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SMALL-SCALE INDUSTRIES DEVELOPMENT

DP/TTP/89/200

THE FEDERATED STATES OF MICRONESIA

Technical report: Review of the small-scale industry programme*

Prepared for the Government of the Federated States of Micronesia
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

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SECTION I

1.0 INTRODUCTION

The Government of the Federated States of Micronesia (FSM) requested UNDP to finance a study to assist the Office of Planning and Statistics, in both National and State levels, in reviewing the focus of the programme (TTP/89/200) particularly with respect to the projects to be promoted as well as the terms of reference of the external technical assistance and national inputs.

Specifically, the consultancy required the undertaking of the following activities:-

- Review the status of the programme, achievements and overall approach;
- Assess the seven sub-projects already identified, together with appropriate government authorities, financial institution and prospective local entrepreneurs, how much they are commercially viable and whether they are suitable for development by the private FSM entrepreneurs;
- If any of the sub-projects are no longer relevant, identify a substitute;
- Prepare or modify the terms of reference for the sub-projects;
- Prepare recommendations on effective and efficient strategies for project implementation with the remaining project budget.

The format of this report begins with a general description of the economy of FSM, and is outlined in Section II. Due to the inter-relationship between the National and State government in the formulation of the development process, including the development activities sponsored by the Small Scale Industry Programme, an appraisal of the political framework and government operations has been undertaken and is attached as Annex A. In addition, the appraisal will be pertinent in the subsequent investigation of strategies for project implementation under the programme.

The body of the report as detailed in Section III comprises an overview of the Small Scale Industry Programme, followed by an appraisal of the programme as well as an appraisal of the seven sub-projects identified under the programme as follows:

1. Laterite Brick and Tile Project (Yap) - Prefeasibility Study
2. Fruit Juice Processing(Yap) - Prefeasibility Study
3. Coconut Lumber Utilization(Chuuk) - Feasibility Study
4. Food Processing Demonstration(Chuuk) - Workshop

5. Salt/Drying Fish Training(Pohnpei)
6. Fruit Juice Processing(Kosrae) - Prefeasibility Study
7. Coconut Lumber Utilization(Kosrae) - Feasibility Study

1.1 Background

The small scale industries development programme (TTP/89/200) in the Federated State of Micronesia (FSM) was formulated in 1989 and is administered by the United Nation Industrial Development Organization (UNIDO). The basic objective of the programme is to contribute to the industrial development in FSM through active encouragement and motivation of entrepreneurship in the private sector. Specifically, the programme involves, primarily, the provision of technical assistance to support the development and implementation of small scale industrial ventures.

In the context of industrial development, the provision of technical assistance under the programme focuses predominantly in the planning and implementation of viable small scale industries based on local resources, both material and human, so as to enhance the domestic value added of the resources.

The programme has identified seven small scale industrial sub-projects and the technical assistance participation planned for the projects range from training to planning and assessment interventions. Project identification for the programme had been undertaken by the relevant departments in the Government, both in the National and State levels, particularly the Department of Resources and Development and the Office of Planning and Statistics.

SECTION II

Economy of F.S.M.

2.0 General

The Federated States of Micronesia comprises the states of Pohnpei, Chuuk, Yap and Kosrae. The country consists of some 607 islands scattered over an area covering over 1.6 million square kilometers in the Western Pacific Ocean between the Equator and 16 degrees north latitude and between the 135 and 166 degrees east longitude. It is 5,172 km from Honolulu, 1,651 km from Guam, 3,600 km from Manila and 4,197 from Tokyo. A new National Capital is currently under construction at Palikir in the State of Pohnpei.

Pohnpei, previously spelled (Pohnape), State consists of a large volcanic island along with 25 small islands and 137 widely scattered coral atolls. The total land area of Pohnpei is 214.5 square kilometers and the capital is Kolonia.

Chuuk State consists of seven major island groups, the largest being Chuuk proper which is a complex of volcanic islands. The State includes some 98 islands, of which 16 are mountainous and of volcanic origin, surrounded by a coral ring forming a lagoon of over 1,287 square kilometers. The total land area is 79.1 square kilometers and the capital of the State is Moem.

Yap State which is the eastern most state of the Federation and consists of one island with a total land area of 68.8 square kilometers. The capital of Kosrae is Tofol.

The climate is tropical and temperatures generally range from about 23 degrees C to about 30 degrees C and are relatively uniform. Trade winds provide cool breeze except during some parts of summer and fall. The amount of rainfall varies greatly among the islands, ranging from as high as 838 cm in some parts of Pohnpei to as low as 279 cm in Yap. Mean humidity averages about 80 percent. Almost all the islands experience definite wet and dry seasons.

The people of the Federated States of Micronesia are Micronesians but they differ in physical characteristics, customs and languages and, to an extent, the division into four states recognizes these difference. While all the people of FSM are Micronesians, locally they are called Pohnpeian, Chuukese and so forth. The contact with American, and Japanese cultures has had a significant impact on the life style of the people of FSM.

2.1 The Economy of the Federated States of Micronesia

The economy of the FSM is much the same as other island groups in the Western Pacific. A dual economy exists with as much a 40 percent of the labor force, and 30 percent of the Gross domestic Product, tied to the subsistence, non-monetary sector. The monetary sector has been dominated for the last thirty years by U.S. government spending that until fiscal year 1987 was under the direction of U.S. administrators of the U.N. Trusteeship.

For the last four years U.S. grants associated with the provisions of the Compact of Free Association have provided the basic income necessary to operate the government, and through second-round spending the commercial and service sectors.

Table 1 presents the FSM Consolidated Budget for FY 1989 as illustrative of the dominance of the government sector in the islands, and government's own reliance on the unilateral foreign financing granted by the U.S. under the provisions of the Compact of Free Association.

Operation Account expenditures are primarily those identified in the compact that can be spent for the provision of government services. Capital Account expenditures are those designated in the Compact to be used only for infrastructure, manpower development, and job creating projects.

The dominance of U.S. financial assistance and the dependency of FSM government operations on such assistance is obvious. In addition, the 1988 estimated Gross Domestic Product (GDP) of US\$144.5 million further clarifies the significance of U.S. funding forming the basis of the monetized economy, which is recycled in the form of government employee wages and salaries, payments to contractors and other private providers. These payments are in turn used to purchase foreign goods and services, including a growing proportion of the food requirements of the indigenous population.

Table 1. FSM Consolidated Budget By Source and Programs, FY 1989

Program	General Compact Fund	Special Compact Funds	U.S. Fed. Grants	Other Foreign Aid	Total
OPERATIONS ACCOUNTS					
General Gov't	16,193,221	1,574,300	79,851	-	18,147,372
Health	6,301,976	4,826,098	1,043,295	-	12,171,369
Education	10,822,822	5,611,170	6,505,397	63,332	23,002,721
Comm. & Social	1,315,239	226,235	263,912	-	1,835,416
Economic Dev.	7,285,125	-	697,537	265,155	8,835,416
Justice	4,664,615	351,400	198,085	20,000	5,234,130
Transportation	3,747,420	-	-	50,000	3,797,420
Public Works	5,512,575	3,118,125	195,000	-	8,855,700
Legislative	6,384,202	-	-	-	6,384,202
Judiciary	2,163,704	-	-	-	2,163,704
TOTAL	64,750,929	15,707,328	8,983,107	398,487	89,839,851
CAPITAL ACCOUNTS					
Economic Dev.	10,293,781	1,889,701	-	-	13,183,482
Social Service	237,100	50,000	-	-	287,100
Infrastructure	8,940,230	1,250,000	-	-	10,195,230
Gov't Services	2,093,329	1,200,000	-	-	3,293,329
TOTAL	21,569,440	4,389,701	-	-	25,959,141
GRANT TOTAL	86,320,369	20,097,029	8,983,107	398,487	115,798,992

While the public sector prevails as the major provider of basic income for the FSM, other sectors are set to contribute a significant proportion of total national income. The tourist sector can provide a larger proportion of the economic base once problems of accessibility are overcome for the FSM islands. In addition, industrial growth, under the trade and tariff incentives provided by the compact will contribute a greater share of the national income in the next decade. If the FSM states (Kosrae, Pohnpei, Chuuk, and Yap) follow the example of Guam and Saipan, rapid expansion of their monetary economies can be foreseen in the next decade. This expansion will probably be driven by Japanese and other Asian investment.

2.2 Economic Indicators of the FSM

As part of the process of the FSM maturing as a nation, state economies are beginning to be linked together through inter-island trade, shared services, financing, and foreign aid and assistance. Interrelationships will continue to grow as ocean resource exploitation, for example, combines multiple state efforts, crosses state territorial waters, and includes FSM national territorial waters.

2.2.1 National Accounts

National Accounts data have been formulated for the FSM since 1975. The creditability of these accounts has been hindered by the lack of state (formerly District of the U.S. Trust Territory) specific economic data, and the inability to realistically estimate insular inflation rates, which limits data presentation to constant dollars over the years.

Table 2 presents a summary of the FSM National Accounts calculation since 1975. It should be noted however that the methodological approach to the estimation varied widely during the period analyzed, due to lack of data in the early years and standardization of the approach had been finalized only on the 1983 accounts.

Table 2 Comparative FSM National Accounts: FYs 1975, 1977, 1982, 1983, 1988 (\$ millions, U.S. current)

Fiscal Years Accounts	1975 (Tiwari)	1977 (Tiwari)	1977 (Perin)	1982 (Perin)	1983 (FSM)	1988 (FSM)
I. Compensation to Employees						
A. Wages:					39.29	79.6
- Public Sector	14.1	14.7	17.769	27.520		
- Private Sector	5.3	8.4	4.623	11.469		
B. Imputed Rental Value Employer Accommodations	.9	-	-	.401		
C. Personal Benefits +	1.1	-	-	2.751		
SUBTOTAL	21.4	24.1	23.36	42.142	39.29	79.6
II. Operating Surplus						
A. Private Enterprise	8.0	8.4	4.419	6.919	18.91	15.3
B. Copra Production	1.2	.6	.121	*		
C. Value of Non-Market Production	10.1	8.8	5.275	10.231	42.59	42.3
D. Imputed Rental Value of Owner Housing	1.9	2.1	2.1	.519		
E. Imputed Net Rental Value Of Free Housing	.3	-	-	.081		
SUBTOTAL	21.5	19.9	11.9	17.750	61.5	57.6
III. Consumption of Fixed Capital	2.2	2.4	2.4	6.4		

Table 2 Comparative FSM National Accounts: FYs 1975, 1977, 1982, 1983, 1988
(\$ millions, U.S. current)

Fiscal Years Accounts	1975 (Tiwari)	1977 (Tiwari)	1977 (Perin)	1982 (Perin)	1983 (FSM)	1988 (FSM)
IV. Indirect Taxes						
Less Subsidies	2.2	2.4	2.286	7.194	5.72	7.3
V. Errors & Omissions	-	-	-	.982		
GDP	47.3	48.0	39.961	74.422	106.51	144.5
VI. Mid-Year Population	65,261	70,360	70,360	82,300	85,285	99,862
VII. Per-Capita GDP at Market Prices	\$725	\$694	\$567	\$904	\$1,250	\$1,447

Source: GDP Estimates FY 1982 from Gross Domestic Product of the Federated States of Micronesia, October 1984. GDP Estimates for 1983 from FSM First National Development Plan: 1985-1989. GDP Estimates for 1988 from FSM Second National Development Plan: 1990-1994.

With only two exceptions much of the FSM economic structure reflected in the national account has remained stable over the 13 years recorded. The estimated growth in the economy has been phenomenal: over a 200 percent growth in GDP from \$47.3 million in 1975 to \$144.5 million in 1988, in current dollars. Even with rapid population expansion such growth in total production leads to almost 100 percent growth in per capita GDP. Besides the problem of having to adjust for real growth in constant dollars, two other factors should be considered in interpreting such data. First, the problems of specification and consistent methodology must be addressed. The account estimates were completed by at least four different individuals. Individual decision on aspects of the accounts formulation could have numerically influenced the resulting index. The possibility of such methodological variance is increased given the limited information available for calculating the basic accounts.

Second, interpretation of the value of non-market production has varied considerably. Such estimations have jumped from approximately \$10.1 million 1975 to \$42.3 million in 1988. Much of this increase reflects different approaches to imputing this account. While the population has increased, migration of workers from the subsistence sector into the wage economy had dampened the family dependency on subsistence productivity. Much of the increase in such estimates is associated with the current dollar market prices used to estimate the dollar value of subsistence production.

Still, the accounts reflect a dynamic and growing economy. How such growth is primed by expanded public sector spending or by increased business activity in the private sector is difficult to determine from the account data. Growth in wages and salaries

from \$19.4 million 1975 to \$79.6 million in 1988 is significant in current dollars, but segregation into public sector or private sector increases is not possible given the statistics available.

Table 3 presents expenditures on the GDP by state. The contribution of Pohnpei to the total national expenditure is significant and reflects to a great extent the local expenditure of the FSM national government offices located on Pohnpei, which is an economic function not available to other states. It is estimated that having the FSM National Capital complex on Pohnpei contributes between \$8.0 to \$10.0 million to the local economy annually.

Table 3 Expenditure on the Gross Domestic Product, FSM, 1988 (\$ millions)

Expenditure Category	Chuuk	Kosrae	Pohnpei	Yap	FSM
Consumption Expenditure					
By Household					
Market	29.9	8.7	30.5	9.8	78.9
Non- Market	17.0	4.7	13.6	7.0	42.3
Consumption Expenditure					
By Government	29.3	6.4	30.8	13.5	79.9
Gross Domestic Fixed					
Capital Formation					
Private Sector	6.8	1.1	3.9	1.6	13.5
Public Sector	3.9	4.4	10.5	2.3	21.1
Exports					
Local Production	.5	.1	1.3	.4	2.3
Tourist Expenditure	1.1	.2	1.3	.5	3.1
Less Imports (FOB)	26.9	6.8	25.7	8.3	67.7
Less Cif Estimations	9.4	2.4	9.0	2.9	23.7
Gross Domestic Product	50.5	15.9	55.3	23.0	144.7
GDP Per Capita (dollars)	\$996	\$2,272	\$1,732	\$2,209	\$1,447

Source: FSM Second National Development Plan: 1990-1994

The table of expenditures on GDP provide additional characteristics of the economy. First, the value of non-market consumption, in current dollars, is emphasized. It is easily over half the value of the market expenditures indicating the strength of the subsistence sector in the overall state and national economy.

Second, there seems to exist a high correlation between government expenditures and the consumption expenditures by private households. Such correlation supports earlier statements concerning the dominance of public sector spending driving the commercial economy and the general weakness, within nation and within state, of economic linkages among private sector activities thus limiting insular multiplier effects.

Third, import/export trade imbalances are emphasized. Gross estimates indicate that an import/export trade ration as great as 19:1 may exist.

Marked differences occur within the nation particularly with regard to contrasting the less populous states with more populous states. Pohnpei is able to attain a higher GDP per capita as a result of FSM government location on Pohnpei. GDP per capita in all states is driven primarily by state public sector expenditures.

2.2.2 Household Income and Expenditure

Table 4 presents estimations of household income and expenditure for Pohnpei in comparison with the other states of the FSM.

Table 4 Characteristics of Average Annual Household Income and Expenditures: 1988-1989, FSM (current dollars)

Characteristic	Chuuk	Kosrae	Pohnpei	Yap	FSM
Mean Income from all Sources (\$)	4,541	8,759	6,395	5,775	6,580
Percentage of Households with \$0 income (%)	15.3	4.5	16.4	23.3	16.1
Net Wages (\$)	2,371	6,897	5,021	4,597	3,826
Net Government Wages	1,716	5,528	3,868	3,766	2,829
Government Wages as Percent of Total Net (%)	72	80	77	81	74
Aggregate Expenditure (\$)	4,418	9,323	6,779	4,631	5,509

Source: FSM Second National Development Plan: 1990-1994

"Mean Income from all Sources" includes estimates of the value of money wages earned by each household, the value of any income transfers, and estimate of contributions to the household from the barter systems of the subsistence economy, primarily through feasts and other social and cultural ceremonies. This income would be expendable, and in the terminology of economics would be identified as "disposable income."

With regard to "Net Wages" per household in the money economy, about 79 percent of the total income of each household is accounted for in direct money wages.

Government employment (government wages) provides for a major portion of total income per household, about 61 percent on Pohnpei.

Government wages are estimated at about 77 percent of net wages on Pohnpei. Results of "The Household Income and Expenditure Survey in the Federated States of Micronesia, 1988-1989" indicate that on the average aggregate savings are low in comparison to more developed economies. In fact, many households operate in a deficit position pushing aggregate annual household expenditures close to or beyond estimated income through borrowing or retail credit.

2.2.3 Balance of Payments

Table 5 presents national balance of payments estimations. These are the only estimations that have been made for the FSM. State estimates are not available.

Table 5 Balance of Payments

Account	Credit	Debit
Goods Services and Income		
Merchandise.....	2,288.0	67,701.0
Shipment and Insurance.....		23,695.0
Other Transportation.....		5,000.0
Travel.....	3,084.0	5,000.0
Investment Income		
Government.....	2,659.0	
Private.....	1,250.0	
Other Goods, Services, and Income		
Government.....		812.0
Private.....		-
Unrequited Transfers		
Private Remittances.....	11,789.0	8,820.0
Government		
US Compact and Federal Assist. ...	135,624.0	
Other Foreign Aid.....	350.0	
Fishing Rights Fees.....	7,733.0	
Total.....	161,777.0	111,028.0
Surplus.....	53,749.0	
Deficit if External Assist. Excluded.....		82,225.0

Source: FSM Second National Development Plan : 1990-1994

The balance of payments estimates depict an economy heavily dependent on imports. The basic structure of the balance of payments continues to weaken with growing reliance on remittance from Micronesians living abroad and to a large extent on the inflow of funds from the Compact Agreement and other US sponsored Assistance programme.

2.3 Sectoral Analysis

Sectoral Analysis of the economy has been continued in this investigation to the principal sectors in the economy. In addition, the focus of the analysis is on sectors integral to the development of industrial sector.

2.3.1 Agriculture

Agriculture is the most important primary activity in the nation because of its contribution to employment, wage income, export earnings, subsistence production, social/cultural activity medicine, ornament, and recreation. Almost every family is engaged in full or part-time agricultural activity. A dual economy exists where even long-term, full time employees in other sectors pursue some agricultural activities on their family

homesteads. Agricultural activities provide over 60% of the food consumed, and employ about 40% of the labor force in a full-time or seasonal basis.

Agricultural activities can be classified into two general categories:-

- (i) Subsistence production; which is a mixed agro-forestry technology using traditional methods of scattered bush and forest cultivation, primarily on small homestead plots; and
- (ii) Semi-commercial/cash cropping; where small plots of less than a hectare are scattered along with the subsistence cultivation.

With one exception, fully commercial agriculture does not exist. On Pohnpei a commercial pepper farm has been started with intensive cropping of about 100 acres targeted for production over the next five years.

Subsistence agricultural activities include a large proportion of producing 'trees', particularly coconut and breadfruit variations. Mango and a number of banana and papaya varieties are common with additions of varieties of citrus species in Yap and Kosrae. In Kosrae, tangerines, sweet and valencia oranges, and, particularly, limes are produced. In Yap, groves of betel nut palm are cultivated in a complex home and forest gardening systems.

Combined with the mix of upper storey strata plants are understorey plants and shrubs also used for food, medicine, condiments. Other garden crops include cucumbers, watermelons, gourds, sweet potatoes, egg plants, head cabbage, chinese cabbage, bell peppers green onions, tomatoes, cassava and some pineapple and sugar cane.

Copra remains the ubiquitous cash crop throughout the FSM, but production decreased from about 8,600 short tons in 1970 to an all time low of about 750 short tons in 1987, recovering to about 2,000 short tons in 1988. The decline is attributed to the low prices for copra coupled with increasing senility of the coconut palms.

In addition to copra, about 70 acres of pepper were under cultivation in Pohnpei in 1988 and produced 36,500 lbs of green pepper (11,300 lbs of black pepper). The average production rate was 8,850 lbs of green pepper per acre. Pohnpei is also exporting about 3500 lbs of bananas per week to Guam. Sakau (*Piper myristicum*) has also become a cash crop on Pohnpei with an increasing proportion of production pounded and sold at local sakau bars. Cash cropping also includes the production of fruits and vegetables for sale at local markets in each state.

In Kosrae, citrus is a significant cash crop with limes and tangerines exported to the Marshall Islands and Pohnpei (about 40 cartons per week); about 3 short tons of bananas per week are also exported from Kosrae to Guam, and taro to the Marshall Islands and Guam. Periodically, Yap exports bananas, other vegetables, fruits and betel nut to Guam and Palau.

Farmstead livestock production is increasingly important throughout the FSM, particularly poultry, eggs and pork. On Pohnpei, the estimated 35,000 poultry birds hatched in 1987 represented a 270% increase over 1985 production. Egg production trebled over the same period to 149,00 dozen per year. Eggs are now produced commercially in all states. On Pohnpei a broiler production program has been initiated with 16 farmers, who receive day-old chicks from the agricultural station hatchery. Two local Morden farms provide the hatchery with 4,000 eggs a week. The system is set up to produce 300 tons of broilers a year. On Chuuk a contract growing system for broiler is being developed. The pilot project initially involved about 20 farmers each with about 200 birds.

Pigs remain the single most important animal raised on small forms for food, ceremonial purposes and marketing. While most pigs are raised in the traditional way as open forest foragers, agricultural and health departments in each state are encouraging the commercial raising of improved breeds of pigs in pens, fed on imported feeds. The largest commercial farm is at Pats on Pohnpei where 150-200 pigs are produced and sold per year with goat meat production in Pohnpei doubling over the 1985-87 period to 4,000 lbs per year.

Insignificant numbers of large ruminants continue to be raised with 120 head of cattle and 70 head of buffalo in Pohnpei. There are also a few longer any large ruminants in Yap despite large areas of grazeable land.

2.3.2 Forestry

The importance of agro-forestry as part of an integrated system of subsistence agricultural activities makes it difficult to clearly define the sector. Many of the plans and development programs of the sector are also part of agricultural programs and projects. However, Kosrae and Pohnpei have separate forestry divisions.

National government participation in the provision of public forestry services is coordinated through the agricultural specialist in the Department of Resources and Development.

Each state has extensive forest cover, although on the low atoll islands, and the littoral slopes of the high islands, the forest cover is better described as an agro-forestry complex with a scattered secondary forest on long-fallow within the traditional gardening system.

Pohnpei is the most densely forested state with almost 49,000 acres of forest lands, or about 55% of the states's total land area. Most of the forested lands are central timberlands, and coastal mangroves. Much of the highland forest exists on steep slopes where competitive land use is limited, and resource extraction difficult logistically. Only remnants of old plantations exist, most with aged, or low yielding senile trees. It is estimated that agro-forestry activity occupies over 60% of the forest area.

Kosrae is the second most densely forested area with about 17,500 acres identified as forest lands. Most of this forest area is upland in the central mountains and, as with Pohnpei, occupies land with steep slopes and little potential for farming, residential, or recreational land use.

Chuuk has the smallest extent of forest lands. Most of its forest area is lowland, atoll agro-forestry highly integrated with agricultural crop production. Chuuk possesses only small areas of mangrove unable as rough sawn timber for local markets.

Yap forest lands are most extensively used for agro-forestry purposes, with only scattered mangrove areas free from intensive integration with gardening.

Table 6 Forest Area by Land Class and Forest Type, 1983

	Chuuk	Kosrae	Pohnpei	Yap	FSM
Forest Lands:	765	17,576	48,754	9,616	76,711
Timberland	656	9,157	41,408	9,034	60,255
Other Forest					
Steep	-	8,248	6,720	-	14,968
Scrub	108	171	626	582	1,487
Secondary:					
Vegetation	624	3,005	4,565	1,370	9,564
Agro. Flora					52,717
Forest Type:					
Upland	1,673	12,545	31,006	6,316	51,540
Mangroves	756	3,860	13,652	2,894	21,162
Palm	5	-	3,417	-	3,422
Plantation	2	-	15	-	17
Swamp	-	959	529	383	1,871
Dwarf	-	170	2	-	172
Atoll	-	-	15	-	15

Source: Timber Resource of Kosrae, Pohnpei, Chuuk, and Yap, FSM,

USDA/Forest Service, Resource Bulletin, PSW-24. Vegetation Survey of Moen, Dublon, Fefau, and Eten, State of Chuuk, FSM, USDA Forestry Resource Bulletin PSW 20. Note: Not all of Chuuk is -lands are covered in the inventory.

The value of the forests lie in the support of subsistence agro-forestry activities, and for their ecological and environmental protection roles, not as a source of commercial timber. The dominant forest areas of the central islands are utilized to protect watersheds and prevent excessive erosion. The greatest benefits of the mangroves are associated with filtering run-off sediments, and as a marine nursery. These areas also exist as a natural protected habitat for exotic species of plants and wildlife.

2.3.3 Tourism

Tourism is a significant contributor to the FSM economy in terms of employment, exports and income. The sector also possesses great potential for growth as additional accommodations, better transport connections, and improved recreational activities are developed in each state. There has been a significant recent increase in visitors to the FSM, most especially in 1989 with total visitors in that year almost double the number at the beginning of the decade.

Table 7 State and FSM Visitors in the 1980s

Year	Chuuk	Kosrae	Pohnpei	Yap	Total FSM
1984	3,306	552	4,323	1,282	9,463
1985	4,684	577	5,119	1,475	11,855
1986	4,286	969	5,335	1,740	12,330
1987	4,814	1,308	5,273	1,938	13,433
1988	3,714	1,327	6,475	3,160	14,676
1989	6,923	1,763	7,518	3,901	20,105

Source: FSM Resources and Development

Table 7 indicates, however, that the tourist industry remains relatively small by regional standards with only 20,105 reported "visitor" arrivals in 1989. Visitor arrivals also vary considerably across the states. Pohnpei with the National Capital, Nan Madol, and accommodations for water sports had 7,518 visitors recorded for that year. Chuuk, with its lagoon diving recorded 6,923 arrivals; Yap had 3,901 visitors, and Kosrae, just developing its visitor accommodations, had 1,759 arrivals.

All states possess attractive tourist sites; reef or nearshore beaches, hiking trails, waterfalls, historical sites, war relics, cultural uniqueness, and an accessible, clean marine environment for water sports. In addition, the all-seasons warm climate of the country, frequent air transport, and improved infrastructure should begin to attract more sectoral development.

Visitors include business visitors, government officials, and tourists. Arrivals are counted separately for each state, and so visitors are frequently counted on more than one occasion.

Hotel accommodations remain tied to small local enterprises with 26 rooms available in Yap, 144 in Pohnpei, 80 in Chuuk and 30 in Kosrae. Most hotels are comparatively small (10 to 50 bedroom)

family businesses that have primarily responded to interstate "visitor" demand. The Continental Hotel in Chuuk, and the Village Hotel on Pohnpei, however, still average below 60 percent across the FSM, 1987-1988.

Historically, the tourism markets have been the US (60 percent of total international visitor arrivals) and Japan (25 percent). Approximately one third of the visitors come to the FSM on government or private business. The remainder are tourists interested in exotic out-of-the-way places, diving, the romance of the islands, cultural differences or the warm tropical climates. Most often the tourist does not target a single state as a destination, but stays an average of 3 to 4 days on different islands in the region. Visitor expenditures were estimated to be about US\$3 million in 1988. Sectoral employment that year totalled over 400.

Air services are monopolised by the US Carrier, Continental/Air Micronesia, with four flights per week to Kosrae (two originating in Hawaii and two in Guam), ten flights per week to Pohnpei and Chuuk (five out of Hawaii and five out of Guam), and three flights per week from Guam to Yap.

Continental began flights between Australia and Guam in 1989. The associated excursion fares to Micronesia, and supporting promotion by the airline, has resulted in an increase in the number of tourists from Australia.

All state airports and terminal facilities have been upgraded to international standard, and support regular, scheduled operation of Boeing 727-100 and 727-200 aircraft.

2.3.4 Marine

The marine resources sector consists of three sub-sectors:-

- (i) commercial fisheries;
- (ii) artisanal fisheries; and
- (iii) aquaculture activities.

The distinction between commercial and artisanal fisheries lies in the scale of the operation and the technological complexity in the fishing techniques employed. For the purposes of this investigation commercial is taken to mean primarily large scale, or industrial, operations whose production is destined for commercial sale, either to local or export markets, or as raw material for processing. All other fishing effort, which could be described as subsistence or as semi-commercial, where catch which is surplus to subsistence requirements is sold, on a part-time or full-time basis, is referred to as artisanal fishing.

Tuna is the primary fisheries resource in the nation. The tuna resource includes both surface schooling and deep water species. Official figures record that in 1988 more than 190,000 metric

tons of tuna were harvested, of which over 160,000 tons were caught by purse seining, 14,000 tons by pole and line, and 15,000 tons by long-lining. The approximate market value per year of tuna harvested within the nation is in excess of \$200 million.

The catch from purse seining and pole and lining mainly consists of Skipjack Tuna (*Katsuwonus pelamis*) and smaller Yellowfin Tuna (*Thunnus albacores*), while longliners target the deepwater species, larger Yellowfin Tuna and Bigeye Tuna (*thunnus obesus*). There is a significant difference in price between purse seine and pole and line caught fish, and long-line caught tuna.

Other marine resources, such as reef fish, deep bottom resources and other target groups, are not likely to form the basis of a sustained commercial fishery, particularly as artisanal pressure on these species increases. Accordingly, utilization of these resources will be confined to the artisanal sector.

At present although the nation has full ownership of tuna stocks capable of a sustained yield of well over 100,000 tons each year, there is virtually no national participation in its exploitation. The commencement of national involvement, through state, NFC or other entities, will therefore, of necessity, involve a major developmental activity and the investment of significant funds.

All the industrial-scale commercial tuna fisheries and currently conducted by foreign nations. Purse seining and long-lining are the two main tuna fisheries, while pole and line is of declining importance.

The foreign (distant water) pole and line fleet has always been Japanese. The fleet reached a high of 200 vessels in 1979, but is now less than 50 vessels. The Japanese are pursuing techniques of automation and enhanced fish preservation in an attempt to prolong the viability of this technique in national waters, but its future seems uncertain. The fishery operates mainly in the northeastern sector of the nation's zone, during the period January to May and September to December. The catch from foreign pole and line boats in the national zone in 1988 was 14,065 tons, of which 99% was skipjack.

Industrial longline fishing for tuna in the nation's zone is also dominated by Japanese vessels. Currently, around 150 Japanese and 100 Taiwanese vessels operate there during the year. A new development has been the operation of boats based in Guam, with 60 Japanese and 70 Taiwanese vessels fishing the nation's zone and trans-shipping in Guam. The longline catch in 1988 was 14,893 tons, made up predominantly of Yellowfin and Bigeye tuna.

One of the major commercial advantages enjoyed by the nation is proximity to the resource. In the case of longlining, this means that domestic vessels, because they are operating from nearby home ports can be of relatively small size and need not freeze the catch due to the short duration of the voyages. Furthermore, facilities at their home ports can be used to airfreight the fresh catch directly to export markets.

The purse seine fishery is the most recently developed, with operations beginning in the early 1980s. The participation in this fishery is much more diverse than the pole and line or longline fisheries. There are currently over 140 purse seine vessels licensed to fish in the zone, from Australia, Indonesia, Japan, South Korea, Taiwan, and USA. Purse seine effort is concentrated on the south and south-western region of the zone. The fishery is relatively consistent throughout the year. The closure of the Papua New Guinea zone to Japanese vessels in March 1987 has resulted in a significant diversion of purse seine effort to the FSM zone. The purse seine catch in FSM in 1988 was estimated by the MMA as 162,000 tons.

Small scale commercial fisheries includes locally owned and operated fishing vessels. The present total yearly production is probably below 500 tons or less than 0.5% of the total tuna harvest. The fishery at present involves about 20 active vessels, operating out of the states of Yap, Chuuk and Pohnpei.

2.4 Financial Sector

The finance sector consists primarily of 3 Commercial Banks and two Development Banks. There are also a number of small credit unions engaged in small-scale savings and consumer finance operations. In addition, there are two agencies operating home financing facilities. In prospect, although long term, is the establishment of a central bank.

Commercial banks were the first lending institutions of record in FSM. The Bank of Hawaii was first to establish a branch in FSM. This branch primarily offered retail service and provided relatively little loan services. In the early 1980s the banking service sector expanded when the Bank of America opened its doors. The bank was eventually taken over by the Bank of Guam, which was expanding from its headquarters in Guam to serve the islands of the region. The Bank of Guam has declared itself dedicated to regional development and perceives Guam as the hub, or growth pole, of that development.

In 1986 the Bank of the FSM opened its first office in Kosrae. It became the first domestic bank to do business in Pohnpei in 1989 and is now searching for office sites in the other states. In its short history the bank has distinguished itself: over 90 percent of the shareholdings are owned locally, its high loan recovery, which helps dispel as myth the notion that the island are high risk areas for commercial loan repayment.

All three banks offer saving and checking accounts, time certificates of deposit, and commercial and consumer loans. Additionally, they offer personal and business services such as letters of credit, documentary collections, sight acceptance drafts, and international fund transfer. Each insures deposits through the Federal Deposit Insurance Corporation (FDIC). Interest rates on regular saving accounts vary from 5 percent at the Bank of the FSM. Time certificates earn roughly 7 percent, depending on market rates. The FSM usury law sets a ceiling of

15 percent on all loans, with commercial loans generally obtained at 2 percent above the US prime interest rate. Comparisons of bank deposits and loan activity between banks can be made using Table 8.

As noted in the development plan, promoting growth and development by accumulating local capital through domestic savings must be encouraged. Until recently much of these saving have been lost to the local economy as the foreign commercial banks have tended to transfer funds to the continental United States, Hawaii, Guam, or elsewhere, where the climate is perceived to be less risky.

Lending operations of the foreign banks are often criticized that they are not particularly favorable to development of the local economy. These criticisms focus primarily on the high lending level to ventures which finance import merchandise i.e. wholesale and retail operations and the high level of ineligibility of local consumers for loan facilities. The vast majority are ineligible for a commercial bank loan. And third, a high percentage of those consumer loans made are also used to purchase imported items.

Table 8 Deposits and Loans at Commercial Banks in FSM, July 1990 (\$ millions)

POHNPEI Sectors	1985			1990		
	Number	Amount	% Total	Number	Amount	% Total
Commercial	9	341.9	31	16	542.4	10
Industry	3	60.0	5	18	979.6	19
Agriculture	18	167.0	5	90	998.8	19
Fishery	6	65.9	6	9	972.4	10
Real Estate	4	485.6	43	15	542.4	10
Tourism	-	-	-	15	1,201.9	23
	40	1,120.4	100	163	5,237.5	100
FSM		2,791.9			11,294.7	

Nevertheless, a recent FSM Congress resolution directs commercial banks to maintain loan/deposit ratios at 50 percent.

2.4.1 Federated States of Micronesia Development Bank (FSMDB)

The FSMDB was chartered by the FSM Congress in 1980 and began operations in 1981. The bank has branches in all the FSM states and is headquartered in Kolonia, Pohnpei. Its purpose is to mobilize development capital from internal and external deposits, loans and grants from private and public sources, and funds from foundations and international development banks. As any development bank its major objective is to foster loan activity that will promote economic growth. As such, it assumes risks that commercial banks will not, particularly those associated with longterm development projects.

The bank is a government supported institution and receives both operating capital and loan funds from the FSM national and state governments. Loans are concessionary, at below market cost of money, and the interest rate is fixed by law at a maximum of 5 percent.

With total assets in excess of \$25.4 million (March 31, 1990), the development bank represents the most effective mechanism for providing needed development capital in the agriculture, fishing, manufacturing, and tourism sectors. A comparison of 1985 and 1990 lending activity (Table 5.12) reveals considerable growth: from 40 to 163 loans for an increase from \$1.1 million to \$5.2 million dollars loaned. Sectoral emphasis has shifted from real estate and commercial to industry, aquaculture, and fisheries. Total dollars loaned FSM-wide has increased nearly 4 fold from \$2.8 million in 1985 to \$11.3 million 1990.

The bank has a regular lending program and several special lending programs. The regular program is funded from the Economic Development Loan Fund (EDLF) and by the Congress of the FSM. There is at least one special lending program for each state.

Table 9 Pohnpei and FSM Development Bank Lending, 1985, 1990 (\$ 000s)

POHNPEI Sectors	1985			1990		
	Number	Amount	% Total	Number	Amount	% Total
Commercial	9	341.9	31	16	542.4	10
Industry	3	60.0	5	18	979.6	19
Agriculture	18	167.0	5	90	998.8	19
Fishery	6	65.9	6	9	972.4	10
Real Estate	4	485.6	43	15	542.4	10
Tourism	-	-	-	15	1,201.9	23
	40	1,120.4	100	163	5,237.5	100
FSM		2,791.9			11,294.7	

2.4.2 Investment Development Fund (IDF)

An early version of the Compact of Free Association included tax and trade provisions that conceivably had greater potential for stimulating economic growth than the provisions that remained in the final version of the treaty. In exchange for dropping those provisions, the US government agreed to pay \$20 million dollars in two installments to an investment development fund, which was established as a business development loan program for business proposals that show a linkage with the US economy such as a US business partner, purchase of materials or equipment from a US firm, or hire of management or other special services from a US company. The first year \$12 million dollar payment has been received and deposited with the development bank. The second year \$8 million dollar payment has been received but not yet deposited with the bank.

The IDF program is subdivided into a FSM-wide program for the private sector (Private Sector Reserve Account) and individual programs for each state (State Sub-Accounts). The minimum that can be borrowed from the Private Sector Reserve Account is \$500,000; the minimum from the state accounts is \$250,000. Interest rates can range from zero to a maximum of 5 percent. Business people and entrepreneurs may apply for loans from either a state program or the nation-wide program. Of the \$12 million, \$2 million goes to the Private Sector Reserve. Pohnpei and Chuuk's state accounts are \$3 million each. Yap and Kosrae's state accounts are \$2 million each.

2.4.3 Loan Guarantee, Co-Financing, and Equity-Financing

The bank has recently begun guaranteeing loans made by commercial banks to private borrowers. In 1989 it guaranteed \$298,650 worth of loans: \$243,090 for commercial real estate and services, primarily rental cars. The development bank is authorized to co-finance development projects with a commercial bank as partner, however, it has not entered into such an agreement as yet. Equity-financing is also permitted by bank regulations.

2.4.4 Pacific Islands Development Bank

The Pacific Islands Development Bank (PIDB) is still in the organizing stage and awaits further action by the Association of Pacific Island Legislatures (APIL). The FSM has announced its intention to participate and has paid \$100,000 of the 1 million membership fee; \$250,000 is due with \$650,000 to be paid as a final payment. Government sees PIDB as another side of opportunity for economic development funding and other assistance from Japan, Australia the US, and other expected large donors.

2.4.5 Credit Unions and Cooperatives

Two agencies exist for financing home loans. The FMHA (US Department of Agriculture) loans are a continuing US federal programs assistance provided by the Compact of Free Association. From 1985 to 1988 FMHA had approved 1,911 home improvement and home construction loans totalling over \$5.0 million.

2.5 Commerce and Industry Sector

The general sectoral objectives of the commerce and industrial sector encompasses the following:-

- (i) to create a favorable business environment for the operation and growth of existing business establishments, strengthening the role of the private sector in the overall planning of future development of the economy, providing policy direction and establishing an effective administrative mechanism for the identification and, wherever possible, the resolution of private sector business problems and concerns; and

- (ii) to encourage and actively promote local and foreign investment in resource-based and appropriate non resource based industry and business, that is in agriculture, fisheries, construction and tourism and to strengthen efforts to promote interstate and external trade.

In addition to the sectoral objectives the principle objectives of the Commerce and Industrial Sector are:-

- (i) to support, strengthen and where necessary, assist in re-establishing the Chambers of Commerce of a similar appropriate private sector body in each state and to formalize a regular dialogue between the private sector and the state government;
- (ii) in co-operation with the private sector's representative body to re-design and strengthen state government business advisory services and to formulate, finance and implement a regular program of business training courses;
- (iii) in co-operation with the appropriate state and national departments as well as the private sector, to review all investment incentives and to further amend the appropriate legislation on company taxation, import tariffs and foreign investment;
- (iv) in co-operation with the relevant state departments and the private sector, to design and institute vocational training programs oriented towards the needs of industry; and
- (v) to review the regulatory framework for industrial development including relevant laws protecting the environment and consumer interest.

2.5.1 Current Situation

The commercial and industrial sectors of all the states primarily consist of small family businesses. These are complemented by a few large public companies, a limited number of commercial banks and insurance companies and cooperatives and credit unions.

Family-based businesses in each state have successfully developed a wide range of commercial (import/export, wholesale and retail) and service sector enterprises (car rental, taxis, restaurants, repair and maintenance, hotels, and so on). Each state has a few local construction firms but with few exceptions, the private sector has largely not embarked on industrial projects. Noticeable exceptions are pepper processing and button manufacture in Pohnpei, textile manufacture in Yap and coconut oil and soap manufacture in both chuuk and Pohnpei.

Businesses returned a total of over \$3.3 million in tax revenue from the business gross receipts tax in fiscal 1988. This amounted to approximately one quarter of total government tax revenue and at a tax rate of 3 percent this implies a total level of turnover of just over \$100 million for the same business.

The nation has preferential access to the USA market and through SPARTECA, a regional trade agreement, to the markets of Australia and New Zealand. The adjacent markets of Japan, the ASEAN countries and the coastal state of the USA are fast growing and offer important opportunities for the country's exports. However, with the exception of some marine products in certain years, there has been almost no growth in the country's exports in the 1980s. Trade between the states is also minimal.

The Divisions of Commerce and Industry in the Departments of Resources and Development, Conservation and Development and Conservation and Resource Surveillance of the state and national governments are responsible for supporting the development of commerce and industry. Each state has established research, advisory and extension services to assist the private sector in identifying potential businesses, markets, and joint venture partners, to appraise potential investments to obtain loans.

Table 10 Distribution of Commercial Entities By State as of March 1990

Industry	Pohnpei	Chuuk	Yap	Kosrae	FSM Total
Corporations	150	160	24	4	338
Coops	6	159	2	4	171
Credit Unions	5	27	4	1	37
Commercial Banks	3	2	2		10
Insurance Companies	3	1	1	0	3

Source: Office of FSM Registrar of Corporations

2.5.2 Problems and Issues

In each state the sector is dominated by retail and wholesale trading and other service operations which make only a limited contribution to the economy in terms of value-added domestic production, employment, incomes, tax revenues and trade. Most domestic private sector investment has so far tended to be lower risk, shorter term and a replication of prior proven ventures. Private sector development has therefore contributed little to long term economic development and the establishment of the industrial base that will generate further, linked and induced development. However, new investments are planned for large scale developments which could initiate the development of an industrial base.

Trade between the states is minimal but is greatly needed; not only as a component of economic development but also to strengthen national co-operation and integration and integration.

Inter-state trade however faces intense competition from imported goods. Imported food and beverages in particular are well founded on a heavy expenditure on international promotion and advertising and some of these products, especially agricultural products, have benefitted from developed country government subsidies.

With very few exceptions, commercial and industrial development has so far lagged well behind expectations and the commercial and industrial sectors of each state remain largely undeveloped. Only a few of the development projects planned under the First National development Plan have been implemented. Moreover, a number of government funded industrial projects such as coconut oil and soap production, and a slaughter house, are heavily subsidized and could not continue in operation without the subsidies. Still others, including a feed mill and a fish processing plant, are no longer in operation.

The commercial and industrial sector does however have considerable potential to contribute to economic development. Adjacent markets, the natural resources of the country, a favorable climate, well developed international transport and telecommunications, the absence of competition in industrial operations and the potential for some import substitution favor commercial and industrial development. The country's natural resources can support primary produce processing and preferential access to major overseas markets can support further manufacturing.

Whether the business enterprise requires land, labor, and, or capital, the businessmen is currently faced with excessive obstacles. The domestic market is relatively small, the country is distant from sources of supply and overseas markets, infrastructure is poorly developed, the labor force commonly does not have the skills demanded by modern industry and local wage levels are comparatively high.

The economy is also dominated by the government sector which continues to receive substantial assistance from overseas. This encourages the perpetuation and the expansion of the public sector, especially where the emerging private sector could operate new entities facilities.

2.5.2.1 Land

The laws governing the ownership and use of land are complex and original title can be difficult to prove. While this may protect customary interests such a policy greatly restricts the development of an efficient market for the transfer and optimal use of land and this in turn constrains private sector development. Title of substantial areas of land in all states have not been surveyed which further exacerbates the identification of titles. Foreign investors are permitted to lease land and recent initiatives by one of the commercial banks enabled the utilization of lease land as collateral. In the event of default, this can be turned into a lease which can be traded.

Respective state governments could greatly assist in easing the uncertainties over private land tenure. In some states land needs to be surveyed and further development in all states could benefit from land use/structure planning.

2.5.2.2 Labor

There are few opportunities for vocational training in the nation and the work force therefore lacks many of the basic skills required by modern commerce and industry. Clerical and technical skills are lacking and the populace has little understanding of business and the fundamentals of book-keeping, product pricing, stock control, project appraisal, general management and marketing.

The lack of vocational training is all the more a problem given the increasing number of unemployed youths in all states. An unfortunate corollary of the growing number of unemployed youth in the nation is the increasing incidence of overseas nationals who are employed in jobs such as carpentry, plumbing, administration, secretarial, engine and car repair.

2.5.2.3 Capital

The present tax regime, established by the TTPI administration does little to support the government's goals to develop manufacturing and industry. Although the existing tax system is relatively easy to administer, it favors a commerce and service dominated economy and is a disincentive to businesses which are more concerned with manufacturing and production. The Ministry of Finance is considering therefore legislation to change the nation's tax system to include corporate taxation.

While initial tax breaks or holidays are certainly not required by all domestic and foreign investors, they are needed and justifiable for some types of business that are either small scale or have a long gestation period. Tax breaks are also preferred and in some cases expected by some overseas investors. Initial, establishment tax breaks are also commonly provided by many other countries in the Pacific which may be considered as alternate locations for foreign investment and are interpreted as a sign of a country's commitment to foreign investment. Further review of the fiscal system should be undertaken.

The potential for developing new industries and stimulating inter-state trade by adopting preferential import tariffs, licenses and taxes should be investigated.

The shortage of development finance constrains commercial and industrial development. The FSMDB restrictions on lending and imperfect operational and lending procedures further constrain development and the requirements for historical and environmental clearances, building permits and departmental approval are too cumbersome and time consuming.

Major private investment proposals are severely hampered by the lack of reliable infrastructure in the form of power, water, sanitation, roads and other transportation facilities in addition to the difficulty of obtaining land.

Foreign investment is needed in order to complement the activities of the domestic private sector, supplementing domestic private sector finances, skills and technology, especially in the new areas of industrial development. However there has been little actual foreign investment in the states and this could be attributed, inter-alia, to the current foreign investment laws and procedures will more likely attract the inappropriate type of foreign investment; that is short term venture capitalists who are not interested in the longer term development of the country.

2.5.2.4 Institutional

The private sector, supplemented by foreign investment, rather than the public sector, is best suited to undertaking risky ventures and investing in productive enterprises. Governments cannot operate such entities as efficiently as the private sector and under government ownership and control such entities tend to contribute less to economic growth and development. However, most large scale industrial developments in the private sector has been initiated by the National and State governments. Initiating privatization of these ventures has been difficult due to a host of obstacles and therefore the transfers of the ventures to the private sector have been slow.

Depending on the state, various bureaucratic procedures to obtain a license to trade or to establish an industrial venture are tedious and time consuming. It is an area the commercial sector is comparatively well established and does not need the attention and assistance of other less developed sectors and will therefore be given lower priority in terms of future assistance. Manufacturing and industry on the other hand generally involve more risk and are more expansive undertakings which require greater assistance from government.

The First National Development Plan and individual state development plans tended to overemphasize the initiation of new industrial developments. More attention will therefore be paid to the need to respond to the problems and requirements of the private sector and to making sure that the state advisory services either retain or can gain access to specific business advice.

Depending on the state, in addition to business licenses, potential investors have to obtain tax clearances, work and skill permits, certificates of freedom from communicable diseases and further medical clearance on entry in addition to obtaining the land, finance and technology for production before they can undertake any investment in the nation. Foreign investment proposals also have to be approved by both state and national

governments. The potential investor is meanwhile under criminal, legal and financial investigation. Much of this process is necessary but it takes much time and effort and undoubtedly discourages potential investors.

The Government Divisions of Commerce and Industry generally do not have the trained and experienced research, advisory and extension staff they require. There is need in all states to strengthen there business advisory, analytical and appraisal role of there divisions of commerce and industry of the department of Resources and development.

The private sector is also inadequately organized in most states. There is no active Chamber of Commerce in either Kosrae or Yap. The Chamber is less active in Pohnpei than it used to be and the Chamber has just recently become more active in Chuuk. A strong Chamber of Commerce, or some other form of private sector organized body, in each state would facilitate regular dialogue between the private sector and government and therefore improve sectoral planning and assistance.

2.5.3 POLICIES AND STRATEGIES

2.5.3.1 Government Policies

With the exception of Kosrae, and Pohnpei - in the case of the Economic Development Authority - the policy of the states is to support private sector led economic development. It is also generally accepted in all the states that the government should restrict its activities to facilitating commercial and industrial development, leaving the private sector to undertake the development. This policy has not been consistently applied in the past as all state governments either own or operate buses, ships, public utilities, fishing companies and so on and the private sector is complaining that government is unnecessarily competing with the private sector.

2.5.3.2 Joint venture financing

Many private ventures are likely to require a level of financing that is far too great for private individuals to finance based on their own collateral. Joint ventures with foreign investors and, or with state governments may therefore be encourages with finance made available through the FSMDB. State governments, in co-operation with appropriate departments and agencies will develop a limited portfolio for government identified and private sector supported investments. Governments will restrain their interest in such ventures to equity only and the entity will be fully commercially managed with no interference from government.

No program will proceed without a private sector partner and an FSMDB or-state government official will be designated as the officer responsible to oversee progress in implementation. Investment identification, preparation and negotiation will also be assisted by external, independent, experienced business advisers.

2.5.3.3 Government contracts and privatization

State and national governments will provide much more direct assistance to the private sector in the second National Development Plan in the form of the direct purchase or the contracting of services and products from the private sector. At the present stage of commercial and industrial development this particularly applies to consumer goods and construction. Governments will thereby assist in creating new domestic markets and in establishing new industries to serve these markets. Many government services and purchases could be privatized or contracted to the private sector including catering, consultancy, furniture manufacture, printing, security and training. State governments will produce service and contract specific plans of action for privatization and commercialization in the next plan period.

2.5.3.4 Infant industry development

State and national governments will examine the possibility of direct support and subsidization of a few, selected infant industries. Government support could include protective import tariffs or other import controls, controlled domestic pricing, preferential development finance, tax holidays and other specialist assistance in product promotion, advertising and export. Sectors that might be considered for an initial program of assistance could include the food and beverage industries.

2.5.3.5 Complementary public infrastructure

Some larger scale private developers, may be willing to invest in project specific infrastructure such as access roads, power, water and sanitation and this additional investment should be encouraged. Most potential private investments are however unlikely to be able to justify the additional cost of infrastructure, especially at the larger scale of commerce and industry which the states have yet to experience.

Land is not readily available for industrial development and all state governments have therefore set aside land designated for industrial development in the form of "industrial parks" or small scale industrial estates. Roads, electricity, water and other essential services can be more readily and cost-effectively directed to these areas.

SECTION III

3.0 OVERVIEW - SMALL SCALE INDUSTRY PROGRAMME

3.1 Background of Programme

It has been long been recognized that the Growth of the economy of the Federated State of Micronesia cannot solely rely on agricultural and marine pursuits, or local-based primary production. Therefore, diversification of the economy through industrialization was chosen as an important economic option. Development of a commerce and a industrial base is considered vital in the pursuit of developing employment opportunities, to raise level of production and to generate the private sector income and tax base that will support the future government administration and the provision of welfare services.

The development of an industry base to stimulate commercial activities in the private sector is considered as a vital instrument in the generation of tax and other government revenue to offset the steady downs of funds from the compact Free Association during the treaty duration. It is also expected to be one of the principal revenue generator to compensate, and replenish, government revenue when the Compact Free Association fund terminates in ten years time.

The formulation of the Small Scale Industry Programme commenced in 1988 and was recognized by both State and National governments as an important tool in providing the necessary catalytical impetus in the development of an industry base in the economy. The Small Scale Industry Development Programme was formulated with the following general programme objectives:-

- (i) to create a favorable business environment for the operation and growth of existing business establishments, strengthening the role of the private sector in the overall planning of future development of the economy, providing policy direction and establishing an effective administration mechanism for the identification and, wherever possible, the resolution of private sector business problems and concerns; and
- (ii) to encourage and actively promote local and foreign investment in resource-based and appropriate non-resource based industry and business, that is in agriculture, fisheries, construction and tourism and to strengthen efforts to promote interstate and external trade.

The objectives of the Programme were similar to the National Development sectoral objectives for the commerce and industry sector. The programme did not have specific detailed objectives. The programme was formulated to assist in the development process of an industry base by providing much needed technical assistance intervention. The type of assistance which has been formulated to date could be categorized as follows:-

(ii) Specific Industry Training.

The formulation and implementation of the Small Scale Industry Programme is chronicled as follows:-

<u>Activities</u>	<u>Agencies</u>	<u>Date</u>
Preliminary Discussion	UNDI/UNIDO and Government counterpart	November 1988
Programme Identification	UNDP Mission	January 1989
Prepare Country Programme	Office of Planning	February 1989
F.S.M. Government Request	External Affairs Office of Planning and Statistic and Department of Resource and Development	March 1989
Preparation of Draft Programme document	U.N.I.D.O	May 1989
Approval of Project Document	F.S.M. Government, UNDP	June 1989
Signing of Project Document	External Affairs, UNDP and UNIDO	July 1989
Remittance of Programme funds to UNDP	Office of Planning and Statistics, Budget	December 1989

3.1.1 Management of the Programme

The Small Scale Industry Programme is administered jointly by the Office of Planning and Statistics (OPS) and the Department of Resources and Development (R&D) of the National government. These two national agencies are responsible for coordinating the appraisal and implementation of projects sponsored under the programme. Recommendations from these two agencies are formally submitted, after the approval process, to the External Affairs for processing and transmission to the United National Industrial Development Organization (U.N.I.D.O.).

State departments and other agencies which are involved in the development of small scale industries are also actively involved in the process of identification projects, for the programme, which are processed within the state and channelled to the administering agencies. The national governments' Office of Planning and Statistics is responsible for national development policy and planning.

The national governments' Department of Resources and Development coordinates the development strategies and program activities of the country. The Department of Resource and Development includes the divisions of agriculture, marine resources, commerce and industry, tourism, foreign investment, labor and energy. It serves both development and regulatory roles. In its development role it gives guidance and advice to state departments of resources and development, and it organizes and provides information and logistical support services for the private sector. It coordinates efforts across state and national government agencies and also works with foreign nations, aid agencies, and other organisations to attract technical experts and capital funding. In its regulatory role it works to prevent undue development in a particular area by introducing regulatory measures.

In the State level, the principal government departments and agencies which are involve in the programme are as follows:-

<u>State</u>	<u>Department / Agencies</u>
Pohnpei	- Office of Budget, Planning and Statistic - Department of Conservation and Resources Surveillance - Economic Development Authority.
Chuuk	- Office of Budget, Planning and Statistics - Department of Resources and Development
Yap	- Office of Budget, Planning and Statistics - Department of Resources and Development
Kosrae	- Office of Budget, Planning and Statistics - Department of Conservation and Development

The relationship between national and state government offices has varied significantly depending on the particular project in the programme and the National and State priorities placed by these governments on that particular project.

3.2 REVIEW OF THE SMALL SCALE INDUSTRY PROGRAMME

The focus of the review is to evaluate the applicability of the concept of the small scale industry programme, including an assessment of the overall objectives as well as the projects already incorporated under the programme, to ascertain the project commercial viability and its suitability for development by the private sector.

3.2.1 Objectives

The objectives of the small scale industry programme as earlier outlined reflect the broad desired goals for the development of the Commerce and Industry Sector. It covers a wide range of important areas including the creation of a favorable environment for the operation and growth of existing business establishments;

the Commerce and Industry Sector. It covers a wide range of important areas including the creation of a favorable environment for the operation and growth of existing business establishments; the strengthening of the role of the private sector; provision of policy direction; the establishment of an effective administration mechanism; as well as to encourage and actively promote local and foreign investment in resource-based and appropriate non-resource based industry and business; and to strengthen efforts to promote interstate and external trade.

Although the objectives of the programme appear to be ambitious in its broad scope, it does however also indicate the wide number of areas which needs to be addressed if the country were to be successfully involved in small scale industry programme.

Given the financial and human resources constraints, there must also be a clear focus on the priorities, including a clear definition of shorter term objectives, and where possible with quantifiable goals. In other words, in addition to the broad national objectives, there should be scope to also include specific objectives to encompass the diverse interest and priorities of the four individual states.

It is proposed that the overall objectives of the programme be maintained, but focus be given to the following specific areas:

- (a) Equitable inter-regional distribution of assistance, to foster a balanced regional industrial development in terms of provision of goods and services and distribution of income;
- (b) Establish viable industries based on local resources, both material and human, as to optimize the domestic valued added of the resources;
- (c) To provide assistance to develop/expand industries which are considered vital in its contribution to the balance of payments and gross domestic product of the economy. The industries should include export oriented industries as well as import substitution industries;
- (d) Encourage and motivate entrepreneurship in the private sector thereby accelerating the growth of the sector to boost:- output, income and foreign exchange; employment and foreign investment;
- (e) Provision of assistance to projects which will favor local entrepreneurship participation in foreign investment;
- (f) Provision of assistance to projects which stimulate new technological development.

3.2.2 The Programme/Projects

3.2.2.1 Projects

As noted in the introduction section, seven projects have been identified under the programme as follows:-

<u>Project Description</u>	<u>State</u>
1. Fruit Juice Processing	Kosrae
2. Fruit Juice Processing	Yap
3. Coconut Lumber Utilization	Chuuk
4. Coconut Lumber Utilization	Kosrae
5. Food Processing Demonstration Workshop	Chuuk
6. Laterite Clay brick and Tiles	Yap
7. Salt Drying Fish	Pohnpei

This section will review the aforementioned projects. The original project proposals for the seven projects are detailed in Annex B of this document.

1. Fruit Juice Processing Kosrae

The project involves the establishment of a tropical fruit juice processing plant in the State of Kosrae. The Small Industry programme is providing technical assistance to undertake a feasibility study for a tropical fruit processing venture in Kosrae.

The idea of setting up the tropical fruit juice processing business project has been under consideration by the Kosrae State for a number of years.

The background to this project reveal the following pertinent issues:

- (a) The State of Kosrae seem to have a relatively large acreage of citrus and current and future production of citrus could indicate availability of a relatively large volume of raw material i.e. citrus fruits.
- (b) Examination of the existing fruit juice and cordial market in the state reveal that all current consumption are imported into the State.
- (c) Supply of fresh fruit production during their season seem to far exceed the demand for fresh citrus fruit, consequently there is relatively large volume of wastage.

Current Status

The project profile for technical assistance was prepared by the Department of Conservation and Development with assistance from its national counterpart. The project profile has been filed by the State department pending a review of the recent investigation of citrus processing undertaken by a UNDP Regional Project

(RAS/86/128). However the initial delay had been caused by routine administrative delays.

Project Assessment

Although the technical assistance intervention under the Small Scale Industry Programme has not been implemented, a feasibility study of the project was undertaken under a different UN programme. Discussions with the state government offices suggested that there seemed to have been an overlap in the administrative process and the project was processed to be investigated by both the UNDP Regional Project (RAS/86/128) and the Small Scale Industry Programme.

In reviewing the texts of reference of the study which had been sponsored by the UNDP Regional Project, it could be suggested that the mandate for this investigation coincided with the proposed intervention to be sourced from the Small Scale Industry Programme.

The investigation by the UNDP Region Project titled "Federated States of Micronesia - An Investigation into the feasibility of Processing Citrus fruits in Kosrae" recommended the following:

- (a) The main objective of this study was to ascertain whether it is worthwhile and economic to process citrus fruits in Kosrae and if appropriated, to advise on the commencement of processing operations.
- (b) The conclusion reached from the Study is that it is not timely nor appropriate to undertake any substantial investment in citrus processing at this point in time.
- (c) The reasons that militate against processing include:
 - (i) The lack of sufficient fruit supply to justify it;
 - (ii) The growers would receive more money by selling fresh fruits at current prices than they would receive from a processor required to sustain a commercially viable operation;
 - (iii) There would be no security of supply of fresh fruits for processing if growers are offered prices lower than they obtain now. The recent cessation of copra production that resulted from declining copra prices in Kosrae, and the inability of the new Lelu fish factory to pay prices high enough to secure supplies of fish for processing, strongly support this argument;
 - (iv) The risks are far too high to expect substantial investment in an industry that is solely planted with sour orange rootstock which is highly

susceptible to the Tristezo virus, a disease that decimated the Brazilian citrus industry in the 1950's;

(v) Only Valencia orange and Kosrae lime qualify as feedstocks for juice processing and of these, only orange juice has a well established market. At this stage the best outlet for limes continues to be the fresh fruit market. Both the sweet orange and the tangerine have too little juice to be considered for processing.

(e) Citrus growers in Kosrae enjoy attractive prices for their fresh fruits. The investment and effort they expend in growing and husbanding citrus is minimal, as they utilize only family labor, the cash outgoings in citrus farming are also minimal.

(f) If citrus processing is to be pursued seriously in Kosrae then there must first be a change in the attitude towards farming away from the present low effort, low investment, high price/return philosophy to one of increased effort, investment and knowledge which will undoubtedly lead to increased yields, and the likelihood of lower prices by considerably enhanced farm returns. Without this change in attitude one can expect the same lack of response from this Report as followed the 1975 FAO Report.

The risks faced by the industry from Tristeze disease must be minimized by introducing rootstocks resistant to the disease and concomitantly decreasing the industry's dependence on the sour orange rootstock.

There is a need to increase the yields of both fresh fruit and juice by improving nutrition and the environment where the citrus trees grow. A series of soil and foliar leaf analysis of the commercial areas of citrus product will best define these needs and at least cost. There is no need for another soil survey to determine the nutrient status of the soils and has been suggested.

(g) In the meantime, Kosrae should continue to market its citrus as fresh fruit on the local and overseas markets. In this regard, the quarantine facilities scheduled for Kosrae should be installed urgently as the treatment (methyl bromide) is a prerequisite for fresh citrus fruits from the FSM to enter Guam and other markets not presently open to them.

There is considerable scope to improve the quality and yield of fresh citrus fruits particularly the sweet orange and the tangerine and such action is recommended. To this end, it is proposed that the terms of reference of the Technical Expert on citrus

being requested of the Israeli Government be recast to emphasize the need to improve the quality of citrus planting materials by introducing rootstocks resistant to Tristeze and carefully selecting improved local and imported varieties of sweet oranges and tangerines for use as scion wood for grating.

- (h) At current levels of production, coupled with more active and aggressive marketing one can expect the present high prices for fresh citrus to continue for some time but sooner or later, as production increases these prices will fall and the growers will have to decide whether to:
- (i) sell less than they produce in order to sustain the current high prices and be prepared to waste the surplus fruit;
 - (ii) accept lower average prices for their total output but have no wasted surplus, or
 - (iii) sell fresh fruit at remunerative prices and divert to processing the surplus fruit that would otherwise be sold at unreasonably low price, or be wasted.
- (i) There is a new unused factory that could be adapted with minimum cost to process citrus juice and to make marmalade and sweet candied citrus peel, a juicing operation at the Fish Factory at Lelu has been evacuated. The proposed process is basic and provides a means to use surplus fruits that might otherwise be wasted and also the opportunity to monitor improvements in fruit quality, and experience quality control, product development and sales. Unlike fresh citrus fruits, Kosraen orange has access to markets such as Guam that have not been open to markets because of the fruit fly problem.

However, it must be emphasized that the focus of this Report is to first improve the quality and yield of fruits for both the fresh fruit market and for processing and that processing should not be looked at as an end in itself but as something that may evolve at a later date after the said field improvements have been effected and evaluated.

- (j) At current prices, Valencia fresh fruit juicing operation at the Fish Factory would not be profitable. However, a reduction in the price of orange feedstocks from 25 cents/lb to 12 cents/lb should enable the operation to cover its variable costs in full and to make a small contribution towards meeting some of the fixed costs that would have to be paid whether the factory was used or not; the operation would still not be profitable.

- (k) It is relevant to note that the Cook Islands and Fiji separately tried to grow and process Valencia oranges for juice on a commercial basis. Despite having access to the New Zealand market for their product both ventures were unable to sustain profitability and as a result had to shut down their operations. Quality of juice aside, the Cook Island venture which produced single strength "Raro" orange juice faltered for a number of reasons but an important one was its inability to pay its small holders growers prices high enough to secure fruit supplies and at the same time keep its end-product prices competitive in the market place. The Fiji venture for its part produced bulk concentrated (65 degrees brix) orange juice from fruits grown on its own estate. The main reasons it faltered was that it could not achieve profitability at the price obtained for its end-product which were determined by orange concentrate mainly imported from Brazil and Florida.

Implementation Plans

Since the project has been investigated under the UNDP Regional Programme, the state has requested that this project be omitted from the Small Scale Industry Programme. The department of Conservation and Development is currently reviewing the feasibility study and will initiate follow-up work plan on the project, within the framework suggested by the study.

2. Fruit Juice Processing Yap

The project involves the provision of technical assistance, under the Small Scale Industry Programme, to undertake a pre-feasibility study for a Tropical Fruit Juice processing venture in the State of Yap.

The background to this project reveal the following pertinent issues:

- (a) The State of Yap seem to have a relatively large acreage of citrus and current and future production of citrus could indicate availability of a relatively large volume of raw material i.e. citrus fruits.
- (b) Examination of the existing fruit juice and cordial market in the state reveal that all current consumption are imported into the State.
- (c) Supply of fresh fruit production during their season seem to far exceed the demand for fresh citrus fruit, consequently there is relatively large volume of wastage.

Current Status

A project proposal for technical assistance for the has been formulated with assistance from the Department of Resources and Development of the national government. cursory investigation of citrus production indicates that it may not be appropriate at this stage to invest in citrus processing production. Initial implementation delays were caused by routine administrative procedures.

Project Assessment

A brief survey of the citrus acreage and production reveal the following trends with regards to the current level as well as projected levels of citrus production for the Yap State. The production levels appear to be low, which had been exacerbated by a recent typhoon.

Yap State Government Current and Projected Citrus Production

Description	Acres	No. of Trees	Av. annual Prod.	Annual Current	Prod. 1994	Lbs 1996
Lime/Orange Tangerine Producing Trees	6	837	150	125,550	125,550	125,550
Immature Trees	6	1942	150	-	291,300	291,300
Seedlings	8	1000	150	-	-	150,000
	20	3779		125,550	416,850	566,850

An assessment of agricultural citrus farming in Yap reveal the following characteristics:

- (i) Citrus plantations are characterized with low yield and productivity;
- (ii) Investment in the establishment and cultivation is virtually non-existent;
- (iii) Prevalent practice of utilizing family labor which usually results in low labor productivity;
- (iv) Limited knowledge of the details of proper methods of cultivation of citrus;

- (v) The existing citrus stock is plagued by insect problems such as suitamol or spanish white fly which has also contributed to low productivity of existing stocks.
- (vi) Discussion with the agricultural extension service of the state government reveals that the citrus stock could also be infected with the Tristezo virus.

The Agriculture office under the state department of Resources and Development has established a very small laboratory with a hand operated juice extraction plant. The objective of this project was the gauge the quality of the juice and to experiment with different types of processing and packaging of processed citrus juice. The results were as follows:

- (i) The throughput of this small hand operated plant has been more than sufficient to meet the supply of fresh fruits which could be purchased for processing.
- (ii) The demand for locally processed juice is limited to the hospitality industry (2 hotels).

The proposed tropical fruit juice processing venture is envisaged to substitute for imported juice and cordial soft drinks, therefore the size of the present local market for imported soft drinks beverage is of primary importance. It is estimated that in 1988 total beverage imports totalled in excess of \$1.28 million compared to \$564,300 in 1986 or a 127% increase in total demand. Soft drink beverage imports increased from \$141,075 to \$302,500 or an increase of 114% for the same period.

The level of imported beverage represents total demand since there are currently no local producer of processed fruits or other forms of soft drinks in the State.

A number of factors are likely to affect demand for locally produced tropical fruit juice/cordial beverages. These include the following:

- (i) continuous supply of locally produced beverages to cater for the level of demand;
- (ii) Consistent quality control of locally produced beverages;
- (iii) Shelf price of locally produced as compared to imported beverages;
- (iv) A survey of the market price of fresh citrus fruits register a range of prices from 20 cents/lb to 25 cents/lb.

Implementation Plans

The above-mentioned investigation reveal a similar framework to the project environment in the state of Kosrae, in which a study of the feasibility of a citrus juice processing plant had been undertaken in February 1991 with the following conclusions:

- (a) That the processing of citrus fruits to fruit juice may not be viable at this stage due to:
- (i) Very low production level of fresh fruits which would support a full time operation of a processing plant.
 - (ii) There are inherent investment risk in an industry where the production of the raw material, i.e. citrus stock, is susceptible to various diseases.
 - (iii) There is a strong possibility that the market price of fresh fruit will exceed the economic purchase price of the proposed plant. There would be no security of supply of fresh fruits for processing if growers are offered prices lower than that obtained in the fresh fruits market.
 - (iv) Soft drinks beverage is imported, and represents only 23% (\$302,000 in 1986) of total beverage imported. This means that locally produced fruit juices would have to compete with the quality as well as the price of imported fruit juices.
 - (v) The focus of the development of the citrus industry should address primarily the development of better establishment and cultivation techniques and the introduction of a resistant strain of citrus stock. The objective of the refocussing is to improve the quality and yield of fresh citrus fruits.

3. & 4. Coconut Lumber Utilization States

Chuuk and Kosrae

The project involves the establishment of coconut lumber sawmill plant and a coconut joinery workshop. The Small Scale Industries Programme is to provide technical assistance to undertake a feasibility study on the techno-economic viability of:-

- Coconut lumber mill plant
- Coconut Wood Joinery Workshop

The production of coconut by products is one of the principal economic Industry in the economy.

The state of Kosrae is the second most densely forested area with about 17,500 acre of forest land. There is therefore a high priority in developing this resource.

The background to this review reveal the following key factors:-

(a) A review of the available data has indicated that three studies in the state have references to the production and utilization of coconut wood. Most pertinent of these studies is a report titled - Technical Assistance to the Wood Processing Industries of the Federated State of Micronesia (UNIDO Project DP/RAS/86/075). The main key factors from this report are as follows:

(i) There is good potential in the development of coconut wood for joinery and construction applications.

(ii) Preliminary Analysis of coconut utilization reveals that it is technically and economically feasible to process coconut wood into a wide range of construction applications.

However, there is a need for detailed investigation of coconut stock, age distribution and productivity as well as detailed investigation of the technical and economic aspects of coconut processing and utilization.

(b) FSM imports a substantial amount of timber which totalled approximately 12,644 cubic metres in 1989 at a cost of \$2,086,327.

Current Status

The project profile for technical assistance was prepared by the state's department of Resource and Development with assistance from its national counterpart. The project is currently under review by the state government.

Delays in the implementation of the proposal has been caused primarily by the fact that the mandate of the existing proposal duplicates the study undertaken by the previous UNIDO study (UNIDO Project DP/RAS/075), as well as routine administrative delays in processing of proposal for transmission to the national government.

Project Assessment

Domestic production of timber is currently limited, to a large extent, to two, operated saw mills on the state, of Pohnpei. The production output of these two mills are confined mainly to rough sawn timber. Production levels for these two mills could not be

accurately gauged but an estimation of the production level for 1990 is as follows:

<u>Sawmill</u>	<u>Production</u>
Kitti	1000 m ³
Kolonia	1200 m ³
Total	2200 m³

Importation of timber has steadily increased from \$1,247,874 in 1985 to a high of \$2,086,327 in 1989. The annual average national consumption of imported timber during the five years (1985-1989) was estimated at approximately 9942m³.

Timber Imports to FSM (1985-1989)

	<u>Value</u>				
	1985	1986	1987	1988	1989
Lumber	707,460	910,697	819,098	1,328,256	
1,381,736					
Plywood	536,414	492,910	585,630	732,443	
704,591					
2,086,327	1,247,874	1,403,607	1,404,720	2,060,699	

Lumber Imports to the State of Chuuk for 1989
(Value)

Lumber	57,037
	21,959
	6,712
	6,783
	10,503
Plywood	30,219
	2,662
	5,947
	10,394
	8,216

	84,256
	=====

Importation of furniture into the states has grown steadily in the last four years from \$193,567 in 1986 to \$262,092 in 1989. Local furniture production is minimal with the exception of a relatively sizeable joinery workshop in Kosrae.

Preliminary investigation of local timber forests as an alternative reveal the following:-

- (a) The state of Chuuk has the smallest extent of forest land. The state has very limited resources which could be utilized for timber production.
- (b) The state of Kosrae is the second most densely forested area although much of the resource areas are in the upland in the central mountains making resource extraction not only difficult logistically but also costly.

Within the framework of the projects proposed, and discussions held with the relevant government office, a review of the terms of reference for the technical assistance intervention revealed the following issues:

- (i) There is an apparent need to formulate two assignments for the two distinctive components of the project. i.e. Coconut processing Plant and the Coconut Joinery Workshop.
- (ii) It is evident that a detailed survey of the coconut stock should be undertaken prior to the assessment of the two plants. The work activities of this survey should be expanded in the existing project assignment to comprehend an investigation of the age distribution, productivity and location analysis of the coconut stock.
- (iii) Since the sawmill is envisaged to substitute, to a large extent, for imported and locally produced timber in mainly construction applications, the size of the present, state and national, markets are of primary consideration.

4. The many variables affecting the demand for timber mean that future requirements cannot be predicted with any great precision. However, adapting as a basis for projecting the population growth of the states, the following forecasts can be made:

Forecast Demand for Timber

<u>Year</u>	<u>Cu metres</u>
1985	7562
1987	8513
1989	12644
1991	13155
1993	13686
1995	14239

It is likelihood that the introduction of coconut timber for various other building applications means that it would be plausible to project that average

annual timber consumption will reach 14000 to 15000 m³, within the next five years.

5. The development objective of the project is the utilization of coconut timber sawn from senile coconut palms where it is appropriate to do so. The economics of utilizing the coconut stems for the lumber for exceeds returns on maintaining the coconut palms as a producer of nuts. This analysis is applicable only on the basis that utilization of coconut stem for lumber is strictly limited to senile and senescent coconut palm. (Refer to Annex D - for an analysis of the economics of utilization of senile palm for lumber versus nut production)

Revised Terms of Reference

The following highlights the revised terms of reference for the joint study to be undertaken for coconut lumber utilization project. The revised project profile is contained in Annex C.

A. Coconut wood processing plant

The first component of the technical intervention focus on the establishment of a coconut wood based processing mill. The specific tasks of the work activities of the first component of the intervention is divided into two distinctive phases:-

- Survey of coconut palm stock
- Investigation of the feasibility of establishing the coconut based processing plant.

The work activities of the two phases of the first component of the project are as follows:-

(a) Survey of Coconut palm stock

The proposed survey of coconut palm population, age distribution and productivity will gauge the population of senile and senescent stock which are palms with either declining or very low nut productivity and will provide quantitative evidence on the stock of raw material, i.e. senile and senescent palm tree, for the sawmill plant. Within the context of the earlier study by UNIDO (DP/RAS/86/075) titled "Technical Assistance to the Wood Processing Industries of the Federated States of Micronesia" which indicate that there are good potential for the production and utilization of coconut wood, the proposed project could be viewed as a follow-up activity in the pursuit of the development of the coconut wood industry in these two states.

It is proposed that a review be undertaken of all previous reports and other relevant documents with a view to producing a comprehensive survey report covering:-

- Population of coconut palm stock and location analysis;
- Coconut age distribution and productivity.

(b) Feasibility of establishing a coconut based processing plant.

(i) Review all previous records and other relevant documents with a view to producing, a comprehensive survey report covering:

- Coconut Logs availability and coconut replanting aspects
- Technical processing specification
- Marketing requirements
- Organizational and implementation issues.

(ii) Carry out research as may be necessary to comprehend a map of options on log purchases and coconut replanting programme.

(iii) Consultation with the administering agencies, draw up recommendation on any outstanding issues, with particular reference to:

- controlling the utilization of the coconut stern
- location and design of plant factory
- the specification of processing plant
- transport logistics of log
- details of appropriate corporate and funding structures
- other implementation requirements
- prepare a detailed implementation time table for the plant.

extraction

B. Workshop

The second component of the technical intervention will focus on the establishment of a joinery workshop for the production of coconut based furniture. This component of the study should incorporate, inter-alia, the following:

- Appraise the market requirement including conducting a market survey to determine the nature and level of demand within the two states for locally produced coconut wood furniture.
- Appraise the technical specification of the workshop including detailed specification of the workshop building, wood work equipment etc.
- A detailed process description and a proposed operation plan.
- Prepare an assessment of the organizational and implementation issues.

C. Feasibility Study

Produce a detailed appraisal report identifying the financial and economic implications and benefit of the project. It will also include an analysis of capital funding requirements of future land of profitability and so on.

5. Food Processing Demonstration Workshop Chuuk

The project involve the provision of technical assistance to formulate simple food processing techniques utilizing local food and garden crops. In addition, the proposed technical assistance involves the preparation and presentation of the formulated food processing techniques through a workshop demonstration programme.

The background to this investigation reveals some of these pertinent issues:

- (a) Agricultural development in the states is predominantly subsistence and is characterized by a work variety of subsistence crops. Processing of this resources has been virtually non-existence in all states.
- (b) A review of the available data and documents indicated that a similar demonstration workshop was conducted in the state of Pohnpei in May 1989. The main characteristic of the workshop conducted on Pohnpei could be summarized as follows:

- (i) Demonstration focused principally on four types of products i.e.:-
- banana chips
 - banana sauce
 - coconut jam
 - yam candies
- (ii) The types of processing techniques demonstrated were basic, simple and employed simple locally available technology.
- (iii) Participation in the workshop involved representatives from the rural farming areas and the small business/service community.

Current Status

A project proposal has been formulated by the Department of Resource and Development of the state with assistance from its national counterpart, modelled on the project undertaken on the state of Pohnpei. The project proposal is still under review by the state and has been delayed principally due to administration overlap, in the processing of this project, by the two administration agencies.

Viability:

The project primarily focus on the establishment of very small scale food processing unit and target a group of the population which i.e. housewife etc. normally do not participate in paid employment or in economic activities;

The project involves the transfer of simple basic technology and skills utilizing local raw materials. The usually yields a high success level on skill and technology transfer to the recipients.

The project involves processing of food and garden crop which are normally cultivated on a subsistence basis.

Given the limited level of development of agro-based industries in FSM with the exception of coconut processing by the coconut Development Authority, there is a lot of potential for consideration of introducing simple and very small scale food processing techniques. This will form the basic strategy to initiate development and provide the necessary impetus to this industry.

Terms of Reference:

1. Within the project framework, and discussion held with the relevant government offices in the state of Chuuk (and other states), a review of the terms of reference for the technical assistance intervention revealed the following:
 - (a) The project involves two component. The first component involves an assessment of the food and garden crops and the formulation of simple processing techniques for crop, identified for the project. The second, component involves the presentation through a demonstration workshop of the formulated processing techniques.
 - (b) A review of the project with the relevant agencies in the states of Yap and Kosrae indicated support to explore implementation of the same project in these states.
 - (c) A cursory follow-up on the outcome of the demonstration workshop conducted in the state of Pohnpei revealed that the following areas need to be addressed:
 - The types of food processing techniques demonstrated could be processed in household kitchens and ideally suit very small scale family operated business. Principal operators of the business is the female members of the household
 - It is viewed that although the workshop was a successfully implemented, there is a demand for a follow-up demonstration programme to be conducted on a regular basis
 - A relatively small number of businesses were established initiated by the demonstration workshop. The basic characteristics of these ventures are:
 - (i) small scale family operated businesses
 - (ii) principal operators are female members of the household
 - (iii) Markets for the processed food products are predominantly small general merchandise stores (purchase for re-sale) in towns and villages frequently in close proximity to the location of the processor.

It is evident from the review that a strong local participation in the project is required. It is envisaged that the local input would have equal responsibility in the mandate of the proposed technical assistance intervention.

Local participation in the project will yield the following:

- (i) Identifying crops which are traditionally widely demanded for processing
- (ii) Formulation of practical simple processing techniques corresponding to a degree of traditional cooking input
- (iii) Food processing demonstration programme would be continued on a regular basis, after the termination of the technical assistance intervention
- (iv) Increased local participation will ensure wider support in the implementation viz large group participation, better follow-up services etc.

The local participating agency in the project has been identified as the College of Micronesia. Specifically, the overall responsible department of the college is the Home Economic Department. The Department has a Expanded Food and Nutritional Education Program (EFNEP) which will provide the local input to the project.

The objective of the Expanded food and Nutrition Education Program are to assist low-income families and youth acquire the knowledge, skills, attitudes, and changed behaviors necessary for nutritionally sound diets and to contributed to their personal development and to the improvement of total family and welfare. (Please see Annex D for details on the Home Economic Program and the functions of the Expanded Food and Nutrition Education Program).

Location

Due to interest from the states of Yap and Kosrae, the project location has been extended to cover these 2 states.

Revised Project Document and Terms of Reference:

A revised project document incorporating the Terms of Reference including the specific tasks of the technical assistance intervention, with close supporting assistance from EPNEP is detailed as Annex C.

Review all reports and documents, particularly the technical intervention project in the state Pohnpei and prepare a comprehensive programme covering the activities:

- (a) Discussions with the project administering agencies and the College of Micronesia, for the purpose of reviewing the workshop, conducted in the state of Pohnpei, and other relevant documents.
- (b) Presentation of framework for the assessment of food and garden crops and the work plan to formulate the processing technique. This should be done jointly with EFNEP.
- (c) Visit the three states, and discuss with relevant agencies and community groups the proposed programme, to undertake the assessment of the food and garden crops.
- (d) Jointly with EFNEP, formulate the processing techniques for the crops identified for the project. (the appraisal of the processing techniques should be structured in a form which could be easily adopted by EFNEP in its regular curriculum development)
- (e) Within the context of the appraisal of the food processing techniques, preparation of a food processing demonstration work plan for a workshop programme in the three states.
- (f) Jointly with EFNEP, conduct the food processing demonstration workshop in the three states.
- (g) Within the framework of the food processing demonstration workshop assist EFNEP in the development a comprehensive curriculum for the continuation of the project at the termination of the intervention.

The project is expected to produce the following:

- (a) A study of an assessment of the food and garden crops will provide the basis for the preparation of the simple food processing techniques required for the workshops. The study should incorporate, inter alia, an assessment of the different types of crops in the three states and a detailed appraisal of the processing techniques of the crops identified for the project.
- (b) Within the framework of the crop assessment and food processing study, prepare an appropriate demonstration workshop programme for the three states.
- (c) Undertake the demonstration workshop with active participation of EFNEP in the three states.

The project involves the establishment of a clay brick and tile product plant. The Small Scale Industries Programme is providing technical assistance to undertake an assessment of the technical and commercial viability of the production of clay bricks and tiles in the two states.

The background to this investigation reveals the following developments:

- (a) A review of available information of the project indicates that a study conducted by UNIDO, under "Project SI/TTP/79/801 titled Assistance in Clay Products Manufacture", indicated that there is scope in the development of clay brick and tile production facility in the two states. In addition, sample assessment of the quality of clay deposits have revealed that the clay is suitable for the production of bricks and tiles.
- (b) The project is considered as an important substitution industry. The importation of cement to FSM has increased sharply in the last five years. The cost of importation of cement to the states of Pohnpei and Yap during 1989 amounted to \$507,625 and \$100,924 respectively.
- (c) An inter-departmental Committee was established in the State of Pohnpei in early 1990 to coordinate the development of the project. The committee has undertaken a preliminary review of the project and has indicated that the project investigation be conducted by the private sector with minimal government intervention.

Current Status

The project profile for technical assistance was prepared by the planning authorities and department of Resources of development of the two states with assistance from its national counterpart.

As noted in (c) above, the state and national authorities have decided that the project be undertaken by the private sector and that the proposed intervention from the Small Scale Industries programme be postponed indefinitely.

The assessment by the state and national authorities had revealed the following key issues:

- (a) Land Issue:

Although a preliminary review of the clay deposits in the two states indicated that extractable volume of deposits are present, the deposits are located mostly in private land holdings. Extraction of clay deposits

located in private holdings would be difficult. Most of the property is held as a family trust, and land-use rights are passed down from generation to generation within the extended family system. Subsurface property rights are synonymous with surface rights. There are very few publicly owned subsurface rights on the two states.

It therefore follows that extraction of clay from deposits in private holdings will involve complicated arrangements and long term access rights to clay deposits would not be ascertained. Regulations and laws for subsurface exploitation do not exist for the state or municipal governments. In addition survey and boundary identification of most of private and public land has not been undertaken.

(b) Royalties and Taxes

There are currently no tax or royalty in existence for material extracted from public or private land. Both state and national government are reviewing formulation of policies to address this. The authorities also view such policies should be investigated prior to the development of the industry in question.

(c) Technology

A study visit to Sri Lanka by an official of the government of the two states has indicated that the technology suitable for the development of the industry is labor intensive. The review had proposed that the technology may not be practically suitable for FSM.

(d) Economics of the Products

A cursory survey conducted in the state of Yap has indicated that the construction applications of clay bricks and tiles would need to be developed. In addition it is widely assumed that within the state and national authorities that the cost of clay bricks would exceed that of currently utilized cement bricks.

7. Salt Drying Fish

Pohnpei

The project involves the provision of technical assistance to train local fisherman in commercial methods of catching and processing of Big Eye Scad (*Trachinops Crumenophthalmies*) on a small scale commercial basis. Project implementation commenced in March 1990 and was successfully completed in June 1990.

Project Review

The project had involved the provision of an experienced

fisherman from the State of Hawaii, U.S.A., to conduct a training programme on fishing techniques as well as the process of salt and drying of Big Eye Scad.

A detailed project completion report had been prepared on the project. The training programme was undertaken by more than 25 private fishermen in the Pohnpei state. Although data on the catch during project implementation is not yet available, it was indicated that the techniques of drying and salting are now being practiced by farmers in the outer islands where freezing facilities are not available, and the product shipped to the main island. Further, the FSM Fishing Corporation and the Economic Development Authorities are currently involved in the administration and distribution of the salt dried Big-Eyed Scad.

3.2.2.2 General Issues in relation to the Review of the Small Scale Industry Programme

An investigation of the general issues and constraints which are associated with the programme revealed the following:

- Project identification under the programme was undertaken either by the State or National government office. However, the industrial development priorities of the State and National governments did not coincide in most of the projects identified under the programme. Consequently, the relationship between the National and state government offices, responsible for the programme, varied significantly and depended very much on the nature and environment of the projects. This limited the ability of the State and National government offices to communicate and cooperate effectively, and hence hindering the development of the programme. There is a clear need for the establishment of an institutional framework to undertake the functions of coordination of the various activities of the State and National government with regards to project identification, preliminary selection, formulation, as well as funding and project implementation, and review functions.
- There is a clear need to set up basic infrastructure, supporting services and legislation, before actual projects are identified and implemented. Industry infrastructure in F.S.M. is relatively undeveloped, and would need to be developed to provide the necessary support for the potential local and international entrepreneurs. In this regard one needs to not only look at the availability of utilities such as power, water supply, transport and communication, but also the issue of land availability, human resources, and the need for an industrial estate, or small industries center.
- Industrial Incentives/Promotions is also another important area which needs to be looked at in depth.

There is a need to examine the possibility of direct support and subsidization of a few, selected infant industries. Government support could also include protective import tariffs or other import controls, controlled domestic pricing, preferential development finance, tax holidays and other specialist assistance in product promotion, advertising and export.

- There are few opportunities for vocational training in F.S.M. and the private sector work force therefore lacks many of the basic skills required in modern industrial development. Consequently, there are interest start-up cost for training, productivity loss, absenteeism etc. There is therefore a need to strengthen the current vocational programmes.
- All States aim to provide ad hoc business advice to the private sector. This service has so far been constrained by a lack of staff who are experienced and skilled in this area. State and Government offices involve in industrial development requires to strengthen their research, advisory and extension staff.
- Land available for agricultural pursuits, industrial or commercial activity is scarce. The laws governing the ownership and use of land are complex and original title can be difficult to prove. While this may protect customary interests such as policy greatly restricts the development of such efficient market for the transfer and optimal use of land and this in turn constrains private sector development. Some land has been surveyed with land title proven in the states of Yap and Kosrae. Foreigners, as other private investors, are permitted to lease land and the recent initiative by the Bank of Guam in the form of a "springing lease" may ease bank lending. Under the "springing lease" arrangement land title held as collateral can, in the even of loan default, be turned into a lease which can then be traded.

Respective state governments could greatly assist in easing the uncertainties over private land tenure. In some states, land needs to be surveyed and further developed in all states could benefit from land use/structure planning.

3.2.3 Recommended New Projects

Following the review of the Small Scale Industry Programme including the seven projects already identified for implementation, it is recommended that the FSM Government should also address the following issues which provides a holistic view towards effective administration and implementation of the programme.

3.2.3.1 Institutional Framework

As outlined in annex A of this document as well as noted in the text of this document, the institutional framework of the government does not clearly distinguish between the National and State government responsibilities in many areas including the planning and policy formulation process. There are committees and departments in both National and State government levels which are responsible for economic planning and development. In respect to the small scale industry programme, the relationship between national and state government offices varied significantly depending on the project reviewed and the varied project priorities placed by National and State governments. The limited ability of National and State government offices to communicate and cooperate effectively within their own structure and across structure have significantly if not the principal cause of hindrance to efficient implementation of projects already incorporated under the small scale industry programme.

It is proposed that one of the ways in which such a coordination could be attained would be through the establishment of a Regional Council for the Small Scale Industry Programme, as well as a National Council for the Small Scale Industry Programme in each of the four States.

National Council for the Small Scale Industry Programme

Each of the four states would have its own National Council for the Small Scale Industry Programme. The main function of the National Council would be to determine the priorities for the individual state in relation to the Small Scale Industry Programme. The proposed Forum will provide a consultative and coordination mechanism for all parties involved in the development process.

The Committee is proposed to be serviced by a Small Scale Industry Programme Project Coordinator. The Project Coordinator receives all the requests, provides the Committee with an analysis of the project. The Committee would then be able to determine the priority ranking for all project requests. The priority ranking of projects or programmes for each of the Committees of the four states would then be tabled to the Regional Council for the Small Scale Industry Programme who would approve the final list, taking into consideration the priorities of the country as a whole. It is also proposed that the Small Scale Industry Programme Project Coordinator will provide similar secretariat services to the Regional Council. This will ensure continuity and proper coordination of the country's small scale industry programme.

A project document for Small Scale Industry Programme Project Coordinator is contained in Annex E of this document. It is proposed that the project coordinator be stationed at the FSM Development Bank, to ensure full coordination with not only the State and government authorities, but the main source of loan finances for the implementation of private sector projects.

Funding for the coordinator could be made available from (i) the current Small Scale Industry Programme if the officer is recruited under the UNV programme; or (ii) joint financing from the Small Scale Industry Programme and supplemented by the FSM government; or (iii) other aid programmes.

Composition of the Committee

Each State Council could be chaired by the respective Directors of the National Department of Resource and Development. Other members could include the Director of Planning and Statistics; Branch Managers of the state Development Banks, as well as key representatives from the private sector. The Committee should also have powers to coopt any other member as and when required. The Secretary to each of the state council should be the Small Scale Industry Programme Project Coordinator.

Terms of Reference

The State Council would be responsible for the following main activities in each of the four states:

- (a) recommend appropriate small scale industry policies.
- (b) formulation, implementation and monitoring of sectoral programmes and projects for each state;
- (c) recommend requests for grant as well as loan funding requirements for implementation of projects;
- (d) recommend appropriate incentives for particular industry and manufacturing establishments;

Regional Council for the Small Scale Industry Programme

The main function of the Regional Council would be to make final decision on the overall small scale industry programme based on the recommendations of priorities from the individual state councils.

Composition of the Committee

The Regional Council for the Small Scale Industry Programme is to be chaired by the Director of the Department of Resources and Development. Other members could include the Chairman of each Small Scale Industry Programme Council for each of the four states; Director of Planning and Statistics; Managing Director of the FSM Development Bank, representatives of the private business community. The Committee should also be able to coopt any other member as and when required.

Terms of Reference

The Regional Council would be responsible for the following main activities:

- (a) approval appropriate small scale industry policies.
- (b) formulation, implementation and monitoring of sectoral programmes and projects;
- (c) approve requests for grant as well as loan funding requirements for successful implementation of approved projects;
- (d) appropriate incentives for particular industry and manufacturing establishments;

3.2.3.2 Infrastructural Support

A key feature of the policy of encouraging the development of industries and in order to facilitate investors in the acquisition of suitable land with essential services provided, a step should be made to establish an industrial estate initially in the states of Pohnpei, Kosrae, and Chuuk. If the concept is successful, then further steps should be made towards establishing similar facilities in the Yap state.

An industrial estate is an area of land suitable for building factories on and supplied with the necessary supporting services such as roads, drainage, electricity, water, telephones, etc. Standard factories can be constructed for lease or investors can construct their own facilities.

As an initial step, a feasibility study and design work for such an industrial estate could be undertaken first. Subject to the satisfactory results of the feasibility study, adequate land and facilities should then be developed. A project profile for the Feasibility of establishment of an industrial estate in Kosrae, Chuuk and Pohnpei is attached at Annex E.

The proposed establishment of such facilities will not only attract local entrepreneurs, as well as foreign investors.

3.2.3.3 Industrial Promotion/Incentives

The provision of incentives for industrial development are offered for two main reasons. Firstly it is perceived that such incentives will alleviate the natural disadvantages which would otherwise hinder development. Secondly it serves the purpose of conferring some additional benefits on an investor to encourage the choice of one location rather than another, or to make investment more attractive to one type of investor or industry rather than another.

In FSM's case special provisions could be made to mitigate costs imposed by the following natural disadvantages:

- size of markets and small scale of infrastructure with consequent high unit costs of utilities and other public services;
- difficulties and costs in securing access to suitable land;
- lack of pool of experienced middle level technicians, bookkeepers, accountants, tradesmen, supervisors, etc;
- possible difficulties in raising long term loans abroad because of doubts about the value of securities enforceable in FSM.

It is proposed that technical assistance be sought to look into the feasibility of providing incentives to manufacturing and industrial enterprises in the following areas:

- (a) provision of corporate tax holiday for a specific period;
- (b) provision of tax holiday on shareholders' income received as dividends and/or profits;
- (c) exemption from payment of a specific percentage of withholding tax during the tax holiday period;
- (d) provision for depreciation following tax holiday period and at original value of assets;
- (e) provision of a moratorium on tax after tax holiday in special circumstances;
- (f) provision of duty-free import of plant, equipment, machinery and spare parts for a specific period;
- (g) a specific percentage of concessional rate of ports and services tax;
- (h) provision for drawback of duty and port and service tax paid on raw materials, if finished products are exported;
- (i) provision for exemption from duty and port and services tax for raw materials used on trial runs;
- (j) provision for the carrying forward of losses without time or monetary limit;
- (k) provision for repatriation of profits, capital and capital gains;
- (l) provision for the protection of industries during the initial years through tariff adjustments, import restrictions or industrial licensing limitations as warranted by the circumstances.

Other factors which should be considered could include:

- eligibility for long term finance from the proposed Development Bank or other financial intermediaries if its criteria are satisfied;
- automatic granting of residential permits to expatriate staff, subject only to proof of good citizenship;
- entitlement to lease land and standard buildings on an industrial estate, if an industrial estate were to be set up; and
- possibility of establishing training aids, grants, and programme as may be introduced by the government for the benefit of the people of FSM.

The Industrial Incentives/Promotions component could be administered by the Regional Council, and issued to applicants which meets a set of recommended criteria. Consideration could be given to applicants who fulfil for example the following set of criteria:

- the company is incorporated in FSM;
- the company is required to prepare and submit annual accounts drawn up in accordance with the laws of FSM, and currently accepted accounting principles, and so certified by an approved auditor;
- the company (applicant) submits in outline details of the proposal, its ownership, financing arrangements, and development, employment, and marketing programme for a five year period, together with optional incentives claimed, land, building, utilities requirements, etc.
- the company provides evidence that the project is not environmentally or in any other way detrimental, and that the safety, health, waste treatment and disposal arrangements would conform to the requirements of the United States of America;
- provides some evidence of commitment of finance by shareholders and lenders.

A project profile for a study of an appropriate Industrial Incentives Scheme for the four states of the FSM is attached at Annex E.

3.2.3.4 Establishment of a Small Projects Fund:

In addition to the provision of loan funds by the financial intermediaries as noted in Section II of this report, for the establishment of small scale industry projects, consideration

could be given to the establishment of a small projects fund, which could be administered by the Regional Council for the Small Scale Industries Development Programme.

The small project fund could be created with a view to providing assistance to innovative economic production activity. The fund would aim to encourage private sector investment and to reduce the financial risks involved. The grants provided from the fund could range from up to 50% of the cost of the project, with a maximum ceiling of \$15,000.00. The maximum ceiling could be increased in exceptional cases. The eligibility criteria qualifying for the provision of the grants could include the following:

- a) potential for the achievement of significant development in the production of goods and services;
- b) the units are to be located in outer islands, rural areas or specific industrial areas on the main island;
- c) the activities provide export earning or import substitution;
- d) the activities provide new employment and are labor intensive enterprises,
- e) the activities engaged in a processing of local primary product,
- f) that it provides a significant secondary social or community benefit.

3.2.3.5 Training

Section II of this document highlights the limited availability for vocational training in the nation and therefore the workforce lacks many of the basic skills required by modern commerce and industry. Further, that clerical and technical skills are lacking, and the populace has little understanding of business and the fundamentals of book-keeping, product pricing, stock control, project, general management and marketing.

It is proposed that technical assistance be deployed to identify short term training needs in Industrial Evaluation in the states of Pohnpei, Kosrae, Chuuk and Yap. The proposed Training Needs Assessment Study will provide the basis for the preparation of training programmes required by the individual states. The Study is also produce appropriate training programmes for the four states and national governments, as well as undertake the small scale industrial evaluation training programmes.

A project profile for the proposed Identification of Short Term Training Needs in Industrial Evaluation is detailed at Annex E.

4 CONCLUSIONS

The concept of a Small Scale Industry Programme as formulated in 1988 is valid and should be further fully supported. It is proposed that the overall objectives of the programme be maintained, but focus be given to the following specific areas:

- a) Equitable inter-regional distribution of assistance, to foster a balanced regional industrial development in terms of provision of goods and services and distribution of income;
- b) Establish viable industries based on local resources, both material and human, as to optimize the domestic valued added of the resources;
- c) To provide assistance to develop/expand industries which are considered vital in its contribution to the balance of payments and gross domestic product of the economy. The industries should include export oriented industries as well as import substitution industries;
- d) Encourage and motivate entrepreneurship in the private sector thereby accelerating the growth of the sector to boost:- output, income and foreign exchange; employment and foreign investment;
- e) Provision of assistance to projects which will favor local entrepreneurship participation in foreign investment;
- f) Provision of assistance to projects which stimulate new technological development.

The Programme identified seven projects which should be undertaken to meet the objectives of the programme. A review of the projects reveals following:

(a) Fruit Juice Processing - KOSRAE

If fruit juice processing is to be pursued seriously, there must first be a change in attitudes towards farming away from low effort, low investment, high returns to one of increased effort, investment and knowledge. The returns from fruit processing would be lower than returns from selling of fresh fruits, and that additional marketing efforts would promote fresh produce sales. It is concluded that the scope for fruit juice processing is at present premature, and that efforts should be directed at improving the quality and yield of current fruit farms before consideration of the option of processing.

(b) Fruit Juice Processing - YAP

The review of the project proposal for Yap State produced similar conclusions to that for the Kosrae State.

(c) & (d) Coconut Lumber Utilization - KOSRAE & CHUUK

There is good potential for the development of coconut wood for joinery and construction application. However there is a need for detailed investigation of the coconut stock; age distribution and productivity as well as detailed investigation of the technical and economic aspects of coconut processing and utilization as proposed in the original project document. A revised project document (Refer to Annex C) has been prepared which reflects three main components as follows: (a) Coconut Wood processing - (i) Survey of coconut palm stock; (ii) Investigation of the feasibility of establishing coconut based processing plant; (b) Workshop: to appraise market requirement and technical specifications; and to be followed by (c) feasibility study.

(e) Food Processing Demonstration Workshop - CHUUK

The food processing demonstration workshop will be extended to include Yap and Kosrae states. It is proposed that a strong local participation component in the project is required in order to identify crops which are traditionally widely demanded for processing; formulation of practical, simple processing techniques; continuation of the demonstration programme after the termination of the technical assistance intervention; as well as ensuring wider support in the implementation of the project. The local participating agency in the project has been identified as the College of Micronesia - Home Economics Department (Expanded Food and Nutritional Education Program). A revised project document is detailed at Annex C.

(f) Clay bricks and Tiles Processing - POHNPEI & YAP

Although the assessment of the technical and commercial viability of the production of clay bricks and tiles in the two states is encouraging, several issues have been identified which led the authorities to defer the project indefinitely. The issues identified include that of problems of long term access to clay deposits on private land; the lack of legislation on tax or royalty for material extracted from public and private land; and the fact the the technology required for the development of the industry is labor intensive.

(g) Salt Drying Fish - POHNPEI

Project implementation commenced in March 1990 and was successfully completed in June 1990.

It was also revealed that although there is a lot of potential to be derived from the support of the aforementioned specific project activities, in all cases there are certain pre-requisites which must be looked at first. This includes (i) adequate availability of infrastructural facilities such as water, power, communication, transport as well as an industrial estate with factory space; (ii) industrial promotion and support; (iii)

adequate training; (iv) availability of land as well as (v) an effective institutional framework for the identification, formulation, approval, implementation, and evaluation of all the identified projects. The identification of ad hoc projects without considering all the other factors which would be required to support the successful continuation of the project will certainly create more problems once implementation of the project commences.

It is therefore recommended that the balance of the funds initially approved for the Small Scale Industry Programme could be diverted to the following activities:

- (a) feasibility of the establishment of a small industries estate as well as other infrastructural requirements;
- (b) industrial incentives/promotion and other relevant support;
- (c) training; and
- (d) establishment of an effective institutional framework for the identification, formulation, planning, approval, implementation, and evaluation of all the identified projects.

The identification of projects for implementation can then follow naturally once the infrastructure, support facilities and an effective administration is established.

POLITICAL STATUS AND GOVERNMENT OPERATIONSIntroduction

The FSM constitution does not clearly distinguish between National and State government responsibilities in various important areas. This relationship is clearly exemplified in the mechanism of development planning and policy formulation. At the National and State government levels, in both the executive and legislative branches, there are offices and committees with responsibilities for economic development.

At the National government level policy emanates from the Office of the President. In addition, there are State-National Conferences which are held periodically to plan and coordinate development and other matters of international interest. The meetings are attended by the governors of each state and the FSM president. The Federated Development Authority (FDA) is a national level organization that also brings together the governors and the president to discuss development matters. The FDA also plays a significant role as a support mechanism by which compact money is channelled to the FSM Development Bank. Additionally, development planning and coordination is done by national and state government department heads of resource and development functions at periodic meetings.

POLITICAL STATUSConstitutional Government

U.S. military forces wrested control of Micronesia from the Japanese through a series of naval campaigns that ended in 1945. In 1947 the region known as Micronesia became one of eleven post-World War Two trust territories created by the United Nations. The U.S., as administering authority of the Trust Territory of the Pacific Islands (TTPI), became responsible for the political, economic, and educational advancement of the people of Micronesia. The U.S. military succeeded in having the region declared a "strategic trust", the only one of six districts: the Northern Marianas, Palau, Chuuk, Pohnpei (which included the new FSM State of Kosrae), and the Marshall Islands. Control and authority remained in the hands of the U.S. military from the time of their initial occupation, beginning in 1944, until 1951 when civilian authority was introduced in all islands except the Northern Marianas, where military interests pre-empted transfer to any other government agency.

In the early 1970s the people of the Northern Marianas withdrew from the Trust Territory in order to seek a separate political status with the U.S. In 1975 the people voted to become a Commonwealth of the U.S. Reasons given for this move included the people's view of themselves as culturally different from the rest of Micronesia, primarily because of their Spanish heritage; their belief in the potential that if united with the other Micronesian islands, the Congress would divert a large share of tax revenues collected in the Marianas to the poorer islands. This was the first crack in the foundation of the trusteeship, an agreement conceived, structured, and carried out predominantly by non-Micronesians who believed in the futility of administering the region as a single entity. Cracks later appeared elsewhere in the structure and led to separatist movements in Palau and the Marshall Islands.

The Micronesian Constitutional Convention convened in 1975 on Saipan to begin writing a constitution for the self-governing nation that would emerge upon termination of the trusteeship. By the end of the convention it had become clear that preserving unity among the culturally diverse districts would be near impossible, particularly since the Marianas were perceived to have benefitted significantly from separate negotiations with the U.S. The prospective partners in the federation worried about losing too much autonomy to the proposed national government and wondered about control over land, the role of traditions, and other vital issues.

In July 1978 the people of Micronesia voted on a draft constitution. Palau and the Marshall Islands rejected the constitution, ostensibly for economic reasons similar to those believed to have persuaded the Marianas to go its own way. The voters of Yap, Chuuk, Pohnpei, and the then recently formed district of Kosrae approved the constitution. The approval of the majority of the district electorates gave life to the Federated States of Micronesia as a political entity.

Palau and the Marshall Islands won separate political status negotiations, which resulted in the formation of the Republic of Palau and the Republic of the Marshall Islands. In 1979 the three new political entities were made self-governing and in 1986 compact of Free Association treaties with the United States recognized the sovereignty of the Federated States of Micronesia and the Republic of the Marshall Islands.

The Constitutional Convention

The first step in the evolution of political autonomy for the FSM was self-government in 1979; the second step was the implementation of the Compact of Free Association in 1986. These events established the FSM as a politically autonomous member of the international community. The FSM constitution calls for a referendum every ten years to determine if a constitutional convention should be held. A second constitutional convention is scheduled to be held in the near future and the agenda focuses primarily on the suitability of the existing constitution and on the issue of governance responsibilities of the State and National governments.

As it stands, the FSM constitution does not clearly distinguish between national and state government responsibilities in health, education and a number of other important areas. This was presumably done intentionally and is perhaps a logical outcome of the first constitutional convention given it was attended by representatives from across the region, each with apprehensions about creating a strong national entity. In the 10 years of self-government the national and state governments have apparently not been able to iron out differences over the division of certain responsibilities.

The language of the First National Development Plan gives the impression that there is little opportunity for uncertainty. The National Government exercises certain powers expressly delegated to it by the Constitution as well as powers which are of such an indisputably National character as to be beyond the power of a State to control.

States generally have all remaining powers prohibited to the States and certain powers which are concurrently exercised by both the State and National Governments. Examples of National powers include: (a) regulation of immigration, (b) imposition of taxes, duties, and tariffs based on imports, (c) imposition of taxes on income, (d) issuance and regulation of currency,

(e) regulation of banking and foreign and interstate commerce, (f) regulation of navigation and shipping, and (g) regulation of the ownership, exploration, and exploitation of natural resources within the marine space of the Nation beyond 12 miles from island baseline. Example of concurrent State/National powers include appropriating public funds, borrowing money on the public credit, and promoting education and health.

Compact of Free Association

U.S. Public Law 99-239, as amended, is the Compact of Free Association Act of 1985, which President Reagan put into effect on November 3, 1986. The compact defines the political and economic relationship between the FSM and the United States. In general, the compact recognizes FSM authority over domestic and foreign affairs while the U.S. accepts defence responsibilities for the island states. The compact is a 15-year treaty that will end in 2001. Negotiations between the FSM and the U.S. will begin during or after the 9th year of the treaty to decide the future of the relationship. The future political status alternatives, theoretically, range from commonwealth, or another form of close relationship with the U.S., to total independence.

U.S. funding provided by the compact will be the major source of financial assistance for Pohnpei and all other FSM governments over the next 11 years. How this money is distributed and used for government operations, development projects, and investment schemes will affect local economies greatly.

Compact funds flow through the FSM national government to the state governments based on mutually agreed upon formulas. At the nationwide level, base annual funding over the compact period ranges from a high of \$78.6 million expected fiscal year 1991, to a low of \$58 million expected in fiscal year 1997 (Table). In year six of the compact agreement, fiscal year 1992, base funding will drop to \$67.8 million; in year eleven, 1997, it will drop \$58 million. Each year an inflation adjustment estimated at between 3 and 4.5 percent is added to the previous year's base amount to keep the real value of base funding from eroding over time.

In addition to base funding the FSM receives annual allocation of approximately \$17 million, except for years 1988 and 1990, earmarked for special activities. Total U.S. funding over the compact period is \$1.31 billion and ranges from an annual high of \$102.8 million in 1988 to an annual low of \$75.3 million in 1997.

The sixth and eleventh year step-downs were carefully negotiated and agreed upon by both parties to the compact treaty. In general, U.S. and FSM negotiators decided it would be advantageous to front-load compact funding so the proportionately more of total funding could be invested in development projects in the early years. Large investments in development projects early on were expected to stimulate commercial activities in the private sector of a sufficient magnitude to generate tax and other government revenues at least equal to the step-downs.

Other U.S. Federal Programs

In addition to the base and special funding the governments of the FSM remain eligible during the life of the compact for some programs of specific U.S. federal agencies. The programs of these agencies have potential for affecting private sector growth by helping to rectify economic imbalances in the states of the FSM. A brief description of the agencies and programs is given in the Appendix A.

GOVERNMENT OPERATIONS

FSM National Government

Organization

The Federated States of Micronesia National Government is a constitutional democracy made up of executive, legislative, and judicial branches. The executive branch is headed by a president and vice-president, the Congress by a speaker and a vice-speaker, and the judiciary by a chief justice. Congress is unicameral and has 14 members. Ten are popularly elected for two-year terms and represent the four FSM states in proportion to state populations: five are from Chuuk, three from Pohnpei, and one each from Yap and Kosrae. Four are popularly elected for four-year terms, each representing on state. The president and vice president are selected by Congress from among those senators holding four-year seats. The congressional seats they vacate are filled through special elections.

Operations

The executive branch of the national government consists of four department and six offices (Appendix B). Heads of departments and offices are appointed by the president with the advice and consent of the Congress.

The national government's Office of Planning and Statistics (OPS) is responsible for national development policy and planning. With the assistance of a slew of UN-sponsored development planners, the office has recently completed a draft of the FSM's second national development plan. The office's construction division is usually either the lead agency or a partner with its state counterpart on infrastructure projects and other major construction jobs.

The national government's Department of Resources and Development coordinates the development strategies and program activities of the country. The department includes divisions of agriculture, marine resources, commerce and industry, tourism, foreign investment, labor, and energy. It serves both development and regulatory roles. In its development role it gives guidance and advice to state departments of resources and development, and it organizes and provides information and logistical support services for the private sector. It coordinates efforts across state and national government agencies and also works with foreign nations, aid agencies, and other organizations to attract technical experts and capital funding. In its regulatory role it works to prevent undue development in a particular area by introducing regulatory measures.

The relationship between national and state government offices varies significantly depending on the project, the time, those involved, how much money is at stake, the current political climate, and other facts. The limited ability of state and national government offices to communicate and cooperate effectively within their own structures and across structures hinders private sector growth. Because of poor relationships, procedures for complying with labor laws and foreign investment regulations, for example, are made just that much more difficult for the local business persons of foreign investor to understand, let alone meet.

The national government also consists of independent or quasi-independent agencies that play a role in private sector development. These organisations are briefly discussed in a later section on institutional infrastructure.

The Institutional Framework

An institutional framework has been established to promote private sector growth. Departments and agencies have been established at the national and state government levels to plan, promote, initiate, and coordinate activities related to economic development and private sector growth. The following paragraphs introduce the various departments and agencies and briefly describe the functions of each.

National Agencies and Institutions

Within the executive branch of the national government the Office of Planning and Statistics (OPS) and the Department of Resources and Development are the primary functionaries responsible for economic development planning and program implementation. The responsibilities of each were described earlier as was the FSM Congress' Committee on Resources and Development planning and programs. Other national government agencies involved in economic development activities include the FSM Development Bank, the National Fisheries Corporation, the Micronesian Maritime Authority, and the Coconut Development Authority.

The FSM Development Bank (FSMDB)

The FSM Development Bank (FSMDB) was chartered by the First FSM Congress in 1980 to help FSM citizens develop and finance sound business ventures. A branch office is located in Pohnpei as well as in each of the other FSM states. Pohnpei is also site of the bank's head quarters office. General areas of lending are agriculture, manufacturing, commerce, real estate, and tourism. The bank has a regular lending program and several special programs, the largest of which is the Investment Development Fund (IDF). Other types of financial assistance include loan guarantees, co-financing arrangements, and equity financing.

The National Fisheries Corporation (NFC)

The National Fisheries Corporation is a public corporation established by the FSM government in 1984. The aim of the corporation is to develop and promote a profitable and long-term commercial fishery within the FSM. In addition to the National Fisheries Corporation's own industry development programs, the corporation works closely with the individual states in joint fishery projects. The corporation is working, for example, with the Marine Resources Division of the national government's Department of Resources and Development

on a series of marketing efforts to sustain relatively high prices for domestic fish.

The Coconut Development Authority (CDA)

The Coconut Development Authority (CDA) was established for the purpose of rehabilitating coconut plant throughout the FSM, engaging in coconut products development, and maintaining a fair price for coconuts nationwide. The agency promotes projects aimed at maximizing the use of coconuts and encourages farmer to increase production.

Micronesian Maritime Authority (MMA)

The Micronesian Maritime Authority's (MMA) primary function is to negotiate access agreements with foreign fisheries for longline and purse seine fishing in the FSM's Exclusive Economic Zone (EEZ). It deals with the fishing associations of the Republic of China (Taiwan), which are represented by the Overseas Fisheries Development Council (OFDC). With multilateral fisheries treaties now in existence, MMA negotiates as a partner with other Pacific island countries on licensing agreements with the U.S. and Japan.

ANNEX B

The original seven project profiles under the programme are detailed as follows:-

United Nations Industrial Development Organization

Project Proposal

Part -A- Basic Data:

Country: Yap State, Federated States of
Micronesia

Project Number: TTP/89/200

Project Title: Pre-feasibility study for a Tropical
Fruit Juice Processing

Scheduled Start: ASAP 1990

Scheduled Completion: ASAP 1990

Origin & Date of Official Request: Letter from the Dept of External Affairs
dated

Government Counterpart Agencies: Office of Planning and Statistics.
National Department of Resources &
Development. Dept. of Resources and
Development, Yap State.

Government Contribution: In kind

UNIDO Substantive
Backstopping Section: Institutional Infrastructure Branch,
Dept. of Industrial Operations.

PART -B- NARRATIVE:

1. OBJECTIVES:

a. Development Objectives

Strengthening the economy through the creation of small scale fruit juice
business thereby creating more livelihood opportunities, enhancing imports
substitution and generation of more foreign exchange earnings through exports.

b. Immediate Objective:

To assess the technical and commercial viability of producing of small scale
tropical fruit juice factories in Yap State.

2. Special Considerations: None

3. Background and Justification:

The Federated States of Micronesia (FSM) is constituted of 607 islands scattered in more than one million square miles of the Western Pacific Ocean within an east-west chain of islands known collectively as the Carolinian Archipelago. The FSM is composed of four states, namely, Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000.

Yap is the westernmost state and consists of Yap proper, which includes four large high islands and seven smaller islands surrounded by barrier reefs, and 134 outer islands. The population of Yap is estimated to be around 10,500. The capital of Yap is Colonia.

Very few manufacturing industries exist in the FSM. The Government is actively promoting the establishment of small and medium scale industries in all four FSM States.

The idea of setting up the tropical fruit juice processing businesses project has been under consideration by Yap State for a number of years. There are good potentials, most availability of resources for the production of fruits products in Yap. However a definite action programme, based on a study of the commercial viability of the project, still has to be formulated.

The islands within the state of Yap have a wide range of subsistence fruits such as citrus, limes, oranges, tangerines. During their season, mostly are in over supply and much waste is experienced. The state government of Yap is confident that the introducing of very simple fruit juice processing technologies in Yap will act as a potent catalyst for the development of small scale fruit juice processing plants.

If the project is found to be potentially viable, an expert may be required to visit Yap for a period of three weeks to assess the availability of resources and seasonal situation for the tropical fruit juice processing.

The State Government has expressed the need to establish a small scale fruit juice processing plant, which will solve the problem on citrus and limes production, processing and marketing. A future step will be to think in terms of establishing medium scale industries once a local market base has been established. The government should plan to encourage the farmers to produce more fruits, lime, orange, and citrus on the commercial scale in line with export potential.

4. Project Outputs:

A feasibility study which will assess the technical and commercial viability of producing fruit juices in Yap. The study should incorporate, inter-alia, the following.

- (a) A process description and a proposed operations plan based on the projected demand for tropical fruit juice processing.
- (b) Proposed plant layout and technical description of machinery and the equipment required for the project of pilot plant.

- (c) A list of alternative suppliers for machinery equipment and packing material required.
- (d) A list of personnel required for the project together with a brief description of their duties and functions.
- (e) Estimates of investment requirements, including working capital, production costs, costing and pricing.
- (f) A list of conditions which must exist for the project to become technically and commercially viable.
- (g) A proposed action plan if the project is found to be viable.

5. Project Activities and Modalities of Implementation:

- (a) Discussion with the Yap State Department of Resources and Development for the purpose of reviewing results of earlier studies and other available information, discussions on current conditions, presentation of a framework for the study and preparation of a work plan.
- (b) Review of available data and discussions with representatives from the government and the private sector with a view to make projections on the foreseen demand for citrus, limes oranges and tangerines.
- (c) Visits to areas, fields where the fruits exist to make an initial assessment of the quality and quantity of resources available, advise counterparts on the technologies to be used in assessing the quantity of citrus available in a certain area.
- (d) Preparation of a feasibility study for an envisaged project with a plant capacity based on demand projections reached in consultation with the Dept.
- (e) Discussions with the Dept. to present the findings of the study and the conditions which must exist to make the envisaged project viable.
- (f) If the envisaged project is found to be technically and commercially viable, discussions with the Dept. on the nature of follow-up action proposed to be taken;
- (g) Preparation of draft terminal report.

6. Project Inputs:

(a) Government Inputs:

The Government will provide office space and secretarial assistance to the expert who will be assigned to implement this project. The Government will also provide transportation assistance to the expert while in Yap.

The Department of Resources and Development will assign a full time counterpart who will assist the expert in carrying out his work and be responsible for further action after the completion of the study.

(b)

UNIDO Inputs:

UNIDO will make available the services of fruit juice processing expert for a period of three weeks. The UNIDO RAS/86/075, Business Adviser who stationed in Pohnpei should coordinate and assist to the implementation of sub-project.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROPOSAL

Part A - Basic Data

Country: Yap State, Federated States of
Micronesia (FSM)

Project Number: TTP/89/206

Project Title: Technical assistance in Clay Bricks and
Tiles Processing

Scheduled Start: ASAP 1990

Scheduled Completion: ASAP 1990

Origin and Date of Official Request: Letter from the Department of
External Affairs dated

Government Counterpart Agencies: Office of Planning and Statistics,
National Department of Resources and
Development, Department of Resources and
Development. Yap State.

Government Contribution: In kind

UNIDO Substantive Backstopping Section: Institutional infrastructure
Branch, Department of Industrial
Operations

PART B - NARRATIVE

1. Objectives:

(a) Development Objective:

Strengthening of the economy through the creation of resource based manufacturing industries geared toward imports substitution and the creation of additional employment opportunities.

(b) Immediate Objective:

To assess the technical and commercial viability of producing clay bricks and tiles in Yap.

2. Special Considerations: None

3. Background and Justification:

The Federated States of Micronesia (FSM) is constituted by 607 islands scattered in more than one million square miles of the Western Pacific Ocean within an east-west chain of islands known

collectively as the Caroline Archipelago. The FSM is composed of four States, namely Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000.

Yap is the westernmost state and consists of Yap proper which includes four large high islands and seven smaller islands surrounded by barrier reefs, and 134 outer islands. The population of Yap is estimated to be around 10,500. The capital of Yap is Colonia.

Very few manufacturing industries exist in the FSM. The Government is actively promoting the establishment of small and medium scale industries in all four FSM States.

The idea of setting up a small or medium scale clay bricks and tiles manufacturing project has been under consideration by Yap State for a number of years. Some studies carried out in the past have indicated that there are clays available in Yap suitable for the production of bricks. Results of analyses on Yap clays may be found in the technical report of the UNIDO Project SI/TTP/79/801 Assistance in clay Products Manufacture. However, the quantity of such clays available and in particular the depth of these deposit still have to be assessed.

In view of a projected increase in the demand for construction materials, the State Government of Yap has requested for technical assisted assistance in studying the technical and commercial viability of producing clay brick and tiles. An entrepreneur who is interested in undertaking the project has already been identified. Should the techno-economic study indicate favorable results, an action plan for the establishment of a small scale processing unit has to be developed.

If the project is found to be potentially viable, a geologist may be required to visit Yap for a period of two to three weeks to assess the amount of material available for processing from various deposits. Depending on the recommendations of the expert who will implement this project, it may also be necessary to re-examine the quality of clays available by sending samples to an outside ceramics laboratory for analysis and production of samples. Samples of bricks and tiles will be sent back to Yap to enable the State Government and the entrepreneur to reach a final decision on this project.

4.

Project Outputs:

A pre-feasibility study which will assess the technical and commercial viability of producing clay bricks and tiles in Yap. The study should incorporate, inter-alia, the following:

- a) A process description and a proposed operation plan based on the projected demand for clay bricks and tiles
- b) Proposed plans layout and technical description of machinery and equipment required for the project

- c) A list of alternative suppliers for machinery and equipment
- d) A list of personnel required for the project together with a brief description of their duties and functions
- e) Estimates of investment requirements, including working capital and production costs.
- f) A list of conditions which must exist for the project to become technically and commercially viable.
- g) A proposed action plan if the project is found to be viable.

5. Project Activities and Modalities of Implementation:

- a) Discussions with the Yap State Department of Resources and development for the purpose of reviewing results of earlier studies and other available information, discussions on current conditions, presentation of a framework for the study and preparation of a work plan;
- b) Review of available data and discussions with representatives from the Government and the private sector with a view to make projections on the foreseen demand for bricks and laying tiles;
- c) Assess areas where clay deposits exist to make an initial assessment of the quality and quantity of clay deposits available advise counterparts on the methodology to be used in assessing the quantity of clay deposits available in a certain area.
- d) Preparation of a pre-feasibility study for an envisaged project with a plant capacity based on demand projections reached in consultation with the Department.
- e) Discussions with the Department to present the findings of the study and the conditions which must exist to make the envisaged project viable.
- f) If the envisaged project is found to be technically and commercially viable discussions with the Department on the nature of follow-up action proposed to be taken.
- g) Preparation of draft terminal report.

6. Project Inputs:

a) Government Inputs:

The agreement will provide office space and secretariat assistance to the expert who will be assigned to implement the project. The Government will also provide transportation assistance to the expert while in Yap.

The Department of Resources and Development will assign a full time counterpart who will assist the expert in carrying out the work and be responsible for further action after the completion of the study.

The Department of Resources and Development will provide manpower support and other logistical requirements quality and quantity of clay available for the production of clay bricks and tiles.

b) UNIDO Inputs:

UNIDO will make available the services of a clay bricks and files processing expert for a period of three weeks. UNIDO will also make arrangements for the testing of clay samples if such testing is found to be necessary.

7. Evaluation Plans: Not envisaged
8. Envisaged Follow up: Not envisaged at this stage.
9. Work Plan: To be determined at the beginning of the assistance and annexed to this project document.

The Department of Conservation and Development will assign a full time counterpart who will assist the expert in carrying out the work and be responsible for the further action after the completion of the study.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Kosrae State, Federated State of Micronesia (FSM)

Project Number: TTP/89/200

Schedules Start: Pre-feasibility Study for a Tropical Fruit Factory

Scheduled Completion: ASAS 1990

Origin and Date of Official Request: Letter from the Department of External Affairs dated

Government Counterpart Agencies: Office of Planning and Statistics National Department of Resources and Development, Department of Conservation and Development, Kosrae State

Government Contribution: In kind

UNIDO Substantive Backstopping Section: Institutional Infrastructure Branch Department of Industrial Operations

Part B - Narrative

1. Objectives

a) Development Objective:

Strengthening of the economy through the creation of small scale fruit juice factories thereby creating more livelihood opportunities enhancing import substitution and generation of more foreign exchange earnings through exports.

b) Immediate Objective:

To assess the technical and commercial viability of production of small scale tropical fruit juice factories in Kosrae State.

2. Special Considerations

- None

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted by 607 islands scattered in more than one million square miles of the Western Pacific Ocean within an east-west chain of islands known collectively as the Carolinian Archipelago. The FSM is composed of four states, namely: Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000.

Kosrae State is the eastern most state of the FSM. It consists of five very closely situated islands, with 42.3 square miles of land and no lagoons. The state is largely mountainous with well-watered valleys between two major peaks. The interior is densely forested and only coastal areas are inhabited. The capital of Kosrae is Tofol.

Very few manufacturing industries exist in the FSM. The Government is actively promoting the establishment of small and medium scale industries in all four FSM states.

The idea of setting to the tropic fruit price processing businesses project has been under consideration for a number of years. There are potential, most available of resources for the production of fruits products in Kosrae, However a definite action programme, based on a study of the commercial viability of the project still has to be formulated.

The island within the state of Kosrae have a wide range of subsistence fruits such as, citrus, limes, organs, tangerines. During their season, mostly are in over supply and waste is experienced. The state government of Kosrae is confident that the introducing of very simple fruit juice processing technologies in Kosrae will act as a potent catalyst for the development of small scale fruit juice and cordial processing.

If the project is found to be potentially viable, an expert may be required in visit Kosrae for a period of three weeks to assess the availability of resources and seasonal situation for the tropical fruit juice processing.

The state government expressed the need to establish a small scale fruit extraction processing plant which will solve the problem on citrus and limes processing. A future step will be to think in terms of establishing medium scale industries once a local market base has been established. The government should plan to encourage the farmers to produce more fruits, lime, orange, and citrus on the commercial scale in line with export potential.

4. Project Outputs:

A feasibility study which will assess the technical and commercial viability of producing fruits juices in Kosrae. The study should incorporate, inter-alia the following:

- a. A process description and a proposed operations plant based

on the projects demand by tropical fruit juice processing.

- b. Proposed plant layout and technical description of machinery and equipment required for the project of pilot plant.
- c. A list of alternative suppliers for machinery, equipment and packing material required.
- d. A list of personnel required for the project with a brief description of their duties and functions.
- e. A list of investment requirements, including working capital, production costs, costing and pricing.
- f. A list of conditions which must exist for the project to become technically and commercially viable.
- g. A proposed action plan of the project is found to be viable.

5. Project Activities and Modalities of Implementation:

- a. Discussions with the Kosrae State Department of Conservation and Development for the purpose of reviewing results of earlier studies are other available information, discussions or current conditions, presentation of a framework for the study and preparation of a work plan
- b. Review of available data and discussions with representatives from the government and the private sector with a view to make projections on the foreseen demand for citrus, limes oranges and tangerines;
- c. Visits to areas, fields where the fruits exist to make an initial assessment of the quality and quantity of resources available, advise counterparts in the technologies to be used in assessing the quantity of citrus available in a certain area;
- d. Preparation of a feasibility study for an envisaged project with a plant capacity based on demand projections reached in consultation with the Dept.
- e. Discussions with the Department to present the funding of the study and the conditions which must exist to make the envisaged project viable;
- f. If the envisaged project is found to be technically and commercially viable, discussions with the Department on the nature of follow-up action proposed to be taken;
- g. Preparation of draft terminal report.

6.

Project Inputs:

a. Government Inputs:

The Government will provide office space and secretarial assistance to the expert who will be assigned to implement this project. The Government will also provide transportation assistance to the expert while in Kosrae.

The Department of Conservation and Development will assign a full time counterpart who will assist the expert in carrying out his work and be responsible for further action after the completion of the study.

b. UNIDO Inputs:

UNIDO will make available the services of fruit juice processing expert for a period of three weeks. The UNIDO RAS/86/075, Business Adviser who stationed in Pohnpei should coordinate and assist to the implementation of sub-project.

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Kosrae State, Federated States of Micronesia (FSM)

Project Number: TTP/89/200

Schedules Start: Technical Assistance on Coconut Lumber Utilization

Scheduled Completion: ASAS : -90

Origin and Date of Official Request: Letter from the Department of External Affairs dated

Government Counterpart Agencies: Office of Planning and Statistics National Department of Resources and Development, Department of Conservation and Development, Kosrae State

Government Contribution: In kind

UNIDO Substantive Backstopping Section: Institutional Infrastructure Branch Department of Industrial Operations

Part B - Narrative

1. Objectives

a) Development Objective:

Strengthening of the economy through the creation of coconut resource - based manufacturing industries geared toward imports substitution and the creation of additional employment opportunities.

b) Immediate Objective:

To provide the technical advise on the production of furniture, joinery, novelty, items and wood preservation method from coconut wood if Kosrae State.

2. Special Considerations

- None

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted by 607 islands scattered in more than one million square miles of the

Western Pacific Ocean within an east-west chain of islands known collectively as the Carolinian Archipelago. The FSM is composed of four states, namely: Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000.

Kosrae State is the eastern most state of the FSM. It consists of five very closely situated islands, with 42.3 square miles of land and no lagoons. The state is largely mountainous with well-watered valleys between two major peaks. The interior is densely forested and only coastal areas are inhabited. The capital of Kosrae is Tofol.

Very few manufacturing industries exist in the FSM. The Government is actively promoting the establishment of small and medium scale industries in all four FSM states.

The idea of setting up the coconut wood preservation and seasoning plants project has been under consideration by Kosrae State for number of years. Some studies already carried out in the past have indicated that there are good potential for the production and utilization of coconut wood. Results on analysis may be found in the technical report of the UNIDO project DP/RAS/86/075. Technical Assistants to the Wood Processing Industries of the Federated State of Micronesia. However the quantity of such coconut timber available and in particular the depth of these reserves still have to be issued.

In view of a projected increase in the demand for the coconut lumber utilization, the state government of Kosrae has requested for technical assistance in studying the technical and commercial liability of producing coconut lumber. an entrepreneur who is interested in undertaking the project has already been identified. Should the techno-economic study indicate favorable results, an action plan for the establishment of a coconut wood-based processing, furniture and joinery products plants have to be developed. A expert may be required to visit Kosrae for a period of year to six weeks to assess that sub-project.

4.

Project Outputs:

A feasibility study which will provide the basis for the preparation of an action plan with regard to the establishment of a coconut wood based industries in Kosrae. The study should incorporate, inter-alia,, the following:

- a) A detailed process destination and a proposed operations plan.
- b) Proposed plant layout and technical description f machinery and equipment required for the project.
- c) A list of alternative suppliers for machinery and equipment
- d) A list of personnel required for the project together with a brief description of their duties and functions

- e) Estimates of investment requirements, including working capital, operating costs, costing and pricing
- f) A list of conditions which must exist for the project to become technically and commercially viable.
- g) A proposed action plan.

5. Project Activities and Modalities of Implementation:

- a) Meeting(s) with the Department and Development for the purpose of reviewing results of earlier studies and other available information, discussions on current conditions, presentation of a framework for the study and preparation of a work plan;
- b) Review of available data and discussions with representatives from the Government and the private sector with a view to make projections on the foreseen demand for relevant construction materials;
- c) Visit areas where coconut tree and saw-mill exist to take an assessment of the quality and quantity of coconut lumber available;
- d) Based on data gathered in Kosrae, preparation of initial estimates of investment requirements and operating costs for the production of coconut lumber;
- e) Discussions with the Department to present the results of studies conducted in (d) for the purpose presenting advantages and disadvantages of alternatives considered by the expert and also for the purpose of defining the nature of the project to be studied further;
- f) Preparation of draft feasibility study on the project defined in (e);
- g) Discussions on the results and limitations of the study conducted: discussions on proposed action plan.

6. Project Inputs:

a) Government Inputs:

The Government will provide office and secretarial assistance to the expert who will be assigned to implement this project. The Government will also provide transportation assistance to the expert while in Kosrae.

b) UNIDO Inputs:

UNIDO will make available the services of an expert in the area of coconut lumber utilization for a period of three weeks.

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Chuuk State, Federated State of
Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Process Demonstration Workshop on Food
Processing

Schedules Start: ASAP 1990

Scheduled Completion: ASAS 1990

Official Request: Letter from the Ministry of External
Affairs dated

Government Counterpart Agencies: Office of Planning and Statistics,
National Department of Resources and
Development, Department of Conservation
and Development Chuuk State

Government Contribution: In kind

UNIDO Substantive
Backstopping Section: Institutional Infrastructure Branch
Department of Industrial Operations

Part B - Narrative

1. Objectives

(a) Development Objective:

Strengthening of the economy through the creation of small food based industries thereby creating more livelihood opportunities, enhancing imports substitution and generation of more foreign exchange earning through exports.

(b) Immediate Objective:

To demonstrate relevant food processing technologies and encourage the prospective entrepreneurs to establish small scale food processing business by allowing them to visualize simple food processes.

2. Special Considerations

- None

3.

Background and Justification

The Federated States of Micronesia (FSM) is constituted by 607 islands scattered in more than one million square miles in the Western Pacific Ocean within the east-west chain of islands known collectively as the Carolinian Archipelago. The FSM lies within the equator and 14 degrees north latitude and between 135 and 166 degrees east longitude. The FSM is composed of four states, viz: Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000 inhabitants.

In Chuuk very few manufacturing industries are existed and the main cash income are working in the government establishment being employed in the commercial establishments producing handicraft, selling surplus coconuts, fish and some food crops. The Government is now keep looking into various possibilities for the development of small scale industries to earn more cash income.

Chuuk state consists of seven major island groups. The largest is Chuuk proper which is a complex of islands. It includes 98 islands, of which 14 are mountainous of volcanic origin, surrounded by a coral ring forming a lagoon, of over 800 square miles. Outer islands are mostly low islands or coral atolls. Major outer islands are the Mortlock, Hall, Western and the Namwumei to Islands. Total state land area is 49.2 square miles. The population was estimated to be 47,000 inhabitants. The capital of Chuuk is Moen.

The idea of setting up the food processing business project has been under consideration by Chuuk State for a number of years. There are good potential for the production of food products in Chuuk. However, a definite action programme, based on a study of the commercial viability of the project, still has to formulated.

Is the project is found to be potentially viable, a expert may be required to visit Chuuk for a period of two to three weeks to assess the amount of new material available for food processing.

The islands within the state of Chuuk have a wide variety of subsistence crops such as, root crops, breadfruit, taro, yam, bananas, mangoes and coconuts. During their season, some are always in over supply and must waste is experienced. The State government of Chuuk is confident that the introducing of very simple food processing technologies in Moen will act as a potent catalyst for the development of food processing industries.

It is believed that once these simple processes are demonstrated in Chuuk, potential entrepreneurs will seen set up very small scale outfits is produce these products for the local market. A future step will be to think in terms of establishing medium scale industries once a local market base has been established. The government should plan to encourage farmers to produce more crops in line with export market marketing plans.

4.

Project Outputs:

A feasibility study which will provide the basis for the preparation of an action plan with regard to the development of simple food processing industries in Chuuk. The study should incorporate, inter-alia,, the following:

- a) A detailed process destination and a proposed operations plan
- b) Proposed plant layout cooking equipment, some simple device, and technical description of machinery and equipment required for the small scale food businesses
- c) A list of alternative supplies for machinery, cooking utensils, equipment and appropriate packing material to be used
- d) Estimates of investment requirements, including working capital, pricing and costing and production costs.
- e) Prepared a list of conditions, which must exist for the project to become technically and commercially viable
- f) Assisted in the extensive follow-up business consultancy work to increase the chances of businesses being established and new business plan.
- g) A proposed action plan if the project is found to be viable.

5.

Project Activities and Modalities of Implementation:

- a) Discussions with the Chuuk State Department of Resources and Development, Division of Agriculture, for the purpose of reviewing results of earlier studies and some other available information, discussions or current conditions, presentation of a framework for the study and preparation of a work plan;
- b) Review of available data and discussions with representatives from the Government agencies and private sector with a view to make projections on the foreseen demand for relevant food productions.
- c) Visit to areas, fields where the crops exist to make an projections on the foreseen demand, availability of resources, market potential, for relevant food products.
- d) Based on data gathered in Chuuk, preparation of initial estimates of investment requirements and operating costs for the production of food-based products cottage scale or small scale.

- e) Discussions with the Department to present the results of studies and the conditions which must exist to make the envisaged project viable
- f) Preparation of draft feasibility study on the project defined
- g) Discussions on proposed action plan.

6. Project Inputs:

a) Government Inputs:

The Government will provide office space and secretarial assistance to the expert who will be assigned to implement this project. The Government will also provide transportation assistance to the expert while in Chuuk.

The Department of Resources and Development will assign a full time counterpart who will assist the expert in carrying out his work and be responsible for further action after the completion of the study.

b) UNIDO Inputs:

UNIDO will make available the services of food-processing expert for a period of two to three weeks. The UNIDO - RAS/86/075, Business Adviser who is stationed in Pohnpei should coordinate and assist to the implementation of sub-project.

7. Evaluation Plans: Not envisaged

8. Envisaged Follow-up: Not envisaged at this state

9. Work Plan: To be determined at the beginning of the assistance and annexed to this project document.

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Chuuk State, Federated State of
Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Technical Assistance on Coconut Lumber
Utilization

Schedules Start: ASAP 1990

Scheduled Completion: ASAS 1990

Official Request: Letter from the Ministry of External
Affairs dated

Government Counterpart Agencies: Office of Planning and Statistics,
National Department of Resources and
Development, Department of Conservation
and Development Chuuk State

Government Contribution: In kind

UNIDO Substantive
Backstopping Section: Institutional Infrastructure Branch
Department of Industrial Operations

Part B - Narrative

1. Objectives

(a) Development Objective:

Strengthening of the economy through the creation of coconut
resource-based manufacturing industries geared towards imports
substitution and the creation of additional employment
opportunities.

(b) Immediate Objective:

To provide technical advise on the production of furniture,
joinery, novelty items and wood preservation method from coconut
wood in Chuuk state.

2. Special Considerations

- None

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted by 607 islands scattered in more than one million square miles in the Western Pacific Ocean within the east-west chain of islands by known collectively as the Carolinian Archipelago. The FSM lies within the equator and 14 degrees north latitude and between 135 and 166 degrees east longitude. The FSM is composed of four states, vis: Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000 inhabitants.

In Chuuk very few manufacturing industries are existed and the main cash income are working in the government establishment being employed in the commercial establishments producing handicraft, selling surplus coconuts, fish and some food crops. The Government is now keep looking into various possibilities for the development of small scale industries to earn more cash income.

Chuuk state consists of seven major island groups. The largest is Chuuk proper which is a complex of islands. It includes 98 islands, of which 14 are mountainous of volcanic origin, surrounded by a coral ring forming a lagoon, of over 800 square miles. Outer islands are mostly low islands or coral atolls. Major outer islands are the Mortlock, Hall, Western and the Namwumei to Islands. Total state land area is 49.2 square miles. The population was estimated to be 47,000 inhabitants. The capital of Chuuk is Moen.

The idea of setting up the coconut wood preservation and seasoning plants project has been under consideration by Chuuk State for number of years. Some studies already carried out in the past have indicated that there are good potential for the production and utilization of coconut wood. Results on analysis may be found in the technical report of the UNIDO project DP/RAS/86/075. Technical Assistants to the Wood Processing Industries of the Federated State of Micronesia. However the quantity of such coconut timber available and in particular the depth of these reserves still have to be issued.

In view of a projected increase in the demand for the coconut lumber utilization, the state government of Chuuk has requested for technical assistance in studying the technical and commercial liability of producing coconut lumber. An entrepreneur who is interested in undertaking the project has already been identified. Should the techno-economic study indicate favorable results, an action plan for the establishment of a coconut wood-based processing, furniture and joinery products plants have to be developed. An expert may be required to visit Kosrae for a period of year to six weeks to assess that sub-project.

4. Project Outputs:

A feasibility study which will provide the basis for the preparation of an action plan with regard to the establishment of a coconut wood based industries in Chuuk. The study should incorporate, inter-alia,, the following:

- a) A detailed process destination and a proposed operations plan.
- b) Proposed plant layout and technical description f machinery and equipment required for the project.
- c) A list of alternative suppliers for machinery and equipment
- d) A list of personnel required for the project together with a brief description of their duties and functions
- e) Estimates of investment requirements, including working capital, operating costs, costing and pricing
- f) A list of conditions which must exist for the project to become technically and commercially viable.
- g) A proposed action plan.

5. Project Activities and Modalities of Implementation:

- a) Meeting(s) with the Department and Development for the purpose of reviewing results of earlier studies and other available information, discussions on current conditions, presentation of a framework for the study and preparation of a work plan;
- b) Review of available data and discussions with representatives from the Government and the private sector with a view to make projections on the foreseen demand for relevant construction materials;
- c) Visit areas where coconut tree and saw-mill exist to take an assessment of the quality and quantity of coconut lumber available;
- d) Based on data gathered in Kosrae, preparation of initial estimates of investment requirements and operating costs for the production of coconut lumber;
- e) Discussions with the Department to present the results of studies conducted in (d) for the purpose presenting advantages and disadvantages of alternatives considered by the expert and also for the purpose of defining the nature of the project to be studied further;
- f) Preparation of draft feasibility study on the project defined in (e);

- g) Discussions on the results and limitations of the study conducted. discussions on proposed action plan.

6. Project Inputs:

a) Government Inputs:

The Government will provide office space and secretarial assistance to the expert who will assigned to implement this project. The Government will also provide transportation assistance to the expert while in Chuuk.

b) UNIDO Inputs:

UNIDO will make available the services of an expert in the area of coconut lumber utilization for a period of three weeks.

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Pohnpei State, Federated State of
Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Salt/Drying of Fish

Schedules Start: ASAP 1990

Scheduled Completion: ASAP 1990

Origin and Date of
Official Request: Letter from the Dept. of External
Affairs dated

Government Counterpart
Agencies: Office of Planning and Statistics,
National Department of Resources and
Development, FSM National Fisheries
Corporation, Pohnpei Economic
Development Authority

Government Contribution: In kind

UNIDO Substantive
Backstopping Section: Institutional Infrastructure Branch
Department of Industrial Operations

Part B - Narrative

1. Objectives

a) Development Objective:

Strengthening of the economy through the production and processing of marine and fish resources toward imports substitution, the creation of additional employment opportunities and enhancing surplus income.

b) Immediate Objective:

To train local fisherman in commercial methods of catching and processing on small scale commercial basis on the Big-Eye Scad (*Trachiurops Crumenophthalmus*), locally called "Petiti".

2. Special Considerations

- None

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted by 607 islands scattered in more than one million square miles in the Western Pacific Ocean within the east-west chain of islands by known collectively as the Carolinian Archipelago. The FSM is composed of four states, namely: Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000 inhabitants.

Pohnpei State consists of single large volcanic island with 25 smaller island within a barrier reef and 137 widely scattered island in the form of coral atolls. The total land area of Pohnpei State is 133.4 square miles. The population is estimated to be around 30,000.

The Federated States of Micronesia has relatively large unexploited resource of Big-Eye Scad (*Trachurus /Crumenophthalmus*). Present methods used by village fisherman yield poor catches, which in parts of the Pacific, mainly Hawaii, catch rates are high.

The ideas of setting up is in addition to catching, appropriate techniques for preserving the fish through sun-drying have been developed in Hawaii many years ago and are still being practiced by small-scale fisherman. The final dried product is very popular in Hawaii and sold at a high price.

This species of fish, in contrast to most other reef and inshore associated species, is migratory and heavy fishing has no impact on the reef-ecosystem. Fishing for other species particularly though: gill-netting has had a severe impact on the reef-ecosystem in many areas of Micronesia and it is therefore important to develop fishing areas of Micronesia and it is therefore important to develop fishing techniques and target towards resources whereby no harm to the sensitive environment is caused. It is believed that once these simple processes are demonstrated in Pohnpei, potential entrepreneurs will set up very small scale outfits to produce these products for the local market.

4. Project Outputs:

A feasibility study which will provide the basis for the preparation of an action plan with regard to the establishment of production and processing of marine small-scale business in Pohnpei. The study should incorporate, inter-alia,, the following:

- a) A detailed process description and a propose operation plan
- b) Proposed plant layout and technical description of instrument and equipment required for the project
- c) A list of personnel required for the project together with a brief description of their duties and functions

- d) Estimates of investment requirements, including working capital, and operating costs
- e) Prepared a list of conditions, which must exist for the project to become technically and commercially viable
- g) A proposed action plan.

5. Project Activities and Modalities of Implementation

- a) Discussions with the National Fisheries Corporation, Pohnpei State Marine Resources and Pohnpei Economic Development Authority for the purpose of reviewing results of earlier studies and other available information, discussion and current conditions, presentation of a framework for the study and preparation of work plan
- b) Review of available data and discussions with representatives from the Government agencies and private sector with a view to make projections on the foreseen demand for relevant food productions.
- c) Visit to the fishing areas, markets, and fishing villages exist to make an assessment of the quality and quantity of marine and fish available
- d) Based on data gathered in Pohnpei, preparation of initial estimates of investment requirements and operating costs for the production and processing salt/dried fish products in small scale business
- e) Discussions with the Department to present the results of studies and the conditions which must exist to make the envisaged project viable
- f) Preparation of draft feasibility study on the project defined
- g) Discussions on proposed action plan.

6. Project Inputs:

- a) Government Inputs:

The Government will provide office space and secretarial assistance to the expert who will assigned to implement this project. The Government will also provide transportation assistance to the expert while in Pohnpei.

National Fisheries Corporation and Pohnpei Economic Development Authority will jointly provide support to the project in form of administration, counterparts (trainees), fishing vessels and facilities on shore.

b) UNIDO Inputs:

UNIDO will make available the services of a well-experienced Hawaiian fishing/processing expert for a period of four weeks.

Status of Implementation

A review was undertaken to ascertain the current status of project implementations of the seven current status of project implementations of the seven project under the programme. The depicts a status report highlighting the implementation progress of the seven projects.

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Chuuk and Kosrae States, Federated State of Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Technical Assistance on Coconut Lumber Utilization

Schedules Start: ASAP 1991

Scheduled Completion: ASAS 1991

Official Request: Letter from the Ministry of External Affairs dated

Government Counterpart Agencies: Office of Planning and Statistics, National Department of Resources and Development, in the State of Chuuk and the Department of Conservation and Development in the state Kosrae.

Government Contribution: In kind

UNIDO Substantive Backstopping Section: Institutional Infrastructure Branch Department of Industrial Operations

Part B - Narrative

1. Objectives

(a) Development Objective:

Strengthening of the economy through the creation of coconut resource-based manufacturing industries geared towards imports substitution and the creation of additional employment opportunities.

(b) Immediate Objective:

To provide technical advise on the production of furniture, joinery, novelty items and wood preservation method from coconut wood in Chuuk state.

2. Special Considerations

- None

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted by 607 islands scattered in more than one million square miles in the Western Pacific Ocean within the east-west chain of islands by known collectively as the Carolinian Archipelago. The FSM lies within the equator and 14 degrees north latitude and between 135 and 166 degrees east longitude. The FSM is composed of four states, vis: Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000 inhabitants.

Domestic production of timber is currently limited, to a large extent, to two operated saw mills on the state, of Pohnpei. The production output of these two mills are confined mainly to rough sawn timber. Production levels for these two mills could not be accurately gauged but an estimation of the production level for 1990 is as follows:

<u>Sawmill</u>	<u>Production</u>
Kitti	1000 m ³
Koionia	1200 m ³

Total	2200 m³

Importation of timber has steadily increased from \$1,247,874 in 1985 to a high of \$2,086,327 in 1989. The annual average national consumption of imported timber during the five years (1985-1989) was estimated at approximately 9942m³.

Timber imports to FSM (1985-1989)

	<u>Value</u>				
	1985	1986	1987	1988	1989
Lumber	707,460	910,697	819,098	1,328,256	1,381,736
Plywood	536,414	492,910	585,630	732,443	704,591
	1,247,874	1,403,607	1,404,720	2,060,699	2,086,327

Revised Project Profiles

Lumber Imports to the State of Chuuk for 1989
(Value)

Lumber	57,037
	21,959
	6,712
	6,783
	10,503
Plywood	30,219
	2,662
	5,947
	10,394
	8,216

	84,256
	=====

Importation of furniture into the states has grown steadily in the last four years from \$193,567 in 1986 to \$252,092 in 1989. Local furniture production is minimal with the exception of a relatively sizeable joinery workshop in Kosrae.

In Chuuk, and Kosrae very few manufacturing industries are existed and the main cash income are working in the government establishment being employed in the commercial establishments producing handicraft, selling surplus coconuts, fish and some food crops. The Government is now keep looking into various possibilities for the development of small scale industries to earn more cash income.

The idea of setting up the coconut wood preservation and seasoning plants project has been considered by Chuuk and Kosrae State. Some studies already carried out in the past have indicated that there are good potential for the production and utilization of coconut wood. Results on analysis may be found in the technical report of the UNIDO project DP/RAS/86/075. Technical Assistants to the Wood Processing Industries of the Federated State of Micronesia. However the quantity of such coconut timber available and in particular the depth of these reserves still have to be issued.

In view of a projected increase in the demand for the coconut lumber utilization, the state government of Chuuk and Kosrae has requested for technical assistance in studying the technical and commercial liability of producing coconut lumber. an entrepreneur who is interested in undertaking the project has already been identified. Should the techno-economic study indicate favorable results, an action plan for the establishment of a coconut wood-based processing, furniture and joinery products plants have to be developed. A expert may be required to visit Kosrae and Chuuk for a period of five to six weeks to assess that sub-project.

4. TERMS OF REFERENCE

A. Coconut wood processing plant

The first component of the technical intervention focus on the establishment of a coconut wood based processing mill. The specific tasks of the work activities of the first

component of the intervention is divided into two distinctive phases:-

- Survey of coconut palm stock
- Investigation of the feasibility of establishing the coconut based processing plant.

The work activities of the two phases of the first component of the project are as follows:-

(a) Survey of Coconut palm stock

The proposed survey of coconut palm population, age distribution and productivity will gauge the population of senile and senescent stock which are palms with either declining or very low nut productivity and will provide quantitative evidence on the stock of raw material, i.e. senile and senescent palm tree, for the sawmill plant. Within the context of the earlier study by UNIDO (DP/RAS/86/075) titled "Technical Assistance to the Wood Processing Industries of the Federated States of Micronesia" which indicate that there are good potential for the production and utilization of coconut wood, the proposed project could be viewed as a follow-up activity in the pursuit of the development of the coconut wood industry in these two states.

It is proposed that a review be undertaken of all previous reports and other relevant documents with a view to producing a comprehensive survey report covering:-

- Population of coconut palm stock and location analysis;
- Coconut age distribution and productivity.

(b) Feasibility of establishing a coconut based processing plant.

(i) Review all previous records and other relevant documents with a view to producing, a comprehensive survey report covering:

- Coconut Logs availability and coconut replanting aspects
- Technical processing specification
- Marketing requirements
- Organizational and implementation issues.

(ii) Carry out research as may be necessary to comprehend a map of options on log purchases and coconut replanting programme.

(iii) Consultation with the administering agencies, draw up recommendation on any outstanding issues, with particular reference to:

- controlling the utilization of the coconut stem
- location and design of plant factory
- the specification of processing plant
- transport logistics of log extraction
- details of appropriate corporate and funding structures
- other implementation requirements
- prepare a detailed implementation time table for the plant.

B. Workshop

The second component of the technical intervention will focus on the establishment of a joinery workshop for the production of coconut based furniture. This component of the study should incorporate, inter-alia, the following:

- Appraise the market requirement including conducting a market survey to determine the nature and level of demand within the two states for locally produced coconut wood furniture.
- Appraise the technical specification of the workshop including detailed specification of the workshop building, wood work equipment etc.
- A detailed process description and a proposed operation plan.
- Prepare an assessment of the organizational and implementation issues.

C. Feasibility Study

Produce a detailed appraisal report identifying the financial and economic implications and benefit of the project. It will also include an analysis of capital funding requirements of future land of profitability and so on.

5.

Project Inputs:

a) Government Inputs:

The Government will provide office space and secretarial assistance to the expert who will be assigned to implement this project. The Government will also provide transportation assistance to the expert while in Yap, Chuuk, and Kosrae States.

b) UNIDO Inputs:

UNIDO will make available the services of an one expert in the area of coconut lumber utilization for a period of five to six weeks. as well as funding for local participation by the College of Micronesia.

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Chuuk, Yap and Kosrae States, Federated State of Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Process Demonstration Workshop on Food Processing

Schedules Start: ASAP 1991

Scheduled Completion: ASAS 1991

Official Request: Letter from the Ministry of External Affairs dated

Government Counterpart Agencies: Office of Planning and Statistics, National Department of Resources and Development, Department of Conservation and Development Chuuk, Yap and Kosrae States

Government Contribution: In kind

UNIDO Substantive Backstopping Section: Institutional Infrastructure Branch Department of Industrial Operations

Part B - Narrative

1. Objectives

(a) Development Objective:

Strengthening of the economy through the creation of small food based industries thereby creating more livelihood opportunities, enhancing imports substitution and generation of more foreign exchange earning through exports.

(b) Immediate Objective:

To demonstrate relevant food processing technologies and encourage the prospective entrepreneurs to establish small scale food processing business by allowing them to visualize simple food processes.

2. Special Considerations

- None

3.

Background and Justification

The Federated States of Micronesia (FSM) is constituted by 607 islands scattered in more than one million square miles in the Western Pacific Ocean within the east-west chain of islands by known collectively as the Carolinian Archipelago. The FSM lies within the equator and 14 degrees north latitude and between 135 and 166 degrees east longitude. The FSM is composed of four states, viz: Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000 inhabitants.

The idea of setting up the food processing business project has been considered by Chuuk, Yap and Kosrae State. There are good potential for the production of food products in the three states. However, a definite action programme, based on a study of the commercial viability of the project, still has to be formulated.

If the project is found to be potentially viable, an expert may be required to visit each of the three for a period of two to three weeks to assess the amount of new material available for food processing.

The three states have a wide variety of subsistence crops such as, root crops, breadfruit, taro, yam, bananas, mangoes and coconuts. During their season, some are always in over supply and much waste is experienced. The State government of Chuuk, Yap and Kosrae are confident that the introducing of very simple food processing technologies will act as a potent catalyst for the development of food processing industries.

It is believed that once these simple processes are demonstrated, potential entrepreneurs will see the need to set up very small scale outfits to produce these products for the local market. A future step will be to think in terms of establishing medium scale industries once a local market base has been established. The government should plan to encourage farmers to produce more crops in line with export market marketing plans.

4.

Project Output

- (a) A study of an assessment of the food and garden crops will provide the basis for the preparation of the simple food processing techniques required for the workshops. The study should incorporate, inter alia, an assessment of the different types of crops in the three states and a detailed appraisal of the processing techniques of the crops identified for the project.
- (b) Within the framework of the crop assessment and food processing study, prepare an appropriate demonstration workshop programme for the three states.
- (c) Undertake the demonstration workshop with active participation of EFNEP in the three states.

5.

Project Activities

- (a) Discussions with the project administering agencies and the College of Micronesia, for the purpose of reviewing the workshop, conducted in the state of Pohnpei, and other relevant documents.
 - (b) Presentation of framework for the assessment of food and garden crops and the work plan to formulate the processing technique. This should be done jointly with EFNEP.
 - (c) Visit the three states, and discuss with relevant agencies and community groups the proposed programme, to undertake the assessment of the food and garden crops.
 - (d) Jointly with EFNEP, formulate the processing techniques for the crops identified for the project. (the appraisal of the processing techniques should be structured in a form which could be easily adopted by EFNEP in its regular curriculum development)
 - (e) Within the context of the appraisal of the food processing techniques, preparation of a food processing demonstration work plan for a workshop programme in the three states.
 - (f) Jointly with EFNEP, conduct the food processing demonstration workshop in the three states.
 - (g) Within the framework of the food processing demonstration workshop assist EFNEP in the development a comprehensive curriculum for the continuation of the project at the termination of the intervention.
- a) A detailed process destination and a proposed operations plan.
 - b) Proposed plant layout and technical description of machinery and equipment required for the project.
 - c) A list of alternative suppliers for machinery and equipment
 - d) A list of personnel required for the project together with a brief description of their duties and functions
 - e) Estimates of investment requirements, including working capital, operating costs, costing and pricing
 - f) A list of conditions which must exist for the project to become technically and commercially viable.
 - g) A proposed action plan.

6.

Project Activities and Modalities of Implementation:

- a) Meeting(s) with the Department and Development for the purpose of reviewing results of earlier studies and other

available information, discussions on current conditions, presentation of a framework for the study and preparation of a work plan;

- b) Review of available data and discussions with representatives from the Government and the private sector with a view to make projections on the foreseen demand for relevant construction materials;
- c) Visit areas where coconut tree and saw-mill exist to take an assessment of the quality and quantity of coconut lumber available;
- d) Based on data gathered in Kosrae, preparation of initial estimates of investment requirements and operating costs for the production of coconut lumber;
- e) Discussions with the Department to present the results of studies conducted in (d) for the purpose presenting advantages and disadvantages of alternatives considered by the expert and also for the purpose of defining the nature of the project to be studied further;
- f) Preparation of draft feasibility study on the project defined in (e);
- g) Discussions on the results and limitations of the study conducted: discussions on proposed action plan.

7.

Project Inputs:

a) Government Inputs:

The Government will provide office space and secretarial assistance to the expert who will assigned to implement this project. The Government will also provide transportation assistance to the expert while in Yap, Chuuk, and Kosrae States.

b) UNIDO Inputs:

UNIDO will make available the services of an one expert in the area of food processing demonstration for a total of eight weeks, as well as funding for local participation by the College of Micronesia.

FOOD PROCESSING DEMONSTRATION**THE HOME ECONOMIC PROGRAM**

The Home Economic Program is one of the four major programs under the Cooperative Extension Services in the College of Micronesia. It is an informal-out-of-school, adult education program for the Homemakers. It reflects the needs of contemporary living, with emphasis on Consumer Education, Physical Fitness, Nutrition and Health, Home Gardening, Food Production and Clothing Construction.

The Home Economist carries this educational program to homemakers and families. This educational program is designed to reflect Micronesia family needs at different states in the life cycle. In planning the program the Home Economist consult with community leaders to learn their views on local problems and needs. Thus the program varies from place to place, from age to age group, from one income group to another, depending on the problems to be solved through the educational program.

Home Economic Extension Program fall into the following broad areas:

NUTRITION - Physical Fitness depends greatly on good nutrition. Teenagers have the poorest eating habits of any family members. Obesity is another problem. Mothers, with young children, and older people eat too few of the foods they need for vitality and health. Extension Home Economist give homemakers new ideas for better meals, more knowledge of nutrition for young and old, and more about planning buying and preparing foods.

FOOD PREPARATION - Adventure in preparing nutritious and attractive foods for family and guests is a popular Home Economics program. The program is also trying to promote the usage of our local produce by teaching and using recipes of local food and by using what they prepare as a way of generating income to a lot of families that don't hold any government jobs.

FOOD PRESERVATION - Preserving surplus of home produces food is an ancient home art being revived. Home economist teach how to use frozen, pickled and preserved foods to cut costs, to add variety to meals and to cut time spent on meal preparation.

HEALTH AND SAFETY - Keeping the home environment healthful and free of accident hazards has a high priority in Home Economics Programs. Sanitation and safety in storing, handling and serving food is one of today's critical concerns. Home Economics share knowledge and team up with teachers, social workers, public health nurses and environmental protection specialists to help people make Micronesia a safe wholesome place to live.

CONSUMER EDUCATION - Extension provides reliable consumer information to help families get most satisfaction from the money they spend for goods and services. How to make better use of items purchased, how to use credit wisely, understand how the economic system works and how it affects consumers are important skills for consumers to learn.

CLOTHING THE FAMILY - Sewing is a popular program with women of the Island. Latest ideas in patterns and fabrics suited for the tropics, available supplies, instruction and sewing techniques bring satisfaction to program participants. Pattern drafting lessons are available to those who have an

interest in fitting their individual -- figures types. Buying ready-to-wear clothing for all the family and care and repair of family clothing are major economic concern today.

HOME GARDENING - In cooperation with the agriculture department and other agencies that are promoting farming and home gardening, Extension Home Economists urge families to joint in "The Green Revolution". Just a small garden plot can yield enough vegetables and fruits to greatly improve the quality of family meals and cut food costs.

The Expanded Food and Nutrition Education Program (EFNEP)

The Expanded Food and Nutrition Education Program is part of the Home Economic Program. The objectives of the Expanded food and Nutrition Education Program are to assist low-income families and youth acquire the knowledge, skills, attitudes, and changed behaviors necessary for nutritionally sound diets and to contribute to their personal development and to the improvement of total family diet and nutritional welfare.

Participation in the Expanded food and Nutrition Education Program should result in:

Improved diets and nutritional welfare for the total family:

- Increased knowledge of the essentials of human nutrition
- Increased ability to select and buy food that satisfied nutritional needs
- Improved practices in food production, preparation, storage, safety and sanitation
- Increased ability to manage food budgets and related resources such as food stamps.

The Food and Nutrition subject matter is the principal content for both the adult and youth audiences. Instructions should reflect nutritional needs and cultural heritage of the audience. Content areas appropriate for training staff and teaching participants are:

- Nutrition knowledge, skills and attitudes necessary to improve diets (normal nutrition)
- Planning for daily food needs
- Knowledge and practice in food selection and preparation
- Knowledge of financial management relating to family food budgets, adaptations for uneven incomes, and local food resources
- Use and care of equipment used for food preparation, storage, and utilization
- Food safety, health, and sanitation practices

- food practices that reinforce personal development of family members
- Gardening and food production techniques
- Food preservation practices
- Maternal and infant nutrition education which compliments other programs and information received from health delivery systems
- Body weight, food intake, health and fitness
- Referral to other resources and assistance programs.

ECONOMICS OF PROCESSING COCONUT STEM VERSUS MAINTAINING THE PALM FOR PRODUCTION OF NUTS

The retail price of utility grade imported timber is approximately \$50/100 super feet. Assuming the average senile coconut palm can be broken down to produce approximately 80 super feet of utility grade timber this means that one senile palm could be used to substitute for approximately \$40 worth of timber imports. It must be emphasized however that this does not represent a stumpage value of the coconut stem. Felling, transport, milling and possibly treatment costs have to be deducted before a stumpage value can be determined. However indications so far point to a stumpage value of up to \$5/ stem with the resultant timber selling well below the cost of imported timber. It is thus obvious that the states best interests are served by utilizing senile coconut palms for their stems rather than letting them continue on producing nuts at low and ever declining yields. (Assumption: 5 cent per nut thus a maximum gross revenue of only 35 cents per palm is quite low.

NEW PROJECTS

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATIONPROJECT PROFILEPart A - Basic Data

Country: Pohnpei, Kosrae, and Chuuk States, Federated State of Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Feasibility of establishment of an industrial estate in Kosrae, Chuuk, and Pohnpei.

Schedules Start: ASAP 1991

Scheduled Completion: ASAP 1991

Origin and Date of Official Request: Letter from the Dept. of External Affairs dated

Government Counterpart Agencies: Office of Planning and Statistics, National Department of Resources and Development.

Government Contribution: In kind

UNIDO Substantive Backstopping Section: Institutional Infrastructure Branch Department of Industrial Operations

Part B - Narrativei. Objectives

Encourage and promote industrial development in the private sector thereby accelerating the growth of the sector to boost output, employment, income and foreign exchange in F.S.M.

Specific Objectives

Assess the potential in terms of technical, economic and commercial viability of establishing a small scale industrial estate, and small scale industry centers in the states of Pohnpei, Chuuk, and Kosrae.

2. Project Description

The project involves the study of the feasibility of the establishment of a small scale industrial estate, as well as a small scale industry center in the states of Kosrae, Chuuk and Pohnpei. Specifically, the project involves the provision of technical assistance to assess the potential of establishing the basic physical infrastructure for small industry centers in these states. The centers are envisaged to cater mainly to small scale service and manufacture industries.

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted of 607 islands scattered in more than one million square miles of the Western Pacific Ocean within an east-west chain of islands known collectively as the Carolinian Archipelago. The FSM is composed of four states, namely, Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000.

Very few manufacturing industries are existed and the main cash income are working in the government establishment being employed in the commercial establishments producing handicraft, selling surplus coconuts, fish and some food crops. The Government is now keep looking into various possibilities for the development of small scale industries to earn more cash income.

The project proposes to look into the requirements for establishment of an industrial estate in order to provide the necessary infrastructure required for the establishment of small industries.

4. Project Outputs

An assessment of the technical viability as well as the financial and economic viability of the establishment of a small scale industrial estate, as well as industry centers in the states of Pohnpei, Chuuk and Kosrae. The study should incorporate, inter-alia, the following evaluation:

- (a) An assessment of recent economic trends and economic structure of the economy of the three states;
- (b) A detailed analysis of the industrial sector and development programme in the economy of the three states;
- (c) Management of industrial land in the three states;
- (d) Demand and supply of industrial land in the three states;
- (e) Detailed analysis of the three center's locations including the physical setting, land tenure, population and development plan;
- (f) Detailed analysis of the project (3 centers) planning and designs including all infrastructure, utility, communication and road accessibility developments;
- (g) Detailed estimation of the investment requirements for the centers;
- (h) Detailed evaluation of the Implementation of the centers. This should include the institutional aspects of the center's management, commercialization of the industrial land, incentives for industrial investments and time schedule for implementation of the centers;
- (i) Detailed economic and financial analysis of the establishment and operation of the centers.

5. Project Activities

- (a) Discussion with the relevant department in the three states for the three states for the purpose of reviewing results of earlier studies and the available information, discussion and current conditions, presentation of a framework for the study and preparation of work plan;
- (b) Review of available data and discussions with representatives from the government of the three states and the private sectors with the view to make projects on the foreseen demand for establishment of viable small scale industry in the proposed centers.
- (c) Preparation of an appraisal report examining the technical as well as financial and economic feasibility of establishing small scale industry centers in the three states.
- (d) Discussion with the Office of Planning and Statistics in the 3 states, and the Department of Resources and Development in the Chuuk State and Department of Conservation and Resources Surveillance in the Pohnpei State, and the Department of Conservation and Development in the State of Kosrae, to present the findings of the study and the conditions which must exist to make the envisaged project viable.
- (f) If the envisaged project is found to be technically, economically, financially and commercially viable, discussions with the abovementioned offices and departments in the three states on the nature of follow-up action proposed to be undertaken for the implementation of the programme.
- (g) Preparation of a draft terminal report.

6. Project Inputs

(a) Government Inputs

The Government will provide office space and secretarial assistance to the expert who will be assigned to undertake the project. The Government will also provide transportation assistance to the expert in the states of Kosrae, Chuuk and Pohnpei.

(b) UNIDO Inputs

UNIDO will make available the services of a well experienced expert in the area of the establishment of a small scale industrial estate.

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Pohnpei, Kosrae, and Chuuk States,
Federated State of Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Study of Industrial Incentives Scheme

Schedules Start: ASAP 1991

Scheduled Completion: ASAP 1991

Origin and Date of
Official Request: Letter from the Dept. of External
Affairs dated

Government Counterpart
Agencies: Office of Planning and Statistics,
National Department of Resources and
Development.

Government Contribution: In kind

UNIDO Substantive
Backstopping Section: Institutional Infrastructure Branch
Department of Industrial Operations

Part B - Narrative

1. Objectives

Encourage and motivate entrepreneurship in the private sector thereby accelerating the growth of the sector to boost output; employment; income; foreign exchange earnings in F.S.M.

Specific Objectives

- (a) Development of the industrial incentive policy to assist in the promotion and establishment of small scale industry in F.S.M.
- (b) Development of an effective and efficient administration procedure for the promotion of small scale industries.

2. The Project

The project involves the provision of a short term technical assistance intervention to undertake a comprehensive review of the State and National Governments industrial investment and development policies and the existing incentive packages. The primary focus of the project is to design an industrial incentive package aimed at fostering industrial development in the

F.S.M. within the framework of the State and National Industrial Development plans.

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted of 607 islands scattered in more than one million square miles of the Western Pacific Ocean within an east-west chain of islands known collectively as the Carolinian Archipelago. The FSM is composed of four state, namely, Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000.

Very few manufacturing industries are existed and the main cash income are working in the government establishment being employed in the commercial establishments producing handicraft, selling surplus coconuts, fish and some food crops. The Government is now keep looking into various possibilities for the development of small scale industries to earn more cash income.

The proposed project is requested in order to assess the need for an industrial incentives scheme for FSM in order to promote small scale industrial activity.

4. Outputs

- (a) Preparation of draft industrial incentive policy to be considered as part of the state and national industrial promotional programme;
- (b) Provide recommendation on administrative procedures governing licensing and monitoring of new industrial ventures;
- (c) Preparation of new application forms for licenses incorporating criteria for investment for both local and foreign investment proposals;

5. Activities

- (a) Assess the current industrial investment and development policies, both in the state and National Levels;
- (b) Closely review the existing commerce and industrial incentive packages available in the States of F.S.M. to:
 - (i) determine any deficiencies therein that has restrained growth in any manner; and
 - (ii) recommend, in the context of current and future developmental needs, appropriate modifications to the incentive schemes (including their scope and coverage)
- (c) Review and recommend any changes in the administrative procedures governing licensing of industries and monitoring systems. Special attention should be placed on incorporating the State and National Committees in the context of this review.

- (d) Redesign the form of application for seeking license and the form of license for both local and foreign investors.
- (e) Assess possible credit needs of the industries.
- (f) Prepare a draft Industrial Incentives Act incorporating the recommendations of the review of the current incentive packages. The development Incentives conceived in the draft should address interalia, the following issues:
 - (i) Fiscal Incentives
 - (ii) Non Fiscal Incentives
 - (iii) Foreign Investments

6. Project Inputs

(a) Government Inputs

The Government will provide office space and secretarial assistance to the expert who will be assigned to undertake the project. The Government will also provide transportation assistance to the expert in the states of Kosrae, Chuuk and Pohnpei.

(b) UNIDO Inputs

UNIDO will make available the services of a well experienced expert in the area of Industrial Incentive Schemes.

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Pohnpei, Kosrae, Chuuk and Yap States,
Federated State of Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Identification of Short Term Training
needs in Industrial Evaluation

Schedules Start: ASAP 1991

Scheduled Completion: ASAP 1991

Origin and Date of
Official Request: Letter from the Dept. of External
Affairs dated

Government Counterpart
Agencies: Office of Planning and Statistics,
National Department of Resources and
Development.

Government Contribution: In kind

UNIDO Substantive
Backstopping Section: Institutional Infrastructure Branch
Department of Industrial Operations

Part B - Narrative

1. Objectives

(a) Development Objectives

- (i) To create a favorable business environment for the operation and growth of existing business and industrial establishments, strengthening the role of the private sector in the overall planning of future development of the economy, providing policy direction and establishing an effective administrative mechanism for the identification and, wherever possible, the resolution of private sector problems and concerns; and
- (ii) To encourage an actively promote local and foreign investment in resource-based and appropriate non resource based industry and businesses, that is in agriculture, infrastructure, construction and tourism and to strengthen efforts to promote interstate and external trade.

(b) Specific Objectives

- (i) To strengthen the business advisory services of the States and National governments;
- (ii) Preparation of small scale industrial project evaluation training programmes for the state and national planning authorities, state and national Division of Commerce and Industry and other relevant offices.

2. Project Description

The project involves a medium term technical assistance intervention to formulate training requirements and undertake training programmes on industrial evaluation. The project is in 2 parts. Firstly to undertake a study of industrial project evaluation needs and requirements of the four states of the Federated States of Micronesia. Secondly, the technical assistance intervention involves the preparation and presentation of the identified training events to the relevant offices and department in the state and national governments.

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted of 607 islands scattered in more than one million square miles of the Western Pacific Ocean within an east-west chain of islands known collectively as the Carolinian Archipelago. The FSM is composed of four state, namely, Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000.

Very few manufacturing industries are existed and the main cash income are working in the government establishment being employed in the commercial establishments producing handicraft, selling surplus coconuts, fish and some food crops. The Government is now keep looking into various possibilities for the development of small scale industries to earn more cash income.

Specialized training in relation to the establishment of small scale industries is limited. The proposed project is to identify training requirements in order to assist with the development of the sector.

4. Project Outputs

- (a) A Training Needs Assessment study will provide the basis for the preparation of training programmes required by the individual states. The study should incorporate, inter-alia, a detailed evaluation and description of the industrial evaluation training requirements of the four states and national governments.
- (b) Within the framework of the Training Need Assessment Study, prepare appropriate training programmes for the four states and national governments.
- (c) Undertake the small scale industrial evaluation training programmes to the relevant offices and departments in the four states and the National Governments.

5. Project Activities

- (a) Discussions with members of the planning authorities of the four states and the national government, for the purpose of reviewing past industrial evaluation training programmes and other relevant information, discussions on current conditions, presentation of framework for the Training Need Assessment study and the work plan for the training programmes.
- (b) Visit the relevant agencies and departments in the four state and National government and make an assessment of the training requirements.
- (c) Preparation of an industrial training need assessment study for the state and the national governments.
- (d) Within the context of the training need assessment study, formulate training programme material in small scale industrial evaluation for the state and national governments.
- (e) Discussion with the planning authority of the states and national governments to present the finding of the Training Need Assessment study and the conditions which must exist to make the training workshop a success.
- (f) Implement the training programmes for the state and National governments through presentation of training workshops and in-service training.

6. Project Inputs

(a) Government Inputs

The Government will provide office space and secretarial assistance to the expert who will be assigned to undertake the project. The Government will also provide transportation assistance to the expert in the states of Kosrae, Chuuk, Yap and Pohnpei.

(b) UNIDO Inputs

UNIDO will make available the services of a well experienced expert in the area of small business training assessment.

UNITED NATION INDUSTRIAL DEVELOPMENT ORGANIZATION

PROJECT PROFILE

Part A - Basic Data

Country: Pohnpei, Chuuk, Kosrae and Yap State,
Federated State of Micronesia (FSM)

Project Number: TTP/89/200

Project Title: Small Scale Industry Programme Advisor

Schedules Start: ASAP 1991

Scheduled Completion: ASAP 1991

Origin and Date of
Official Request: Letter from the Dept. of External
Affairs dated

Government Counterpart
Agencies: Office of Planning and Statistics,
National Department of Resources and
Development, FSM National Fisheries
Corporation, Pohnpei Economic
Development Authority

Government Contribution: In kind

UNIDO Substantive
Backstopping Section: Institutional Infrastructure Branch
Department of Industrial Operations

Part B - Narrative

1. Objectives

(a) Development Objectives

Encourage and motivate entrepreneurship in the private sector thereby accelerating the growth of the sector to boost output; employment, income, foreign exchange earnings of F.S.M.

(b) Specific Objectives

Evaluate and assess prospective small scale industry ideas within the framework of the Small Scale Industry Programme in F.S.M. and to supply new ideas for productivity which would include one or more of the following preferential aspects:

- industries utilizing local raw materials;
- industries which are labor intensive and will provide training for new skills;

- industries that could produce exportable products high valued added industries;
- industries that would attract foreign capital and develop into joint ventures;
- industries which can manufacture import substitutes at competitive prices;
- ensure a balanced regional development of manufacturing activities in F.S.M.

2. The Project

The project involves the provision of a technical expatriate advisor to coordinate and organize implementation of the Small Scale Industry Programme. Within the framework of the programme, the advisor will provide the necessary secretariat service to both the Small Scale Industry Programme Committees in the four states (recommended new committee), as well as the Regional Council of the Small Scale Industry Programme (recommended new committee), within the content of the mandates of these committees. The technical expatriate advisor is proposed to be stationed at the FSM Development Bank, but will be working closely with other relevant Government Departments and Ministries, both in the National and the State Government.

3. Background and Justification

The Federated States of Micronesia (FSM) is constituted of 607 islands scattered in more than one million square miles of the Western Pacific Ocean within an east-west chain of islands known collectively as the Carolinian Archipelago. The FSM is composed of four state, namely, Pohnpei, Chuuk, Yap and Kosrae. The total population of the FSM is estimated to be around 96,000.

Very few manufacturing industries are existed and the main cash income are working in the government establishment being employed in the commercial establishments producing handicraft, selling surplus coconuts, fish and some food crops. The Government is now keep looking into various possibilities for the development of small scale industries to earn more cash income.

4. Outputs

- (a) Small Industry programme as outlined within its work activities;
- (b) Implementation of the recommendation of the Small Scale Industry Programme Committees in the four states (recommended new committee), as well as the Regional Council of the Small Scale Industry Programme (recommended new committee), within the context of the mandates of these committees;
- (c) Expansion and diversification of existing industrial ventures and establishment of new ventures in F.S.M.
- (d) Within the context of point (3) create and promote new industries for export and import substitution;

- (e) Within the context of point (3), attract foreign capital and develop joint ventures;
- (f) Preparation of in service training programmes for local prospective entrepreneurs and related workers;
- (g) Establishment of private sector organized body in each State to represent the business community in State and National planning and development process;
- (h) Train the counterpart to ensure successful takeover of the Programme Coordinator work activities at the end of the programme life.
- (i) Assess and review the existing industrial development programme in the F.S.M.
- (j) Provide ideas for new areas of productive business activity accompanied by the required pre-feasibility investigations, evaluations and market analysis, this includes identification opportunities for small scale manufacturing activities taking into account available raw materials existing skills and potential entrepreneurship capabilities;
- (k) Assist F.S.M. states in the preparation of medium/long term programme for promotion and development of small scales industries;
- (l) Identify specific projects which would justify state and national governments participation and recommend possible joint venture with outside financing;
- (m) Provide training and business consultancy services, in collaboration with the appropriate institutions such as the Business Advisory Service for the small scale business development programme;
- (n) Organize in-services training/workshops for local prospective entrepreneurs and related workers, on aspects of the development of the Small scale industries;
- (o) Initiate contacts with local business, and overseas associations, and investment groups, with the aim of promoting F.S.M.
- (p) Provide guidance and strategy for indirect and direct promotional campaigns;
- (q) Plan and assist in marketing studies, market testing for future production in the pre-feasibility period so as to provide realistic guidelines for investors;
- (r) Work closely with the counterparts in F.S.M. to ensure smooth take over of the programme by the government at the end of the programme time.

6. Project Inputs

(a) Government Inputs

The Government will provide office space and other necessary support facilities for the successful implementation of the programme.

(b) UNIDO Inputs

UNIDO will make available the services of a well experienced regional economist and small business expert for an initial period of two years.