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YAP STATE
(FEDERATED STATES OF MICRONESIA)

Technical report: Techno-economic study*

Prepared for the Governments of the Federated States of Micronesia
by the United Nations Industrial Development Organization

Based on the work of Krishan D. Khosla

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* This document has not been edited.

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(KRISHAN D. KHOSLA)

Summary of Recommendations

1. The prevalent circumstances do not justify taking steps immediately to promote an industrial estate at Yap. The success achieved in promoting tourism and foreign investments and development of natural resources should be reviewed in 1993 to reconsider the issue.
2. In the light of facilities being offered to industry at preoperative stage by the government, economies possible in providing those at one location, for providing another stimulant for attracting foreign investments and for effective monitoring of the export oriented enterprises, it is suitable to promote an export processing zone at Yap.
3. Old airport is the best available site for establishing industrial estate/export processing zone.
4. An investment incentive code should be designed and introduced earliest possible for attracting foreign investments.
5. Industrial Survey of the country should be carried out. In the light of its results and based on location factors and for catering to the national market the two check lists of potential investment opportunities should be reviewed for industrial development of Yap.
6. Industrial information should be built up and entrepreneur information sheets be prepared before

launching entrepreneurship motivation programme. This service will also minimise mushroom growth trends in establishing business.

7. A study should be conducted for revival of coconut based industrial activities.
8. The activities of fiber glass enterprise be extended to include making of wash basins, bath tubs and corrugated sheets.
9. The handicrafts and tiny units should be those which have investment on machinery and equipment upto \$10,000, small scale between \$10,000 to \$1000,000, medium scale between \$100,000 to \$250,000 and large scale investment more than \$250,000.
10. Lending procedures should be simplified and made less time consuming.
11. 'Guarantee loan' facility should be extended to private sector enterprises.
12. An advisory committee should be established to advise the Development Bank on all aspects of financing industry and monitoring the performance of such loanes.
13. Availability of institutional finance is more important than its cost. Additional funds be provided to the Development Bank to clear all pending applications.
14. Credit should not be too expensive to restrict industrial development. It should not be so cheap to encourage unnecessary use of capital intensive techniques. Handicrafts and tiny units be charged current interest rate of 5%. It should be increased to 6.5% for small units, 8.0% for medium scale units and 10% for large scale

units. The interest rate for financing trade and real estate should be higher than that for the industry.

15. Foreign investors should be provided credit facilities on commercial terms against security of their local assets.
16. Purchase and price preferences to local industry should be provided in respect to government purchases.
17. The import tariff structure should be reviewed to levy lower duties on raw materials vis-a-vis finished goods.
18. Tax system should be changed to tax profits rather than being based on gross receipts where even losses are taxed. Other related issues like carrying forward the losses, ploughing back the profits, provision for depreciation should be reviewed to be helpful to promote investments.
19. Market protection to small and medium industries should be provided at least during their stage of infancy.
20. As and when a sizeable development of small and medium scale industries takes place (a) systematic industrial extension service in management field (personnel, marketing and financing) should be provided by the Development Bank and arrangements for technical extension service should be made as the need arises, (b) common service facilities centre having equipment for tool room, casting and metal finishing should be established and (c) system should be introduced for project appraisal and supervision for institutional financing and for covering proposals from foreign investors including monitoring the implementation of the investment incentive contracts.

21. Common services centres should be established aimed at upgrading artisans' skill, introducing better designs and improving productivity and earnings of the artisans. Selected handicrafts should be exhibited in show windows at hotels patronised by tourists.

22. The technical assistance from UNIDO should be sought through UNDP currently for:-
 1. Conducting feasibility study for promoting export processing zone.
 2. Preparation and implementation of investment incentive code.
 3. Conducting of industrial development potentialities survey of the country.
 4. Introducing a system for collection documentation and dissemination of industrial information and establishing an industrial information centre in the Department of Resources and Development.
 5. Organising revival of coconut based industrial activities.
 6. Establishment and operation of common services centres for the benefit of the artisans.
 7. For organising and guiding investment promotion meetings at various places including Hong Kong and preparing memoranda of understanding.
 8. Arranging educational tour for two representatives to Maldives to study activities of the artisans and facilities provided to them.

Later on when drive for development of industry catches up:-

1. Organising industrial extension service in management field.
2. Short term consultants for solving specific technical problems.
3. Drafting a proposal for small and medium scale industries participation in government purchase

programme and afterwards for implementation of the programme.

4. A project appraisal and supervision adviser to assist the Development Bank and the credit Advisory Committee.
 5. Establishment and operation of a Common Service Facilities Centre.
23. Other donor countries should be approached for financing purchase of machinery and equipment for establishing common services centres for promoting handicrafts and Common Services Facilities Centres for promoting small and medium scale industries.

I - INTRODUCTION

1.1.1 The State Government of YAP has been of the view that establishment of an industrial estate is an important link in the overall strategy to diversify the economy of the country through organising industrial production. This concept in various developing countries has facilitated growth of modern enterprises to meet the felt needs of the inhabitants of the manufactured imported goods as well as to process surpluses of natural resources for domestic and export markets. It foresees that more entrepreneurs would set up industrial units if the State Government shoulders costs for site development, common facilities etc. In YAP this is more likely to happen in the light of a provision under the compact agreement for easier access to USA markets for the FSM (Federated States of Micronesia) products with a minimum of 30% value added component. With this background the Government of YAP approached the UNIDO (United Nations Industrial Development Organisation) to study and to advise as to how best the state could organise activities to achieve the goal as fast as possible.

1.1.2 The UNIDO fielded an exploratory mission during August, 1987 to identify ways and means aimed at improving the capacity of the Government to promote small industries and for that to spell out different phases to be considered for establishing with international assistance an industrial park (estate). The mission carried out: (a) general assessment of the aspects influencing initiation of an industrial development programme, (b) preliminary examination of the three sites suggested for location of the proposed industrial estate, (c) short listing of potential investment oppor-

tunities for location in the industrial estate. It in the report finalised in November, 1987 recommended that: (a) a feasibility study should be undertaken to pinpoint suitable commodities for establishing SMIs (small & medium industries) in the proposed industrial estate spelling out capital investment, cost implications for land lease agreements, joint ventures, export capability, production capacity and other related matters and (b) based on the results of the techno-economic study analyse the immediate requirements and potential demand for a small scale industrial estate, work out its technical, economic and financial implications and to select the suitable location.

1.1.3 The UNIDO based on the correspondence and discussions held on the report prepared a proposal to field (a) An industrial economist mainly to prepare a techno-economic study and some opportunity studies on identified potential investments. He is further required to review, in consultation with the expert in industrial estate development, government policies and strategy for industrial development, defining constraints, if any, identifying factors impeding industrial growth and other related aspects having bearing on the establishment of an industrial estate and (b) An expert in industrial estate development for physical planning of the industrial estate and having the overall responsibility for finalising report of the mission.

1.1.4 The job description of the industrial economist is at enclosure-I. He worked in the Yap state from December 12, 1990 to January 9, 1991 and further for fifteen days in his home country at New Delhi to prepare the techno-economic report. During the stay, he visited related government offices, sites for industrial estate, some villages, existing industrial enterprises, markets, available infrastructure facilities and met a number of entrepreneurs. The details are given in enclosure-II. He also studied the relevant available literature providing information or

having bearing on evaluating industrial potentialities and their suitability for housing in an industrial estate. The literature gone through is listed in enclosure-III. Whereas the adviser was very fortunate in obtaining willing cooperation from all concerned through provision of available information and free and frank discussions, yet data covering resources and consumption of manufactured goods in specific terms, per capita income etc. was not available to estimate consumption levels of individual items which lend themselves to establish SMIs suitable for location in an industrial estate.

II - BACKGROUND

Introduction:

2.1.1 The Yap state is one of the four states of the Federated States of Micronesia. The map of Micronesia is at enclosure-IV. The names of the states are mentioned in rectangles and the capital city of the country is underlined. The Yap islands are in the Western Carolina islands of Micronesia; about 500 miles southwest of Gham, 800 miles east of the Phillipines and 750 miles north of New Guinea. These islands can be grouped into two units: (a) the four large interconnected "high" islands which make up Yap proper and (b) the twelve atolls 130 islands scattered upto 600 miles to the east and south of Yap propr and together comprising the "outer islands". Yap state stretches from about 6 to 10 degrees North latitude and 137 to 148 degrees West longitude and encompasses about 500,000 square miles of area. Most of the islands are of the Volcanic origin and some are of raised limestone. The temperature is moderately high being 80 degrees fahrenheit with consistantly high humidity. Yap is affected by intermittant trade winds and monsoon. The hottest months are JULY to November when it rains almost daily.

2.1.2 Any development strategy designed should be in resonance with the historical and cultural background of the people and take into consideration the political and economic situation prevalent in the country at the time of outlining the development approach. A map depicting air connections among major places in and around the country is at enclosure-V. The map of four islands which form 'Yap Proper'

is at enclosure-VI. This chapter, therefore, deals with historical, cultural, political and economic background of the State.

Historical

2.2.1 The excavations on Yap suggest a close connection with the Marianas and the place of settlement as old as AD 176. It is the Portugese explorer Diego DeRocha who discovered Yap in 1526. It is, however, the Spaniards who colonised Yap and the adjoining islands and established a mission in 1731. In 1874 Spain declared sovereignty over all of Yap. Today there is little evidence of Spanish occupation except perhaps remnants of a wall and foundation upon which the present government office complex is located. Spanish did practically nothing to "civilise" the islands. During Spanish occupation some British merchants of the East India Company visited the islands.

2.2.2 The formal occupation of Yap began in 1785 when an American sailor David O'Keefe whose ship wrecked stayed on and developed lucrative copra trade. He also helped Yapese to transport large discs of Stone (stone money) from Palau. His home's remains can still be seen in Tomil harbour. Germans laid claim to Yap. However, Pope upheld Spanish claim. By the end of century Spain was defeated in war with USA. Then Germans purchased Yap. Under Germans, Yap started to develop. A canal was built at Tomil, and a radio communication station at the high school which provided a link to China through Gaum and the Phillipines. A hospital was also established at Fanbuywol.

2.2.3 The radio communication facility became later a bone of contention between Japan and U.S.A., when Japan assumed control of Yap after Germans defeat in the World War I. Yap became a centre of Japanese industry. Japan fortified Yap and some other islands in preparation for a war of conquest

in Pacific. One can still witness signs of shore and anti aircraft gun emplacements and air fields and damages done by the American bombardments. Americans occupied Yap in late 1945. The United Nations designated the former Japanese Pacific islands as a strategic area; placed that under the trusteeship system and designated U.S.A. as the administering authority of the trust territory. U.S.A. took over the administration during July, 1947. Its administration was handed over to the Department of Interior in 1951. In 1979 legislature system was established and in 1987 Compact Agreement of Free Association was signed between the Government of the USA and the FSM.

Cultural

2.3.1 Yapese more than most other islanders have clung tenaciously to their customs and traditions despite being continuously under the early influence of traders, priests and later officials of four foreign powers covering a period of over four hundred and fifty years. Yap state has retained usage of three of the eight different spoken languages namely, Yapese, Ulithian and Woleaian. They are slow to change. Yap's social system is extraordinarily complex. Stratification has reached a peak with sharply partitioned caste relationship percolated over hundreds of years. Traditional Yap recognised extraordinary class distinctions and segregated people into nine different classes. The authority pyramided downwards from only a few leaders on Yap Proper islands whose power and influence extended hundreds of miles eastward to outside islands and atolls. This complex caste system developed over a period of time through warfare which resulted in each caste having its own rights, responsibilities and lands. The Yapese took the cast of their villages. Those of lower caste villager had obligations to those from higher caste ones being subordinated to their masters in the higher caste. For one thing they occupied land owned by families of higher ranking villages through a master-serf

relationship and their social freedom was restricted in many ways as a constant reminder of their inferior status.

2.3.2 The inheritance of land, status, rank and valuables flows along patrilineal lines. Every parcel of land has a name and rank. The chief controls the highest ranking plot of lands. In the Yapese sense the land is the chief and not the man. Thus land denotes power. Along with land inheritance goes special privileges and power and food resources areas. The great attachment with land results in resistance or refusal to any outside authority allocating their land for uses they may not understand or wish. Land is viewed not only with pride of ownership but a certain sense of understandable jealousy of any encroachment. It is noteworthy also that many land titles and traditional rights to use the reef have never been written down or recorded. These are in the mind of people which is seldom challenged. Certain areas of land in villages are used commonly such as playgrounds, meeting houses and natural needs of the society. Even lagoon flour in front of villages is partitioned like land and ownership rights are claimed into the open sea.

2.3.3 The impression which one gets of village is that it is place of tranquility and privacy of the inhabitants. Permission is almost always required before entering a village since it is not public property. This also includes stone foot paths, gardens, shoreline areas etc. Yapese like to converse in local dialects. Another feature of interest is the large discs of crystalline calcite or arragonite "stone money". The value of "stone money" is not dependant on its size but by its history including the lives lost in obtaining it.

2.3.4 There are places constructed in traditional style with hatched roofs on raised stone platforms where traditional dances are held with colourful costumes (even made from grass). The boys begin with one piece of cloth eventu-

ally graduating upto three, usually red, blue and white as they approach maturity. Outer island men are permitted to wear only a one piece loin cloth. Females living in outer islands wear topless dresses. Yapese largely practice extended family system and support each other till everyone is able to make a living. Betel munching is very common. Majority of people practice easy life and seemingly are not too ambitious. They are not accustomed to leading a disciplined life and valuing time which approaches are otherwise important for industrial production.

Political

2.4.1 The Federated States of Micronesia include states of Kosrae, Pohnpei, Truk and Yap. These were formerly a United Nations Trusteeship administered by the U.S.A. In 1986 through a proclamation by the U.S. President a self-governing independent political entity emerged in free association with the USA. There is a national Government with capital at Pohnpei.

2.4.2 The State Government has four branches namely the executive, the legislature, the judiciary and the two councils of chiefs as guardians of culture and traditions. The executive branch is composed of five departments dealing with specific policy areas and three supporting offices as well as the office of the Governor and the Lieutenant-Governor. Public administration is Yap's major industry. This is the result of the development policy pursued since post second world war period to duplicate the U.S. public service delivery system without adequately thinking of the capacity of the state's productive economy to bear the brunt. Till to date the economy is mainly dependant on USA compact financial assistance. It is realised that this cannot continue for ever and an affordable system of government has to be developed. It is easy said than done.

2.4.3 The social environment further enhances the role assigned to the public sector. Too often the govt. is seen as the provider of all goods and services. There is little appreciation of the fact that government services are ultimately limited by the amount of resources available for them. The US welfare programmes were not specially designed for the Yap situation. Many public services are provided free of charge and bear little relationship to local revenue collection. Since self government has instituted, a ceiling was placed on funds for government expenditure and this has created an embarrassing situation. The liberal availability of US funds affected the socio-cultural values of the people particularly the youth. Those have not been integrated with the economic and social development of the state.

2.4.4 The Western political system is too elaborate for the island economy. In 1989 it resulted in government expenditure of \$ 16.6 million against revenue of \$ 1.4 million. Public sector employment conditions are highly favourable to workers which private sector cannot afford. The built in mechanism virtually assured increments/promotion with little regard to performance and financial ability of the state. The private manufacturing sector which is yet in its infancy and fights on various other fronts for its survival and progress is adversely placed in labour market. This will need much of adjustment and taking of unpopular steps for the state government to work for growth of self-sustaining economy and promotion of industry.

2.4.5 Traditional authority plays an important role in modern politics and government. Traditional leaders comprise the councils and have important responsibilities concerning the promotion and preservation of traditions and customs, including the power of vetoing legislation affecting them.

Economic

2.5.1 The barter system is significantly operative along with monetary economy system particularly in the villages and outer islands. Two executive government agencies are responsible for management of public finances. The office of Planning and Budget prepares annual and long term budgets and coordinates all financial grants and assistance to the State Government. The office of the Administrative Services is responsible for all local state revenues and the overall disbursement and accounting of Government expenditure. The public sector employment in 1990 is estimated at 1,084 (being 979 in 1987 with annual average increase of 3.45%) and of the private sector at 1,473. The projected population of working age group for 1990 stands at 5,806 of which 2,975 are males. In 1987 the average annual income of the private sector workers was \$ 3,169 as against corresponding figure of a little over \$ 5,844 in the case of public sector. Thus public sector jobs besides being more secure are also more lucrative. This situation is not conducive to growth of private sector particularly it being inexperienced and highly dependent on foreign inputs and enjoying little protection against competition. The hourly wages for unskilled jobs in private sector are \$ 0.80 whereas the government had been paying \$ 1.25 per hour.

2.5.2 The financial situation of the state is unusual in the sense that the bulk of government expenditure is met from foreign assistance. The state finances are organised separately for operational expenditure and development investments. Foreign sources are US Compact Financial Assistance, US Federal Fund and project assistances received from foreign governments and agencies and international institutions. The State Government raises revenues locally like through levy of excise tax and obtains its share from the National Government of taxes like income tax and import duty. The State Government cannot resort to deficit financ-

ing. The total availability of funds for operational and development expenditure to the State Government during 1986-90 was as follows :

I - Availability of Funds - Yap Government

(\$ in '000)

Source	1986	1987	1988	1989	1990
Foreign					
USA	NA	13,019	14,046	14,273	14,568
Local					
State & National	NA	2,103	2,224	2,729	2,403
Total	NA	15,122	16,270	17,002	16,971

Source: Office of Planning & Budget, Yap State Government Status Report, February 2, 1990.

2.5.3 The availability of funds during 1986-90 for operational and developmental expenditure has been as follows:

II - Availability of Foreign Funds - By Purpose

(\$ in '000)

Purpose	1986	1987	1988	1989	1990
Operational Account	NA	7,033	7,148	7,321	7,437
Capital Account	NA	4,328	4,399	4,505	4,576
Development Fund	NA	1,190	1,190	1,190	1,190
Other Program Funds	NA	468	309	257	365
Total	NA	13,019	14,046	14,273	14,568

2.5.4 The expenditure incurred by the State Government during 1984-88 has been as follows:

III - Expenditure Incurred - By Purpose

(\$ in '000)

Purpose	1984	1985	1986	1987	1988
Operational Expenditure Total	NA	NA	NA	NA	NA
Operational Expenditure Salaries	NA	NA	NA	NA	NA
Development Expenditure	NA	NA	NA	NA	NA
Total Expenditure	7,048	6,668	7,619	7,058	8,741

Source: Office of Planning and Budget Yap State

2.5.5 The estimate of availability of funds for expenditure during 1991-1995 is as follows:

IV - Availability of Funds - 1991-95

(\$ in '000)

Source	Purpose	1991	1992	1993	1994	1995
Compact Funding Sec.211(a)2 Sec.212	Development	4,974	4,343	4,408	4,473	4,539
Other Foreign Sources	Development	NA	NA	NA	NA	NA
National & State	Development	NA	NA	NA	NA	NA
All Sources	Operational Expenditure	NA	NA	NA	NA	NA
Total		NA	NA	NA	NA	NA

Source: Draft Chapter "Public Finances" Second Five Year Plan

2.5.6 The break up of the expenditure incurred by the State Government during the past is not known. As such the empha-

sis on development activities could not be gauged. Further estimates could not be obtained of availability of funds other than compact funding under Section 211(a)2 and Section 212, during 1991-95. Therefore the financial capability of the State Government to undertake various development activities during the period could not be assessed. A list of projects and programmes proposed to be undertaken during 1992-97 was obtained. It is reproduced as enclosure-VII. The list shows that steps will be taken during the period to develop the natural resources to extend infrastructure facilities, to create common facilities and industrial extension service, to promote industry through local initiative and to provide facilities for encouraging foreign investments.

2.5.7 The proposed stepwise reduction in compact financial assistance from USA is likely to create tight financial position. Based on current trends the state could face a public sector deficit in financial year 1992 and beyond. Many governments work with a deficit budget which need not always be a big problem. If there be strong local tax base then that could be tapped to meet present needs and to assure future revenues. But Yap State has very weak local tax base and is running the system through artificial high revenues from US for the duration of the Compact assistance. Although disproportionate size of government is the heritage of the trusteeship yet this might have to be reduced and local revenues increased; financial procedures and fiscal policies rationalised, spending priorities established, new sources of revenue identified, development spending directed to really viable projects and private investments local and/or foreign encouraged particularly by providing facilities which have long gestation period and other incentives looked for by the foreign investments. The western model of politico-economic system, it has been felt, is not in tune with the economic realities of a small island country.

Balance of Trade

2.6.1 The balance of trade of the Yap state during 1984-88 has been as follows as per the data published in the FSM Trade Bulletin 2, October 1989.

V - Balance of Trade - Yap state

(\$ in '000)

Item	1984	1985	1986	1987	1988
Exports					
- Visible	307.4	625.8	274.5	170.9	370.9
- Invisible	173.6	278.4	388.0	426.8	459.8
- Total	48.0	904.2	662.5	597.7	830.7
Imports	5396.4	6091.9	5967.8	5083.9	8257.4
Balance of Trade	(4915.4)	(5187.7)	(5035.3)	(4486.2)	(7426.7)

The imports of petroleum products through Mobil Oil Micronesia during 1984-87 are not reflected by the above data. Obviously there has been not only a wide and serious negative balance of trade all through the period but also it has a rising trend.

2.6.2 The breakup of exports for 1984-88 is given in Table-VI

VI - Exports of Goods and Services - Yap State

(\$ in '000)

Commodity	1984	1985	1986	1987	1988
<u>Agriculture Produce</u>	<u>283.4</u>	<u>615.8</u>	<u>116.5</u>	<u>45.9</u>	<u>173.2</u>
Copra	255.4	603.8	106.5	33.9	165.2
Bananas	18.0	11.0	9.0	12.0	8.0
Betal Nuts	10.0	2.0	1.0	0.0	0.0
<u>Marine Products</u>	<u>23.0</u>	<u>9.0</u>	<u>158.0</u>	<u>125.0</u>	<u>196.7</u>
Fish	12.0	9.0	55.0	100.0	195.7
Trochus Shell/Meat	11.0	0.0	103.0	25.0	0.0
Crab/Lobesters	NA	NA	NA	NA	NA
Other Marine Products	NA	NA	NA	NA	NA
<u>Other Products</u>	<u>18.4</u>	<u>27.8</u>	<u>38.8</u>	<u>42.7</u>	<u>48.0</u>
Coconut Oil/ Soap Products	NA	NA	NA	NA	NA
Handicrafts					
- Visible	1.0	NA	NA	NA	2.0
- Invisible	17.4	27.8	38.8	42.7	46.0
Hotel/Restaurants/Others	156.2	250.6	349.2	384.1	413.8
Total Exports	481.0	904.2	662.5	597.7	830.7

2.6.3 The break up of imports by major groups of products both by private sector and government is depicted in table-VII.

VII - Break-up of Imports by Major Groups - Yap State

(\$ in '000)

Commodity Group	1984	1985	1986	1987	1988
Food	1308.7	1870.7	1618.8	1554.2	1706.8
Beverages/Tobacco	835.9	1106.2	1009.4	1036.0	1309.2
Crude Materials	66.5	27.4	17.2	9.8	15.2
Petroleum Products	2.5	NA	0.1	0.0	1002.9
Animal & Veg. Oil	7.4	5.3	0.0	16.6	9.0
Chemicals	324.6	361.7	638.9	363.8	407.0
Manufactured Goods	601.5	696.9	894.9	698.0	1254.3
Machinery/Vehicles	1498.7	939.1	908.3	895.6	1164.1
Misc. Manufd Goods	494.5	798.2	518.0	436.8	851.1
Other Items	256.0	286.4	92.2	73.1	537.8
Total	5396.3	6091.9	5697.9	5083.8	8257.4

The petroleum products imported through Mobil Oil Micronesia during 984-87 are not reflected in above Table.

2.6.4 The break-up of imports during 1984-88 by the private sector alone is depicted in Table-VIII.

VIII - Break-up of Imports by Private Sector Major Groups

(\$ in '000)

Commodity Group	1984	1985	1986	1987	1988
Food	1308.9	1870.7	1618.8	1553.8	1701.4
Beverages/Tobacco	835.9	1105.6	1009.4	1035.6	1309.2
Crude Materials	66.0	27.4	15.4	9.7	7.1
Petroleum Products	0.0	0.0	0.0	0.0	1002.9
Animal & Veg. Oils	7.4	5.3	0.0	16.6	9.0
Chemicals	155.9	223.6	282.4	264.3	234.7
Manufactured Goods	475.2	569.0	687.4	671.7	1004.5
Machinery/Vehicles	479.2	541.7	583.7	591.4	667.6
Misc. Manufd. Goods	271.4	316.3	360.5	344.3	485.2
Other Items	0.0	3.7	5.4	1.2	0.0
Total	3599.9	4663.3	4563.0	4488.6	6421.6

The petroleum products imported through Mobil Oil Micronesia during 1984-87 are not reflected in Table-VIII. The values of some of the items which are being imported in sizeable values and are included in broad groups like food, beverages and tobacco, chemicals, manufactured goods and vehicles, are shown in Table-IX.

IX - Breakup of Imports by Selected Items - Yap State

(\$ in '000)

Commodity	Imports	Commodity	Imports
Canned Meat	223.9	Soft Drinks	168.5
Canned Fish	177.8	Toiletries	3.5
Frozen Meat	128.7	Shampoo	6.2
Poultry	140.2	Soap	30.7
Eggs	6.8	Cosmetics	24.9
Rice	170.0	Perfume	3.4
Flour	23.3	Lotion	0.4
Reman/		Hair Oil	Neg.
Noodles/Cereals	135.7	Lumber	161.7
Sugar	35.9	Plywood	66.4
Ice Cream	49.5	Cement	73.6
Baby Food	19.2	Furniture	48.7
Fruits & Vetables	125.4	Footwear	31.3
Coffee	43.8	Fishing goods	14.2
Confectionery	82.8	Vehicles	307.0
Fruits/Veg. juices	31.5	Outboard Motors	25.8
Shortening	16.2	Calculators	3.4
Kitchen Salt	1.9	Video Players	2.9
Cigarettes	508.8	TV Screens	16.6
Beer	535.0	Computer Hardware	1.6
Liquor	87.8	Computer Software	Neg.
Wine	3.7		

2.6.5 The overall long term goal of Yap state is to be a viable and self reliant society. Therefore it has to be capable of effectively delivering public services which are affordable in terms of the state's economic resources. For this, public agencies would have to be cost effective and what should be done and can be done by the private sector, should be left and the government should take upon itself only other promotional and supportive role and create conditions which are conducive to the growth and development of the private sector.

III - RESOURCES ANALYSIS

Land

3.1.1 The total land area of Yap State is 33,668 acres. Land therefore is a scarce resource and as such its use, distribution and delineation should be properly overseen to ensure that incompatibility of land use is minimised and uncertainty and conflicts over land tenure are avoided. Land is mostly privately owned except for about 463 acres on Yap proper which form government property and is fully in use and is essentially held under customary system of land tenure which differs between Yap proper and the outlying islands and atolls. Despite introduction of western concepts of formalised, written rights of tenure, most parcels in the State have not yet been surveyed and documented. There are two government agencies responsible for administration of land matters. One is Land Commission which is a statutory body established mainly for investigating and determining ownership and delineation of land parcels. The other, the Division of Land Resources of the Department of Resources and Development, is responsible for conducting land surveys, mapping, maintenance of records on public land and the administration of land acquisition.

3.1.2 Non-citizen cannot own land. They can lease for a maximum term of 50 years which includes option to renew. The Yap State Mortgage Law provides the necessary framework for land mortgages. Land mortgages extending over 10 years are subject to approval by State Legislature. The government is willing to act as an intermediary in finding suitable land arrangements for the non-citizens. The government itself is

using about 263 acres of private land in addition to its own land. The programme of surveying and cadastral registration of land is on hand but is proceeding rather slowly. During 1974 it was estimated that value of land increases at 11.5% per year and as such an annual increase of 9% in land rental value had been considered as fair. It is now being felt that such annual increases have increased the value to a level which is far beyond the real value. It has been realised that this practice of determining rental value of land should be replaced with a just and realistic system of inflation compensation, of course, maintaining essential customary values.

3.1.3 Land use is becoming more of an individual's matter. The local chiefs are finding it harder to have a say. State intervention is possible only when existing restrictions of environmental safety and historic preservations are involved. Perhaps, when efforts being made to achieve faster economic development take shape, the government might have to review the situation in the light of the fact that some of the large scale industries promoted might cause pollution or might be visually offensive and as such need to be kept away from residential areas and areas for tourist development, and of special environmental, natural forests, water sheds and cultural significance.

3.1.4 Yap proper is comprised of the high islands. Its shoreline is deeply indented by a series of bays and channels and a canal has divided Tomil-Gagil from the island of Yap. Yap is said to be unique among Pacific islands because of the exposed metamorphic basement rocks which form part of a 850 miles long upheaved submarine ridge. The soils of Yap formed from metamorphic volcanic rock are generally quite poor and consist of four major groups namely lithosols, alluvials, latosols and planosols. The latter two types are low in fertility, and the former being more fertile are much more suitable for intensive cultivation. Some areas have

been degraded through erosion badly exposing a bare clayey soil deeply dissected area. The soil of outer islands is extremely poor. These number 134, cover dry land area of 7.26 square miles and have lagoons encompassing 395.13 square miles of water area. These have narrow range of vegetative diversity. Many of the plants are used for nutritional and medicinal purposes.

3.1.5 Yap's tropical climate, with a considerable amount of rain, fosters an abundant vegetation cover. Forest types cover most of Yap, although there are also areas of sparser vegetation, often related to unfavourable soils. Where there are sandy coral areas those pose more restriction to plant life but those do host thriving coconut forests. The types of vegetation on Yap proper are shown in table-X.

X - Land Use by Types of Vegetation - Yap Proper

Vegetation	Acreage	% Share
Upland Forests	6,316	26.3
Mangrove and swamp forests	3,277	13.6
Secondary Vegetation	1,366	5.7
Agroforest and coconuts	6,272	26.1
Marshes and Interior Waters	517	2.2
Grass lands (including barren area)	5,395	22.5
Crop lands	115	0.5
Urban (with agriculture)	752	3.1
Total	24,010	100.0

Source: Falan raw, M.C. e.a.: Vegetation Survey of Yap, F.S.M., 1987.

3.1.6 There is another survey carried out of Yap State's land area in 1960 which reveals that 2,836 acres of land are suitable for agriculture. That survey provides the following useful data about Yap proper.

XI - Geological Structure - Four Yap-Propor Islands

<u>Aspect</u>	<u>Average</u>	<u>Percentage</u>
<u>Soils:</u>		
Latosols/Planosols	11310	48
Latosols	6,312	27
Alluvial	2,550	11
Manmade/Badland	3,449	14
	-----	----
	23,661	100
<u>Slope:</u>		
0-8% (Optimum for Development)	9,794	42
9-25%	8,059	34
26% and over	5,768	24
	-----	----
	23,661	100
<u>Vegetation:</u>		
Marsh/Mangrove	2,619	11
Mixed forest	12,993	55
Pandanus/grass	7,940	34
Built-up areas	69	Neg.
	-----	----
	23,661	100
<u>Geology:</u>		
Mangrove	2,239	9
Alluvium	2,049	9
Map formation	3,792	16
Tomil volcanic	5,547	24
Peritidite	3	Neg.
Yap formation	9,772	41
Serpentinite	198	1
Man made	20	Neg.
Garim limestone	1	Neg.
	-----	----
	23,661	100

Obviously Yap has reasonable potential for agriculture and forestry which is not adequately utilised so far.

Agriculture, Horticulture & Forestry

3.2.1 A survey of the vegetation of Yap proper based on 1976 aerial photographs showed that 46% of the land area was in some form of agriculture use. The major type of agriculture land in Yap covering some 27% of the total surface was agro-forests or tree gardens. An additional 19% of the island consisted of mosaic of secondary forest, traditional garden site and weedy vegetation. Most local food is produced through the traditional agriculture system which includes these tree gardens, taropatches and intermittent mixed gardens. Vegetables and root crops cover approximately 1,116 acres and fruits about 5,660 acres as per the survey conducted in 1986.

3.2.2 The government efforts in agriculture development are mostly aimed at the introduction and promotion of commercial farming. It should not be understood that the present subsistence type of agriculture is obsolete. This provides with the bulk of staple foods saving more imports than any other type of 'import substitution' advocated in development policies. It provides reasonable level of living to those who do not enter wage employment. The backyard type of agriculture practiced by each household coupled with wild growth of coconuts and artisinal fishing provides complete traditional type food. There is practically little organised modern agriculture technique practiced. No systematic inventory of crops and fruits has been taken registering the strengths and weaknesses of all species available. The performance of newly introduced fruit plants and experiments with their propagation have not been systematically evaluated and recorded. One main reason for the policies have not yielded much results is communication gap between the government and the villagers. This calls for well organised

extension service coupled pilot projects and introducing changes by stages to transform the age old agriculture practices. As in other industries, the role of the government in agriculture development should be seen as a facilitator and not as an entrepreneur. It should not be forgotten that in the past with same type of agro-practices three times of the existing level of population has been fed.

3.2.3 There are, as such, no farmers in Yap. In the division of labour, man plays only a marginal role in farming. More than men, the women have to cope with the confusion and conflicting demands made by the side by side existence of traditional and western cultures. Women besides nurturing children, taking care of husband and family, performing domestic duties keeping clansmen on good terms in an extended family system, taking care of medicine, healing and spiritual practices also provide cereals and vegetables to the family through undertaking agriculture. Therefore, all efforts for modernisation of agriculture must evolve women-folk in one way or the other. Further assured markets should be developed before efforts are put in to introduce systematic agriculture techniques. Without this, changes would not be cost effective and failure at initial stages will bring in setbacks whose effects will be felt over a longer period.

3.2.4 The total root crops production in 1986 was estimated at 4,000 short tons and main fruits like citrus fruits, mangoes, bananas and coconut were estimated at 7,000 short tons, other fruits including papaya, guava etc. at about 250 short tons and vegetables at 190 short tons. Except copra, there are practically no surpluses available for processing. Of course potentialities through modern agriculture practices as and when adopted and when farming is accepted as a profession the produce of all such crops will grow manifold. Copra which is otherwise important and is a cash crop has surpluses whose supply to the market has been varying between 70 tons to 800 tons during 1981-88. All copra is not

collected. Substantial quantities stay wasted in forests and also result in wild growth of coconut trees competing for sun light and thus growing into too tall trees harvesting of which becomes a problem. It is a recent development that the price and demand for copra has registered steep fall resulting in further discouragement to villagers to collect and to process copra for export. It might be noted that the Federated State of Micronesia Development Bank (FSDMB), Yap State approved as of June 7, 1990 only one loan for agriculture amounting to \$ 1,500 as against total approved 28 tons covering different sections amounting to \$ 1.35 million in Yap state and 108 agriculture loans in the country amounting to \$ 1.34 million.

3.2.5 There are no regular orchards worth mentioning. There is no sizeable marketed quantity of major or minor forest products. There does not seem to be any organised effort to replace the trees destroyed either by human beings including burning practiced for shifting technique of agriculture or by natural calamities. As per 1976 survey upland forests including mangroves covered about 25% of the surface of Yap proper and about 27% consisted of agro forests or tree gardens. Upland forests serve as water-shed and mangroves are important in maintaining inshore fisheries. These also protect coasts against erosion which will become more important with the expected rise in sea level and storm activities. Savanna grass lands are greatly degraded in part by too frequent burning. Recently bulldozing and burning activities have been reducing the upland forests.

3.2.6 The second Five Year Plan (1991-95) includes programmes to introduce vegetable farming on commercial scale, modernising agriculture practices in kitchen gardens, undertaking of seed production for root crops and fruit development, establishment of orchards and establishing industrial enterprises for processing the surpluses and development of wild life management plan.

Mineral Resources

3.3.1 Yap state has very limited resources suitable for commercial exploitation. Fais island has an estimated 200,000 tons of phosphate. The state government has already approached the UNDP to provide expertise to evaluate the possibility of mining it. It is further understood that clay suitable for manufacture of roofing tiles and other allied products is available. However survey for quantitative estimates and laboratory tests to determine its uses have yet to be carried out.

Marine Resources

3.4.1 The marine area extends over three zones. Between the shoreline and the island baseline i.e. any area exposed to low tides is grouped under internal waters and is reserved for use by artisinal fishermen. The government is committed to provision, against a reasonable fee, of technical assistance and services such as dry docking, fishing supply sales, ice sales, boat ramp and communication network. The government also proposes to help in fish drying and smoking techniques, to lower production costs and in identifying marketing possibilities for artisinal fisheries.

3.4.2 The second zone is the state fishery zone which extends from any island baseline to a point of 12 miles seaward. Yap Fishing Authority is responsible for the development of commercial fisheries and related activities. The Marine Resources Management Division of the Department of Resources and Development is entrusted with conservation, assessment and management of marine resources. Even though marine resources development is allocated top priority unfortunately lack of funds is substantially restricting the activities of these institutions in introducing various programmes. The state has five boats each of capacity upto six tons. It also has arrangements for sorting, freezing and

chilling of fish and a maintenance workshop. 60% of the value of fish caught is given to the fishermen and crew of the boat and the balance amount is retained by the management. The management provides ration to the fishermen and the crew and fuel etc. for operating the boat. Each trip to sea takes about a week. Fishing is done even beyond 12 miles zone area. The pricing depending upon the type and quantity of fish is settled between \$ 0.50 to \$ 0.65 per pound. This enterprise also purchases the fish from other fishermen. It has no independent arrangements for transporting. Japan is the main customer. Fish is exported by air which at times does not match with the requirements. The activity is being undertaken to encourage fishing and not for competing with private sector. In fact the whole operation has not been an economically viable proposition. The average catch has been about 1.5 tons a week which is mostly exported. During peak season the exports go up to four tons a week. A longline vessel has been acquired and bottom long-line fishing will be soon introduced. Fish drying and fish smoking are being practiced but there is scope to expand it and to introduce improved methods.

3.4.3 The key issue in the development of commercial fisheries is securing access to markets. This is not a formidable problem for Yapese fish. The real problem is getting fast and reliable transportation to the markets. Efforts to persuade foreign ships to use Yap as a trans-shipment port have thus far not succeeded. The other method is to introduce regular cargo flights. For this to be feasible a minimum supply of 20 tons of fish for export per flight is needed. That level of fishing is still a far cry. The situation in Yap does not induce people to commit themselves to a rather harder way of life of professional fishermen particularly in the light of salaries and easier working conditions offered by the government employment. 45 fishermen use government fishing boats and about 55 are on US and Japanese vessels. Another 20 are engaged in repair of fishery nets.

25 Yapese have attended fishing training programmes. Further there is a need to expand shore facilities for fishing and making credit facilities less cumbersome, supplemented by good extension service. Fishery is an excellent resource for Yap and lends itself to easy exploitation. Instead of spreading limited resources too thinly on various projects covering all sorts of activities and each public sector of economy and jeopardising success, it is very promising to concentrate on aspects like fisheries development, achieve success, generate funds and deploy those later to developments which should wait for the time being. Clear thinking and direction for the purpose is necessary.

3.4.4 The third zone is the exclusive economic zone under the authority of the National Government. It stretches from 12 miles to the limit of 200 miles from the island baseline. No data is available on the quantity of available marine resources. About 1000 foreign fishing vessels have fishing permits to fish within this zone. There is considerable scope for much higher exploitation of marine resources. The government is exploring the possibility of launching a major tuna operation as a joint sector venture with foreign partners who are experienced in this branch. The package is expected to consist of (a) a modern fishing fleet, (b) provision of related modern shore facilities and (c) a fish cannery. The project is expected to be implemented in a phased manner.

3.4.5 The production data suffer from certain limitations. Firstly, it is only the Yap Fishing Authority which maintains record regularly. Only some local fishermen report the catch. Both the commercial and subsistence fishermen sell part of the catch directly to the public. Further consumption by fishermen and the quantities exchanged through barter system are not reported. The price of fish locally sold is \$ 0.80 per pound. The volume of fish caught by Yap Fishing Authority during 1981-88 is as follows.

XII - Volume of Fish Caught by Yap Fishing Authority

Year	Quantity in tons	Value (in \$ '000)
1981	7.2	10
1982	2.8	4
1983	13.7	20
1984	9.9	16
1985	25.2	37
1986	19.8	35
1987	94.5	166
1988	19.0	31

The Federated State of Micronesia Development Bank as of June, 1990 approved 13 loans for fisheries amounting to \$ 111,835 in Yap State as against 28 loans for \$ 751,835 for the country as a whole.

Human Resources:

3.5.1 The people of Yap are by far the most important resource in the development of the economy. The natural resources are only the second basic resource. It is the quality and quantity of human resource coupled with the available technology that determines how much the natural resources can be harvested and economy of the nation developed. The life expectancy for both sexes is 59.9 years. It was not until recently that Yapese began moving towards becoming a consumer society. The Compact of Free Association with the USA has led to an influx of capital which is unprecedented in Yap's history. Although the compact USA is time limited, yet the advances towards establishing new society are not. It is changing socially, economically and culturally. If it is well directed, the goal of increased self reliance and improved political independence will be achieved. Yap is going through some sort of transitional

stage where age old customary considerations are giving way to the value of the western culture. The challenge is to find a balance duly accommodating new influences and minimising the attitude of direction to youth and concentrating on concept of provision of guidance.

Population

3.5.2 The population like that in other developing countries has been steadily growing. However, this trend is of comparatively recent origin. Around 1800 AD the population was estimated at between 30,000 to 50,000 which during the period of foreign domination at one stage decreased to 2,582. According to 1987 census it reached to 10,139 for the whole state and to 6,650 for Yap proper. It needs to be noticed that the same set of natural resources which exist today supported long back more than three times the level of current population. In other words, for leading traditional style of life, for Yapese it is still land of plenty. Obviously this affects their approach to easy life style and value to leisure and thus they are not too keen to take to monetary economy and still hold old culture in high esteem and wish to preserve the same.

3.5.3 The rate of natural increase has been estimated at 2.2% per year. The population during 1977-87 has increased more on Yap proper (21%) than the outer islands (16%). The difference is due to migration in search of jobs. Overall Yap state is known to have a migration loss. More Yapese go abroad for education, employment etc. than foreigners enter to settle in Yap. The projection of population by age groups is given in Table-XVIII.

XIII - Population by Age Groups

Age group	1973	1987	1990	1994	2000
0-14 years	3,228	4,267	4,450	4,648	5,040
15-64 years	3,890	5,321	5,806	6,590	7,905
65 years	495	523	526	525	548
Total	7,613	10,139	10,782	11,763	13,493

15-64 years form the working age group. Although all the three groups will grow in absolute numbers, the relative share of working age group will increase in percentage composition of the population. In other words emphasis on job creation will have to increase more than that required by the overall anticipated increase in population. Further 42.1% of the population in 1987 was under 15 years' age whereas for countries with balanced population such a percentage is 22-23.

3.5.4 The engagement of the persons above 15 years age in different types of economic activities is reflected in Table-XIV.

XIV - Economic Activity Age group 15 years and above -
1987 Census

Sorce of livlihood	Males	Females	Total
Working primarily to grow, gather or catch food to eat	822	1,668	2,490
Working primarily to earn money	1,328	494	1,825
Looking for work	104	24	128
Attending School full time	349	222	571
Primarily engaged in unpaid household work	45	294	339
Unable to work	117	114	231
Other	181	109	290
Total	2,947	2,925	5,872

It would be observed from table-XIV that about 31% of the persons earn their livelihood through monetary economy and 73% of them are males. The socio-economic status of population in 1987 in age group 15 years and above is shown in Table-XV.

XV - Socio-Economic Status - 15 years age and above (1987)

Soruce of livlihood	Males	Females	Total
Employed by Government	813	259	1,072
Employed by Private Organisation	420	162	582
Employer with Employees	19	7	26
Self Employed	18	6	24
Unpaid family worker	11	41	52
Attending full time School	349	222	571
Other	1,317	2,228	3,545
Total	2,947	2,925	5,872

It is apparent from Table-XV that over 60% of the population of the age group does not have any specific socio-economic status and among the rest 29% have full time source of earning.

3.5.5 There are 32 public schools in Yap state of which three are secondary schools employing 336 persons of whom 250 were engaged in teaching including 180 regular class room teachers. The number of students in 1989 stood at 3,019. 74% of the young people below the age of 20 years attend schools. The education system offers little in terms of practical skills or knowledge that students perceive as applicable and relevant. As such many young people feel little motivation for study or work and lack a sense of purpose in life. Therefore, there is a felt need for skill development by providing training programmes and courses.

Promotion of industry is beneficial if standard of living is to be improved further. The creation of comprehensive plan for that requires technical expertise. The lack of skilled tradesmen such as mechanics, electricians, carpenters, plumbers etc. seriously hampers development efforts. Even promoting small scale industry in Yap involves importing skilled labour. If economic development planning is to be successful in Yap firstly the training for industrial skills that match the needs of industrial planning must be set in motion and secondly women should receive special attention in terms of vocational training. Without these, industrial development will lead to larger import of skilled labour. For example as per the manpower development plan during 1982-87, 14 electricians and mechanical technicians should have been trained. There is no information about this target achievement having been attempted. There is a large number of persons sponsored for training abroad. However, the available data hardly reveals placement of emphasis on creation/upgradation of industrial skills.

3.5.6 A survey of employment and training needs was carried out in September, 1983. According to that there were 5,250 resident persons in the labour force, of whom about 550 were still undertaking education. This meant a resident labour force of 4,700 consisting of 28.6% in wage jobs and 71.4% in the traditional sector. The male labourforce consisted of 46.7% in wage jobs and 53.3% in the traditional sector. The female labour force consisted of 12.3% in wage jobs and 87.7% in the traditional sector. At that time wage employment comprised 37% of professionals, 30.3% of production, construction and transport workers, 12.5% of clerical and related workers, 10.2% of service workers, 5.2% of administration and managerial workers, 4.2% of sales workers and 0.6% of agriculture, livestock, fishing and forestry workers. Further there were 96 non-resident employed persons who were mostly professional and managers.

Labour Force:

3.5.7 The labour force comprises of males and females in the age group of 15 to 64 years. According to 1987 census excluding inter-state migration and migration, there were 5,325 persons in this age group that year and there number will rise to 5,806 in 1990, 6,590 in 1994 and 7,905 in 2000. In the briefing paper for the U.S.A. Assistant Secretary for Economic Development dated April 20, 1988 prepared by the State government, increase in labour force and employment demand has been estimated for 1983-1987 as reflected in Table-XVI.

XVI - Labour Force and Employment Demand 1983-87

Aspect	83	84	85	86	87	Total
Increase in Labour Force	151	149	147	151	161	759
Increased Employment						
Money Economy	105	110	78	80	80	453
a) Government Sector	27	32	-1	0	0	58
b) Private Sector	71	71	72	73	73	360
c) Replacement of Alien Employment	7	7	7	7	7	35
Balance unaccounted for	46	39	69	71	81	306

3.5.8 The unaccounted figures include persons absorbed by the village economy, person disinterested in work and the unemployed. Its breakup is not available. The productive sector proposed for the First Five Year Plan was expected to absorb 50% of the increase in labour force. There is no study to reveal the extent to which the target was achieved. It is, however, the general belief that achievement has been only marginal. The April 20, 1988 document roughly estimates the number of not working part of the total labour force in 1983 stood at 1,595 (including students, disabled persons etc.). The number of students in age group 10 to 19 years in 1983 is estimated at 1,460. If half of them are taken to be

in the age group of 15-19 years then the number of students included among the unemployed persons in 1983 might have been 730. Thus actual backlog of unemployed persons in 1983 was roughly 865 and as such by 1987 the backlog could have been 1,171. Out of this as per the census report 231 persons in 1987 were unable to work. Thus broadly speaking 940 persons were unemployed out of the population of 10,139 i.e. about 9.3%.

3.5.9 Actually it is rather difficult to estimate employment in the village/island economy. It is believed that part of labour force as cannot find employment in money economy will grow. The extended family system reduces the problem of unemployment. At the same time it decreases motivation to expend efforts especially when the benefits from one's efforts are expected to be shared. The abundance of flow of foreign funds has minimised challenges and consequently decreased the traditional level of self respect and pride. The impending future challenge could be met through rebirth of responsibility, self respect and pride. Inevitably, migration will be the main alternative for the labour force which cannot be absorbed by the money economy. This will further increase demand from the village economy. Obviously there is a need for a forceful effort with a good monitoring system to be made to give a turn to the economy leading to commercialised exploitation of agriculture, horticulture, forestry and marine resources and creating favourable policy, infrastructure and publicity environments resulting also in promotion of foreign investments and tourism.

3.5.10 Lack of effective managers and supervisors, skilled technicians and dependable and committed workers has been identified as a serious cause for non attaining of the targets set in the first Plan and effective implementation of the policies and programmes framed for achieving the goals. At the same time it has been realised that the facilities particularly in the field of health, education, roads,

transportation, utilities, entertainment etc. which have been provided by the government will dry up as the "free" outside funds are squeezed. There is, therefore, also a need to recognize the gravity of situation at earliest possible transition stage from a federally funded economy to a self reliant economy.

Employment and Earnings:

3.5.11 The Statistical Bulletin - YAP State, 1988 provides information for the years 1981-88 on public and private employment by salary levels separately for nationals and aliens. It is reproduced below in Tables-XVII and XVIII.

XVII - Public Employment by Salary Levels

Year	Nationality	0-2999	3000 to 5999	6000 to 9999	10000 to 14999	15000 to 19999	20000 to 24999	25000 to 29999	30000 & above	Total
1981	Nationals	492	381	84	19	6	3	1	0	986
	Aliens	5	5	12	6	10	6	1	1	46
	Total	497	386	96	25	16	9	2	1	1032
1982	Nationals	427	374	115	17	9	3	1	0	946
	Aliens	1	8	6	5	9	5	3	1	38
	Total	428	382	121	22	18	8	4	1	984
1983	Nationals	388	407	123	22	9	6	1	0	956
	Aliens	0	0	2	4	12	6	7	1	32
	Total	388	407	125	26	21	12	8	1	988
1984	Nationals	353	443	131	25	10	7	1	0	970
	Aliens	0	1	2	5	1	3	6	1	28
	Total	353	444	133	30	11	10	7	1	998
1985	Nationals	283	406	141	23	16	8	0	0	877
	Aliens	0	2	6	9	7	6	4	4	38
	Total	283	408	147	32	23	14	4	4	915
1986	Nationals	274	428	176	25	21	8	1	1	934
	Aliens	0	2	1	8	10	4	6	2	33
	Total	274	430	177	33	31	12	7	3	967
1987	Nationals	274	434	178	27	19	9	1	1	943
	Aliens	0	3	1	10	5	8	7	2	36
	Total	274	437	179	37	24	17	8	3	979
1988	Nationals	312	426	193	41	22	7	3	0	1004
	Aliens	0	1	2	8	6	7	4	3	31
	Total	312	427	195	49	28	14	7	3	1035

3.5.12 The number of employees in lowest salary group reveals a decreasing trend; the number of employees in salary group 3000-5999 to 20,000-24,999 has been increasing and the trend has been more remarkable in groups 6000-9999 and 10,000-14,999. The number has been more or less static for the top two salary groups. There has not been any definite trend in the overall employment of aliens though overall situation is that over the years their employment has been reduced by about 33%. The reduction has been mostly in the lowest three salary groups. In the next three salary groups there have been marginal changes and in the top two groups the number has increased. The nationals have been slowly increasing in number in the higher salary groups.

XVIII - Private Employment by Salary Levels

(Salary in \$)

Year	Nationality	0-2999	3000-5999	6000-9999	10000-14999	15000-19999	20000-24999	25000-29999	30000 & above	Total
1981	Nationals	627	40	7	5	0	0	1	0	680
	Aliens	7	13	10	3	1	0	0	1	35
	Total	634	53	17	8	1	0	1	1	715
1982	Nationals	733	105	13	7	1	0	0	1	860
	Aliens	24	30	70	14	4	3	1	2	148
	Total	757	135	83	21	5	2	2	1	0729
1983	Nationals	569	73	13	6	2	1	0	0	664
	Aliens	0	13	44	6	0	1	1	0	65
	Total	569	86	57	12	2	2	1	0	729
1984	Nationals	591	80	31	7	1	2	0	0	712
	Aliens	0	18	44	11	1	0	0	0	74
	Total	591	98	75	18	2	2	0	0	786
1985	Nationals	628	75	43	7	1	2	0	0	756
	Aliens	0	16	48	11	1	0	1	0	77
	Total	628	91	91	18	2	2	1	0	833
1986	Nationals									
	Aliens									
	Total									
1987	Nationals	165	51	21	6	2	0	1	0	246
	Aliens	0	51	12	10	3	1	1	0	78
	Total	165	102	33	16	5	1	2	0	324
1988	Nationals	132	59	13	4	0	0	1	0	209
	Aliens	1	49	14	11	5	0	1	1	82
	Total	133	108	27	15	5	0	2	1	291

3.5.13 The overall employment in private sector registered significant rise from 1981 to 1982. Thereafter it started falling; the decline was very sharp during 1987 and 1988. In fact private sector employed only 291 in 1988 against 1,008 in 1982. The fall has been mainly in the employment of low paid employees. The employment of aliens sharply increased in 1982 and thereafter it has been ranging broadly between 60 to 80. Practically all of the aliens draw salaries above \$ 3,000 per annum. Majority of them earn between \$ 3000 to \$ 14,999. Their number in still higher salary range is more than that of local employees. In 1982 external assistance expenditure was high in many of the development projects.

3.5.14 In September 1990, the 21 private sector units employed 622 non-citizen workers and 13 government, missionaries and other foreign institutions employed 125 persons. In private sector it is, King tax, which employed maximum persons (427) followed by 'You-One' construction (51) international bridge Corp (19), family chain store (20) and Mirag engineering and construction. In public sector the state government employed 32 persons, Peace Corps 29, Pacific missionary Aviation 15, US Navy 13 and Seventh Day Adventist mission school 10.

Entrepreneurial Availability:

3.5.15 Various economic developments have been taking place particularly in Colonia - the capital of the State. The development started with opening of stores some of which stock most of the consumers requirements of consumable and semidurable goods. The pioneers could benefit for some time. Then the number started multiplying and by now one can see a store almost in every corner. Those who are direct importers they do make money where as for most of others, it is a question of hand to mouth living. The increase in import of auto vehicles has led to opening of a number of workshops mostly engaged in body repair and some simple service in-

cluding detection of minor faults in electrical connections or flow of gasoline. No one repairs engines. Of course any thing found faulty is replaced. These days general interest is in establishing hotels/restaurants. Availability of suitable and enough area for the purpose with clear title is withholding investments in this activity. Some interest in poultry, piggery and fishery has been generated. The government's efforts in establishing production units like glass fibre polyester resin products, coconut fibre products, coconut oil and soap, fishery, slaughter house for pigs, poultry feed mill etc. have been successful in drawing the attention of investors. Some of the investors have even taken the enterprises on lease. Their experiences have been mixed one. One thing is obvious that there are some persons who are itching for profitable business. They are prepared to catch any viable idea. However, impediments like industrial premises, skills, policies and markets pull them back.

3.5.16 Discussions with various persons at different levels show that there are three corporate bodies capable of investment between \$ 300,000 to \$ 500,000. There are another six individuals (or families) who can invest about \$ 200,000 and equal number has capability of investing about \$ 100,000. Between \$ 25,000 to \$ 75,000 there are about 25 individuals who can pool up their resources and are interested to invest in viable projects. Further it is estimated that for investments between \$ 5000 to \$ 25,000 there are about 60 more persons having interest to establish independent business. Each one of them is bothered about mushroom growth tendency of the enterprises. They mostly lack contacts, ideas, knowhow and availability of skilled persons. They are also not sure how far, if at all, the government will support them to come through successfully the infancy stage of their manufacturing activities. Whereas they have a sort of craze to own manufacturing activities but more than that they are scared about their capability and availability of government support to make a success of those within the

limited domestic market and being able to make money rather than lose. They largely have interest in joint ventures provided there could be system to ensure that their ignorance would not be exploited. They are keener to manufacture products or provide services required by foreign owned enterprises. Such an assured market, it is felt, will provide experience to them in industrial production which would stand them in good stead for running enterprises fully on their own at a later stage.

Industrial Skills:

3.5.17 There are no arrangements in Yap State for creating or upgrading industrial skills. However, in institutions in adjoining states, other islands administration there is scope to sponsor local people for training. In addition facilities are offered by various other collaborating and donor countries for the purpose. Even a development plan for meeting the skills needs of the state had been prepared. In spite of all this neither there is any report revealing the current availability of industrial skills nor there is any programme on hand for the purpose. Perhaps no pressing need was hitherto felt as interest in promoting industry in more or less a recent development. Whatever production units' need was visualised, for that arrangement for importing skills were made and some local persons got 'on the job' training. Wherever private enterprises got established by the efforts of some enterprising persons (e.g. bakery) they brought in skilled persons from abroad.

3.5.18 A foreign enterprise for manufacture of readymade garments was established. That too brought the skilled persons from Sri Lanka. Of course now some of the local persons have been recruited, trained and initiated into simpler operations. Industrial culture involves sticking to working hours and other aspects of industrial disciplines. Lack of that breaks the production linkages and holds up the

activities. All this is something queer for local persons employed in industry. They get disinterested in such jobs after a few days experience. There is no pressing economic factors since extended family system ensures availability of basic needs of life. This system is not as strong today as it was a generation back. As the nation takes more and more to money economy, additional cracks in this practice will develop. Further over the next decade the flow of funds from abroad is going to get much restricted. Economic development will be the way open for meeting the needs and improving standard of living. This calls for creating and upgrading industrial skills and adopting industrial disciplines in production activities. The emphasis so far has been on creation and sharpening of management skills, agriculture, air conditioning, plumbing, construction activities, development planning etc. During the second Five Year Plan a data base will be established dealing with the present and availability of selected job skills that are important to the economic development of the state.

Wages

3.5.19 The minimum wage in public sector in the recent past was \$ 1.25 per hour. Even though it is mentioned on hourly basis yet in practice calculations are based on 8 hours a day. Officially the working hours are 7.30 AM to 4.30 PM with an hour break for lunch. However the timing is seldom enforced even though for calculation purposes 8 hours a day work is taken into consideration. In private sector unskilled jobs are paid for at the rate of \$ 0.80 per hour. The wages for other various types of jobs are reflected in Table-XIX.

XIX - Wage Structure for various Occupations

Occupation	Wage per hour (\$)	
	Local	Expatriate
Clerk	1.00	2.50
Book Keeper	1.75	not allowed
Assistant Accountant	2.00	"
Accountant	3.50	450 per week
Typist	1.25	Not allowed
Secretary	1.50	"
Computer Operator	2.00	"
Cashier	1.50	"
Record Keeper	1.25	"
Assistant Manager - Office	250 monthly	"
Manager - Office	350 monthly	"
General Manager	300 biweekly	500 biweekly
Sales Man/girl	1.00	
Sales Manager	350 monthly	"
Store Keeper	1.25	"
Electrician	1.50	2.50
Plumber	1.50	2.00
Carpenter	1.50	2.00
Mason	1.50	2.00
Machine Operator	1.50	2.00
Auto Mechanic	1.50	2.00
Foreman	2.00	3.00
Works Manager	300 biweekly	400 biweekly
Driver	1.00	Not allowed
Baker	1.25	2.50
Boat Mechanic	1.50	2.00
Boat Captain	350 biweekly	500 biweekly
Fisherman	1.50	Not allowed
Telephone Operator	2.00	Not allowed

3.5.20 The basic salary schedule of biweekly salary rate of government employees is given in Table-XX.

XX - Basic Salary Schedule - Biweekly Rates

Pay Level	Initial	Ultimate	Pay Level	Initial	Ultimate
1	64.00	90.40	24	244.80	347.20
2	68.00	96.00	25	259.20	368.00
3	72.00	101.60	26	274.40	390.40
4	76.00	108.40	27	291.20	413.60
5	80.80	114.40	28	308.80	438.40
6	85.60	121.60	29	327.20	464.80
7	90.40	128.80	30	347.20	492.80
8	96.00	136.80	31	368.00	522.40
9	101.60	144.80	32	390.40	553.60
10	108.00	153.60	33	413.60	587.20
11	114.40	163.20	34	438.40	622.40
12	121.60	172.80	35	464.80	660.00
13	128.80	183.20	36	492.80	700.00
14	136.80	194.40	37	522.40	742.40
15	144.80	206.40	38	553.60	787.20
16	153.60	218.40	39	587.20	834.40
17	163.20	231.20	40	622.40	884.80
18	172.80	244.80	41	660.00	938.40
19	194.40	259.20	42	700.00	994.40
20	206.40	274.40	43	742.40	1054.40
21	218.40	291.20	44	787.20	1117.60
22	231.20	308.80	45	834.40	1184.80
23	231.20	327.20	46	884.80	1256.00

Note: Between initial and the ultimate salary rates there are seven yearly steps of increments within a level.

3.5.21 The reorganisation of government machinery is planned and that aims at streamlining the executive functions. This is expected to make government more responsive to local needs and conditions and less tied to the models and regulations handed down in the Trusteeship period which are too elaborate for running the government of a small

islands country. There has been a study as how to reorganise the government to respond to the felt needs and be in unison with future shape of economic development. Its report is being considered. In transition, from a government dominated economy to a more balanced one, it is recognised that government has certain responsibilities towards workers who will leave public sector employment. It is being considered that during Second Five Year Plan period a support programme may be launched to assist government employees whose positions are eliminated. The emphasis will be on providing loan facilities at attractive terms enabling the start up or expansion of a private venture and supplementing that with technical assistance and training programmes. In order to make transition as smooth as possible, the elimination of positions is to be identified in advance so that the affected employees are given reasonable period of time to prepare for the future.

Capital Resources

3.6.1 Economy: Yap has a seriously imbalanced economy. The imbalances include private/public sector employment, import/export trade, production/consumption and development status of main and outer islands. Historically Yap was self sufficient in food, clothing, building materials, energy etc. Of course since then the consumption pattern has registered significant changes and western culture influences have crept in and for a certain portion of the population the life style has become somewhat different. The subsistence economy has declined in importance in providing basic commodities for the people of Yap. Previously local production was mainly consumed within the extended families in the villages. Today consumption is also supported by pay cheques. On an average every household today has a wage earner whose income is based directly or indirectly on US grant funds and that in turn is largely consumed on imported goods whose major suppliers are USA and Japan.

3.6.2 Obviously the money entering the economy has little positive influence on local production since that is not used for purchasing local products or invested for increasing local production. The flow of foreign aid has developed Yap into a consuming society without strengthening the production base. The government is the biggest employer mainly engaged in providing services which if required at any time cannot be supported by local revenues. Virtually no worthwhile manufacturing or processing activities exist. Handicrafts which have been practiced for generations have not succeeded in widening its marketing orbit or in imbibing techniques which could make the output more attractive and cost-effective. Nor there has been any organised effort to introduce training programmes for upgrading the skills. Rather to the contrary with load of domestic and agriculture activities having increased, the economic pressure for enhancing income not having built up, the level of practicing handicrafts has registered a declining trend. Existence of such a situation has not encouraged an entrepreneurial outlook among the people but promoted reliance on the government and benign outside supporters.

3.6.3 It is at the same time heartening to note that the development expenditure in the past has been directed to creation/improvement of infrastructure facilities. Roads have been built up. Arrangements have been expanded for supply of electricity, water, sewerage, telecommunication, air and sea transportation, health and education facilities, banking system etc. The government machinery has been streamlined and oriented towards visualising the need for economic growth and directing the economy to match the felt needs of the population.

3.6.4 Not only that, wherever considered feasible for setting examples and awakening entrepreneurship among Yapese the government established a number of production centres

with the idea of proving their commercial viability and then transferring those to private sector on suitable terms and conditions for their regular operation. The idea was that these would serve as growth nucleus and enterprising Yapese would strengthen confidence in their capabilities and invest more and more in viable opportunities taking fullest possible advantage of the ample availability of foreign assistance both as capital and assured market in USA through special tariff privileges like no restrictions on exports and no US custom duties on some commodities. In this manner by the time transitional period terminates and funds under compact agreement dry up, a sizeable base of manufacturing and commercial activities would have been built up. Though majority of these production centres have not turned out to be commercially viable so far yet an experience has been gained and its benefit would be taken in future direction to the development effort.

3.6.5 Incomes & Investments: Nearly 70% of the population is covered by village economy. They produce as much as they require for their own needs or for covering the purchase of other commodities under barter system if they do not have some member of the family employed whose salary income is used to provide for such purchases. As such they have little propensity to save. They value their culture, are satisfied with the existing way of life and do not have liking for western culture aspect of working harder and harder to increase incomes to afford more amenities of life and expanding the consumption pattern.

3.6.6 The second group of population consists of employees. As would be observed from Tables-XVII and XVIII under 'employment and earnings' on pages 36 and 37 that 1,004 Yapese were employed in the public sector and 209 in private sector in 1988 totalling to 1,213. Of these 444 were in annual income group of upto \$ 2,999, 485 in group \$ 3000-5,999; 206 in group \$ 6000-9999; 45 in group \$ 10,000-

14,999; 22 in group \$ 15,000-19,999; 7 in group \$ 20,000-24999; 4 in group 25,000-29,999 and none in income group of \$ 30,000 and over. The propensity to save for income groups upto \$ 9,999 is marginal and for income groups \$ 10,000 to 19,999 is generally not sizeable. It is a set of persons among employees numbering 11 in income bracket of \$ 20,000 and above who can save enough over a period of time to have sizeable amount for becoming active participants in a drive to give phillip to the economy through establishing and operating viable enterprises. However, most of them are employed by the public sector and accustomed to and satisfied with non-enterprising pattern of life inspite of full exposure to western system. Thus it might not be possible to motivate many of them to undertaken commercial ventures even though it should not be a problem for them to supplement their funds through institutional financing.

3.6.7 The third group of population consists of employees i.e. those who are engaged in one or the other business, small or big. They are not liable to pay income tax. It is excise duty or import duty which is levied on them. That is based on gross value of receipts. Reliable information about their level of business and savings could not be gathered. The bankers, the officers and the businessmen contacted were indirectly questioned to assess as to how many persons and what level of investments they could make. The authenticity of this information is not vouchsafed. The statistics so gathered are reflected under sub heading ' Enterpreneurial Availability' on page 38. There are as such around 40 individuals or groups of persons who have some experience of owning and operating enterprises, who are looking for appropriate investment opportunities and are in a position to spare own funds from \$ 10,000 to \$ 500,000.

3.6.8 Institutional Financial Support: Under Economic Background on pages 10 to 13 the availability of funds for operational and development expenditure has been discussed

and estimates of availability and utilisation of funds till 1994 have been spelt out. Financial support to enterprises is provided by the government through financing institutions. The financial situation of Yap is that bulk of government expenditure is met from foreign assistance that is being provided by the USA on the basis of the 15-year Compact of Free Association. Compact assistance started with fiscal year 1987. The main block grant provided is divided into two components. A minimum of 40% must be allocated to development projects. The balance may be used for operational expenditure. Under the terms of compact a number of US domestic programmes are extended to Yap also. These also include Job Training Partnership Act and Economic Development Administration. The Compact Financial Assistance at intervals of five years will be reduced to 60%, 51% and 40%. In addition, Investment Development Fund has been created by the USA government with allocation of \$ 20 million for the country and immediate provision of \$ 12 million. Out of this, a Private Sector Reserve Account has been established with \$ 2 million and another \$ 2 million has been provided to Yap state Account. The state also receives project assistance from a number of other governments and agencies. The Development Fund under Compact is expected to be \$ 4.97 million in 1991, \$ 4.34 million in 1992, \$ 4.41 million 1993, \$ 4.47 million in 1994 and \$ 4.54 million in 1995. The stepwise reduction in compact financial assistance is likely to create tight financial position. The Yap state might face a public sector deficit in financial year 1992 and there after. Different regional organisations for the Pacific and in Asia, bilateral programmes from USA, Japan, Astralia, New Zealand etc. and UN system can provide financial support though their combined level is not likely to serve as a substitute for Compact Assistance.

3.6.9 The state government also raises local revenues that are collected in the General Fund. These are mainly made of excise tax and the state share in national taxes on income

and imports. The details are given in Table-XXI for 1987 to 1989.

XXI - General Fund Local Revenues

(\$ in '000)

Source	1987	1988	1989
National Tax (State Share)	552.8	684.5	644.2
Excise Tax	553.2	671.4	556.9
Business License & Fees	38.7	40.7	45.3
Fines & Forfeitures	160.9	100.7	257.6
Property Leases & Sales	30.1	68.0	62.7
Interest on Investments	220.3	206.0	441.9
Miscellaneous Income	82.1	30.9	15.1
Reimbursement/User Charges	465.2	422.0	578.2
Total	2103.2	2224.2	2601.9

3.6.10 The contribution of local revenues to the state budget is limited between 18.9% in 1987 to 22.3% in 1989 of operational expenditure. The growth in local revenues is mainly due to 'fines and forfeitures' and 'interest on investments' which are not reliable sources. There are possibilities to increase local revenue (even by improving collection system) though tax base is very limited. The taxes and their rates should be reviewed in a manner that these are positively oriented to support indigenous production. The time has come for Yap to promote self reliance and minimise dependency on outside assistance.

3.6.11 Banking System: The two commercial banks operating are the Bank of Hawaii and the Bank of FSM (Federated States of Micronesia). The Bank of Hawaii has been functioning since 1970. The other bank was established in 1990. In July, 1990, total deposits in Yap branch of the Hawaii Bank amounted to \$ 12.25 million and the total loans outstanding stood at \$ 0.98 million of which \$ 0.34 million were in commercial loans. In case of the Bank of the FSM, 75% of its

shares are owned by FSM nationals, Corporations and governments. Its deposits in July 1990 amounted to \$ 3.0 million, outstanding loans to \$ 2.0 million of which \$ 1.5 million were consumer loans. Both banks mention receiving few good loan applications, which according to them is due to lack of financial management skill and reluctant of entrepreneurs to incur high interest debts for risk-bearing investments. These bank usually charge an interest rate 2.0% to 2.5% above the New York prime rate. Such rates are imposed from outside and do not reflect local rates of return on investment. Loans are made against deposits - a very safe but restrictive way of financing investments. Banks hesitate to venture beyond conservative margins of security.

3.6.12 Yap State Mortgage Law is now in place but its use so far is limited. The Bank of Hawaii barred from owning land as a foreign institution does not accept land as a collateral. The Bank of the FSM also finds the use of land as a collateral still complicated. The issue is expected to be sorted out soon.

3.6.13 A central source of private business funding is the FSMDB (Federated States of Micronesia Development Bank). It lends money on favourable terms for viable entrepreneurial activities in economic priority areas in agriculture, fisheries, tourism, commercial services and manufacturing. It provides loans upto \$ 250,000 at 5% interest with a repayment period upto 25 years and a grace period upto 3 years. The FSMDB also administers the Yap Development Loan Fund (YDLF) for small projects upto \$ 15,000 at 5% interest and a repayment period of 15 years. YDLF can also be used to guarantee commercial loans upto \$ 25,000. The third involvement of the Bank is in Investment Development Fund (IDF). IDF has a Private Sector Reserve Account of \$ 2.0 million (minimum loan amount being \$ 500,000) and a State Sub Account of \$ 2.0 million (minimum loan amount being \$ 250,000 and is open to applications from both private businesses and

the State Government). 20% atleast local ownership of business is a requirement to qualify for financing facilities from the fund.

3.6.14 The June 7, 1990 status of guarantee and loan approvals shows low profile for Yap by FSMDB. Out of 356 approvals only 35 were from Yap and out of approved amount of \$ 11.95 million the share of Yap was only \$ 1.50 million. The causes for the situation include low level of entrepreneurial activity, a reluctance to incur debts for risk bearing investments, difficulties in using land as collateral etc. With the Mortgage Act having been put in place the situation in 1990 has shown improvement when lending activities totalled to \$ 0.81 million and pending loan application increased amounting to \$ 9.43 million being 42.8% of the total pending requests before the FSMDB. The FSMDB has been persuing the government loan programme so as to induce commercial banks to invest in projects of lower priority to them but leading to development of the country and are profitable but are considered risky. This guarantee is upto 90% of the loan approved by the commercial banks for public sector projects. The bank supported mostly tourism projects as in obvious from Table-XXII.

XXII - FSMDB Approved Loans for Yap State - June 1990

Sector	Number of Loans	Total Amount(\$)
Agriculture	1	1,500
Fisheries	13	111,835
Manufacturing	1	143,600
Real Estate	2	255,000
Commercial Services	7	76,300
Tourism	4	757,400
Total	28	1,345,835

Source: Private Sector Financing - 2nd Five Year Plan (Draft)

3.6.15 Some additional useful activities of the FSMDB are : (a) entrepreneurship development, (b) employment generation, (c) export promotion, (d) mobilisation of capital, (e) adoption of appropriate technology and (f) comprehensive programme for staff development. The Bank expects a minimum of 10% equity from its borrowers. In practice limits of equity contribution have been varying. It was highest in case of commercial sector as is obvious from Table-XXIII.

XXIII - FSMDB Loan and Equity - 1988

(\$ in '000)

Sector	Equity Loan	No. of Projects	FSMDB Loan	Borrower's Equity	Total
Agriculture	27%	10	115.1	30.7	145.8
Fishing	28%	4	298.0	84.7	382.7
Manufacturing	143%	9	342.5	490.7	833.2
Real Estate	67%	6	129.7	87.2	216.9
Commercial	83%	5	224.0	409.8	633.8
Tourist Oriented	116%	11	563.1	653.5	1,216.6
Total	105%	45	1,672.4	1,756.6	3,429.0

Source: FSMDB 1988 Annual Report.

These projects provide employment to 780 persons of which direct employment is for 555 persons. The problems pertaining to private sector financing are briefly as follows:

1. The amount available for private business financing is limited particularly for soft loans. It is an unfortunate situation when private investment plans and needs are growing.
2. New businesses particularly for manufacturing have more difficulties in securing loan. The contributory causes are lack of business skill, limited market possibilities and problems in securing collateral. The Mortgage Act needs improvements.

3. For established businesses soft loans for investments above one million dollars are difficult to obtain.
4. The support agencies are not equipped to provide adequate and accurate business advice and supportive extension service.
5. There are considerable delays in processing loan applications. The procedures and functioning of the FSMDB need to be streamlined. Provision of government guarantees for key private sector development projects should be looked into.
6. If living standard in outer islands has to be raised beyond subsistence level, steps to provide financial service to those need to be taken up.

3.6.16. The Guan based Pacific Islands Development Bank (PIDB), which is a bank recently established by a group of political entities in the region including the state of Yap, is expected to be a major regional development bank responsible for mobilising and arranging of funding for economic development projects in the region. The FSM as a member of the Asia Development Bank (ADB), is entitled to certain services offered to the private sector of its member nations. The wealth of resources, both technical and financial, available at the ADB's disposal should bring in the near future substantial benefits to the private sector investment in the FSM and thus to the State of Yap.

IV - DEMAND ANALYSIS

Introduction

4.1.1 Under economic background in Chapter-II data about balance of trade, break up of imports by major groups and for selected items have been mentioned. Further in Chapter III under natural resources information has been spelt out about availability of surpluses of agriculture, horticulture, forest, mineral, animal husbandry and marine resources. In the paragraphs to follow the data have been analysed to assess demand for various commodities which lend themselves for production by viable industrial enterprises.

Data Availability/Scope Development

4.2.1 The information about GNP and per capita income was not available. Further the results were not available of the house to house survey conducted in the recent past. Nor data could be obtained about distribution of population among various income groups and consumption pattern of each of such groups. In view of this the analysis of demand for various products which lend themselves to establishment of profitable businesses had to be necessarily based on a study of import statistics and export of surpluses of various natural resources. Import data are available by groups of commodities. In order to know of specific items for industrial production, contacts were established with the importers and owners of other trading establishments. Efforts were made to list the fast selling items and estimate their monthly/ annual consumption within the state. Besides resource and import substitution based activities, in view of

government policy to promote export oriented foreign investments, efforts were also made to identify scope for establishment of ancillary units by indigenous entrepreneurs. The foreigners engaged in operating the activities raise the consumption of a number of commodities to such a level that viable enterprises can be promoted for their manufacture by local entrepreneurs.

Based on Tourism

4.3.1 The experiences in many places show that tourism is one of the few areas of foreign exchange earning that small island economies can engage in relatively easily. In the case of Yap its location near the booming tourist centres of Guam and Palau, its lush tropical island setting, marine landscapes and unique cultural heritage provide distinct potential for tourist development. This in itself is a labour intensive activity. If managed well, it provides good opportunities for economic linkages to other activities. It triggers off among other things service and resource based industries and handicrafts. During the second Five Year Plan the government is directing efforts towards isolated and selective tourism development, diving, yatching and cruises related tourism and cultural interest related tourism. Besides, facilities are proposed to be developed for professional conferences. Currently only about 4,000 tourist visit the state. The proposed efforts are expected to increase the number manifold. In turn, the development will increase demand for various consumer goods whose production by SMIs could be reviewed.

Handicrafts

4.4.1 The handicrafts produced in Yap are mainly carvings, woven products, necklaces made from different local materials and some sea-shell based products. Their sales - domestic and exports - have not registered material increase over

the past few years. The main causes for that are high prices vis-a-vis similar products from other countries or their substitutes made from synthetic materials and sub-standard quality. The government intends as a promoter, during second Five Year Plan period, to introduce improved production techniques, use of modern tools, provide facilities to organise production with improved designs and higher productivity, provide credit and marketing facilities, encourage participation in regional exhibition and trade fairs for soliciting orders from overseas buyers and to link up handicrafts sales with promotion of tourism including opening of show windows exhibiting attractive handicrafts in hotels patronised by tourist.

Import Substitution

4.5.1 The break up of imports by selected items in Yap state during 1988 is given in Table-IX on page 18 under Balance of Trade in Chapter II of the report. Efforts were made to obtain more detailed information of private sector imports yearwise or monthwise for the past three to five years. However, even though that seemed possible yet due to paucity of time the details could not be collected. The list of existing activities in Yap State is given in enclosure-VIII. It would be observed therefrom that (a) the activities are mostly trade oriented, (b) there is a tendency for mushroom growth wherever activities other than traditional ones are established which necessarily results in closure of some of the identities and thus dampening investment climate, (c) in production area most of the activities are service oriented or pertain to handicrafts, (d) inspite of promotional efforts of the government including establishment of production units for demonstration purposes (which seldom have succeeded), enterprises to process resources or to get engaged in import substitution activities have not come into being and (e) there is one foreign investment namely Kingtex (FSM) Incorporated which is 100% foreign

owned went into production during 1989; is doing well, provides employment even to 100 local persons, improved interest of local people to invest in industry and to develop resources to meet consumer demands of expatriates employed by it.

Export Oriented

4.6.1 The export data covering goods and services for the period of 1984-88 is shown in Table-VI on page 15 of chapter-II. These are divided into three major groups namely agriculture produce, marine products and other products. There is no trend shown by the exports over the period or in terms of share of each of the major groups. Except for handicrafts no other manufactured product has been exported. There too most of the exports have been invisible. Among the exported materials which can be used for indigenous processing mention may be made of copra and trochus shell. A production cum demonstration unit was established by the state government for using copra for extraction of oil and manufacture of soap. It was leased to a private concern which after some time returned the equipment to the government. The Kingtex (FSM) Inc. - a 100% foreign owned export oriented enterprise - exported ready made garments worth \$ 0.59 million in 1989 and \$ 1.37 in 1990. It went into production during later part of 1989. The exports have been to USA where Yap enjoys special privileges through generalised system of preferences and provision of special US tariff through Compact of Free Association Agreement.

Future Scope

4.7.1 The current situation is that surpluses of local natural resources except those of coconut and clays suitable for roofing tile and bricks are not available. Fishery resources are being developed. Since already there is a plan for promoting various activities covering fishing and fish

processing, this resource is not being reviewed for this techno-economic study launched primarily for establishing scope for promoting an industrial estate. It is possible that the emphasis placed on development of agriculture and horticulture in the Second Plan and the possibility of increase in demand of such products by the tourists and foreign employees supplement the local demand to a level good enough to promote a number of viable SMIs. However at current juncture nothing of the type is certain enough to be included in the industrial development programme for the next few years.

4.7.2 Further for a population of about 10,000 persons with moderate per capita income and substantial inclination for old cultural way of life, there are not many items for which viable enterprises could be promoted which are also suitable for utilising facilities provided by an industrial estate. Of course if the facilities for tourists are multiplied and tourists number rises manifold and at the same time the government succeeds in promoting some foreign investment wherein a number of expatriates are brought into the country then the quantities of goods so demanded could increase the existing level of demand for a variety of products for the manufacture of which some viable SMIs could be promoted. Again there are many uncertainties and thus based on possibility of such developments the scope for establishment of an industrial estate cannot be determined.

4.7.3 The foreign investments based on taking advantage of special export facilities to USA would result in establishment of large scale enterprises which again is not included in the scope of the study. Of course the scope created by such a development for promoting ancilliary enterprises shall be very helpful towards creation of an industrial estate. However, except that the government has liberal attitude towards promoting foreign investment, there is nothing concrete in the pipeline which could be reviewed for

promoting an industrial estate. Even the requirements of individual items which lend themselves to production by SMIs by the government which is a single largest buyer is not of the level to justify establishment of viable SMIs.

V - INDUSTRY & COMPETITIVE ANALYSES

INDUSTRY ANALYSIS

Introduction

5.1.1 The most important contribution governments of developing countries can make towards the development of SMIs is to adopt the policies and programmes which will facilitate the healthy growth of enterprises in this sub-sector. Experience in some developing countries has shown that the special development measures which were adopted to promote large industry on the one hand and preserve traditional industry on the other, have militated against the growth of a healthy middle group of small and medium scale factories. For example, in some developing countries, special financial incentives and protection are given to large industry and traditional crafts only. The result may be a disincentive to modernise crafts and an absence of positive incentives to establish small factories. The primary responsibility of the government should be to work out a policy and programme for industry of all sizes so that they coexist and complement each other, enjoying full facilities for development.

Definition SMIs

5.2.1 A prerequisite of any special programme for the development of SMIs is that the group of enterprises justifying assistance should be identified. Herein lies the importance of an official definition based on precise and tangible criteria. It is the intention of the governments to

promote technically feasible, economically viable and financially sound enterprises so that those do not suffer from any inherent disadvantages for operating successfully in a competitive economy. In other words such enterprises should attain optimum level of production to justify economic use of all factors of production. For this they should attain technical optimum, management optimum, marketing optimum, financial optimum and optimum level to permit safety against industrial vicissitudes.

5.2.2 An enterprise which corresponds to all the five optima, attain a very large level of production. In practice most of the governments provide protection to industry against industrial vicissitudes particularly when those arise because of changes in technology or development of substitutes so as to provide adequate time for the change over. There are always programmes introduced by the government to provide easy and cheap institutional credit to the SMIs. Further tariff policies are designed to keep the domestic market availability to the indigenous enterprises particularly during their stage of infancy and further a balance is struck between the consumers interest on the one hand and that of indigenous industrial growth, on the other. In this manner, for determination of viable size of the SMIs two factors namely technology and management have to be seriously viewed and it is ensured that any definition limits sets should be such as to allow unit to attain at least reasonable level of technical and management optima.

5.2.3 There are various levels of technology available for production activities. It is important for a country to identify and adopt the technology which is appropriate to the conditions prevalent in respect to the factors of production. Of course this concept is not static. As the industry grows, facilities are developed and marketing orbit expands, the level of appropriate technology also changes necessitating review of tariff, fiscal, financial etc.

policies related to industry. In case of small scale industries generally the owner is the manager and he looks after all aspects of management of the enterprise. The level of production should be such as to permit enough financial compensation to such a person (even if a manager has to be employed) to keep his interest alive to be fully involved in all the activities of the enterprise. Of course, with changes setting in the appropriate technology level and appropriate management cost the definition of SMIs should be reviewed to correspond to the changes.

5.2.4 In some countries which have introduced programmes for the development of small factories, the latter have been grouped with traditional crafts on the strength of one common factor, namely a relatively small scale of operation. But the two are entirely different types of industry: one uses highly productive specialised labour, the other a less productive artisan - apprentice type of labour. The two types therefore require different programmes and agencies for their promotion.

5.2.5 In different countries to define the size of industrial establishments different criteria are used such as the number of employees, the capital investment, the volume of sales, or the consumption of electric power. Investment in fixed capital is generally accepted as a sound criteria, though the amount of capital regarded as marking the dividing line varies considerably. Here too for rationalisation the investment on land and building is ignored. The value of land varies very widely with location within a country and that has no relation to the use of appropriate technology level. Thus if value of land is taken into account to define SMIs then enterprises using same level of technology would qualify as SMIs at one location and not at another location. Hence it is wiser to restrict consideration to investment on machinery and equipment for defining SMIs. It is generally recognised that the capital ceiling should be sufficiently

high so as not to discourage SMIs from equipping themselves with modern machinery and tools. If the ceiling is fixed rather low for purposes of definition, SMIs may be reluctant to acquire even essential items of equipment for fear that further investment may bring them outside the scope of the development programme and that they will have to forego its benefits.

5.2.6 Any definition should be flexible enough to allow easy adjustment to cope with the changing needs of industrial development. A good definition should be precise and clear without being rigid and the adoption of it should be one of the first steps taken by a government interested in the development of SMIs. For recommending a definition for SMIs to the government of Yap state the aspects discussed in the preceding paragraphs have been kept in view. The existing status of industry, the policy direction, availability of facilities, potentialities for development etc. are the considerations which also have been given due weightage. Currently there is no definition to distinguish among handicrafts, small, medium and large scale industries even though it is very necessary for linking appropriate use of the assistance programmes. In the light of above discussion on the subject of 'Definition' it is felt that keeping due regard of the prevalent situation and attainable levels of industrialisation a handicraft enterprise or a tiny unit should correspond to a limit of investment on machinery and equipment and tools of US \$10,000. Those enterprises whose such investments are more than US \$ 10,000 but not over US \$ 100,000 should be taken as small scale units; whose such investment is over US \$ 100,000 but not more than US \$ 250,000 should be categorised as medium scale enterprises and all those enterprises whose such investment is more than US \$ 250,000 should be taken as large scale units.

SMEs Development

5.3.1 Yap is committed to private sector development in the economy. The role of the state is that of a facilitator, fostering an environment that is conducive to entrepreneurial activity and growth and providing technical assistance to the enterprises where needed and justified. The main government agency charged with promotion of industries is the Division of Commerce and Industries of the Department of Resources and Development. It is engaged in implementing related government policies, provides technical supporting services, is responsible for investment promotion and assists FSM Development Bank in its lending activities.

5.3.2 The government initiated several small scale pilot projects as a strategy to stimulate private sector interest. Once established and proven viable, the pilot projects are put up for privatisation. Such projects taken up include production of fibre glass products, coconut oil and soap making, coconut fibre and fibre products, ceramic ware, a feed mill for pig and chicken food processing, a pig slaughter house and a printshop. The fibre glass products project is operative. Operational viability is a serious problem due to extremely limited domestic market, the lack of experience of local production personnel resulting in poor quality and low productivity and non developed industrial and entrepreneurial skills. Accordingly realising that national aspirations for economic development could not be achieved through fostering local SMEs alone and keeping in view urgent need for creating employment opportunities, diversification of economy, import substitution, establishing export oriented industries, offsetting trade deficit etc., the government broadened the scope of activities by attracting foreign investments preferably as joint ventures and even by bending the rules to accommodate 100% foreign owned investments where local capital was shy to participate.

5.3.3 The local private sector has taken initiative to establish SMIs for production of oxygen, cement blocks, bakery products, auto repair and maintenance facilities, laundries and wood working. Due to limited market, except bakery and one or two auto repair shops all other enterprises are functioning only intermittantly. In the field of foreign investments a major project in garment production for export was established in 1989. Currently it employs 496 persons of whom 77 are local. Its fixed assets amount to US \$ 1.65 million. Its production for a few months it operated in 1989 was \$ 0.59 million which rose to \$ 1.37 million in 1990. The enterprise is experiencing problems of punctuality, regularity and sticking to the job learned by the local employees. Shortage of local availability of fruits and vegetables and interruptions in supply of electricity and water are the other problems faced by the enterprise. It has plans to extend its activities through installation of equipment for garment washing plant.

5.3.4 There has been no industrial survey of the state. There is no reporting or inspection system introduced so far for the establishment to regularly obtain data like the manufacturing activities, investment, employment, production, problems concerning government policies and regulations, availability of utilities and infrastructure and credit facilities, marketing of goods, availability of industrial skills etc. Introduction of such a system would go a long way to support promotion of healthy SMIs and for timely representation of their problems. The government is likely to take steps to correct the situation during the second Five Year Plan period.

Handicrafts Development

5.4.1 The broad groups of handicrafts made in Yap have been stated under chapter on Demand Analysis. The handicrafts showroom was visited and discussions were held with the

President of Women Association. Visits to artisans engaged in making of handicrafts could not materialise. A study was carried out to promote marketing of handicrafts in USA markets particularly. The study reveals that the prices of Yap handicrafts, in general, are too high and quality inferior compared to either identical products from other exporters or those made from synthetic substitutes. The study recommended that (a) the artisans should concentrate on making purses (small, large, coloured and those meant for coins) medicine bags, grass skirts, boats and story boards, (b) marketing possibilities favoured traditional handicrafts, (c) a representative should visit target markets to choose distributors, (d) cost of production should be analysed, price lists prepared, production monitored to control quality, use attractive packing and follow USA custom regulations and (e) FOB prices only should be quoted.

5.4.2 Further the handicrafts which have practical use, are light weight, simple, having short durability, unique in character and related to Yapese culture, have larger chances for export. The coconut fibre based handicrafts face keen competition pricewise and utility-wise from substitutes made from synthetic fibre. However brushes and ropes meant for industrial uses if improved in quality and priced reasonably could be exported to USA. The availability of benefits under generalised system of preferences etc. could be exploited through exploring markets for custom made items particularly for traditional and unique Yapese handicrafts. Tourists, museums in USA etc. and expatriates living in Yap also form potential customers.

5.4.3 The overall feeling is that the age old technique in making of the handicrafts has registered little change and interest among the younger generation has dwindled over a period of time mainly because the earning potentials are not commensurate with their expectations. As such productivity, production and quality have suffered. To remedy the situa-

tion there is a need to identify and to introduce improved tools and newer designs without losing uniqueness of the Yapese handicrafts. Further a common workplace be provided with arrangements to improve productivity and to generate uniformity and improving quality of the handicrafts and thus boosting up their marketability. This can be achieved through establishment of a production cum training centre run under the guidance of a master craftsman experienced in creating and introducing new designs and having practiced the use of improved tools.

5.4.4 The Women Association should price the goods ensuring reasonable earnings for the artisans and keeping that at a level to be competitive in the markets proposed to be explored. The Association should lift the goods produced at the centre against cash payment for which credit facilities on easy terms should be provided through Yap Development loan Fund. The Association should also arrange to hire space in hotels patronised by tourists and fix show windows to exhibit attractive handicrafts and thus promote their sales. At times sales to tourists promote market for the handicrafts in their respective countries. Maldives is another island country having almost similar types of raw materials for handicrafts. The variety and quantity of handicrafts sold over there and their demand in other countries is manifold compared to the situation in Yap. Further there are some established production-cum-training centres. It would be worthwhile for a representative of the Association and the concerned officer from the Division of Commerce and Industries to carry out a study tour of that country. The Association should prepare attractive publicity material for introducing and popularising Yapese handicrafts. It should ensure decent packing and an historical leaflet for each handicraft linking that with the age old culture of the state. The government should financially support the Association to participate and to exhibit Yapese handicrafts at Regional Exhibitions and Trade Fairs.

Industrial Statistics

5.5.1 There is no reporting system introduced by the Division of Commerce and Industries to obtain industrial statistics from the establishments. Nor there is any regulation making it essential for the enterprises to keep records of production etc. Of course for the Income Tax Department every business is supposed to deposit taxes based on gross revenues earned. However such an information being of confidential nature is not revealed by the authorities. As such data about license numbers ownership and nature of business alone could be obtained. However, for industrial planning information about investment (on land, building, machinery, equipment, tools and as working capital etc.) employment, wages, production in quantity and value over a number of years, sales, marketing orbit, prices etc. is required. Absence of such information has not seriously restricted assessment of scope for industrial development since there are not many SMIs engaged in product oriented activities or in such common service facilities which influence growth of SMIs. However, the Division will do well to introduce a system through which statistical and other data is regularly received, processed and used for industrial planning.

5.5.2 In respect to handicrafts, data is not available in respect to number of active artisans in each trade, the articles produced by them, their quantities and values, their markets, sales revenues etc. For introduction of facilities to help them to improve productivity, quality, variety and earnings and to organise marketing of their output, it is necessary to collect basic information about their location, numbers, interests and receptivity to adopt improved techniques and to use common workplace.

COMPETITIVE ANALYSIS

Indigenous Products vis-a-vis Imported Substitutes

5.6.1 There are not many product oriented local enterprises. Most of the consumer products and semi durable goods which lend themselves to production by the SMIs are being imported to meet the local demand. Still there are a few activities like manufacture of oxygen, bakery products, fibre glass products like boats, coconut oil and soap and poultry and piggery feed mill for which local enterprises have been established. Even though the level of local demand is adequate to permit operation of the plant on single shift basis hardly for two days a week yet the enterprise is active and practically there are hardly any imports of gases like oxygen, carbon dioxide and acetylene. Except for importing raw material calcium carbide for acetylene gas, for other gases, the raw material namely 'air' is locally available. Further the cost of transport of filled in cylinders and then returning the empty ones is sufficiently high in case of imports and that turns the balance in favour of local production.

5.6.2 The bakery started as a tiny enterprise. Since the enterprise took care of hygienic working conditions and consumer preferences being in favour of fresh bread, it went on catching demand and substituting imports. Over a period of time the activity has increased threefold or so and it is quite possible when its current expansion programme is completed, almost whole of the local demand for bread is met by this enterprise. This unit has expanded its production orbit by way of adding production of certain allied products suiting to local tastes and making of cake. The main factors which have favoured the substitution of imports by the local bakery are (a) freshness of the bread, (b) the products corresponding to local tastes and (c) efforts made by the

management to ensure quality maintenance and proper upkeep of the factory.

5.6.3 The third successful enterprise in competing though not eliminating the imported substitutes is the fibre glass products unit. This enterprise was established as a production cum demonstration unit by the government. It has been privatised. Currently it is being subsidised to the extent of availability of the premises. It is engaged in the manufacture of boats and cylindrical water storage tanks. Bulky character of the end products resulting in substantial saving in transport cost to the buyers, availability of institutional credit facilities to finance purchases from the enterprise and the enlightened and enterprising qualities of the management are the contributory factors for the unit staying in production. Its scope for viability could further improve if the activities are broadened to include making of the sanitary fittings like wash basins, tub etc. and introduction of corrugated sheets. There is also ample scope for improving the productivity, better production, raw material and wastage management.

5.6.4 For the manufacture of coconut oil and soap another production cum demonstration enterprise was established. It was leased out to a private party. In spite of promulgation of 'Consumer Protection Act' the government took certain measures to facilitate sale of local soap against its imported substitutes. In spite of this the enterprise is currently not functioning. The private party was not available. So the causes for the situation could not be ascertained. Perhaps the copra available for extraction of oil was not appropriately dried and due to its deterioration, the quantity of oil extracted was not adequate and thus soap made from that was more expensive besides being inferior in quality. The cost was also affected for the cake not fetching reasonable price. Further the soap being an item of personal use, the consumers preferences of brand conscious-

ness could not be met. However, the product being based partly on indigenous raw materials, through proper management, good salesmanship and reasonable government support it should be possible to revive the enterprise. It does not seem to suffer from any inherent competitive disabilities. Similarly some other activities are lying dormant. These include extraction of coconut fibre and its use for various consumer products which were promoted as production cum demonstration enterprises.

5.6.5 A feed mill for poultry and piggery was established again as a production cum demonstration enterprise by the government. Since there were many poultry farms and piggery as family units is being extensively practiced, the establishment of the feed mill anguered well. But it did not make adequate use of local raw materials and instead imported most of the ingredients. Its product is said to have been rather expensive and poor in quality. Further the production planning was not done properly. In the absence of imported stuff, locally enough quantities were not made available. This adversely affected poultry farms. It is reported that poor quality of feed did not permit farmers even to recover the cost of feed by selling the poultry. Many got discouraged and dispensed with the profession. Currently the mill too is not functioning. There is obviously a need to thoroughly diagnose the situation. It should not be difficult to revive the feed mill and to multiply the poultry farms. It is a good activity having sizeable local demand for poultry products and possibility of profitably using a number of local raw materials.

5.6.6 There are two service facilities again promoted through initiative by the government. The Print Shop has been privatised, is being patronised by the government, is well managed and is functioning satisfactorily. The other is a pig slaughter house. It is well equipped with modern facilities and can process about fifteen boars a day. Howev-

er, it functions only once in a week and slaughters five pigs. It is not functioning as a viable enterprise. Piggery is largely practiced and many of the families in Yap have pig pens. Further lot of frozen and processed pig meat in various forms is being imported. It should be worthwhile to conduct a diagnostic study and to take steps to make sizeable use of the slaughter house and to cause import substitution.

Domestic Competition

5.7.1 The local business community is very small. It tends to restrict its activities to a narrow range of low risk and low development impact branches of investment. The industrial information is not adequately available to them. When comparatively more enterprising persons establish some business, the others follow suit believing that the activity has bright prospects. This results in mushroom growth and thus supplies, offshoot consumption level resulting in cut-throat competition leading to losses to some of them and terminating in their closure. The situation directs attention to (a) there is some awakening favouring development of businesses, (b) most of the entrepreneurs have low investment capacities since opportunities requiring low investment attract vast majority of them, (c) State and population being small and demand for products and services being limited, in the absence of direction some of the investors suffer losses and the continuation of such a tendency would dampen investment climate and (d) collection, documentation and dissemination of industrial information deserves urgent attention and has potentials for directing investments to profitable business.

Competition - Export Markets - Manufactured Goods

5.8.1 The manufactured goods being exported are mainly ready made garments and handicrafts. The main market for

these is USA where the Yap products enjoy certain preferences. The exports of ready made garments was started in 1989. It enjoys unlimited quota for exports to USA. The exports in 1990 were nearly 230% of those in 1989 (the enterprise actually went into production during the later part of 1989). The enterprise is 100% foreign owned and managed. The experience regarding export of handicrafts is discouraging. Over a period of time their value has been falling. Even the offtake as souvenirs by the tourist does not reveal any encouraging trend. As already stated, the factors mainly responsible for the situation are: (a) high prices, (b) low quality, (c) limited variety, (d) inadequate publicity depicting special features including unique character, (e) dearth of publicity, (f) unimpressive salesmanship, (g) non-availability of precise consumer preferences, and (h) need for streamlining organisational set up for promoting handicrafts. It does not seem practical to base development of SMIs on export marketing particularly those proposed to be promoted for import substitution.

LESSONS FOR SMIs PROMOTION

5.9.1 In spite of the government extensive efforts to promote private sector in Yap through local entrepreneurs, by and large, neither the development has taken positive direction nor success in any way commensurate with the efforts made has been achieved even though spirit among the persons having investible funds has been kindled to own and to operate their businesses. Some of the features of development having significance and impact on future progress in this direction are listed below:

1. The State Government should limit its role mainly to follow development policies for creating favourable conditions for business growth rather than performing

entrepreneurial duties such as establishing and operating production centres. It should provide for private sector participation in designing policies affecting it.

2. The public services should be organised as to be able to respond quickly to demands from the business community.
3. The government should take steps to build up industrial information and for its dissemination, motivate entrepreneurs and assist those to formulate viable project proposals for institutional financing.
4. Private sector is weak. Common service facilities, essential for operation of the SMIs and not possessed by them, should be established and handed over to the private sector when sufficient demand for their use develops and allows their operation on commercial lines.
5. In order to ensure availability of best persons to the private sector the government should review its terms and conditions for service and ensure that those are not so attractive which the businesses cannot afford to provide.
6. The procedures affecting industrial concerns of the state and the national government should be streamlined and duplication avoided.
7. Industrial extension service should be organised.
8. Priority should be allocated to development of natural resources surpluses and simultaneously capacities for their processing should be promoted.
9. Emphasis should be placed on developing tourism and linking with that of handicrafts sales.
10. Emphasis placed on promoting foreign investments should be further strengthened in the future.
11. The initiative taken by the government to arrange for marketing studies particularly aimed at export promotion should be continued particularly for promoting sales of handicrafts.

12. Establishment of business forum augurs well. Its involvement in all aspects of business promotion should be encouraged. The Chamber of Commerce should be further activated to motivate entrepreneurs for investment promotion and orienting policies and programmes to the felt needs of the private sector.

VI - FUTURE PROSPECTS FOR SMIs

Introduction

6.1.1 The future prospects for developing SMIs have been reviewed from two angles. One pertains to the scope visualised as per the existing situation (including natural resources, entrepreneurship availability, government policies, availability of facilities etc.) and changes likely to be made in the immediate future. The second angle takes into account the influences shaping potentials for industrial development through the implementation of programmes and policies enlisted in the draft second Five Year Plan document. Whereas in the following paragraphs the former module has been discussed as precisely as the study conducted could permit, the latter one has been only briefly mentioned since many uncertainties creep in due to the time lag involved, the manner in which the plan would be finalised and the extent to which the programmes in respect to various sectors of the economy would be implemented. It may be noted that execution of the first Five Year Plan suffered from many limitations and the spillover to the next plan has been substantial.

Check list - Potential Investment Opportunities

For Immediate Future - New Opportunities

6.2.1 The development potentials based on fishery are being largely excluded for consideration since firstly the state government is likely to execute a composite development plan

for the purpose and secondly most of the connected activities are not suitable for location in an industrial estate. However, if for some reasons, the proposed fishery development plan implementation is much delayed, fish catching activities multiply and a marketing arrangements for canned fish are possible, then fish processing and fish meal activities can be promoted as SMIs. The subsidiary activities like manufacture of tin cans, card board boxes etc. are related to the developed stage of fishery which is likely to take a few years. Smoking of fish for the benefit of artisanal fishing has been included. Among other natural resources availability of surplus citrus fruits and clays (for roofing tiles) are being reviewed for promoting SMIs.

6.2.2 The break up of imports given in Table-IX, Chapter II on page 18 shows quite a few items being imported in sizeable quantities. The value of imports in 1988 included canned meat \$ 0.224 million, frozen meat \$ 0.12 million, poultry \$ 0.142 million, Noodles etc. \$ 0.136 million, ice cream \$ 0.05 million, confectionery \$ 0.083 million, cigarettes \$ 0.509 million, beer \$ 0.535 million, soft drinks \$ 0.169 million, furniture 0.049 million, footwear \$ 0.031 million and vegetable/animal oils \$ 9.0 million. It is understood that about 70% of meat imported is beef or mutton. Cattle or sheep breeding is not practiced in Yap. Poultry farming was earlier being extensively carried out. However, in the recent past primarily because of non availability or defective poultry feed, many of the farmers suffered losses and closed their businesses. Beer manufacture is not suited to location in an industrial estate. Cigarettes consumption is quite sensitive to specific brands and involves large selling costs. Therefore viable production level is not within the reach of a SMI. Manufacture of oils is not possible since raw materials surpluses for processing are not available in adequate quantities. However oils could be imported in bulk and repacking in smaller containers done locally. The other import substitution

activities which can be included in the check list of potential investment opportunities are thus noodles, ice cream, confectionery, fruit juices, soft drinks, furniture and footwear.

6.2.3 The investigations carried out during the mission also reveal a few more items which should find a place in the potential investment opportunities list. These are paper conversion products (napkins, toilet rolls, facial tissues, envelopes, plates, exercise books etc.), milk reconstitution, biscuits/cookies, disinfectants, mosquito coils, detergent powder repackaging, rubber beach sandals, tyre retreading, HDPE monofilament and its products, domestic aluminium utensils, tube light fittings (reflectors and starter-condenser), Voltage stabiliser, auto-exhaust mufflers, electric motor rewinding, plastic buttons, sewing/stitching thread, nylon zippers (the last three based also on the requirements of the foreign owned large scale export oriented ready made garment enterprise), silk screen printing (using ready made garments locally produced), wax candles, office gum/adhesives and surgical bandages.

6.2.4 There are reasonable chances for reviving some of the activities undertaken earlier but have run into problems for one reason or the other. These include poultry and piggery feed mill, extraction of coconut oil and manufacture of soap, extraction of coconut fibre and its use for rope making etc. and addition of items like wash basin, bath tubs and corrugated sheets in case of fibre glass products enterprise. Further if the working of the artisans for handicraft making is streamlined there is scope to add or to expand activities like coral/sea shell products, shell buttons, costume jewelry, basketry and rope. There does not seem to be any inherent weakness in promoting sales of these products particularly when emphasis is increasing manifold on promoting tourist traffic and on account of privileged position for export to USA.

6.2.5 In respect to the listed potential investment opportunities certain useful information like operations involved in their manufacture, major equipment and main raw materials required, requirements of space, motive power, manpower and scale of production etc., is given in enclosure-IX. The check list includes forty items of which only two are such which are not suitable for location in an industrial estate. Practically for all of these local entrepreneurs with adequate investment capabilities are available and with due motivation they could be attracted to the listed opportunities. The limiting factor, however, is the production capacity. It is too large compared to the anticipated local consumption. Further the consumer protection law highly limits the scope for protection to the indigenous industry even during stage of its infancy.

6.2.6 A close look at the list shows that inspite of the limitations placed by local demand the level of technology which has been chosen for different activities, there are some opportunities which can be still implemented. These are fruit juices (to meet local demand on day to day basis - this can of course be carried out in the residential premises of the entrepreneur), repackaging of edible oils, coral and sea shell products including costume jewelry, smoked fish, silk screen printing, stitching thread and motor rewinding. Most of these are connected with the upgrading and widening the skills of the artisans or processing of available local resources. Additionally, there are items whose production can be taken up because of special facilities available for USA markets as well as because the large scale foreign investment in export oriented ready made garments industry has generated scope for promotion of ancillary units by local persons. The total area of industrial premises for the purpose work out around 600 square metres. This is not adequate to justify establishment of an industrial estate with the various common service facilities which go along with it.

6.2.7 The break even point level of production for the most of the listed opportunities lies between 40% to 50% of the production capacity mentioned in the check list. There is no sense in promoting an enterprise unless there is assured market to permit a SMI to operate at least upto the break even point. In the light of available import statistics supplemented by the field investigation, it is felt, that there are not going to be many more of the activities included in the check list which would broaden the demand for industrial premises to an extent as to justify promotion of an industrial estate in Yap at the current juncture. There is reasonable possibility in such a situation to promote activities like tyre retreading, auto exhaust mufflers, instant noodles, rubber beach sandals, exercise books and electrical motor rewinding. Their requirements of industrial premises is expected to be around 725 square metres. Such an addition to the requirements mentioned in the preceding paragraph again does not increase the demand for industrial premises to an extent as to justify the promotion of an industrial estate.

6.2.8 The second Five Year Plan includes programmes for development of natural resources and thus make available surpluses for industrial processing. Similarly anticipated developments in other sectors of the economy shall also generate demand for manufactured goods some of which could be produced by the SMIs. The emphasis placed for promotion of facilities and development of tourists traffic shall generate additional demand for various products already included in the consumption pattern of Yapese. Further various efforts are being made to promote foreign investment. In the process, a number of expatriates will come to the state and the manufacturing activities established should be offering scope for promoting ancillary enterprises. All these developments are likely to increase the demand for a variety of products many of which could be

reviewed for promotion of industry. For illustration, mention may be made of items like motor boat engine repair workshop, electroplating unit, aluminium builder's hardware, frozen/processed meat, cardboard boxes, rigid PVC pipes and pipe fittings, PVC cables, electrical accessories like switches, sockets, plugs, oil seals, auto electric fuses, chalks and crayons, umbrellas, reconstituted milk, extension of activities of fibre glass enterprise to include wash basins, bath tubs and corrugated sheets etc. At the same time it should become possible to revive poultry, piggery feed mill (even to establish composite poultry complex including hatchery, layers, broilers, dressing etc.), coconut based products and modernisation of the printing press. In such a situation there will be enough demand for industrial premises to justify promotion of an industrial estate. It is expected that the shape of the things to happen and consequent scope for development of an industrial estate could be reviewed during 1993.

6.2.9 The scope is much limited for development of SMIs for a population of about 10,000 persons with little availability of surpluses of natural resources. The consumption pattern is reasonably wide. There are four states in the country. The total population of the country is around 100,000 persons. When industrial potentialities of each of the other three states are assessed those very likely will reveal more or less a similar trend. However, if industrial survey of the whole country is carried out, it is quite possible the demand level for a wide variety of items allows establishment of SMIs for their manufacture. The location factors for each of the potential items could be applied and the overall list of candidate industries split up into four groups - one for each state. The list for Yap state could then be reviewed to assess the scope for promotion of an industrial estate over there. In that case measures would have to be designed and introduced to ensure that the market of the whole country stays available to the enterprises promoted in

any of the four states and those do not face much competition from imported substitutes at least during the stage of infancy. It should be seen that for placement of an activity in the list of potential opportunities, it is ensured that its development is possible within the framework of policies affecting development of industry.

6.2.10 The expansion in tourist traffic and their interest in buying souvenirs coupled with organising exports of handicrafts to USA there is a need to streamline the production and distribution of handicrafts. The study of handicrafts shows that (a) the techniques are practiced for generation, however the interest in the younger generation has been dwindling, (b) the quality of products has been going down, (c) productivity has been decreasing, (d) if earnings from their products could increase and demand be regular then artisans could be motivated to practice their hereditary skills for the improvement of which they shall need improved tools and designs and guidance in their use.

6.2.11 It should be assessed how far it is feasible to establish common workplace for the artisans. At such places (called common Service Centres - CSCs) improved equipment should be installed meant for enhancing productivity and quality of the products and improving the variety by introduction of wider range of designs. A CSC should have an industrial extension officer well conversant with the technical aspects of the craft and reasonable level of knowledge to ensure up-keep of records including book keeping, cost estimation and price fixation. The CSC will ensure use of good quality raw materials and supply of use of improved hand tools. Wherever needed facilities will be provided to treat raw materials so that those when used are of the appropriate specifications and thus complaint about the quality of products is minimised. After a short trial period the artisans will be expected to pay for the use of the facilities provided. The overall control of organising such

centres should be with the Women Association which is currently closely connected with procurement and sale of handicrafts. The services of master craftsmen for various handicrafts, wherever need for upgrading skills is visualised, should be procured through UNDP/UNIDO or any other donor country and made available to the Women Association. This association should endeavour to organise groups of artisans into cooperatives/associations and take over the functioning of the CSCs.

VII - FACILITIES FOR INDUSTRIAL DEVELOPMENT

Introduction

7.1.1 The government role for organising growth of healthy SMIs is multifaceted. The government is committed to private sector development in the economy. Among other things, the government creates physical and psychological environments conducive to industrial growth. The role of the state is that of a facilitator and for fostering an environment that is conducive to entrepreneurial activity and growth. In doing so, the private sector is looked upon to take full control of business/economic activities. The government will continue to provide basic facilities, social services and the infrastructure development. The steps being taken for the purpose in Yap at pre-investment, investment and post-investment stages and the modifications needed in respect to those are outlined in this chapter.

Pre-Investment Stage

Industrial Information

7.2.1 Like this study, the government organises activities aimed at identifying suitable investment opportunities. It prepares project profiles for facilitating investment decisions by the entrepreneurs which also prove useful for organising institutional financing of the investment proposals. Since establishing and operating manufacturing activities is new in Yap, the government has been establishing several small scale pilot projects in key areas as a strategy to stimulate private sector interests. Once established

and proven viable, the pilot projects are put to privatisation; of-course some of such projects proved successful while others had to be discontinued among other things also due to problems relating to their operational viability. The other causes included extremely limited size of the domestic market and lack of experience in the field resulting in low productivity and poor quality. In short howsoever useful a specific programme might be, if that is not taken along with other inter related steps, the results are discouraging. As such in future a well planned strategy should be designed and implemented. The promotional steps taken in isolation not only result in wastages but also discourage entrepreneurs through loss of faith in their capability to establish and to operate successfully SMIs. The Division of Commerce and Industries in close collaboration with the FSM Development Bank should establish an Industrial Information Centre and organise dissemination of economic information to potential investors.

Pre-Operative Facilities

7.2.2 The State government provides services for project site preparation and making access roads, water, electricity and sewer connection lines upto the project site at its own cost. Provision of such facilities to each enterprise at different location is expensive. The promotion of industrial estate will cover such facilities too. This is under the active consideration of the government and will be a positive contribution to accelerate the growth of the SMIs.

Entrepreneurship Development

7.2.3 In the developing countries, small factories are one of the most effective means of stimulating indigenous entrepreneurship. Individuals may develop a potential for entrepreneurship in large factories. However, owing to a shortage of capital, they may be able to realise this only through the

establishment of a small company. Similarly, individuals from all walks of life can realise their drive towards entrepreneurship through the establishment of SMIs. In general, one finds a much larger relative participation by the indigenous population in the management of small companies than in large ones. As part of its technical assistance, the FSMDB participates in the field of entrepreneurship development primarily through co-sponsorship of business related trainings and seminars. The government should avoid stepping into the role of entrepreneurs. It should restrict itself to providing adequate industrial information, potential investment opportunities list including entrepreneur information sheets containing briefly all information necessary for arriving at an investment decision, project profiles, acting as a facilitator for promoting investments, conducting entrepreneurship motivation programmes etc. It is essential to note that entrepreneurship should be motivated to establish SMIs when all loose links of data, facilities, policies and programmes have been properly tied up. Otherwise failures of motivated entrepreneurs block the way to find future investors since they witness for themselves as to what happened to their predecessors.

Intrastructure facilities

7.2.4 The Colonia water supply system has been expanded and improved. Further good quality water systems have been created in southern Yap and in Gagil-Tomil. In Colonia (the Capital of Yap state) there is one 25 million gallon reservoir and two reservoirs of of one million gallon capacity. Two water filter units were added in 1988 besides the one existing before hand. Generally, the supply is adequate. However, during February-March some shortage of treated water is felt. The capacity of the sewer treatment plant is good enough to take care of the needs of the state for many more years to come.

7.2.5 The Yap State is operating three electrical power systems. The central power system is located in the state centre. The other two are at Ulithi and Woleai. These systems are continuously being upgraded and expanded to meet the increasing demand for electricity. The Central power system has 6 generators, two of 2000 KW capacity, two of 800 KW and two of 750 KW. The plant has a total generating capacity of 7.1 megawatts. The demand for power requires the plant to run one 2000 KW capacity generator or one each of 800 KW and 750 KW capacities. When the demand is at its peak level then besides 2000 KW capacity generator one additional generator of 800 KW or 750 KW has to run parallel. Largely due to idle capacity the government is subsidising the supply of electricity. This subsidy per household is estimated at \$ 950 per annum. As such for the development of SMIs, there is not any likelihood of problem for supply of electric power.

7.2.6 The telecommunication facilities are reasonably well developed. There is a satisfactory postal system. The situation about roads is satisfactory. There is no serious problem about transportation system. There is an airport and a sea port. However some problems are experienced in respect of regular, adequate and frequent goods transport facilities. School education system is well developed. Arrangements outside the state also exist for higher education - general and professional. Facilities for vocational skills are also similarly available. However dearth of availability of industrial skills is experienced. In regard to recreational facilities, there is a TV station. There is a general hospital. For treatment of serious problems, the people generally go abroad. There is ample scope for developing sea beaches and multiplying sea sports facilities particularly if tourist traffic is to be developed. Banking facilities with moderately well developed system for their utilisation for promoting industry, are available. System for institu-

tional support to industry exists even though there is ample scope to streamline it.

Investment Stage

Credit Facilities

7.3.1 There is a Development Bank (FSMDB). Although significant progress has been achieved yet the results of institutional financial support would have been better if, solution was found and applied to problems like complicated land tenure system, lack of industrial skills, high staff turnover in FSMDB and isolation of the State from markets. The extension of the activities of Asian Development Bank and of the Pacific Regional Development Bank to the State will further facilitate availability of institutional credit and related supports for the SMIs. The loaning facilities are available from Economic Loan Development Fund, Industrial Development Fund and Yap State Development Investment Loan Fund. The bank gives priority financing to the projects which contribute also to objectives like (a) provide additional employment opportunities; (b) improve the balance of trade; (c) promote the growth of local entrepreneurial skills and (d) introduce new and appropriate technology. The bank also aims at mobilisation of capital.

7.3.2 The procedures involve receiving the loan request on prescribed forms, interviewing the applicants to judge his suitability and credit worthiness, evaluate the sub-project for its viability keeping in view the comments obtained on the investment proposal from the Resources and Development Department of the government and is sent to credit committee. Upon approval of loan, the branch office prepares mortgage papers and forward those to the Headquarters. On the acceptance of the papers the funds will be released for

disbursement by the branch office. The stages involved in project financing are (a) project selection, (b) loan packaging, (c) project appraisal, (d) loan approval, (e) loan documentation, (f) loan disbursement/project implementation and (g) follow up and post evaluation. The eligible borrowers are expected to fulfill conditions like (a) registered as citizens of the country, (b) joint ventures should have 51% ownership of registered citizens, (c) should be of good health and moral character, (d) should be above legal age and if over 60 years a co-obliger is required, (e) capable of operating the business, (f) should have enough capital resources to operate the business, (g) should prove that sub-project meets the priority financing objectives of the bank, (h) should prove sub-projects's ability to make loan repayment and (i) should declare other sources of income.

7.3.3 Loans are not advanced for speculation, immoral, illegal and sub-lending activities; for creating monopolies and to persons who previously grossly defaulted or convicted of crime or felony. Loans are also not sanctioned for paying off other loans, providing funds for payment to principals of the applicant or to replenish funds previously used for the same purpose. The maximum amount of loan (direct and guaranty loans) for a project is \$ 250,000. The discretionary authority of bank manager to sanction loan is \$ 15,000, \$ 50,000 of the bank's President and over that amount is of the credit committee. Newyork primewk statutes, cost of funds and cost of operation determine the rate of interest chargeable. Currently it is not to exceed 5% per annum on all projects, with 1% penalty charges for late payment. The loan fee which may be built into the loan package is 1%. The loan applicants are required to bear all additional and incidental expenses in connection with the availment of a loan which may include but not limited to recording fees, notary fees, technical appraisal fees, attorney fees etc. in the event such are required by the Bank.

7.3.4 The sum of guarantee loans must not exceed 90% of the outstanding principal balance. It should not have maturity date in excess of 25 years beyond loan closing and the banks liability per loan should not exceed \$ 150,000. The fee charged by the bank for the purpose is 1%. The bank financing may be parallel financing, joint financing or channel financing. The bank generally considers financing for acquisition of goods and services, purchase of land or project site, machinery, equipment, vehicles (including second hand) and operational capital. The loan repayment period can be one to twenty five years with grace period upto three years. The borrower must buy at least 10 per cent ownership (equity). Collateral may be personal or business property. It includes land, buildings, boats, machinery and other valuable goods. The assets created through the use of loan can also form part of the collateral. The bank requires the borrower to have either 'credit life' or 'mortgage protection' insurance in the name of the bank.

7.3.5 For loans from Investment Development Fund (IDF), the business proposal must show a relationship with US economy. For this one should have a USA citizen as a business partner, or purchase material or equipment from USA or higher management services etc. from USA. The minimum amount for borrowing from Private Sector Reserve Component of the loan is \$500,000 and \$250,000 from Yap State Sub-Account Component. Other aspects of the loan are same as detailed in the preceding paragraphs for Economic Loan Development Fund.

7.3.6 Under the Yap State Development Investment Loan Fund the maximum limit is \$15,000. The guarantee provided from this fund shall not exceed \$25,000 per project (or 50% of the loan amount - whichever is lower). The loan may be used for acquiring fixed assets, meeting pre-operational expenses, working capital and other expenses directly related to the project. The guarantee fee shall not exceed 50% of the guarantee amount. The period of repayment shall not

exceed 12 years from the first disbursement date of the loan. The proposed project's/enterprise's viability and the pay back strength shall be the main criteria that will be considered for granting loan facility. The application for loan shall not be rejected solely on the ground of inadequacy of collateral. The projects should belong to manufacturing industries, tourism, agriculture and fisheries and service industries. All other considerations are as per the Economic Development Loan Fund.

7.3.7 There are two commercial banks. The Hawaii Bank is a foreign bank and the other is the local bank namely Bank of the FSM. They charge interest 2.0% to 2.5% more than the New York prime rate. The maximum limit of interest rate is 15%. Collateral is a serious problem in case of Hawaii Bank since as per local laws land mortgage is not possible in its case. It generally provides loan for commercial or personal purposes by obtaining security in the form of bank deposits. The approach of commercial banks is quite orthodox and those have played very limited role in development of industry.

7.3.8 The terms and conditions for providing credit facilities by the FSMDB are quite liberal. In spite of that the aspirants for investing in industry are not many. This is partly due to the fact that industrial investment climate has yet to be built up. The interest of entrepreneurs in industrial ventures is further dampened by the complicated and time consuming procedures. At the same time even though one is expected to provide for 10% equity yet in practice average equity taken by the FSMDB in 1988 from a manufacturing concern is reported to be 143% and it got reduced to 34% in 1989. Similarly, data is not available in respect to collaterals tied up by the bank. It is, however, told by the beneficiaries that the intention of this institution is invariably to obtain as much securities as possible. The overall effect of high equity and collateral is minimising the capabilities of entrepreneurs to undertake more and more

investments as their assets got overtied up through earlier investments. This situation needs to be corrected particularly in view of the fact that there are not many entrepreneurs already inspired to establish and to operate manufacturing activities.

Industrial Skills

7.3.9 The equipment purchased has to be installed and trial run carried out to ensure their workability at optimum production level. This requires availability of industrial skills. Even though arrangements for technical education after high school have been made with institutions outside the State or the country and some years back needs for industrial skills were assessed yet every one met during the mission invariably complained about dearth of industrial skills and inadequacy of relevant knowledge whenever such skilled persons could be identified. Thus the technical problems of the promoted enterprises start emerging from this stage onwards. The low level of productivity, submission to industrial discipline and sense of responsibility are the other weaknesses which were discovered through dialogue with concerned persons. This situation besides influencing cost also affects the quality of products and ultimately consumer confidence in indigenous products.

7.3.10 It is true that skills produced by the institutions have to be oriented to specific industry needs. This is generally done through cooperation from the machinery suppliers. This is effective if basic industrial skills are available and are interested to undergo rigorous pre-production training. It would be useful that the future needs of basic industrial skills and their upgradation are assessed and timely arrangements are made before an industrial development plan is implemented. One important objective of promoting SMIs should be the modernisation of skills of those traditional craftsmen who can no longer compete.

Another objectives should be to identify those skills and crafts which can be transformed into modern manufacturing activities.

Post Investment Stage

7.4.1 At post-investment stage an enterprise is expected to organise production, carry it out in a most economical manner, attain maximum level of production without compromising with quality maintenance and maintaining reasonable level of inventory. The enterprise has to be managed well, financial needs are to be timely provided, costing has to be carefully done and sales organised through appropriate use of marketing channels and building up of the marketing orbit. Due to lack of experience and inability to employ knowledgeable persons for all the activities, the SMIs need guidance. This is provided in the form of INDUSTRIAL EXTENSION SERVICE in many developing countries. Some useful information on the subject relevant to Yap is provided in the following paragraphs.

Technical Extension Service

7.4.2 Technical assistance covers mainly guidance on the choice of raw materials, machinery, tools and their most productive utilisation and adoption of effective quality control and testing. This also includes advice on installation of machinery, on plant layout and techniques of production, maintenance and repair and product improvement covering improvement of design and standardisation. There are a number of technical fields such as mechanical, electrical, electronics, metallurgical, chemicals, plastics, ceramics, food etc. For a small island country, it is not practical to provide such a wide coverage. Areas selected for development should be chosen for provision of high level technical

skills. In fact local arrangements should concentrate on aspects which are common for most of the industries. For special needs, expertise should be obtained through donor countries/organisations or some arrangements should be made for subsidising cost of services obtained by the enterprise for a short period of time and areas of great importance for its successful operation.

Management Extension Service

7.4.3 Management development covers advice on all aspects of business, such as production planning and control, marketing of products. It includes advice on personnel management, establishing mark-ups and adopting marketing channels, domestic and export marketing, advertisement and publicity, provision of discounts, sub-contracting etc. The nature of this section of the industrial extension service is such that expertise arranged can be used by a wide variety of SMIs. Therefore, institutionalising of this service is desirable.

Financial Management Extension Service

7.4.4 Such an assistance covers guidance to SMIs on sources of credit and their suitability to the needs of the client. The costing of a product and fixing its sale price, management of income and expenditure keeping in view meeting the commitments to financing institutions of payment of instalments of interest and principal and book keeping are the topics within the purview of this service. Financial management extension service is needed by all sorts of the SMIs. As such its provision too may be institutionalised.

Other aspects - Industrial Extension Services

7.4.5 The service may be provided through individual counselling by visit to the site, through pamphlets and publica-

tions and regular courses of training. For provision of extension service a government institution is not able to make adjustments and adaptations in their rules and procedures. Promptness is key words for success of such a programme. The best way is to provide it through a private institution like Chamber of Commerce. However this institution is yet to be organised for support to industry. The FSMDB is currently the most suited institution for the purpose.

7.4.6 Another special method related to technical industrial extension service is the establishment of a common service facility centre. For example, provision of facilities of tool room and for metal casting and finishing is necessary. Without these facilities large number of SMIs cannot operate successfully. They would have to close down their concerns for want of some parts or break downs and airlift their replacements. At times the management might have to hire the services of foreign expert for the purpose. The beneficiaries are not able to instal the required machinery since that is expensive and at the same time its capacity utilisation is marginal by an enterprise. As a result entrepreneurs are hesitant to invest in industry. The government should establish the common facility service centre. After demand for its services has emerged to a level to make its operation viable the same should be privatised. The technical expertise obtained from abroad through a donor country/organisation and such staff locally employed should also be utilised for provision of industrial extension service. An extension worker has not to be only technically qualified but must also be trained in industrial service work and communication. An equally important requirement is that his knowledge be kept up-to-date.

7.4.7 The provision of industrial extension service has a significant cost. Many a times when service is provided free of charge, it is not properly valued or taken seriously. Therefore some charges, even highly subsidised, should be

levied. However, before the enterprises are made to pay for the service, they should be able to realise the worth of it. As such initially the usefulness of the assistance should be established without levying any charge. After some time the situation should be reviewed and charges, the extent to which the industry is ready to pay, should be levied.

VIII - GOVERNMENT POLICIES & SUPPORTS

Introduction

8.1.1 Small-scale factory and artisan enterprises have been assigned a very important role in the economic development plans of most developing countries. Governments think that attempts to surmount the inherent difficulties in promoting them are justified because of the important social and economic objectives served by their promotion. Stimulation of indigenous entrepreneurship, transformation of traditional industry and creation of employment form social objectives. The economic objectives include proper location of industry, its diversification and utilisation of local resources. Of course this does not mean that SMIs can be started by anyone, anywhere and without reference to economic and technological considerations. The areas readily identified as qualifying for consideration as policy issues include unemployment, taxation, government regulations and procedures, finance, productivity and incentives.

8.1.2 In many newly industrialising countries pronouncements in national development plans have led to the passage of specific laws and regulations favouring SMIs. Some other countries stress the need to create an overall economic climate conducive to enterprises and efficiency through appropriate policies. They also believe that it is critical to the functioning of the SMIs that market prices reflect the relative cost of resources and value of products. Economic development is a dynamic process. Plans formulated exclusively on the basis of current social, cultural and

economic conditions may tend to perpetuate the very state of under development they are supposed to alter. Thus circumstances call for a modification of existing conditions of production. The two major tasks confronting are to define the targets and to identify the resources necessary and the duration in which those are to be attained in the light of the availability of inputs. The industrialisation is expected to result in a steady increase in the manufacturing sector's contribution to gross domestic product. In short the circumstances of each country should be properly reviewed and government policies and supports for SMIs determined.

Objectives

8.2.1 The establishment of clearly defined objectives is important for the achievement of adequate continuity in the policies pursued. Frequent changes in the policies of the government will reduce confidence in the stability and continuity of the conditions. This is particularly important to the foreign investors. It is also to be ensured that the scarce resources invested are used to the maximum advantage. Keeping also in view the discussions held, the literature studied, the situations assessed and the government commitment to support private sector, it is felt that the following objectives for SMIs promotion should appropriately fit in the development module adopted by the Yap State:

1. Contribute to develop greater economic independence and to promote a self-sustaining economy.
2. Create fruitful employment opportunities.
3. Contribute to improved balance of trade.
4. Stimulate indigenous entrepreneurship.
5. Contribute towards transformation of traditional handicrafts sector.

STRATEGY

8.3.1 There are linkages among the listed objectives and of those with the development activities covering different sectors of the economy. The strategy developed should be such which allows optimum use of the available resources and fastest achievement of the objectives keeping particularly in view the priorities and limitations of the government efforts and the involvement of the private sector including their cooperation and coordination with the foreign investments. In the light of overall assessment of the situation it is felt that the following strategy is justified for adoption by the government:

1. Promotion of foreign investments and joint ventures with emphasis on export promotion taking advantage of the facilities and concessions available for export to the USA. This should automatically improve balance of trade, create employment opportunities and industrial skills and assist in developing greater economic independence. The involvement of the nationals, at some stage, will promote industrial culture and tune them to function successfully in a competitive economy.
2. Promote tourism through provision of facilities and environments achieved by promoting joint ventures and encouraging nationals for even independent investments towards this goal. Side by side for promoting publicity to tourists attractions in Yap linkages might be developed with Tourist Promotion Institutions in other countries. Tourist development will generate economic activities and provide booster to handicrafts, SMIs and development of resources - all serving the objectives established.

3. Develop natural resources like fishery, agriculture, horticulture, animal husbandry to provide local surpluses for exports and for industrial processing and thus serving particularly objectives at serial numbers two and three.
4. The scope provided by export oriented foreign investments for ancillarisation, the increase in demand for various consumer products emerging on account of increased tourist traffic and presence of expatriates employed through foreign investments and adding to existing consumption levels permitting promotion of viable SMIs and surpluses available of local natural resources lending themselves to industrial processing by the SMIs would establish right environments for local entrepreneurs to promote the SMIs. Such a development shall serve objectives at serial numbers 1, 2, 3 and 4.
5. Provide facilities to artisans to improve their productivity through use of improved tools, better designs and working at common workplace under the supervision of expertise provided for the purpose. Additionally promote sales of their products through exposure to tourists and streamlining marketing support locally and through export promotion of handicrafts to other countries. This step will serve achievement of objective at serial number 5.

Policies and Policy Measures

8.4.1 There is no simple and automatic means whereby industrial policies and policy measures adopted by government can be related to the achievement of the objectives. It is difficult to design policy measures that do not have undesirable side effects. For example, when tax and import duty

concessions are intensively used as incentives, they reduce significantly the tax base and hence the budget revenue. Conflicts in different policy measures must be avoided.

8.4.2 The impact of government policies for industrial development is felt all through the stage of pre-investment, investment and post investment stages. Some of the issues in this connection have already been elaborated in the report like the government support at pre investment stage, provision of common service facilities, establishment of production centres for the benefit of the artisans, entrepreneurship development, institution of industrial extension service, reviewing the demands for consumer and semi-durable goods generated through increased tourist traffic and employment of expatriates particularly by the foreign investments, for promotion of SMIs, organising exports taking benefit of concessions available for exporting goods to the USA etc. In order to avoid repetition, those are not being elaborated again. The other issues which fit in the strategy outlined and are related to the achievement of the objectives cover topics like promotion of foreign investments, provision of credit facilities, development of ancillary enterprises and taxation. These are being reviewed to organise support for the development of SMIs.

8.4.3 The government is committed to support private sector for industrial development. It has a very positive attitude towards foreign investments. Keeping in view their relevance to the economy of the country, on merits, even 100% foreign ownership is accepted particularly at initial stage when local capital is shy to participate.

8.4.4 The government supports the investors at its own cost in site preparation and provision of infrastructure facilities. It is even taking steps to provide built in industrial accommodation coupled with relevant facilities. In this manner the burden of long term investments is taken over and

loan and its disbursement and the terms of lending could be further liberalised to ensure that they can profit from the facility and carry out their obligations of repayments. They shall be covered by the facilities under Yap Development Loan Fund.

8.4.8 The funds available for lending to private sector have been further augmented through Investment Development Fund. However those are still short of the demand. For example, in July, 1990 loan applications from Yap that were pending a decision or being finalised amounted to \$ 9.43 million. Funds available are not even enough to finance applications already lined up for implementation. Availability of funds is far more important than the cost of funds. The state Government is alive to the situation. It is hoped steps to provide additional funds to the FSMDB would be soon taken.

8.4.9 The financial institutions are often immune from temporary changes in the structure of interest rates. But it is important to ensure that credit provided by the banking system is on appropriate terms and conditions. Finance should be neither too expensive nor too cheap. The too cheap credit facilities bend the choice in favour of rather too capital intensive techniques of production which might not be appropriately fitting the optimum model for the conditions prevalent in the country. At the same time such a situation adversely effects the employment promotion objective. 5% rate of interest charged should be reviewed from this angle as well as for inducing investments in manufacturing more than in real estate. It is recommended that 5% interest being charged by the FSMDB should be restricted to meet the needs of artisans and tiny units having fixed investments in machinery and equipment not more than \$ 10,000. The rate should be 6.5% for small scale industries, 8.0% for medium scale industries and at least 10% for the large scale enterprises. The interest rate for non-

industrial purposes such as for trade and real estate should be higher than 10%.

8.4.10 The promulgation of Mortgage Act facilitated the use of land ownership as a collateral. However in practice it is still not easy to use it effectively. The government is examining the possibility of using 'springing leases' (in which the lender will gain leasehold over the land in case of defaulting loans) to improve the use of land as collateral. Further steps are planned to improve the availability of duly documented land rights that could be used to secure business loans as collateral. It is believed that the actions will be finalised in the near future.

8.4.11 The provision of government guarantees has improved the availability of institutional finances to projects in which government has financial interests. It is desirable to examine the possibility of covering private sector development projects in the manufacturing field. Keeping in view the sensitivity of the issue the government would have to ensure for itself the feasibility including profitability and level of production at break even point, internal rate of return etc.

8.4.12 The FSMDB is supposed to be advancing credit facilities with collateral to the tune of 90% of the loan amount including assets created by the use of the loan. However, it is reported that in practice the intention of the bank is to secure the loan to the maximum possible extent and in the process lot more securities are tied up. This reduces the extent to which entrepreneurs can promote investments by establishing additional concerns. This attitude needs correction in the interest of faster economic development of the State.

8.4.13 The two commercial banks are there and their approach to financing industry is quite orthodox. At the best they

lend for working capital at a rate 2.0% to 2.5% higher than the Newyork prime rate. Loans are usually made against deposits which is very safe way but restricts seriously the availability of credit facilities. In July, 1990 in case of the Bank of Hawaii the total amount of loans outstanding amounted to \$ 0.98 million of which \$ 0.34 million were commercial loans whereas the total deposits stood at \$ 12.25 million. In case of the Bank of the FSM the corresponding figures were \$ 2.0 million, \$ 0.50 million and \$ 3.0 million. The government should review the situation and take steps to improve their approach which should be more development oriented. The government may establish a priority sector for lending by the commercial banks and fix a reasonable percentage of the deposits to be used for lending to this sector. The priority sector should include lending to SMIs.

8.4.14 The availability of institutional funds is denied to foreign investments if there is less than 20% local participation in case of IDF and 51% in case of General Fund. This seems to be not very much in tune with the overall policy and does create difficulties in day to day functioning of the enterprises. The government may review the situation and identify how that can be modified to accomodate foreign investments using their local assets as securities of course without jeopardising the security of the institional funds. The terms and conditions for lending to foreign owned enterprises should be less liberal than those are for local investors.

8.4.15 The banks, the Resources and Development Department, the Finance Department and the Planning and Budget Department are involved in directing investments in line with the priorities established for the economic development programmes. The selection of suitable project lines, preparation of feasibility reports, appraisal of projects for bank financing, evaluation of the credit worthiness of the loa-

nees and their suitability for the specific proposal, determination of extent of financing, disbursement of the loan, supervision of project implementation etc. are the stages where consultations are necessary. There should be an advisory committee involving all these institution. Further there seems to be a need for an experienced adviser for the purpose attached to the FSMDB as well as to the R&D Department.

8.4.16 There is a need for developing a cadre of Industrial Extension Service particularly covering technical, management and marketing disciplines. Depending upon the availability of counter part the adviser(s) should be attached either to the R&D Department or the FSMDB.

8.4.17 The development of ancillary enterprises is mainly tied up to the promotion of export oriented foreign investments. These concerns shall provide demand atleast of the level that units can attain production to reach the break even point. This calls for obtaining technical knowhow for the R&D Department to identify and to earmark the scope for development of ancillary enterprises and guiding indigenious investors to establish enterprises on time to meet the needs of the parent units of course with guidance and support from the parent unit itself. The Department will have to ensure that products supplied by ancillary enterprises are of the appropriate quality and specifications and at the same time are timely delivered. The government should also ensure that scope for ancillarisation is identified while appraising the investment proposal and is reflected in the contract signed with the investor.

8.4.18 The consumer protection law requires that indigenious products should be competitive price wise and quality wise. It would need to be seen as to how marketing protection to local industry can be provided against competition from imported substitutes. Local production because of lack of

experience and use of imported machinery, knowhow, raw materials etc. will find it difficult to compete successfully from the beginning itself. Unless some protection is provided success of local enterprises might not be possible.

8.4.19 The Government is the largest single buyer. In order to support indigenous manufacturer, as a promotional measure it is desirable that wherever those can supply goods of desired quality, purchase preference and reasonable price preference should be given. The details should be worked out by the R&D Department in consultation with the Finance Department, purchasing institution and the manufacturer.

8.4.20 There is no minimum wage Act. However the private sector is desired to pay at least \$ 0.80 per hour for unskilled jobs. Keeping in view the productivity of workers, it is felt that the minimum wage rate is rather high. As a result the prices of handicraft items are too high vis-a-vis comparable items from Phillipines and other surrounding areas. Since industry is yet to really develop the wages for industrial skills would have to be related to their productivity ensuring that labour cost as percentage of production cost is reasonable. The data about prevalent wages for various skills have been mentioned under human resources chapter-III.

8.4.21 The current structure of import tariffs does not distinguish between the rates for industrial raw material and the products manufactured from those. However, as the industry grows such a distinction shall become necessary. The duty on raw materials should be lower to encourage indigenous production and higher to discourage import of products for which the raw materials are used.

8.4.22 Instead of income tax on corporate bodies or other enterprises the current practice is to charge tax on gross receipts. This method does not suit to industrial produc-

tion. Gross receipts do not mean that an enterprise is earning profit or undergoing losses. There should be no tax on losses. A unit takes time before it builds up production level to attain breakeven point. It is only beyond that level of production that the enterprise could earn profit. It takes time to organise production and build up market. As such it is useful if the government could review the situation and tax profits earned by industrial units rather than the gross revenue.

8.4.23 It is quite usual that industrial units undergo losses for the first couple of years. Taxation laws in many countries allow them to carry forward the losses for say five years and adjust those against the profits of later years and then determine their tax liabilities. It is a healthy practice to encourage investments in industry. The government might consider adopting the same over here.

8.4.24 The taxation system for the industry should be reviewed to encourage ploughing back the profits for further investments and making such investments more remunerative for the share holders. Tax system including concessional rates and tax holidays should be worked out in a manner that those encourage investments in industry in general and for specific industries which are considered more essential for the development of the countries, in particular.

8.4.25 There is a need to design an investment incentive code particularly for promoting domestic investment and encouraging foreign investments. The type of incentives, their extent, duration and tapering scale should be determined keeping in view the importance of the activity to the economy/development of the state, the investment level, the employment level, the value added component, the preferred locations if any, the scope for development of ancillary enterprises, the level of local participation etc. The concession should pertain to leasing of the land, import

duty on machinery, equipment, tools, raw materials etc., income/corporate tax, duty privileges for the expatriates employed, institutional financing, repatriation of profits and principal, adjustment of earlier losses against future profits, depreciation allowance etc. Such incentives shall promote investments in industry and attract foreign capital. In case the recommendation finds favour with the government, the UNIDO should be approached through UNDP to field a consultant in two split missions. First he should thoroughly study the issue and submit a draft of the investment incentive code tuned to promotion of foreign investment and appropriate care of the interests of the State and its inhabitants. During the second leg of the mission he should establish and introduce procedures for appraisal and approval of foreign investments, drafting of contracts ensuring development of ancillary enterprises, employment and training of local persons etc. and establishing a monitoring system ensuring proper implementation of the contracts and training counterparts to effectively perform all these functions after his departure.

IX - PROMOTION OF INDUSTRIAL ESTATE

Introduction:

9.1.1 An industrial estate is a planned group of industrial enterprises offering factory buildings and a variety of services and facilities to the occupants. Grouping facilitates some of the economies of scale and contributes to efficiency of specialisation which usually obtains only in large industry. Industrial estates have proved to be an effective method of encouraging the establishment, expansion and modernisation of small-scale industry in developing countries. There may be justification in many estates for providing a variety of services and facilities. The availability of standard worksheds on rent or hire purchase basis is an inducement to firms of limited financial resources. Even when a small entrepreneur has financial means to construct his own factory building, he encounters problems in obtaining land, arranging power, gas, water, transport etc. At times difficulties are so formidable that the entrepreneur is obliged to carry on activities in whatever premises he is. Apart from reducing the efficiency such unplanned growth leads to creation of industrial slums.

Industrial Estate

9.2.1 The limitations of the industrial estate should not be overlooked. It will not by itself be able to provide the essential facilities required for industrial development. Industrial estate should be viewed only as a part of the general programme to promote SMIs and not as a substitute

for it. The role of industrial estate in Yap could be: (a) to advance economic development by accelerating industrial development, (b) to create employment opportunities, (c) to promote and raise productivity of the SMIs, (d) to promote availability of industrial skills and (e) to improve the balance of trade.

9.2.2 A number of factors influence the success or failure of an industrial estate. These include: (a) general conditions and their conduciveness to successful programme development, (b) national and local economic activities, (c) socio-cultural patterns, (d) estate location, size and related urban infrastructure, (e) government objectives in establishing an estate, (f) the depth of feasibility and pre-investment studies, (g) support by government, (h) selection of industries, technologies and entrepreneurs, (i) organisation and management of the estate and (j) advantages seen by potential occupants.

9.2.3 The success of an industrial estate and of a programme lies ultimately in the success of participating enterprises. Industry, whether on an estate or off, cannot succeed if the purchasing power is insufficient or if the products manufactured do not correspond to market needs. The determination of such market needs should therefore be a major feature of feasibility studies carried out prior to the establishment of an industrial estate. Moreover, in normal circumstances, the type of industry selected for an estate should correspond to the industries and skills already available in, or which could be attracted to, the area. There are instances, however, in which completely new industries have been successfully developed in areas with no industrial tradition. If common facilities in the form of workshops and laboratories were to be provided, an estate should comprise not only a minimum number of firms essential to economic operation, but also a minimum number in the same or related branches of industry.

9.2.4 Market demand would also be determining the size of any given estate. Objectives must be determined on the basis of proper economic, social and technological studies. Failure to carry out such studies could seriously jeopardise the effectiveness of industrial estates and sometimes of whole programmes. The feasibility and related preliminary studies, while remaining wholly objective, should be carried out in the context of, and related to, government objectives and policies. Government support in one form or another is essential practically to all industrial estates for SMIs in their earlier years.

Case of Least Developed Countries

9.3.1 The main problem in the least developed countries, apart from the obvious one of market size, is a lack of entrepreneurial, managerial, technical and skilled manpower capable of setting up, constructing and operating industrial enterprises. The potential for industrial entrepreneurship is contingent upon several known and unknown variables which include: (a) division of labour and monetisation in the economy, (b) share of commercial farming in agriculture, (c) average size and distribution of cultivated holdings, (d) technical level of indigenous agriculture and handicrafts, (e) proportion of indigenous sector in foreign trade, (f) size of GNP, and (g) structure of educational establishment. Common to all least developed countries is the industrial sector's low share in GDP, partly attributable to an acute shortage of industrial entrepreneurs as distinct from the numerous non-industrial entrepreneurs in trade and services.

9.3.2 Potential industrial entrepreneurs are to be found in practically all least developed countries. The SMIs set up by these neophyte entrepreneurs are, as may be expected, very small at first. Many of them might be artisans and

their factories are little more than enlarged workshops. As they may well have to undertake technical and normal work for some time, they may need technical training, especially in the use of more advanced production equipment. They will also require managerial training, covering financing, marketing and the organisation of production and cost control.

9.3.3 For least developed countries the industrial estates are a valid means of developing SMIs, but that programmes so oriented demand substantial inputs of financial, technical and training resources, at least over 10 years. These have to be considered, however, as part of the overall costs of a country's industrial development. The entrepreneurs have to be groomed closely and continuously at first to implant in them sound industrial habits. In view of the promotional role which the industrial estates play in the development of SMIs, it may be necessary for the government to take the initiative and responsibility in planning, establishment and management of at least the first estate.

Scope for Industrial Estate in Yap

9.4.1 This techno-economic study report in its chapters IV and V deals with demand, industry and competitive analyses. It reveals lack of surplus of natural resources which lend themselves for industrial processing. The consumption pattern of the inhabitants of the state is quite wide and includes a number of products which are suitable for production by the SMIs. However, population being only around 10,000 the level of existing demand for suitable items is low and does not justify promotion of SMIs based on which a viable industrial estate could be promoted. There are some developments taking place in the State which over a period of time could change the situation and justify establishment of an industrial estate. The government is very favourably inclined to support foreign investments and lays great

emphasis on promotion of tourism for which during the second Five Year Plan substantial amount of funds are earmarked. The Plan also places priority on development of natural resources leading to availability of surpluses for industrial processing.

9.4.2 The employment likely to be generated for expatriates by the anticipated foreign investments coupled with the increased number of tourists and their longer stay in the state should increase the existing level of demand for a number of products as to justify operation of many SMIs successfully. Additionally ample scope for promoting ancillary enterprises is anticipated. Further the supports outlined for the handicrafts sub-sector in this report which are prima facie acceptable to the government will also need facilities for which space may be provided in an industrial estate. A recommendation has also been made in the report to conduct an industrial survey of the country as a whole. In that manner import substitution activities could be planned for a population of 100,000 instead of 10,000 of the Yap State. The potential investment opportunities thus revealed could be split into four groups and policy measures introduced to ensure availability of national market to indigenous production at least during infancy stage of the enterprises.

9.4.3 In the light of anticipated positive developments for SMIs promotion, two check lists of potential investments opportunities have been prepared and are at enclosure-IX. The first list contains 40 candidate industries. This is based on what can be visualised as a result of observations, study of available literature and discussions held. The requirements of industrial space and use of other facilities likely to be provided in the industrial estate justifies development of an industrial estate. How far the basis of inclusion of various items in the check list holds good will become apparent during 1993. Therefore the situation for

establishing an industrial estate in Yap should be reviewed in 1993. The second check list includes 18 additional items. This list is based on an optimistic view of the likely developments in Yap which have bearing on industrial development and as such influence positively the promotion of an industrial estate. These if hold ground over a period of time will lend support to a positive decision arrived at in 1993 on establishing an industrial estate. Their inclusion shall ensure use of common service facilities to a level as to ensure its privatisation at an early stage.

Establishment of Export Processing Zone

9.5.1 The government lays great emphasis on promotion of foreign investments and joint ventures. At the current juncture of the economy and situation of various factors which lead to industrial development, this is a plausible approach. The establishment of ready made garments factory for export purposes particularly to USA under Generalised System of Preferences status is a living example of the potential advantages to the state and its people from foreign investments. Already 100 or so Yapese have been employed. They are being tuned to industrial discipline and are learning the skills. Over a period of time even at existing level of activities 300 to 400 more Yapese can find jobs in the factory. The consumption pattern of the expatriates has increased demand for fruits and vegetables to a level that some of the farmers are getting interested to organise the supplies. Such developments can also boost demand for restaurants and sources of entertainment etc.

9.5.2 The government provides, at its own cost, facilities for project site preparation, making access roads, connections of water, electricity and sewer lines to the project site. It also subsidises the cost of electric power and water. These form savings of sizeable amounts to each pro-

moter of an industrial concern. In addition, if built in factory accommodation is offered on lease basis then practically whole of long term investment on land and buildings would have been taken care of by the government. At the same time such a development would cause savings to the government by way of not having to develop sites for each enterprise and to arrange for provision of other facilities. This type of industrial premises if supplemented by administrative block for provision of space for conferences, show room, bank, post office, etc. and watch and ward system and boundary wall and used for enterprises engaged primarily to manufacture for exports will form the export processing zone.

9.5.3 Segregation of enterprises engaged in production for exports will facilitate provision of special facilities and monitoring their activities. Since the details of activities and enterprises are not known therefore standard worksheds can be constructed and modified later on to suit specific needs of foreign investors. This should provide a great attraction since this type of long term investment is sizeable and can be recovered over a long duration of about 15 years or so. The investor would have to take care of investment on machinery and equipment and provide for the working capital needs. As and when ancillarisation scope develops then the local entrepreneurs can develop the captive capacity. Their factories could also be accommodated in this zone.

9.5.4 Since the facilities and concessions given for export processing are more liberal and production level is rather high, their cost is lower and if they off-load their product for local market then the government loses revenue and indigenous enterprises lose the market. As such keeping export oriented enterprises segregated is essential from administrative angle as well.

9.5.5 The policy directions during the second Five Year Plan direct concentration on promotion of healthy private sector and encourages establishment of 100% foreign owned businesses as well as joint ventures. It would be a step in this direction to approach UNIDO through UNDP for facilitating establishment of an Export Processing Zone. In this connection assistance should be primarily sought for (a) feasibility study for developing an export processing zone with standard worksheds (having provision for adjustment to different sizes) including provision of standard auxiliary facilities, (b) preparation and printing of a informative brochure for wide circulation to encourage foreign investors to establish their ventures in Yap, (c) to (i) arrange for meeting at various centres including Hong Kong where investors could be approached and dialogue established for their investments in Yap state and (ii) assist the government to establish memoranda of understanding with the potential investors and (d) printing of an investment incentive code for the Yap state.

9.5.6 All the three sites suggested by the government for the industrial estate were visited. Even though the topography of none of the sites is ideal for the purpose yet site number 2 by the side of electric power station is comparatively better. The location of three proposed sites is shown in map Enclosure-X. In addition, the old airport site was visited. It is quite impressive for being used for developing an industrial estate. The site is already leveled and compacted. Infrastructure facilities are available and if necessary more adjoining areas can be developed at economical cost. If available, this site should be preferred to the other three locations. The location of this site is shown in enclosure-XI. The locations suitable for industrial estate can also be considered for promoting an export processing zone with one disadvantage of its not being close to the sea port. However, it is not far from the seashore.

X - CONCLUSIONS & RECOMMENDATIONS

Conclusions

10.1.1 Yapese more than most other islanders have clung tenaciously to their customs and traditions despite various foreign influences over a couple of centuries. They are slow to change. Too often government is seen as a provider of all goods and services. The western political system currently there is too elaborate for the island economy. Traditional authority still plays an important role in administration of the country. Barter system is significantly operative along with monetary economy system.

10.1.2 The financial situation of the State is unusual in the sense that bulk of government expenditure is met from foreign assistance. 40% of US compact of Free Association assistance funds is required to be allocated for economic development which has been mostly used for development of infrastructure facilities. Traditionally the balance of trade has been highly negative. The quantities of various consumer and semi-durable goods imported in the State are too small to justify establishment of many viable small and medium scale industries.

10.1.3 The land area of the state is 33,668 acres. Non citizens cannot own land. They can obtain it on 50 years lease basis. The soils are generally poor. Yap has tropical climate. Forest type vegetation covers large parts of the land. Agriculture farming is no profession. Coconut is a wild growth and copra is the main surplus resource available. Its export has suffered recently a set back. Fishing

has large potentials and for its exploitation extensive efforts are being planned.

10.1.4 In 1987 population of the State was 10,139. At one time the land fed 30,000 to 50,000 persons. Arrangements for high school education exist in the State. For higher professional, technical and vocational education persons have to travel abroad. Dearth of Industrial skills exist. Labour force in age group 15 to 64 is estimated at 5,806 in 1990 of whom 940 persons were unemployed. There is no minimum wage act. However, none is expected to be paid less than \$0.80 per hour. Lack of effective managers, supervisors, skilled technicians and dependable and committed workers is identified as a serious handicap for development. US Dollar is the currency of the state. The analysis shows that around 150 persons including three corporate bodies have investible funds from \$10,000 to \$500,000 and 15 of them can invest more than \$100,000.

10.1.5 There is one development and two commercial banks. The terms and conditions of lending by the development bank are quite favourable. The commercial banks' approach to financing industry is orthodox. Availability of funds requires supplementation. The procedures are cumbersome and time consuming. The government is taking steps to make it easy to mortgage land for procuring institutional financing.

10.1.6 Only about 4,000 tourists visit the state annually. Intensive efforts to promote tourism are proposed for second Five Year Plan. Policies are liberal for promoting foreign investments. One such enterprise for readymade garments has been established. Under special privileges for exports to USA, its total production is exported. Its impact on local employment and economy of the state has been felt.

10.1.7 The handicrafts production, earnings and exports have been falling. Lack of industrial information and keen-

ness to promote business has resulted in mushroom growth mostly in trade, causing closure of some enterprises and dampening investment climate.

10.1.8 Yap is committed to private sector development. The role of the state is that of a facilitator and it provides infrastructure facilities upto the site of an enterprise at its own cost. The government also initiated a number of pilot projects as a strategy to simulate entrepreneurs and then to privatise those. However experience has not been quite encouraging. The objectives and strategy for industrial promotion is quite satisfactory. There are only a few successful industrial units functioning in the state.

10.1.9 There is no reporting system seeking from enterprises statistical and other information useful for industrial planning. The tariff structure does not distinguish between import of finished goods and raw materials. There is a law for protection of consumers and as such industrial enterprises are required to compete with imported substitutes on their merits.

10.1.10 The emphasis during second plan on tourist promotion, facilitating foreign investments and development of natural resources will have very positive influence on scope for promoting industrial units including handicrafts.

10.1.11 Income Tax is based on gross receipts. The incentives for promoting investments have not been codified.

Recommendations

10.2.1 The distinction among industrial enterprises should be based on fixed assets comprising of machinery and equipment. Units with such investment upto \$10,000 should be categorised as handicrafts and tiny, over \$10,000 and upto

\$100,000 as small scale, over \$100,000 and upto 250,000 as medium scale and over \$250,000 as large scale enterprises.

10.2.2 A system for regularly collecting industrial statistics should be introduced. To establish the data at base level an industrial survey should be conducted.

10.2.3 Common Services Centres should be established for upgrading skill of the artisans, to introduce better designs and to improve productivity and earnings of the artisans. It should be supplemented through marketing and credit support to artisans. Technical expertise for the purposes should be obtained through UNDP or any other suitable donor country/organisation. Further UNDP be approached to arrange educational tour to Maldives to pick up what can be profitably adopted in Yap for developing handicrafts.

10.2.4 The fibre glass polyester products should be encouraged to also take up production of wash basins, bath tubs, corrugated sheets etc. This shall enhance its viability.

10.2.5 Coconut based activities inherently do not suffer from any shortcomings. A study should be launched to identify areas of weaknesses and to suggest remedies therefor and for widening the activities. This should become a flourishing business. Similarly the revival of feed mill and consequently piggery and poultry and proper utilisation of slaughter house should be possible.

10.2.6 The provision of industrial information and proper direction of investments will discourage mushroom growth of enterprises for a specific activity, ensure profitability and build up positive investment climate. Services of a short term UNIDO consultant through UNDP should be obtained for the purpose.

10.2.7 Common Services Facilities Centre should be established to include tool room, casting and metal finishing facilities. This will have a catalytic effect for promoting small and medium scale industries and their operating effectively. When the demand for services grows sufficiently the ownership of the facility should be privatised. Assistance for conducting the study and provision of technical expertise later should be obtained from UNIDO through UNDP and for machinery etc. some donor countries should be approached.

10.2.8 There are two check lists for potential investment opportunities enclosed to the report. One has 40 proposals. It is based on analysis of current import statistics. The second has 18 proposals which are additionally considered possible due to demands emerging from increased tourist traffic and inflow of expatriates employed by the likely foreign investments. The installed capacity and production level for many of these is higher than current imports. It is recommended that industrial survey of the whole country should be carried out and (a) potential investment opportunities list prepared and (b) based on location factors the share of Yap be determined. The opportunities thus identified would cater to the national demand of specific commodities for 100,000 persons and have larger chances of success.

10.2.9 As and when list of viable projects and data about technical processes, investment, employment, machinery, equipment, motive power, space, skills, profitability, markets, demand level etc. is ready, entrepreneurship motivation programme should be carried out. The first group training should be conducted with expertise obtained from UNIDO through UNDP. The activity should be organised by the Development Bank with close cooperation of the Department of Resources & Development.

10.2.10 The lending procedures of the Development Bank are somewhat cumbersome. Those should be streamlined. It should be ensured that equity and collateral more than specified is not sought. This action will release financing ability of the entrepreneurs to invest in more available opportunities. In order to involve commercial banks to lend to industry, possibility be reviewed of establishing priority sector for their lending and fixing reasonable percentage of deposit amounts for advances to the priority sector.

10.2.11 The facility of "guarantee loans" should be provided to the private sector. The cost of capital is less important than availability of funds. Even at this stage demand for funds is higher than the availability. Steps may be taken to increase the availability to match the requests for funds from the banking system. The cost of capital should not be too high as to make its use uneconomical for the industry. It should not be so low as to encourage investors to take up those of expensive automatic machines which are not appropriate to the current technological needs. The current rate of interest of the Development Bank should stay for handicrafts and tiny units. It should be raised to 6.5% for the small scale; 8% for the medium scale and 10% for the large scale enterprises. Operating industry is more complex than investing successfully in trade and real estate. For promoting investments in industry, higher rate of interest should be charged on loans advanced for trade and real estate.

10.2.12 Industrial extension service should be organised. Regular arrangements for the service in the management field (personnel, financial and marketing) should be made in the Development Bank. For sharpening the local talents, expertise for a year might be sought from UNIDO through UNDP. The technical problems are generally unique for an industry. Foreign assistance preferably from UNIDO for the purpose should be sought at the national levels. The expert should visit Yap at regular intervals on request from the Bank or

the Department of Resources and Development. In case the common service facility centre or common services centre as established, the Bank should draw on their expertise before requesting for the services of the expert at national level.

10.2.13 The foreign investors should be provided credit facilities to meet their day to day local obligations on commercial terms and conditions against their local assets.

10.2.14 An advisory committee should be established to advise the Development Bank and review effectiveness of institutional financing for industrial promotion. As and when the tempo for establishment of small and medium scale industries is built up need for an advisor or Project Appraisal and Supervision will be felt. For such services the UNIDO should be approached through UNDP. The foreign investments proposals need to be reviewed to find out how far those meet the objectives. The contracts imbibing various incentives to and the responsibilities of the foreign investors should be carefully drafted. Further the execution of the contracts needs to be monitored. The expertise for the purpose has to be built up. Depending upon the work load these duties may be entrusted to the Project Appraisal and Supervision Advisor or fielding of a separate UNIDO advisor through UNDP might be sought.

10.2.15 Through UNDP, UNIDO assistance should be sought for (a) drafting and printing of publicity brochure for promoting foreign investments, (b) arranging and guiding investment promotion meetings with UNIDO participation and (c) printing of investment incentive code.

10.2.16 Market protection to small and medium scale units at least at their stage of infancy is necessary. How it can be organised in the light of 'Consumer Protection Act' should be reviewed by the government.

10.2.17 The government should consider favourable provision of purchase and price preferences to the small and medium scale industries in government purchase programme. If this is accepted in principle, then services of a short term consultant to work out a detailed scheme for the purpose should be sought from UNIDO through UNDP.

10.2.18 The import tariff structure should be reviewed to provide lower rate for raw material imports and significantly higher for the finished products. This is one way to assist the enterprises to overcome initial problems faced in selling their products.

10.2.19 The government should consider changing tax basis to profits from gross receipts so as to avoid taxing losses incurred by industry. The taxation system should provide to carry forward the losses say for five years to adjust those against later years profits. Tax concessions should be given for ploughing back the profits and provision for depreciation should also be made.

10.2.20 An investment incentive code should be designed and introduced. For this, services of a UNIDO consultant should be obtained through UNDP in split mission firstly to design and later to assist in its implementation and building up local expertise.

10.2.21 The old airport area is best suited for promoting an industrial estate. If that is not available the area shown in the vicinity of the Electric Power Station can be developed for the purpose. The circumstances assessed for the near future do not justify establishment of an industrial estate presently. However, situation can take positive turn through the developments like tourist promotion, establishment of foreign enterprises, development of natural resources, earmarking of industrial development share of Yap based on national demand for various consumer and semi-

durable goods etc. Therefore the situation should be reviewed in 1993.

10.2.22 There seems to be a better chance for promoting an 'Export Processing zone' since (a) the government is already providing infrastructure facilities upto factory site at its own expenses, (b) it is more economical for the government to provide such facilities at one place rather than at various sites, (c) the government is very favourably inclined to promote foreign investments and existence of an export processing zone with built in factory accommodation provides a very positive advantage to the investors and (d) the segregation of export oriented activities is beneficial to protect indigenous industry, safeguarding against possible leakages of the state revenues and monitoring the implementation of contracts with the investors. If the recommendation finds favour with the government, then services of a UNIDO advisor for conducting a feasibility study for export processing zone may be requisitioned through UNDP. The zone could also cater to the needs of ancillary enterprises.

10.2.23 A number of recommendations made above are contingent to promotion of an industrial estate or an export processing zone. Therefore, their timing should be carefully reviewed. It is better if industrial development planning basis is the country as a whole and activities for each state are earmarked based on location advantages. Most of the expertise recommended can be profitably utilised even to serve the country as a whole.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

JOB DESCRIPTION

TF/GLO/88/909/11-51/J12103

Post title Industrial economic

Duration As soon as possible

Duty station Yap State (Federated States of Micronesia)

Purpose of Project To prepare a techno-economic study on the establishment of an industrial estate for small and medium industries in the Yap State.

Duties The expert will work closely with the industrial estate expert (team leader) in performing the following duties:

1. Assess the development potential of the manufacturing sector in Yap in light of human and capital resources and other infrastructural conditions; analyze the potential for the limits of small-scale industrial development.
2. Together with the team leader, review the main features of the Government's strategy for industry development, highlighting promotional measures; define main con-

straints impeding industrial development, including lack of suitable land, lack of infrastructural and industrial support facilities.

3. Prepare opportunity studies for at least 4 projects selected by the Government to be located in the industrial estate.
4. Determine which industries generally in Yap would particularly benefit from provision of sheds in the industrial estate.
5. Assist the team leader as required in the finalization of the techno-economic study/ final report.

Qualifications Economist with extensive experience in small-scale industries development and promotion, with practical field experience in working with industries as well as in preparing feasibility/opportunity studies for such industries.

Language English

Background information The State Government of Yap is now actively looking into the feasibility of setting up an industrial estate as a strategy to promote small- and medium-scale industries to be set up by local entrepreneurs and through joint ventures with foreign partners. It foresees that if the State Government will shoulder costs for site development, common facilities, etc., more local entrepreneurs and foreign investors will

be encouraged to set up industrial activities. Under the Compact Agreement, there is the provision for easier access to US markets for FSM products with a minimum of 30% value added component. The State Government considers that with the advantage of US Compact financing and numerous incentives for investment under the State Foreign Investment Law, the existence of an industrial estate will create a favourable climate for local and foreign investment.

In August 1987, a UNIDO expert on industrial estate planning under the UNDP/UNIDO regional project, DP/RAS/86/075 "Small-Scale Industries and Entrepreneurship Development in Pacific Island Countries" undertook a fact-finding mission and prepared preliminary survey. As a result, the expert identified two candidate sites for the industrial park (estate) in Colonia, Yap but no detailed study was made on the estimation of inputs required for the planning and for the establishment of an industrial estate. However, it has been proposed that a feasibility study be undertaken before the construction/establishment of the industrial estate, in line with the identified/potential industries to be located. The detailed studies on the viability, capital investment, cost estimation of the construction of the estate would also be required.

Therefore, the State Government of Yap has requested UNIDO to conduct the techno-economic study on the establishment of industrial estate in order to advise on the actual planning and the feasibility of the project.

LIST OF DOCUMENTS STUDIED

1. Yap State Statistical Bulletin 1988, Office of Planning & Budget, 1990.
2. Federated States of Micronesia Foreign Investment Law 2- 5 and Regulations
3. Handicrafts Products of Yap State-University of Hawaii at Manoa Jan 1989 - Business Centre Programme.
4. Marketing Feasibility study of IDPB Bags for Yap State - Same as above.
5. Code of Federated State of Micronesia Volume II 1982 Edition.
6. 1989 Annual Report to the Yap State Legislature Development of Resources & Development.
7. Yap State Code.
8. US Public Law 99-239. Agreement between Government of the USA & FSM - Section 1114 of US Public Law.
9. FSM Public Law 5-122. IDF Guidelines & Proces.
10. IDF By-Laws
11. First Five Year Plan 1983-87, Volume I & II.
12. State of Yap - Laws & Regulations - Second Legislature 1987. 1987 Census Reports Volume I & II.
13. Yap State Public Service System Regulations.
14. FSM Trade Bulletin No.2. October 1989.
15. FSMDB Prospectus 1990.
16. Proposal for Establishment of Industrial Park. Technical Report. UNIDO Consultant. JC Fortunery Nov. 1987.
17. Coconut Fibre Products of Yap State University of Hawaii Manoa Jan. 1989. Business Centre Programme.
18. 1990 Annual Report Manpower Development & Employment Services.

19. 1990 Annual Report Commerce, Industry Division.
20. Yap State Travel Facts.
21. Industrial Estate (Industrial Park). A report.
22. Constitution of the State of Yap.
23. Summary Record of Nov. 22, 1990 meeting of the State Business Forum.
24. Project Profiles Volumes I, II and III.
25. Effectiveness of Industrial Estates in Developing Countries.
26. Industrial Planning INIDO Monograph on Industrial Development.
27. General Issues of Industrial Policy-UNIDO Monograph on Industrial Development.
28. Small Scale Industry. UNIDO Monograph on Industrial Development.
29. Small Enterprises Development - Policies and Programmes. ILO Publication.
30. Manual on Industrial Estates - OP Mathur - SIET INSTITUTE, India.
31. Industrial Estate Programmes - D. Nagaiya - SIET INSTITUTE, India.
32. Poultry Project - Feasibility Report - Republic of Liberia.
33. Employment & Development of Small Enterprises - World Bank Publication.

34. Sebastian Anefal, Director, Dept. of Resources and Development
35. Jay Karmacharya, Horticulturist
36. Mrs. Flora Filmed, Island Print Shop
37. Oliver Cheng, Multigreat Company Ltd.
38. Martin T. Datmagurun, G & D Pay-less Market
39. Hilary J. Tacheliol, Special Asstt to the Governor
40. Carl Henlin, Controller, Yap Cooperative Association
41. J. Tamel Gajdusek, Dept. of Resources & Development
42. Cyprian "CY" Mugunbey, Yap Community Action Program,
43. Francis Giltongin, Department of Finance,
44. Silbestern N. Alfonso, ESA Hotel & Store
45. Constantine Yinug, Director, Office of Planning & Budget

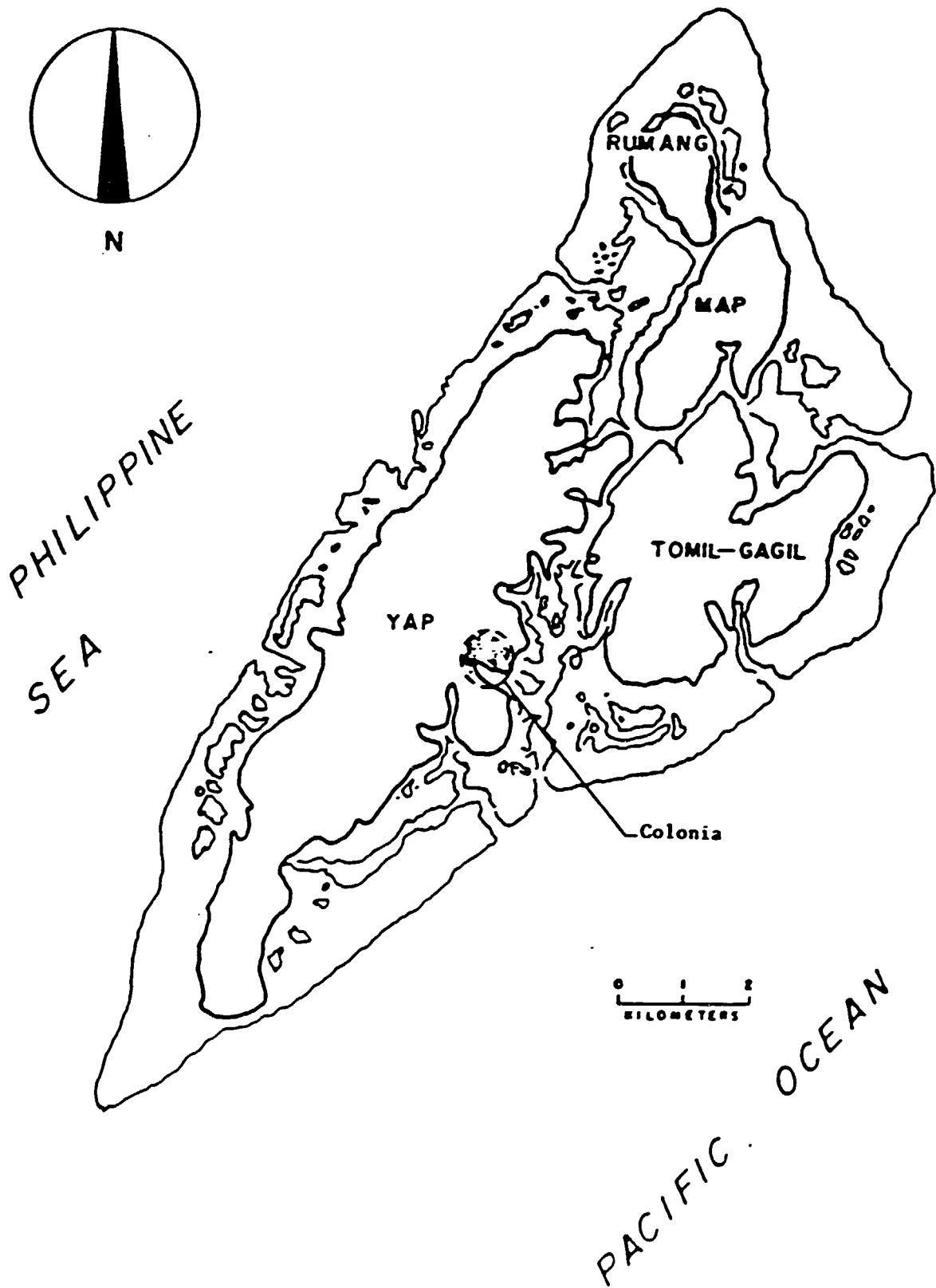
II - Places/Institution visited

1. Kingtex Garment Factory
2. Island Fiberglass Industry (Stan Filmed)
3. Waab Mak'uf Market (Daniel Worswick)
4. Rope Project (Government)
5. Coco Oil/Soap Processing Plant
6. Coco Fiber Processing Plant
7. Local Pork Processing Plant (Slaughter House)

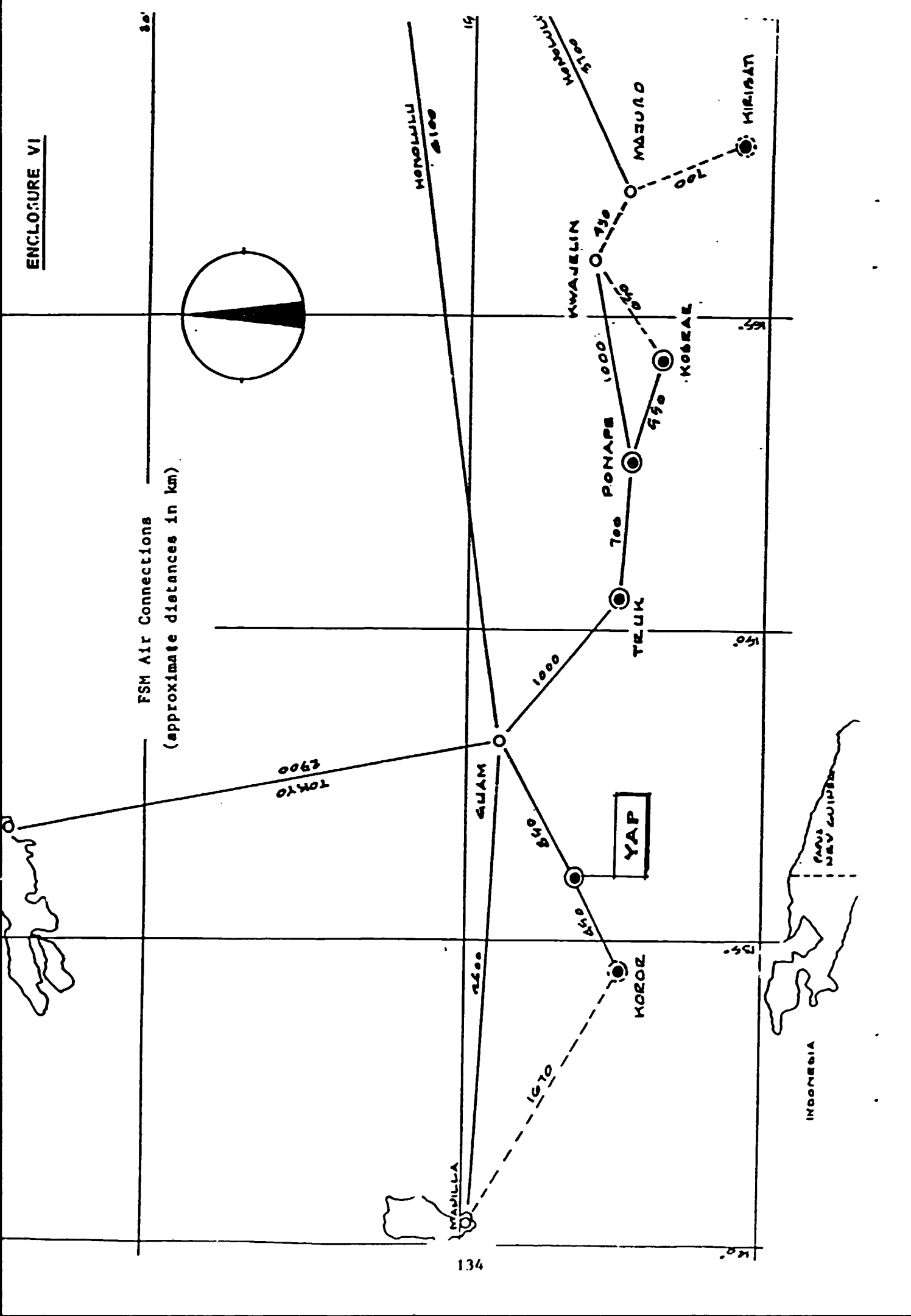
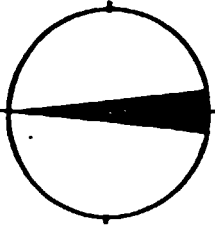
Places visited in Yap Proper

8. Faltarow Men's House, Okaw Village, Weloy Municipality
9. Bechiyal Cultural Center, Map Island
10. Gagil/Tomil Municipalities
11. Gilman Municipality
12. Kanifay Municipality
13. Rull Municipality
14. Proposed sites for Industrial Estate Project
15. Bakery; Family Chain Stores, Inc.
16. Rope Making Project
17. PBS Auto Repair Shop
18. Lawrece Auto Repair Shop
19. Kanrow Auto Repair Shop

Yap Island



FSM Air Connections
(approximate distances in km)



PROJECTS & PROGRAMMES FY '92-97

1. Animal and Plant Health Protection
2. Horticultural Development: Fruit Industry
3. Production of pigs and poultry
4. Slaughter house
5. Tourism Education
6. Yap Harbor Extension
7. Yap International Airport Runway and Drainage Rehabilitation
8. Yap International Airport Improvement Project
9. Colonia Road Pavement Reconstruction
10. Groundwater Exploration and Development Phase II
11. Expansion of the Colonia Water Treatment Plant
12. Rural Sanitation Program
13. Colonia Sewerage System Upgrade
14. Hospital Wing Extension
15. Youth Counseling Program
16. Yap Revolving Housing Loan Program
17. Outer Islands Turtle Project II
18. Coastal Resource Management Plan
19. Yap Reef Ownership Survey
20. Summer Yough Employment Program
21. Ulithi Inn
22. Development of Small Scale Fruit and Vegetable Based Food Processing Industries
23. Technical Services Centre
24. Improved Extension Service for Local Businesses
25. Small Business Training
26. Promotion of Foreign Investment

27. Preparation of Project Profiles
28. Rehabilitation of Coconut Oil Extraction and Soap Making
29. Rehabilitation of Coconut Fiber Extraction and Fiber Products Industry
30. Diversification of Handicraft Industry
31. Traves Apprenticeship Program
32. In-Service Training Center
33. Yap Fishing Corporation.
34. Outer Islands Fish Processing
35. Fish Aggregating Devices (FADS)
36. Outer Islands Feasibility Studies
 - a) Ornamental Shell Export
 - b) Ornamental Aquarium Fish Export
37. Longline Store-Based Facilities
38. Yap Tuna Industry

LIST OF EXISTING ACTIVITIES - 1990

Business	No. of Establishments
Alcoholic Beverages	1
Beauty/Barbar Shops	1
Billiards Pool Halls	1
Dredging	1
Garage and Repair Shops	9
General Contractor & Construction	15
Handicraft Shop	1
Hotels	3
Laundries	12
Legal Practioners	1
Lodging/Tenant House	9
Manufacturing	9
Sale Motor Vehicles/Cycles	2
Motor Vehicles & Drives	19
Photography	1
Private Investigator & Guard	2
Restaurants	8
Service Stations	28
Wholesale Business	10
Ohter Businesses	106

Total	239

FIRST CHECK LIST - POTENTIAL INVESTMENT OPPORTUNITIESYAP STATE

Sl. No.	Activity	Operations Involved	Major Equipment	Main Raw Material	Area	Employment	Motive Power	Production Capacity	Suitability to Industrial Estate
1.	Fresh Citrus Fruit Juice	Selection of fruits, juice extraction, straining, filtration, clarification etc.	Juice extraction manual operated machine, vessels, filter etc.	Citrus fruits, glass containers	50 Sq.M.	2	Nil	50 Litres/day	Suited but this proposal is for cottage unit.
2.	Roofing Tiles	Clay weathering, mixing, extruding, cutting, pressing, drying, burning, sorting, storing.	Pug mill, Screw press, cutting tables, dies, racks, furnace	Clay, firewood	250 Sq.M.	16	6 KW	One million tiles per year	Not suited. Requires large open space.
3.	Repackaging edible oils	Oil filling, capping, sealing, labelling, packing	Auto filling machine, cap sealing machine	Oils, plastic bottles, caps, labels etc.	150 Sq.M.	3	3 KW	50 tons per year	Suited
4.	Instant noodles	Mixing, dough making, cutting, measuring, steaming, casing, frying, cooling, inspection, packing	Noodle making machines, frying equipment, cooling arrangement, tools etc.	Flour, chemicals, fat etc.	200 Sq.M.	6	4 KW	15,000 meals per day	Suited
5.	Ice cream and candy	Mix preparation, pasturisation, freezing by stages, packaging	Compressor, tanks, homogeniser, furnace, refrigeration unit, moulds, weighing machine	Milk powder, fat, cream, sugar, stabilizer, colours, essences, chemicals, dry fruits, cups, bars, cartons etc.	150 Sq.M.	7	5 KW	684,000 cups and bars per year	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Emploment	Motive Power	Production Capacity	Suitability to Industrial Estate	
6.	Confectionery	Mixing, cooking, colouring, flavouring, moulding, wrapping, packing	Rotary machine with cutter, sizing machine, padal press, revolving coating pans, roller, cutter, toffee sizer, loly pop machine, weighing and packaging equipment	Sugar, liquid glucose, condensed milk, butter, hard fat, coconut, food colours, essences, acid, salts, wrappers, polythene bags	150 Sq.M.	15	5 KW	66 tons per year	Suited
7.	Mild Steel Furniture/ Tube light reflectors	Shearing, cutting, bending, drilling, pressing, assembly, welding, painting, baking etc.	Sheering machine, cutting machine, pipe bending machine, fly press, welding unit, bench drill grinders, spray painting equipment, tools etc. baking oven.	Mild steel sheets, pipe, screws, rivets, painting material, oxygen and acetylene gases, nylon tape etc.	150 Sq.M.	7	20 KW	20 assorted pieces of furniture per day and 4 dozen reflector per day	Suited
8.	Rubber Beach Sandals	Punching, hole making, strap inserting, packing	Sole cutting machine, drilling machine, strap inserting needles, cutting blades etc.	Tapered sponge rubber sheets, v type rubber straps, polyethylene bags	100 Sq..	5	2 KW	100,000 pairs per day	Suited
9.	Paper napkins, toilet rolls, facial tissues	Printing, cutting, slitting, rolling, packing	Flexographic printing machines, roll making machines (rewinding, perforating, cutting etc.), cutting, printing dies etc.	Tissue paper, cartons, cores, polyethylene film, ink, thinner etc.	250 Sq.M.	12	15 KW	300 tons of Napkins, toilet rolls, Facial tissue	Suited
10.	Exercise books etc.	Paper ruling, cutting, pectoration, stitching/gumming, packing	Double sider disc ruling machine, paper cutting machine, Platen, printing machine, wire stitching machine, gumming machine hand press, tools etc.	Paper, grey board, card board, stitching wire, gum, printing ink etc.	125 Sq.M.	10	3 KW	600,000 exercise books and 100,000 registers per year	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Emploment	Motive Power	Production Capacity	Suitability to Industrial Estate
11. Paper plates, cups and envelopes	<u>Plates & cups:</u> Printing, cutting, shaping, pressing, wax coating <u>Envelopes:</u> Cutting, envelop making, folding, gluing	Printing press, cutting and greasing platen press, paper cutting machine, screw press, wax coating machine, envelope making machine.	Grey board, mill board, kraft paper, paraffin wax, printing ink, gum, labels, card board boxes	300 Sq.M.	20	6 KW	2.4 million cups, 1.2 million saucers, 9 million envelopes	Suited
12. Biscuits/cookies	Mixing, dough making, moulding, cutting, baking, cooling, packing	Universal vertical mixer, sugar pulveriser, rotary biscuit moulding machine, baking ovens, tools etc.	Wheat flour, sugar, fat, milk powder, salt, liquid glucose, essences, other chemicals and special ingredients, wrapping and packaging materials etc.	250 Sq.M.	11	20 KW	60 tons of assorted biscuits per day	Suited
13. HD/LD Polyethylene Shopping bags/ packaging material etc.	Mixing, melting, extruding, welding, perforating etc.	Extruder, vertical take up equipment, blower, air compressor, automatic bag making machine, flexmatic carona discharge knit, colour printing machine, moulds, dies, testing equipment etc.	HD/LD Polyethylene granules, colour, pigments, printing inks etc.	250 Sq.M.	16	80 KW	50 tons clear film, 25 tons printed film, 30 tons printed coloured bags	Suited
14. Starters for Fluorescent Lamps	Cutting, assembly glow lamp and capacitor, mica insulation, final assembly, testing	Voltage tester, panel with Voltmeter, ammeter and tube light fixture, tools, jigs, fixtures etc.	Aluminium can, glow lamp, capacitor, fibre and mica sheets, terminals, packing boxes.	50 Sq.M.	3	3 KW	120,000 pieces per year	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Employment	Motive Power	Production Capacity	Suitability to Industrial Estate
15. Auto Exhaust Mufflers	Cutting, shaping, welding	Guillotine shearing machine, hand operated bending machine, Edge folding machine, gas welding set, bench, grinder, fly press No.10, Tools, dies, fixtures etc.	Mild steel 16 swg sheets, Mild steel tubes, etc.	100 Sq.M.	0	5 KWK	4,800 pieces of various types per year	Suited
16. Plastic Buttons	Cutting rough shape, precisely shaping, forming designs, drilling holes, polishing, packing.	Sheet cutting machine, drilling machine, hole master machine, grinding machine, fixtures, punches, tools, drum polishers etc.	Pearlised acrylic sheets, polishing powder, packing material etc.	100 Sq.M.	0	7 KW	288,000 gross per annum	Suited
17. Mosquito coils	Pulverisation, mixing, blending, cutting, drying, packaging	Atomiser, mixer, kneader, crusher, extruder, cutting machine, punching machine, boiler etc.	Antimould, pigment, pyrethrum, saw dust, binder etc.	200 Sq.M.	10	20 KW	120 tons per year	Suited
18. Tyre Retreading/recapping	Used tyre cleaning, buffing, vulcanising, adhesive application, rubber composition application, pressing, vulcanisation, releasing, cleaning	Full circle tyre retreading machines, baby boiler, air compressor, tube patching machine, buffing grinder, presses, tools etc.	Rubber retread compound, rubber adhesive, solvent oil, cushion gum, misc. chemicals.	100 sq.m.	6	5 KW	5,000 tyres per year	Suited
19. Domestic Aluminium utensils	Circle cutting, deep drawing and spinning, buffing, washing, anodising, cleaning	Circle cutting machine, Pillar type drilling machine, Double action deep drawing press with accessories, turning lathe, spinning lathe, double ended	Aluminium sheets/circles, chemicals	250 Sq.M.	18	20 KW	20 tons of utensils per year	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Emploment	Motive Power	Production Capacity	Suitability to Industrial Estate
		bench grinder, buffing machine, wooden dies, press chucks, tools for spinning, welding transformer, 100 KVA power transformer, anodising equipment.						
20. Voltage stabiliser	Relay circuit formation, assembly of transformer (winding of primary and secondary turns on bobbin), heating and impregnating the coil, filling core into the coil and clamping, final assembly of transformer and electronic circuit on chassis, fitting of rotary switch.	Winding machine, impregnation tank, baking oven, drill testing tools, jigs, fixtures etc.	Stampings, chasis, dial, name plate, voltmeter, electro magnetic relays, rotary switch, transistors, capacitor, resistances, potentio-meter, printing board, insulating material, lead, knobs, sockets, hardwares PVC sleeves, super enamelled copper wire, double cotton covered copper wire, packaging.	150 Sq.M.	9	4 KW	Manually operated regulators 1,000 boosters 2,500 Stabilizers 2,000 per year	Suited
21. Sewing/ Stitching thread	Yarn dyeing, twisting, waxing, rewinding, packaging	Dyeing equipment, twisting machines, waxing equipment, rewinding machines	Yarn, dyes, wax, chemicals, packaging material	100 Sq.M.	3	5 KW	100 bobbins per day	Suited
22. Nylon zippers	Zipper formation, joining links to a double coil, sewing with tape, packaging	Zip fastener coiling machine, high speed sewing machine, automatic gapping machine, bottom stop machine, slider mounting machine, pinking machine, dies, tools etc.	Nylon monofilament yarn, cotton tape, top, bottom etc. components	150 Sq.M.	19	10 KW	600,000 metres Zippers per year	Suited

Sl. No.	Activity	Operations Involved	Major Equipment	Main Raw Material	Area	Emploment	Motive Power	Production Capacity	Suitability to Industrial Estate
23.	Wax candles	Mixing, melting, stirring, pouring in preset moulds, cooling, ejecting candles, cutting wick thread, packing	Candle moulding machine, wax melting vessels, furnace, testing equipment etc.	Paraffin wax, stearic acid, dyes, wick lanks, packaging.	50 Sq.M.	4	2 KW	66 tons per year	Suited
24.	Surgical bandages	Cotton gauze cloth cutting, rolling, packing, strelising	Cloth cutting equipment, bandage rolling machine, cutting machine, compressing machine, sterilising equipment	Cotton gauze cloth, packaging.	40 Sq.M.	2	3 KW	12,000 gross per year	Suited
25.	Coral/Sea Shell Products	Cleaning, cutting, grinding, polishing, packing	Cutting machine, grinding machine, polishing machine, hand tools etc.	Coral, seashells etc.	15 Sq.M.	3	3 KW	Capacity depends upon time spent (generally practiced as craft)	Suited
26.	Shell buttons	Blanking, washing, button making, polishing, packaging	Rotator blank boring machine tools etc. - composite plant	Sea shells, horns, coral, wood, coconut sheel etc.	50 Sq.M.	5	6 KW	240 gross per day	Suited
27.	Coastume Jewelry	Shell selection, blank making, designing, shaping, assembly	Rotor machine with accessories- composite plant	Sea shells, horns, corals, wood etc.	50 Sq.M.	5	6 KW	240 gross per day	Suited
28.	Fish Processing	Cleaning, removal head, fins, tail, viscera, washing, cutting, canning, steaming, cleaning, labeling, packing.	Boiler, auto-clave double seamer, blanching tank, brine heating tank, exhaust box, treadle embossing press, bottle washing machine, capping machine, washing tanks, pulverisor, picking vats etc.	Raw fish, refined oil, empty cans, spices, condiments, salt, vinegar, ice, bottles, corks, labels, cartons etc.	500 Sq.M.	15	Electri city & Fuel	400,000 cans/year	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Emploment	Motive Power	Production Capacity	Suitability to Industria Estate
29. Fish Meal	<u>Non-Fatty Fish:</u> Cutting, cooking, drying, pulverising, sieving and packing. <u>Fatty Fish:</u> Cooking in water, pressed, cake drying, pulverising, sieving and packing	Rotary, drum drier, boiler, pulveriser, jacketed cooker, screw press, tanks etc.	Fish waste, trash fish, polyethylene lined gunny bags	200 Sq.M.	7	6 KW	48,000 kgs fish meal 5. tons fish oil	Suited
30. Blow moulded thermo plastic goods (bottles for oil repackaging etc.)	Mixing, blow moulding, injecting, packaging	Blow moulding machine with accessories, tools, dies etc.	Thermo plastic material granules, dyes etc.	150 Sq.M.	5	40 KW	30 tons per year	Suited
31. Synthetic detergents cake	Weighing, mixing, blending caking/extruding, cutting, stamping, packing	Blender, mixer, triple roll milling machine, cutting and embossing machine, dies etc.	Soda ash, acid slurry, fillers etc.	250 Sq.M.	15	40 KW	108 tons per year	Suited
32. Smoked fish	Drying, smoking, packing	Drying and smoking equipment	Reef fish, shark etc.	50 Sq.M.	2	-	Batch size upto 100 kgs of fish	Not suited
33. Electric Motor Rewinding	Unwinding, testing for gauge, turns, layers and type of insulation, rewinding, testing	Tools, fixtures, testing equipment for insulation, resistance, sound (noise) speed etc.	Enamelled copper wire of different gauges, insulating and packaging materials	20 Sq.M.	2	5 KW	3 motors a day	Better suite to local market
34. Aerated water	Water purification, syrup making, blending, chilling carbonating, washing bottles, filling under pressure, crown corking, testing.	Automatic bottle filling machine, bottle washing machine, carboration unit, bottle collecting and revolving table, steam jacketed tank, hyprocell	Sugar, liquid glucose, citric acid, essences, colour, flavour, preservatives, carbon dioxide activated carbon	500 Sq.M.	40	50 KW	150,000 crates per year	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Emploment	Motive Power	Production Capacity	Suitability to Industrial Estate
		water treatment plant, steam boiler, refrigeration unit, manual bottle filling machine, crown corking machine, testing equipment.						
35. Crown Corks	Shearing, blanking, forming, printing	Punching machine, shearing machine, printing machine, coating machine tools etc.	Tin plates, cork discs, varnish printing inks etc.	200 Sq.M.	12	15 KW	180,000 pieces per year	Suited
36. Adhesives starch	Weighing, dissolving, filtering, clarifying, preserving, bottling, labelling, packing	Mild steel tank, wooden vat, stirrer, baby boiler, plastic drums etc.	Gum arabic, starch, sodium silicate, borax glycerine, calcium chloride, zinc chloride bottles (Note: Ahesives from organic chemicals can also be made)	70 Sq.M.	6	5 KW	9,000 dozens per year	Suited
37. Liquid Bleach	Slaking lime, preparing mixture, chlorination of lime, separation, sotrage, packing	Tanks, centrifugal pumps, testing equipment	Unslaked lime, chlorine, laboratory chemicals, packaging	40 Sq.M.	4	5 KW	45,000 gallons of bleach liquor per year	Not highly suited
38. Cotton Vests and Briefs	Cutting, heming, over-locking, folding, chain stitching, chain locking, seaming, ironing and packaging	Folding sewing machine, over locking machine with heming, overlock stitching machine, chain lock stitching machine, hydraulic press, testing equipment.	Cotton fine fabric, sewing thread, elastic tapes, lables, polyethylene bags, card board boxes.	75 Sq.M.	15	4 KW	15,000 dozens per year	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Employment	Motive Power	Production Capacity	Suitability to Industrial Estate
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39. Silk Screen printing	Framing, blockouting, designing, printing	Printing frame, base board, squeegee, brushes, tools etc.	Silk cloth, chemicals, printing inks, articles to be printed etc.'	75 Sq.M.	2	3 KW	100 dozens a days	Suited
40. Disinfectants	Melting, mixing, saponification, cooling, packing	Furnace, tanks, pans etc.	Rosin, castor oil, creosote oil, caustic soda, packaging	75 Sq.M.	4	2 KW	50,000 kgs. per annum.	Suited

SECOND CHECK LIST - POTENTIAL INVESTMENT OPPORTUNITIESYAP STATE

Sl. No.	Activity	Operations Involved	Major Equipment	Main Raw Material	Area	Employment	Motive Power	Production Capacity	Suitability to Industrial Estate
1.	Rigid PVC Pipes and Fittings	Plasticizing and homogenising PVC material, pre-heating, extruding, sizing, cutting, testing, storing	High speed mixer, extruder with accessories, dies, tools, greasing and oiling equipment, scrap grinder, weighing machine	PVC resin, DDP, stabilizer, colourant, Fibra, processing aids	300 Sq.M.	10	40 KW	144 tons per year	Suited
2.	PVC cables	Stranding, Mixing, extruding, cooling, winding, testing	Extruders, wire straightner, cable printing attachment, coil winding and measuring equipment, wire stranding machine, dies, but welder, testing equipment	Wire conductors, PVC granules, dyes, packing material	200 Sq.M.	12	20 KW	60,000 coils per year	Suited
3.	Electrical Accessories	Moulding, buffing, assembly, testing	Compression moulding, press, shearing machine, ball presses 4 & 6, bench drill machine, bench grinder, tools, testing equipment.	Phenol formal - dehyde-resin, brass components, brass and bronze sheets, Mild steel strips and springs, porcelain parts, packing material etc.	250 Sq.M.	10	4 KW	30,000 dozens per year - various accessories	Suited
4.	Seaweed Cultivation	Net spreading, sea weed tying, harvesting, drying, packing.	Hand tools	Nets, seaweeds etc.	1 hectare open space	3	Nil	Harvesting crop	Not suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Emplo yment	Motive Power	Production Capacity	Suitability to Industrial Estate	
5.	Bee Keeping	Placing bee boxes, smöking, honey extracting, packing.	Bee boxes, honey extractor, swarment, hive tools etc.	Bee colonies	20 Sq.M.	1	1 KW	450 kgs. honey, 25 kgs. wax per year	Not suited
6.	Oil Seals	Punching, trimming, spring inserting, sealing, testing, cleaning.	Rubber mixing mill, hydraulic press, shearing machine, power press, drilling machine, polishing machine.	Nitrite rubber, plasticizers, chemicals etc.	200 Sq.M.	6	30 KW	500 seals per day	Suited
7.	Auto Electric Fuses	Moulding, buffing, assembly, testing.	Moulding presses, hand press Nos. 2 & 4, bench grinder, bench drill, dies, tools etc.	Bakelite powder, tinned copper sheet, brass sheet, brass screws, springs etc. packing materials.	100 Sq.M.	6	5 KW	180,000 fuses, 12,000 boxes per year	Suited
8.	Feed Mill	Weighing, pulverising, mixing, meshing, packaging.	Pulveriser, ribbon blender, weighing machine, packing and stiching equipment	Cereal, bran, oil cake, fish meal, limestone, bone meal, mineral mix, vitamin mix (composition adjustable with	250 Sq.M.	10	18 KW	1,500 tons per year	Suited
9.	Coconut Processing	<u>Oil</u> : Chipping, cooking, cooling, pressing, oil collection, filtration, filling/storage. <u>Desiccated Coconut</u> : Selection, removing kernel, peeling, washing, powdering, drying, pressing, packing grease proof, moisture proof.	Oil expeller, filter press, baby boiler, copra cutter, disintegrator, micro pulveriser, sieve, drier, weighing machine, testing equipment etc.	Copra, coconuts, tin containers, packing material	400 Sq.M.	11	30 KW	<u>Per year</u> : 300 tons oil, 60 tons desiccated coconut, 40 tons coconut shell powder, 150 tons oil cake	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Emploment	Motive Power	Production Capacity	Suitability to Industrial Estate	
10.	Motor Boat Engine Repair	Turning, boring, shaping, filing, drilling, grinding, etc.	A small general purpose machine shop	Greese, lubricants, parts etc.	100 Sq.M.	5	15 KW	2-5 engines a day	Not much suited
11.	Electro-plating unit	Degreasing & cleaning-mechanical and electrocleaning, plating, washing, drying	Transformer, degreasing bath,, electro cleaning bath, electroplating baths, wooden platforms, testing equipment, buffing machine etc.	Chemicals, electrodes, hooks, etc.	150 Sq.M.	5	20 KW	Job work \$600 per day	Suited
12.	Aluminium Builders' Hardware	Cutting, mill slotting, drilling, counter sinking holes, assembly, finishing, stamping, anodising, colouring, cleaning, packing	Milling machine, drilling machine, spring hammer, rivetting machine, fly press, anodising plant, circular saw etc.	Aluminium extruded sections, chemicals, dies, punches, milling cutters, saws etc.	160 Sq.M.	14	9 KW	24,000 dozens hinges, 12,000 dozens tower bolts per year.	Suited
13.	Frozen/ Processed Meat	Slaughtering, cleaning, sorting, grading, packing, freezing	Slaughtering and cleaning plant, refrigeration unit, working tables, tools, fixtures etc.	Pigs/poultry, packaging etc.	250 Sq.M.	5	50 KW	15-20 pigs a day	Not suited - existing activity
14.	Card Board boxes	Printing, die punching, cutting, creasing, folding gluing (if required)	Cylinder letter press machine, printing machine, cutting and creasing machine, press, dies, moulds, testing equipment	Boards, paper, ink, glue etc.	200 Sq.M.	11	20 KW	2 million pieces	Suited
15.	Chalks & crayons	Mixing, moulding, hardening, removing from moulds, drying, packing	Moulds, tables, drums, buckets, sieves, jugs, wooden trays, etc.	Plaster of Paris, lime, china clay, colouring oxides, packing material	150 Sq.M.	15	1 KW	288,000 boxes of 100 pieces per year	Suited

Sl. Activity No.	Operations Involved	Major Equipment	Main Raw Material	Area	Employment	Motive Power	Production Capacity	Suitability to Industrial Estate
16. Reconstituted Milk and Products	Dissolving, homogenising, pasturising, butter forming, youghurt making etc.	Mixing unit, cooling equipment, pasturisation unit, filling machine, youghurt making equipment etc.	Milk, flavours, chemicals, detergents, packing materials etc.	300 Sq.M.	10	25 KW	300 litres milk, 500 litres flavoured, 500 litres youghurt etc. per day	Suited
17. Umbrella Assembly	Cloth cutting, stitching, fixing on ribs, checking, packing	Sewing machine, cloth cutting equipment, hand tools	Cloth, ribs, fittings, fibre etc.	50 Sq.M.	2	2 KW	150 pieces a day	Suited
18. Fibre glass products - Extension of activities	Mould making, moulding, spraying, drying, cutting, buffing, fitting, finishing	Designing unit, mould making tools, air compressor, sprayer, grinding machine, buffing machine, hand tools etc.	Resin, fibre glass, catalyst, rexin, corrugated rubber thermocol, cotton woven thick strips, solvent etc.				Existing activity. Extension to include a few additional items.	Existing activity

