii) project identification, preparation, evaluation and promotion; and

 - (iii) small-scale industry (SSI) development.

- (4) An advisory team of international experts should be located in DTI to work in the three areas indicated above. They will work alongside the national personnel of the Department, attending to project and policy-oriented functions (as distinguished from routine, administrative duties) and provide 'on-the-job' training to the national personnel. Their efforts should be supplemented by appropriate short-term consultancies and volunteers.

- (5) A comprehensive Staff Development Programme should be prepared with the assistance of the international experts in order to provide for formal training courses (both long-term and short-term) to the professional staff of DTI. The resources available (for training) from various international agencies and bilateral sources should be utilised to implement the Staff Development Programme.
- (6) Institution-building being a long-term process, the proposed technical assistance project should continue for five (5) years in order to enable the international experts to transfer skills and expertise to the national personnel through association-in-work.

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II. REALIZATION OF THE WORK PROGRAMME

A. Industrial Structure, Potential and Policies

(1) Industrial Structure of PNG

Papua New Guinea (PNG) with an estimated population of 3.16 millions (1983) is a relatively small developing country with per capita GNP (Gross National Product) of Kina 637 (US\$650). Its economy is characterised by the predominance of agriculture and rural activities, with subsistence agriculture involving more than half of the population. Agriculture, including forestry and fisheries, contributes to about one-third of GDP (K2173 millions at current prices in 1984), employs about four-fifths of the population and accounts for nearly 50 per cent of export earnings. Enclave mining is also another important source of output and public revenue.

PNG is an open economy, highly vulnerable to price fluctuations, both in respect of imports and exports, in the world markets. The importance of foreign trade to the economy can be gauged by the fact that in 1984 exports and imports (in terms of current prices) were nearly 37 per cent and 40 per cent respectively of GDP.

The industrial sector is a small component of the PNG economy. Manufacturing enterprises form the core of this sector and account for nearly 10 per cent of GDP and of formal sector employment. Compared to agriculture (including forestry and fisheries) which contributed 33.7

per cent of GDP in 1980, manufacturing's contribution (13.2 per cent) is quite small although it is comparable to that of mining's 14.7 per cent. Also, manufacturing's share has steadily increased from 5.3 per cent in 1970 to 13.2 per cent in 1980 where as that of agriculture has declined (over the same period) and mining's contribution has been uneven.

The dynamic characteristics of the manufacturing sector becomes obvious when its performance is compared with that of the economy over the ten-year period 1973-1983. Table 1 provides information on relative growth rates in real term, computed by using the least-squares method. These show that manufacturing grew nearly eight times faster than the economy during this period. Although this relative high growth-rate could have been partly due to the small initial size of the manufacturing sector, this fact does not detract from its potential for growth in the future.

TABLE 1 - EXPANSION OF MANUFACTURING OUTPUT
AND GDP (1973 - 1983)

Annual growth rate in real value added in manufacturing (%) ¹	5.02
<hr/> Annual growth rate in real GDP (%) ²	<hr/> 0.60

Source: National Statistical Office, Port Moresby

(1) Secondary Industries Bulletins from 1972-73 to 1981 and "Secondary Industries - Preliminary Statements" for 1982 and 1983.

(2) National Accounts Statistics 1972-73 to 1983. Although there are technical differences in scope and definition of the two series, the data are indicative of the general trend in the behaviour of GDP and manufacturing output.

As regards industrial employment, in the year 1983 (the last year for which industrial census data are available) there were 718 factories in manufacturing and associated industries (including electricity generation) employing 28,694 persons. This works out to about 14 per cent of the formal sector employment. In manufacturing proper there were 452 factories employing 22,186 persons where as in the year 1978 the comparable figures were 458 and 15,776 respectively. The average annual rate of growth of employment in manufacturing has been around 7 per cent during this period (1978-1983).

The data presented in Table 2 relating to the value of output and of value added, number of factories and persons employed in manufacturing in 1983 show the relative position of the different industry branches in PNG's manufacturing sector. As may be seen, the three largest sub-sectors in manufacturing are:

- (i) food, beverages and tobacco (nearly 57 per cent of value added and 47 per cent of manufacturing employment);
- (ii) wood and wood products including furniture (16 per cent of value added and 23 per cent of manufacturing employment); and
- (iii) basic metal industries, fabricated metal products etc. (16 per cent of value added and 19 per cent of manufacturing employment).

Other manufacturing is somewhat evenly distributed between paper and paper products (including printing), chemical, rubber and plastic and non-metal mineral products.

TABLE 2**THE STRUCTURE OF MANUFACTURING INDUSTRY IN PAPUA NEW GUINEA, YEAR ENDED 31 DECEMBER, 1983**

ISIC CODE	INDUSTRIES	FACTORIES (number)	PERSONS EMPLOYED (number) ¹	OUTPUT (K'000) ¹	VALUE ADDED (K'000) ²
31	Food, beverages and tobacco	150	10,445 (47.1)	309,682	126,670 (56.8)
32	Textile, wearing apparel and leather industries	12	349 (1.6)	2,610	1,205 (0.5)
33	Wood and wood products including furniture	101	5,161 (23.3)	71,356	36,695 (16.5)
34	Paper and paper products; printing	26	1,027 (4.6)	17,577	8,678 (3.9)
35	Chemicals, petroleum, coal, rubber and plastic products	21	472 (2.1)	17,013	8,292 (3.7)
36	Non-metallic mineral products, except products of petroleum and coal	18	549 (2.5)	11,018	6,040 (2.7)
37/38/39	Basic metal industries; fabricated metal products, machinery and equipment; other manufacturing	124	4,183 (18.8)	90,053	35,428 (15.9)
	Total	452	22,186 (100)	519,309	223,008 (100)

Source: National Statistical Office's "Secondary Industries - Preliminary Statement" Year Ending 31 December, 1983

Note: 1. Includes all employees, citizen and non-citizen. Average weekly employment over whole year. Includes working proprietors

2. Value added to materials (i.e. value of output less materials, power, fuel and light used).

3. Figures in brackets give percentages

Geographically most manufacturing enterprises are concentrated in the Port Moresby and Lae areas. Both these are large-sized towns providing external economies of concentration such as transportation links, skilled labour, housing etc. Also nearly two-thirds of manufacturing employment is in factories each of which employs 51 or more persons.

Industrial production is primarily geared to meet domestic demand and a relatively high proportion of it is directly or indirectly related to consumer goods and services. Exports of manufactured goods are insignificant and has been estimated at around 4 per cent of the total value of exports. Copra oil, wood products (ply wood, and wood chips), beer and sugar are the main items of manufactured exports.

Imported inputs play a significant part in the output of a number of manufacturing enterprises. Also a few enterprises are engaged in the processing of primary products.

Thus the industrial structure of PNG is typical of a "non-industrial" country which is still in the first stage of industrialisation, requiring careful policy and institutional support for its development.

(11) Potential for Development

There is potential for development in a number of areas. The White Paper on Industrial Development (1984) outlined two broad areas of development. One area is the domestic-market-oriented production of selected consumer and industrial goods in which PNG has some comparative advantage relative to imports. The specific industries identified

include production of building materials and pre-fabricated houses, furniture, leather footwear, mosquito coil, egg trays, rice milling, dry cell battery, miscellaneous food products and industries involving the packaging, working and converting of imported inputs (materials).

The other major area of manufacturing development relates to export-oriented processing of primary products in agriculture, forestry, fishery and minerals. Production of instant coffee, cocoa liquor, coconut oil, tuna fishing and canning, cement and lime etc. are under investigation. Their development requires large amount of capital, entrepreneurship, management as well as access to international markets. This underlines the need for foreign investment for the development of the manufacturing sector in PNG.

In the medium-term the area which has the highest potential for development is timber-processing and manufacture of wood products, particularly furniture and furniture components both for the home and export markets. The production data show that the real value added in the wood and wood products (industrial) branch grew at an average annual rate of about 10 per cent during 1978-1983. No other industrial branch showed such consistent growth-pattern. In the immediate future also it remains a high growth-area in view of its immense untapped potential.

Another area which requires careful policy and promotional support is Small Scale Industry (SSI) development. At the present stage of PNG's economic development most national businessmen and entrepreneurs can set up only small-scale industries. The potential for development lies in

the following broad areas:

- (i) agro-industries: processing of fruits and field crops, fishery, and poultry products etc;

- (ii) other rural resource-based industries like stone quarrying and crushing, collecting, washing, grinding and cleaning of gold, mining, crushing and burning of lime, manufacture of pottery and ceramic wares and processing of shells into shell products;

- (iii) handicrafts and artifacts and

- (iv) service industries like clothing, bakery, repair of vehicles and machineries etc.

Inspite of this industrial potential, it is somewhat difficult to envisage any rapid growth of the manufacturing sector in the medium term. This is because of the country's relatively low level of overall development and the presence of a few basic constraints in the economy.

The main constraint from the point of view of industrial development which PNG shares with many small, developing countries is of course the small size and fragmented nature of the domestic market. This precludes production of many industrial products exploiting economies of scale. There is also a shortage of entrepreneurial and managerial skills needed to establish and run industrial enterprises on efficient lines.

Other constraints include high relative wages for workers compared to the wage-levels prevailing in the other developing countries of the region,

inadequate transport facilities and high freight, electricity and other input costs, difficult land tenure and administration system and various administrative regulations and obstacles to entry.

(ii) Industrial Development Policies

The Government is aware of these problems and considers their alleviation to be the most important developmental task in the medium-term. This also fits in with the country's overall industrial development strategy which recognises the private sector to be the main instrument for industrial development in Papua New Guinea. The Government's main responsibilities comprise the creation of congenial business climate for promoting private sector investment and formulation and implementation of policies and programmes that will promote entrepreneurial development amongst Papua New Guineans.

As stated earlier, the White Paper on Industrial Development approved by the National Parliament in February 1984 is the first ever statement on an overall industrial development policy of the Government. Basically the document is in the nature of a compromise between various approaches to promoting industrial development and outlines in general terms the industrial development policies and programmes that the Government intends to pursue in the medium-term. Over the past two and half years, most of these general policy-prescriptions have been translated into legislation and/or administrative measures for promoting industrialisation.

The main elements of the industrial development policy-framework that has developed so far are summarised below:

- (i) As mentioned earlier, the private sector will be the main instrument for industrial development with the Government providing the social and physical infrastructure needed for industrial development.

- (ii) Foreign investment comprising entrepreneurship, capital and management will continue to play a crucial role in promoting manufacturing development. In the interest of growth and development it is preferable to accept a slower rate of localisation of management and ownership in industry.

Under the foreign investment regulation system NIDA (National Investment and Development Authority) registers foreign enterprises and monitors their activities. Following the White Paper, NIDA now provides fifteen year straight registration for manufacturing enterprises. The Government is actively considering the recommendations of a high-level Government Regulations Advisory Committee (GRAC) for reorganising NIDA and liberalising the foreign investment regulations affecting industry. However, much still needs to be done in this area for streamlining the system.

- (iii) A combination of import substitution and export promotion policies will be followed for attracting industrial investments.

However, in government policy-making this still remains a contentious area and the policies and guidelines are far from clear. As a follow up of the White Paper, the National Parliament has passed the Industry Assistance Board Act 1985 under which an Industry Assistance Board (IAB) has been set up to examine cases relating to requests for general and specific protection measures received from local industries and firms. Although the announced policy is to provide short-term, infant industry protection to local industries on a selective basis, the Government guidelines to IAB are yet to be finalised. In the Government there is a strong tradition of 'free-market' approach to industrial development, coupled with an inability to appreciate the special problems of a developing country. It will be necessary to develop and clarify the government policies in this area in the future.

- (iv) As a follow up of the White Paper, legislation has been approved for providing the following fiscal incentives to manufacturing industries:
- (a) wage subsidy to industries manufacturing new products;
 - (b) accelerated depreciation allowances to new companies;
 - (c) export incentives to manufacturing firms and double deduction of their expenses on export promotion for computing their taxable income.

Also government purchase policy has been amended in order to provide for preferential treatment to locally manufactured products in public sector purchases. Financial assistance

is provided to national entrepreneurs under the Credit Guarantee Scheme and the National Investors Scheme for setting up businesses.

- (v) Investment promotion functions have been transferred to the Department of Trade and Industry (formerly Industrial Development) which is to provide co-ordinated assistance to both foreign and national investors in the area of project identification, preparation, evaluation and implementation.

As will be discussed in detail in the next section, the professional capability of DTI is yet to be developed in order that it can provide these services efficiently and effectively.

- (vi) The Government will provide special emphasis on the promotion and development of small and rural industries as well as business activities in the informal sector. A business-cum-technical extension agency is to be set up to provide counselling services to national entrepreneurs in the small-scale sector.

The policies and programmes in this area have to be developed in consultation with the Provincial Governments who have the primary responsibility for SSI development. Also the extension agency is still to be set up.

In the next section the institutional arrangements (in PNG) for industrial promotion will be analysed with a view to formulating appropriate development proposals.

B. Institutional Arrangements for Industrial Promotion

A country needs an appropriate institutional structure for developing and implementing its industrial development policies and programmes. IN PNG, the primary responsibility for this activity has been entrusted to the Department of Trade and Industry (DTI) which is a relatively new agency in the National Government.

Prior to 1983, the responsibility for promoting, regulating and encouraging industry and commerce in PNG was dispersed in a number of government departments and agencies. In January that year, the Government created the Department of Industrial Development (DID) in order to function as the nodal agency for industrial promotion in the country. Industrial development functions have been gradually transferred to this agency over the past four years. In view of the close links between trade and industry, the Government has now transferred the Trade Division (a distinct unit) from the former Department of Foreign Affairs and Trade to the Department which has been renamed as the Department of Trade and Industry (DTI) since January 1986.

The new Department is charged with the clear responsibility of promoting secondary and tertiary activities; but even then a number of central and provincial government agencies may be involved in any proposed new development. For example, when industrial projects involve processing of primary products (including minerals) the relevant functional departments (such as Departments of Primary Industry, Forests and Minerals and Energy) may have a major role to play in their promotion. The central coordinating agencies such as the Departments of Finance and Planning and Foreign Affairs are invariably concerned with industrial policy formulation and project promotion. The Lands Department

plays a critical role in the allocation of industrial and commercial sites for setting up businesses. In addition, one or more provincial government agencies may be involved in the promotion and establishment of industrial ventures. Financial institutions like the commercial and development banks are also closely involved in the process of industrial promotion. DTI, as the nodal agency, must have the requisite professional and technical expertise and information in order to liaise with these other organisations in an effective manner.

There are two other agencies whose role has a bearing on industrial development activities. As mentioned in the previous section, NIDA (National Investment and Development Authority) created under the National Investment and Development Authority Act (as amended from time to time) is charged with the responsibility of the regulation and monitoring of foreign investment. NIDA is responsible to the Minister for Trade and Industry. Since DTI is concerned with investment promotion and is responsible for developing the Government's foreign investment policies, it has a close interface with NIDA's activities.

The other agency which plays an useful role in the area of small-scale industry development is the South Pacific Appropriate Technology Foundation (SPATF). It is a non-profit organisation committed to the development and promotion of mostly low-cost and small scale technologies appropriate to the materials, skills and conditions in PNG. It runs a few small industries for metal recycling, T-shirt printing, manufacture of cane furniture, leather footwear and joinery and also markets handicrafts and tools and equipment needed in the rural areas for farm and non-farm activities. SPATF also provides extension services and training facilities for developing technical skills among the rural population.

DTI provides annual financial grant to SPATF for meeting part of the cost of its operations. The activities of the organisation can be integrated into the proposed technical-cum-business extension system for SSI development.

Although there are thus a number of agencies concerned with industrial development, the prime responsibility for the function (as has been mentioned earlier) falls on the Department of Trade and Industry (DTI). In any case the focus of the present consultancy is on analysing the strength and weakness of DTI and formulating appropriate technical assistance proposal for building up its professional capability.

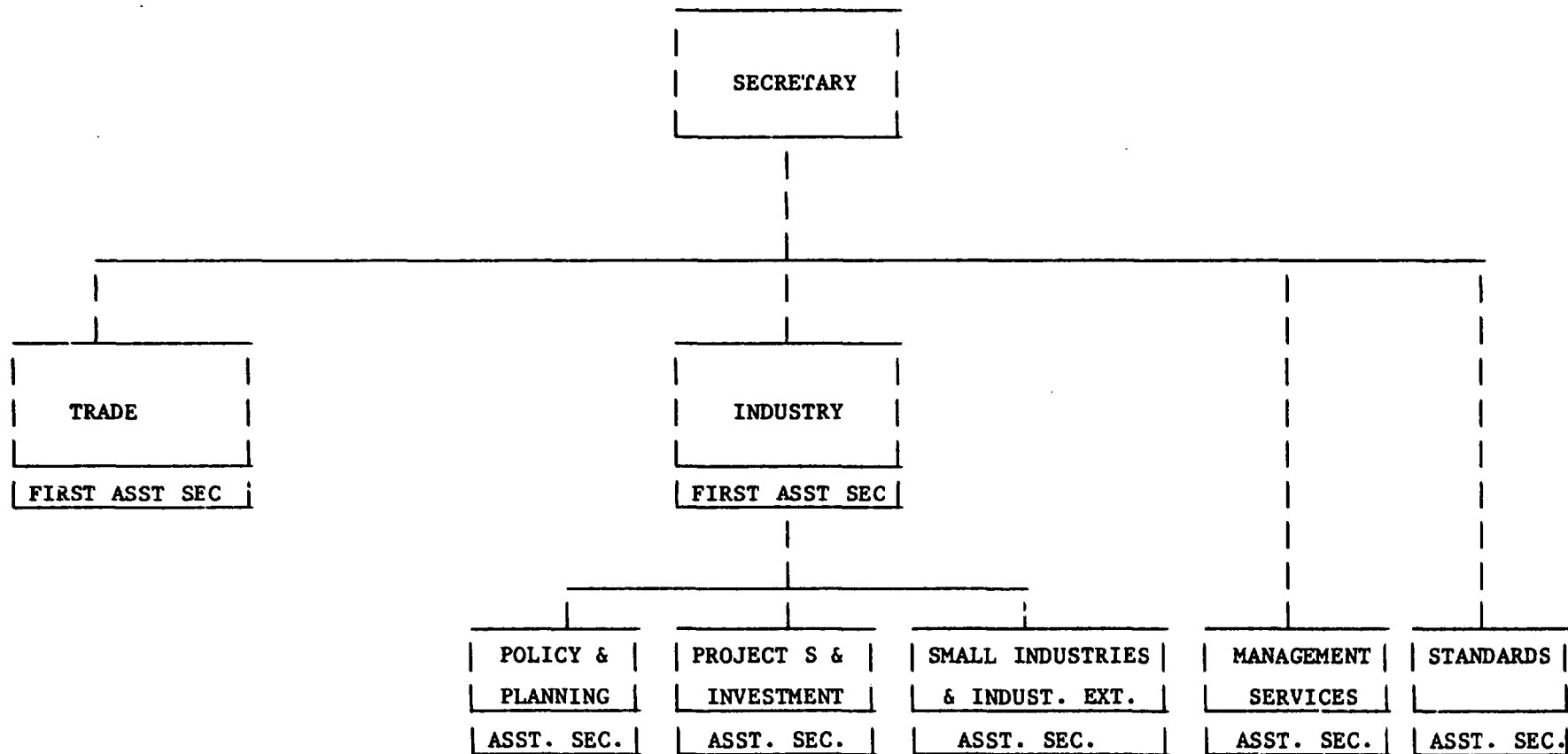
An organisation chart of DTI is attached (Table 3). As may be seen, the Department is headed by the Permanent Secretary and has two principal functional divisions, namely Trade and Industry. Each division is headed by a First Assistant Secretary (FAS) reporting to the Permanent Secretary.

Of these, the Industry Division is concerned with the industrial development functions; therefore, the present analysis will be confined to the activities of this division. The Industry Division comprises three functional units (branches) namely, the: (i) Policy and Planning, (ii) Projects and Investment, and (iii) Small Enterprises and Industrial Extension units. Each unit is headed by an Assistant Secretary (AS) and has professional positions grouped under the following three categories:

- (i) senior personnel (Senior Planning/Projects/Business Development Officers);
- (ii) middle-level personnel (Planning/Projects/Business Development or Small Industry Officers); and

TABLE 3

ORGANISATIONAL CHART
OF THE
DEPARTMENT OF TRADE AND INDUSTRY



(iii) junior personnel (Research Officers).

Table 4 gives details of the functions and staff strength of these three functional units. A few of the positions are held by expatriate personnel; however, most positions are sanctioned for/manned by Papua New Guineans (national personnel) and the Government's policy is to "localise" the positions now held by the expatriates as soon as practicable.

When the Department of Industrial Development (DID) was created in early 1983, its organisation-structure was designed on the basis of a preliminary assessment of the new agency's probable functions and responsibilities. Following the finalisation of the White Paper on Industrial Development (1984) and over the past four years, changes have been introduced on the basis of an assessment of DTI's assigned promotional and development functions and restructuring has been completed in early 1986 through consultation between DTI, the Public Services Commission and the Department of Finance and Planning. The structure as now established seems appropriate to the present needs of the country.

Thus, the structure has followed the strategy but the crucial problem that remains relate to execution and to a great extent that will depend on the quality and skills of the persons manning the organisation. On this score PNG has serious deficiencies arising out of its unique historical circumstances. The Government recognises that shortage of skills (and experience) in various areas, including industrial development activities is a major constraint to development and is seeking international assistance for capacity building for growth.

There are a few aspects of the personnel situation in DTI which need to be discussed before formulating

TABLE 4

**FUNCTIONS AND STAFF STRENGTH
OF THE THREE BRANCHES OF
THE INDUSTRY DIVISION**

<u>Name of the Unit</u>	<u>Functions</u>	<u>Professional Staff Sanctioned</u>	<u>Professional Staff in Position</u>
		(number)	
1. <u>Policy & Planning</u>	Industrial policy and research; industrial surveys and studies; infrastructural services; foreign investment and technology transfer policies and liaison with international organisations; industrial data system.	12	7
2. <u>Projects and Investment</u>	Project identification, and evaluation; investment promotion and industrial contracting; industry assistance.	14	9
3. <u>Small Enterprises & Industrial Extension</u>	Small industry policies or programmes; SSI promotion; industrial extension; liaison with the Provincial Governments; entrepreneurial development and training; publications	16	14

appropriate proposals for the professional development of the departmental staff. Firstly, under the system followed so far, the Public Services Commission (PSC) is responsible for the recruitment of all the professional staff, both national and expatriate. Often there has been considerable delay in completing the recruitment procedures. A number of professional positions are still vacant and need to be filled up as soon as possible. Recently, some changes have been introduced in the recruitment system and the functions of PSC; but the full implications of these changes are not yet clear.

Secondly, the expatriate personnel are recruited by PSC through public advertisements in the specified countries overseas. The process of recruitment is unduly long and can take up to about two years before a person can be recruited to a specific position. Also, it is often difficult to get persons with adequate professional experience in the industrial development work in the developing countries and having the background and attitude appropriate to the conditions prevailing therein.

Finally, most of the national professional personnel who form the core of the Department and are its mainstay, are just beginning their professional career. They need very careful training and guidance so as to develop the necessary skills and expertise for their work.

An analysis was made of twenty-one (21) national professional personnel of the three functional units of the Industry Division. Of these personnel only ten (10) persons have university degrees, seven (7) have higher school certificate (Grade 12) and the remaining four (4) have completed a two-year certificate course (in Business Management/Co-operatives) after completing high school (class 10). As regards work experience, only

fifty percent (10 out of 21 persons) have work experience of more than five (5) years; six out of these ten persons worked in the former Department of Commerce in small business development. As many as eight (8) persons started their working career with DTI (formerly DID) in 1983 and the remaining three (3) have worked in various government agencies for periods ranging from three (3) to five (5) years. It is thus fairly evident that all these personnel require very careful formal (long-term and short-term) and on-the-job training for their professional development.

C. Proposals for International Assistance for Institution-Building

Under the Fourth Country Programme (1987-1991) of the Government of PNG, a formal request has been made to UNDP for assistance in upgrading the professional capability of DTI "in order to improve the services it offers in a number of areas including policy planning and programming, project identification and evaluation, assistance to provinces and small-scale entrepreneurs and the promotion of both foreign and domestic investment in industry". There is ample justification for providing this technical assistance which will go a long way in developing institutionalized indigenous capacity for industrial promotion in PNG.

The professional expertise and skills of DTI's personnel should be developed through a purposive on-the-job training programme, coupled with appropriate formal training courses. Given the shortage of professional staff, it would be desirable to establish within DTI an advisory team of international experts in the appropriate fields. These experts will work alongside the national personnel, attending to the normal functional responsibilities of the Department in the

area of industrial development. They will undertake activities leading to the production of planned outputs in accordance with a systematic work plan. This will result in the transfer of skills and expertise from the international experts to the national personnel through association-in-work.

The departmental objectives and organisational structure determine the areas to which assistance needs to be directed under the technical assistance project. Firstly, there is the crucial area of industrial (sectoral) policy and plan formulation and implementation for which DTI is primarily responsible. The country needs an appropriate policy framework that would elicit the desired behaviour from both private and public entities. Without a stable policy environment that encourages efficient industrialisation, the country's industrialisation efforts would not yield the desired results.

The second area requiring attention is that of project and investment promotion. There are three aspects of this activity: project identification and preparation, project evaluation and investment promotion. DTI needs direct assistance for developing institutional arrangements and work procedures and for developing skills in this area.

Lastly, the Department also needs assistance in developing capability for the promotion of small-scale and rural industries. This activity involves co-ordination with the Provincial Governments (Commerce Divisions) and entrepreneurial development programmes. The Government's White Paper on Industrial Development and the five-year plan envisage the establishment of an appropriate technical-cum-business extension system to provide technical and counselling services to national entrepreneurs both at the national and provincial levels. Such technical services are not presently available.

It is, therefore, suggested that under the technical assistance project an advisory team of long-term international experts (3) should be located within DTI in order to work in the three areas indicated above. While working as one advisory team, each expert should be assigned to the appropriate functional unit of DTI to work with its personnel and assist them in developing capabilities in the relevant fields. The efforts of the long-term experts should be supplemented by short-term consultancies (in specific, specialized areas) and volunteers (for industrial extension work in the provinces).

The members of the advisory team should be made responsible for training the national personnel in all the relevant industrial development activities primarily by working with them (on-the-job training) and through formal discussions with the staff. This on-the-job training should be supplemented by formal courses, both long-term and short-term, in the fields of economic and industrial development. At present the personnel of DTI are being deputed for various short-term training programmes in an adhoc manner. There should be a more purposive programme for such training. The advisory team should assist in the preparation of a comprehensive Staff Development Programme for providing formal training to the departmental professional personnel.

The Government regularly receives financial and technical assistance from a number of international agencies (UNIDO, CFTC, EEC etc.) and bilateral donors for training its personnel in the industrial development field. The UNDP project no. PNG/83/001 (Professional Manpower Development) also provides for short-term, in country and long-term overseas training for middle and senior public servants. All these resources and opportunities for training should be co-ordinated in the comprehensive Staff Development Programme to be prepared

and implemented with the assistance of the advisory team.

The quality of managerial and technical personnel is the driving force behind the development of a professional and competent industrial development organisation. DTI, being a relatively new agency in the Government, needs the institution-building project for developing the required professional capability among its personnel. Institution-building, however, is a long-term process. The proposed technical assistance project should, therefore, run for a period of five (5) years after which the national personnel may be able to continue the industrial development activities without much external support.

D. Schedules, Targets and Utilisation of Project Results

As part of the Project activities and as required by the Government, the expert also participated in the policy and planning work of DTI during the period of consultancy. The results of the analysis of the industrial structure and policies and of the institutional arrangements including the training requirements of the departmental personnel were made available to the Government for appropriate action. The expert also made substantial contribution to the preparation of the draft guidelines for the Industry Assistance Board (IAB) in respect of the industrial protection policy; preparatory work was done to set up an industrial data system in DTI.

The revised work programme and the expert's job description provided for the preparation of a Project Document for large-scale technical assistance to DTI. This was done on schedule, incorporating the results of the industrial structure analysis and of the institutional arrangements for industrial promotion. The Project Document entitled "Institution-building for Industrial Promotion" (Appendix A) was submitted to the Government, UNDP Port Moresby and UNIDO, Vienna. The expert had detailed discussion with these agencies and also with the UNIDO mission which visited Port Moresby in May 1986.

As a result of these discussions a few changes were made in the Draft Project Document. The Government has since approved and executed the Document. UNDP, Port Moresby has endorsed it to their headquarters in New York for approval.

UNIDO, Vienna has also approved the Document. It now awaits approval from New York for implementation.

In March 1986 the expert participated in the discussions within the Government and with UNDP Port Moresby for the finalisation of PNG's Fourth Country Programme (1987-1991). As a result, the provision made in the Draft country Programme for the proposed institution-building project was enhanced to US\$1.5 millions. The expert also assisted DTI in preparing estimates for meeting the local costs of the project from PNG's budgetary resources. Thus, adequate financial arrangements have been made for the proposed project.

Finally, as required under the job description, the expert also prepared project proposals for short-term consultancy (two man months) identifying specific expertise required for analysis. These related to

- (i) assistance for designing an industrial potential survey for the Highlands region; and
- (ii) assistance for the development of the cement industry in PNG.

The job descriptions for the short-term consultants were submitted along with the proposals in April 1986. The proposal relating to the industrial potential survey has since been approved by UNIDO.

III. FINDINGS

- (1) The industrial structure of PNG is typical of a 'non-industrial' country which is still in the first stage of industrialisation, requiring careful policy and institutional support for its development.
- (2) There is potential for development in a number of import replacement (domestic-market-oriented) industries and in the export-processing of PNG's primary products. SSI development is also another area requiring attention. However, it is difficult to envisage any rapid growth of the manufacturing sector in the medium term because of the country's low level of development and the presence of a few basic constraints in the economy.
- (3) An industrial policy-framework is evolving in PNG and needs to be developed further for promoting efficient industrialisation.
- (4) DTI is a relatively new agency in the Government and has established appropriate organisational structure for promoting industrial development in the country.
- (5) However, the Department lacks in qualified and experienced personnel and is in the need of outside technical assistance for developing the professional capability of its staff.
- (6) Under its Fourth Country Programme (1987-1991) the Government has requested UNDP for technical assistance for upgrading the professional and technical capability of the DTI personnel.
- (7) A Project Document prepared for the proposed large-scale technical assistance is under consideration of UNDP, New York.