

# MADANG PROVINCE

By Walai Benjamin,  
Provincial Rural Development Officer

Walai Benjamin was born at Karkar in the Madang Province  
29 years ago.

He completed all his primary education in the Madang  
Province, then went to Tusbab high school in the same  
Province. Later in 1964 he went to Sogeri high  
school where he completed his fourth form in 1967.

He attended Vudal Agricultural College from 1968  
to 1970 where he graduated with a Diploma in Tropical  
Agriculture.



Walai Benjamin

After graduating he joined Coconut Products Limited and worked at the Garua  
and Numundo Plantations in Talasea as assistant plantation manager since he had  
been sponsored by the firm to attend Vudal. He stayed with the company for a  
period of 7 months.

He resigned and joined the Department of Primary Industry in September, 1971.  
Later he was posted to Finschhafen and then to Kabwum in the same province in  
1972 as the officer-in-charge of the Kabwum district.

In July to September, 1973 he attended an Agricultural and Information and  
Communication Workshop at the East-West Centre, Hawaii. He has attended numerous  
other courses including middle management courses.

In October, 1973 he was transferred to Madang to understudy the Provincial Rural  
Development Officer position. He was acting PRDO from February, 1974 to December  
when he became substantive PRDO.



His special interest in agriculture is vegetable farming.

Walai is married with two children and his wife Barbara works with the Health Department as a maternal and child health nurse.

The land area is 29 150 km<sup>2</sup> with a narrow mainland coastline of 354 km. Inland the rugged central ranges rise 4 510 m dividing the coast from the extensive Ramu valley. The lower part of the Ramu River runs northwards towards the coast, through extensive swamp areas. The offshore islands are Manam, Karkar, Bagabag and Long Island.

Along the coast and inland on the rugged central ranges, rainforest predominates except where rainfall is less than 2 540 mm. The whole of the Ramu Valley is covered with grassland, giving way to rainforest near the coast.

The climate is a wet tropical type with a "wet" season from November to April and a "dry" season from May to October. The average annual rainfall ranges from 1 796 mm at Dumpu to 5 902 mm at Aiome, with a daily temperature range from 23<sup>0</sup>C to 30<sup>0</sup>C.

Out of the total 29 150 km<sup>2</sup> of land about 20% is suitable for cropping or mixed farming. Nearly 20 000 ha is cultivated annually as part of the bush fallow rotation for subsistence and about 16 300 ha is in use for smallholder cash-crops.

The soils are generally brown and red clays on mudstone, and alluvial deposits occur in coastal areas and river valleys. There are recent volcanic deposits on Manam, Karkar and Long Islands.

Major road links are Madang to Bosmun, Madang to Ramu joining the Highlands Highway from Lae, Madang to Ileg and Madang to Gogol.

Apart from Bagabag and Manam Islands, all the districts, patrol posts and mission stations have airfields.

Coastal vessels service the entire coastline and offshore islands. There is a wharf on a deep natural harbour at Madang for overseas ships.

Telephone services include the overseas telecommunication link, STD telephone services plus radio-telephone at government and mission stations. There is a local NBC radio station.

## PEOPLE

The province population is 207 000. The majority are subsistence farmers. Manpower available is about 150 750 and there are about 137 995 potential farmers.

There are more than 51 language groups. The major languages like Gigaged and Amele, the former along the coast and the latter inland,



are spoken by most people in the province as a second language.

Naturally in the past there was a high degree of tribal isolation. But with the import of modern influences - communications, government, missions, and other agencies - there are fast changes and some innovators are taking advantage of these changes especially in rural enterprises.

Because there is no real land pressure problem apart from areas like Bundi, Simbai and Karkar Island, there are fewer land disputes than in most areas of Papua New Guinea.

With the long period of contact, since 1901, there are only a few old people who cannot speak and understand Pidgin and most villages have a radio. Through education changes are taking place from the younger generation upwards. There are 4 high schools, 1 teachers' college, 1 technical college, 5 vocational centres, 1 skulanka, 103 community schools and 1 multi-racial primary school. Currently 19 241 students are attending these schools and colleges. All schools take an interest in agriculture. Most mission schools endeavour to be self-sufficient in food.

The two main missions are the Catholic and Lutheran. These missions also own large plantations, rural health centres, aid posts, both community schools and high schools, and play some role in agricultural education and development. The two have bulk stores for wholesaling and retailing. The Lutheran Mission has a shipping service and a Lutheran Technical Service. Other missions in the province are Church of Christ, Seventh Day Adventist, Anglican, Jehovah's Witness and United Church.

The missions have had a lot of influence on the people in the past but their influence is lessening as more people are becoming educated.

Apart from a few areas, the level of nutrition is probably slightly higher than the Papua New Guinea average as there are no real land problems. Most people have enough garden space and usually have access to fishing on the coast or in rivers, and hunting grounds. Some large families may lack labour to produce enough food for all months particularly in severe dry seasons.

There are health centres in all major centres. There is a hospital and 19 rural health centres and 138 aid posts. The hospital has a college attached to it which offers three-year courses for health inspectors and health extension officers, and nursing aide training.

## POLITICAL

Although the members of parliament are all involved with one or other kind of rural business, they have not become involved in planning for agriculture development in general.

The Area Authority is quite an active and effective body. DPI gets good support from the Area Authority on agricultural development plans.



There are 15 councils in the province - 14 rural and 1 urban - and 2 non-council areas. All the councils have agricultural committees but most of them have not yet become effective.

Tax rates vary from K15 to K1.50 depending on income in each ward.

Department of Primary Industry staff in all council areas always attend council meetings in their areas.



*Fishing boats and Paul Katio*

#### SELF-HELP AND PRESSURE GROUPS

The major self-help groups are: Bogia Co-operative Society, Madang Cocoa Society, Josephstaal Kofi Society, Karkar Kampani, Madang Provincial Cattlemen's Association made up of branch associations from districts, Jamlong Kampani (formed by pig farmers), Ali Fishermen's Association and the Bel Temanek Association.

The Karkar Kampani and the Bogia Co-operative Society are strong and well established. Most of the other rural associations are not as strong as most of them are new societies.

Women's clubs exist with interests in sports and social welfare.

#### ECONOMY

Rural economic farming consists of copra and cocoa in coastal areas, and in inland areas, coffee. Rice is becoming important. Fishing along the coast and on the offshore islands is being encouraged.



In general marketing facilities are good. However, some areas in the province such as the inland areas and islands like Long Island have problems in transporting produce to the main market outlets.

The Government is buying plantation land in areas of high land pressures like Madang district, Karkar Island, etc. The government is also trying to buy land around Bogia district to provide an opportunity for Manam Island people to resettle.

There are two land settlement schemes at Sanapa, Hupuai and Hatzfeldthaven.

There are savings and loan societies in the province and the head office is in Madang.

Amdex Mining was looking for nickel at Bundi and Carpentaria Exploration was also at Bundi looking for copper. Hyundai Company was surveying Saidor for the setting up of a cement factory.

Jant Company operates a chip mill. A large sawmill is run by Wewak Timbers and the missions have a couple of sawmills for their own requirements. The Gogol Timber Project is a national project.

Dylup Plantation produces coconut fibre mattresses. There are also industries for plastic manufacturing, construction of concrete tanks and boats, and a tobacco factory.

There are three commercial banks in Madang. The Papua New Guinea Banking Corporation gives loans to individuals or groups and associations as personal or business loans for any feasible project.

There is a branch of the PNG Development Bank.

Large trading companies in the province are Burns Philp, New Guinea Company, Steamships and Namasu.

## AGRICULTURAL DEVELOPMENT PROGRAMME

### COCONUT

Smallholder growers have 9000 ha mature coconut and 6500 ha immature. There are 24597 growers and smallholder production is 4 749 tonnes,

The total copra produced from smallholders and plantations is 14 093 tonnes.

The Copra Marketing Board buys copra in Madang.

There is much more land available for expansion in the Saidor, Bogia and Madang districts. Neglect of maintenance and below maximum harvesting may be due to the low price.



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The area under coconuts was 15500 ha in 1976, with an increase of 300 ha planned for 1976-77. Another 292 ha is planned for 1977-78. Copra driers will be increased from 270 to 324 in 1977-78. About 25 new driers will be built each year in the next four years.

DPI extension staff will encourage maximum harvesting of existing trees and improved processing and maintenance of the existing copra driers. Producers will be trained to keep farm records - 200 in 1977-78, 150 in 1979, 300 in 1980, 400 in 1981 and 600 in 1982.

A rejuvenation programme has been started on six very old plantations. In the next four years the rejuvenation programme will include six old plantations per year.

More production is expected when new plantings come into production by 1980. By then a copra oil extracting factory in Madang will be warranted.

## COCOA

There are 973 237 mature trees (1 129 ha) and 341 378 immature trees (461 ha) of smallholder plantings. There are 6727 growers. Smallholder production has increased from 455 tonnes to 511 tonnes out of the total province production of 2 157 tonnes of cocoa.

Most of the smallholder cocoa is either sold to the co-operative societies or to large estates, or sold direct to Rabaul Trading Company in Madang.

Madang, Bogia and Karkar group organizations have mechanical driers.

Interest in the crop is high in all areas where cocoa can be grown, but areas where road access does not allow wet beans to be transported to a central fermentary within 12 hours are not able to start cocoa-growing.

In 1976 - 77 the Department encouraged maximum use of existing plantings through better harvesting and processing through group organisations. Coastal coconut growers have been encouraged to interplant 1 580 ha with cocoa. Another 208 ha of new plantings is planned for 1977-78.

Dieback-resistant cuttings will gradually be introduced to cocoa growers. A clonal seed distribution centre for the province is also planned for 1977-78.

An increase of plantings of 100 to 150 ha annually is anticipated if marketing facilities and good prices are maintained.

Increased planting of up to 50 000 trees is anticipated for Saidor by 1980. A central fermentary for Saidor is planned for 1980.





*Taro true*



*Mami*





*Aibika grown in the Madang province in a subsistence garden.*

## FISHERIES

There are ten commercial fishing groups and another four are to be established by the end of 1976-77.

Fishermen sell fish privately to business firms in town. The Bel Temanek Association which deals with buying and selling of fresh fish has run into financial problems. Steps are being taken to help the association to overcome its difficulties.

Sale of fish supervised by DPI was 4.5 tonnes per year. The province's annual catch is estimated to be approximately 10 tonnes.

Much effort has been made in fisheries extension to increase fishing activities in the province. Use of nets and handlining and improved preservation techniques - ice packing, smoking and salting - are being demonstrated. Shortly there will be ten ice hoppers in villages.

Fourteen more buying points will be established in 1977-78. About 8 village fishing groups and 2 commercial groups will be set up in 1977-78, with about 20 more village group and 5 more commercial groups over the next four years.

When the projects are well established on Bagabag, Karkar and Long Islands the catch could be well over 20 tonnes.





*Carrying Fish to Freezer*

## CATTLE

There are 173 smallholder cattle projects with 5 300 head. Total cattle population in the province is 15 000. An estimated 182 000 ha of land is suitable for beef cattle. The annual slaughtering figure is at present 500 head.

Cattle are sold to Lae and Madang abattoirs.

Lack of quick monetary return, lack of support from village groups and overstocking problems are slowing down this activity, but overall interest still exists.

In 1977-78 the aim is to establish 98 new projects. These will be stocked with 1 499 head. All cattle projects are stocked with 16 head - one bull and 15 cows - to start with.

About 50 new projects will be established each year.

Improved pasture will be established on about 1 000 ha in 1977-78, and about 500 ha each year in following years.

In 1977-78 32 farmers will be sent to Urimo for training, and extension officers will train 87 more project owners at their own stations.

Two steers will be trained as draught animals at Bogia in 1977-78.

Local involvement will be encouraged this year.



Health services will be maintained by the Department.

## COFFEE

There are approximately 20925 Robusta and Arabica coffee growers. The total area under coffee is 1762 ha (514 ha mature and 247 ha immature Robusta and 610 ha mature and 391 ha immature Arabica coffee).

Total annual production is 381 tonnes parchment (161 tonnes Robusta and 220 tonnes Arabica). Production may double if maximum harvesting of cherries is achieved.

More than half the growers find difficulty in marketing their coffee. DPI, Namasu and J. Perkins buy coffee.

Lack of seed supply and lack of interest from farmers restricted coffee expansion programmes.

In 1977-78 a total of 225 ha of coffee plantings is planned. Local government councils will be requested to provide 72 coffee pulpers in 1977-78 and 32 in 1979.

Planting of Arabica and Robusta will be about 80 ha each for each of the following years.

Local coffee dealers are being encouraged where possible to reduce the Department's involvement in coffee-buying. Most of the marketing responsibility should be taken over by local organizations by 1980.

Central coffee-buying points and storage sheds are planned for Tangu, Gangalau and Usino by 1979.

A coffee mill for the province is being investigated.

## SUBSISTENCE, NUTRITION AND FRESH FOOD SALES

A wide range of tropical fruits and vegetables is sold through the Madang market and to Jant Company operations.

The recurrent annual dry spell between June and September does have a fluctuating effect on the volume of subsistence produce going through the markets at Madang, Saidor, Bogia and Usino.

A population pressure problem is becoming evident on Karkar Island and attempts are being made to assist subsistence farmers to change from shifting cultivation to intensive gardening.

Seed collection and distribution centres for subsistence crops are being set up in all districts. The aim is to provide high-yielding and disease-resistant planting materials to villages through observation and selection from the demonstration plots.

New varieties of food crops are being introduced where applicable to these seed collection plots, and better culture methods, use of compost, etc. will be encouraged.



There is no serious malnutrition along the coast but it is a problem with some inland people.

People's attitude to change in this field is very conservative.

The introduction of new varieties of vegetables is continuing and seeds are being distributed.

A variety of vegetable seeds has been distributed. Approximately 100 kg of vegetable seeds, maize, sorghum, soya bean, peanut and sugar-cane were distributed to schools and the councils for further distribution to growers.

Councils are being encouraged to purchase more seeds for resale.

Fourteen district collection and distribution blocks are planned for 1977-78 and nutrition field days and health education programmes in conjunction with other departments are being planned.

The subsistence nutrition programme will continue over the next four years, with about five new demonstration blocks established each year, and seed distribution and education will be continued.

#### POULTRY

There are numerous village chickens. Of the two sizeable poultry farms near Madang, concentrating on egg production, only one is still operating. The other closed down when the owner left the country. A suitable person or group may start the farm going again. There are no commercial poultry projects owned by village people.

The Department of Primary Industry distributes day-old chickens to villages at the rate of 200 chickens per month. However, commercial hatcheries do not meet the demand from villages for chickens.

A feasibility survey for poultry projects between Madang and Bogia is planned for 1977-78.

An officer will be trained at Lae in 1977 and on return will be responsible for setting up eight broiler projects for 1977-78. Each project will be stocked with 1000 birds. Farmers will be encouraged to grow poultry feed.

Six new projects are envisaged each year, and established projects will be expanded to 2 000 birds.

In 1977-78 3 300 day-old chickens will be distributed to villages.

One layer project is planned for 1977-78, 5 for 1979, 3 for 1980, and 1 for 1981 and 2 for 1982.

Ducklings will be distributed from 1980, with 150 in 1980, 350 in 1981 and 400 in 1982.





*Monica Imai from Yabob village hosing and cleaning piggery*



*Councillors standing in smallholder rice paddock at Erima. Rice belongs to Yogeri Moteriri (third from left)*



## PIGS

Dylup plantation is running an intensive piggery producing pork for sale.

Four pilot pig-fattening projects near Madang - "peri-urban pig projects" - using Dylup's feed and weaners, proved successful.

Five are now in operation financed by Development Bank loans, seven more are to be established by the end of 1978.

Weaners are raised to 60 kg average live weight. Current price for pork in Madang is K1.76 per kg dressed weight.

Results to date show one project earning a net profit of K7 compared to K380 on another for 20 pigs raised for a period of three months. Such contrasting results reflect management problems and the standard of selection for weaners.

More fattening projects will be set up if the market warrants it, at the rate of about five per year. In 1979 a feasibility survey for a fattening project at Bogia will be carried out.

Semi-commercial projects will be set up in Bogia and Saidor - 1 or 2 in 1978, and 3 each year for the next four years.

Village pigs will be improved by lending a station boar to 24 villages near Bogia in 1977-78, 8 in 1979, and 5 each year in 1980-82. Saidor will also be surveyed in 1977-78 to see whether a boar is needed there.

The Jamlong Kampani, which arranges sale of pigs from projects near Madang, will be assisted to become fully operational in 1977-78.

In 1980 the company will be assisted in negotiations for purchasing Madang Butchery.

## RICE

There are 340 rice farmers. Production last year increased from 72 to 103 tonnes of paddy. A total area of 180 ha was planted.

More interest has been shown in this crop. There is a bright future ahead for the rice industry if village consumption can be encouraged and milling facilities in Madang can be efficiently maintained.

A new Satako rice mill has been installed in Madang and its daily milling capacity is 500 kg of white or brown rice.

Another Satako machine is planned for Bogia by 1977-78 if money becomes available.

Simple processing implements were produced by DPI staff and use of these is being demonstrated to villages to encourage people to process and eat their home-grown rice. It is planned to increase local consumption each year up to 25% in 1982.



Problems with supply of rice seeds for distribution and low seed viability are recurrent.

A programme to improve the quality of paddy will be carried out for the next five years.

In 1977-78 250 ha will be under rice cultivation. A feasibility study will be carried out into lowland rice farming with irrigation. If feasible rice farming with irrigation will be tried beginning in late 1978. The area planned for 1979 is 158 ha, for 1980 152 ha, 1981 205 ha and for 1982, 240 ha.

## WILDLIFE

To protect and develop wildlife resources a full-time wildlife officer was appointed drawn from DPI staff.

Already some wildlife management areas have been set up. These are Bagiai on Karkar, Long Island, and Balek Wildlife Sanctuary. Wildlife management committees have been set up for these areas. Aiome, Simbai and Astrolabe Bay management areas are at their initial negotiations.

Two crocodile farms have already been set up at Josephstaal, stocked with 49 crocodiles.

Two large crocodile farms are planned, one at Bogia and the other at Usino with holding capacity of between 1 000 and 3000 crocodiles.

A provincial wildlife station for Madang is planned and two wildlife stations at Long Island and Aimoe, for 1977-78.

Between 40 and 55 cassowaries were sold to the highlands by the Ramu people.

Two cassowary farms are planned for 1977-78.

## PEANUTS

Commercial peanut production in the province has declined because of poor marketing services.

The peanut seed distribution programme is still maintained.

Large-scale commercial production of peanuts is anticipated on the upper Ramu where mechanical cultivation is encouraged.

The takeover of Kaiani feed mill in the Morobe Province by Gillespie Brothers, one of the big livestock feed companies in Australia, will definitely provide a pressure for the production of more peanuts.

Progressive farmers will then be helped to buy tractors through Development Bank loans.





*PRDO Walai Benjamin and other provincial leaders looking at Buffalo*