

CENTRAL PROVINCE

By Joachim Kupe, Provincial Rural Development Officer

Joachim Kupe comes from Kapau village in the Manus Province. After attending school at Bundralis in the Manus Province, and Mongop high school in the New Ireland Province, Mr Kupe went to Vudal Agricultural College in 1968. His first job after graduation was as a livestock officer at Kurakakaul, in East New Britain. He was then posted to Popondetta as provincial livestock officer for the Northern Province. He left Popondetta in June, 1973 to understudy the job of PRDO in Port Moresby. During 1974 he spent two months at Sussex University in England, at a seminar on food and nutrition, under a British Government Technical Assistance award. He was appointed PRDO for the Central Province in April, 1975. Mr Kupe's wife Ludwina formerly worked as a teacher. They have four children.



Joachim Kupe

The Central Province consists of the south coast of the mainland island, from Cape Possession to Orangerie Bay, a distance of 407 km. The northern border is the watershed of the Owen Stanley Range. The distance from the coast to the watershed of the ranges varies from 100 to 30 km.

The province is one-third coastal plain and two-thirds foothills and mountain range giving a total area of 34 457 km².

One of the important factors about the Central Province is that it contains Port Moresby, the administrative centre and the national capital of Papua New Guinea with an area of 225 km².

The Central Province has a high potential for agricultural development. The arable area is approximately 75 %; 25 % is being used in cash crops, subsistence agriculture and timber lumbering while 50 % is unused. The remaining 25 % is swamps, mangroves or mountains not suitable for farming.

The soil varies from the coastal plain and river beds of sandy to alluvial soil to clay in the inland and mountains, several of which are rocky.

The province's annual rainfall is light compared with other nearby provinces such as the Gulf and Western Provinces. Within the province Port Moresby has the lowest rainfall (1 016 mm). The districts of Gollala

and Abau have the highest rainfall (2 500 mm).

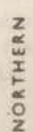
During the months of April to October, Port Moresby, Kwikila and Bereina receive low rainfall. Their average rainfall for the dry season ranges from 76 mm to 254 mm, while Abau, Tapini, Guari, Wotape, Magarida and Cape Rodney receive their high rainfall with an average for the season of between 1 270 mm and 1 524 mm. But during the months of November to March most areas have similar rainfall—the exception is the Kupiano-Abau area which has opposite seasons to the rest of the province, i.e. a "dry" Christmas.

The Central Province vegetation varies greatly, from the Port Moresby area, where the vegetation is savannah or semi-deciduous forest, to rainforest in the inland and foothills. The savannah area consists of kunai grass, kangaroo grass and pitpit. The inland rainforest contains various types of valuable timber trees. The swampy land near the coast is covered by mangroves and pandanus.

Jacksons Airport in Port Moresby is an international airport. The new runway which is under construction will be suitable for 747 Jumbo Jets. There is a total of 27 smaller airstrips in the province.

There are about 1 600 km of road in the province, half of which are able to stand heavy traffic. The two main highways are Port

GULF



Moresby to Bereina known as the Hiritano Highway and the Port Moresby to Rigo highway which is going to be connected with Kupiano. There are numerous feeder roads.

The Asian Development Bank is lending K 7 500 000 to PNG to extend and improve the Hiritano Highway. A road will be constructed to connect the Tapini to Guari road with the Hiritano Highway, via the Kubuna to Bakoiudu road. The improvements to the highway will allow a large increase in vegetable production in the Bereina and Goilala areas, for sale in Port Moresby.

With the improvements and extensions to the Hiritano Highway, the Asian Development Bank foresees an increase in sales from the Bereina area from about 8 000 tonnes in 1978 to 50 000 in 1997, and to 18 000 tonnes from the Goilala district in 1997.

Outstations along the coast not accessible by road are served by a fleet of small ships.

The province is very fortunate in having transceiver radios in all settlements, patrol posts and centres. A few of the district headquarters have telephone services.

People

The estimated 1976 population of the National Capital District consisted of 93 000 Papua New Guineans and 18 000 expatriates. The population of the remainder of the province is estimated at 130 000.

There are 34 main language groups in the province, with a large number of groups from other provinces.

The main religious groups are the Catholic, Anglican, Jehovah's Witness, Salvation Army and Seventh Day Adventist. Missions are involved in agricultural development, small-scale industry, road development, health and education.

The diet of the Central Province people varies from coastal to inland and mountain areas. The people of the coast mainly live on fish with banana, yam, cassava, sweet potato and taro, with other coastal crops. The coastal area around Port Moresby experiences food shortages during the dry season but a large number of people are employed and are able to buy food from stores.

In the highlands of the Goilala district shortage of food can occur due to singsings, crop diseases or frosts.

The Central Province has numerous

aidposts and health centres. Port Moresby has a general hospital and a number of other hospitals are administered by the government and private organizations. The standard of health is generally good but there are incidences of malnutrition in both the urban and rural areas.

The people of the Central Province generally speaking have as their aims: to gain better education, to establish primary and secondary industries, and to improve the standard of living in their areas.

Land disputes are one of the major problems, as is common throughout Papua New Guinea.

The people of the Central Province are highly educated compared with the Papua New Guinea average.

There are 138 community schools, including 14 which teach the Australian curriculum, 11 high schools, 2 teachers' colleges, 1 technical college and 16 vocational centres.

In addition to these educational institutions, a wide variety of other types of education and training is covered in the Central Province, by national colleges and training centres. Situated in or near Port Moresby are the following: University of Papua New Guinea, Administrative College, Papuan Medical College, Dental College, Posts and Telegraphs Training Centre, Police College and Police Training Depot, Electricity Training College, National Broadcasting Commission Training College, China Navigation Company Seamen Training School, Army Recruit Training Depot, Corrective Institute Bomana and the Public Service Commission Training Centre.

There are numerous self-help groups functioning throughout the province.

Political

Political awareness is high in the province.

There are three active political groups, namely Papua Besena Movement, Numea Association and Negos.

The members of the National Parliament have all contributed to the Department of Primary Industry's efforts for agricultural development.

The members are: Regional, James Mopio; Goilala, Louis Mona; Kairuku-Hiri, Stanton Ronald Slaughter; Moresby Coastal, Gavera Rea; Moresby Inland, Sir Maori Kiki; Rigo-Abau, Reuben Taureka; National Capital



Irrigation farmer Edea Umia, from Kerekadi. Mr Umia is watering a crop of corn.

District, Josephine Abaijah.

The Central Provincial Government was established on 29 June, 1976.

There are 11 local government councils including the Port Moresby City Council.

The councils have all been engaged in some agricultural development projects in their areas.

Economy

The main cash crops are coconut, fish, vegetables, rice, rubber and cattle.

The Central Province is fortunate as far as the advisory services of the Department of Primary Industry are concerned.

Two-thirds of the agricultural potential of the province is not tapped due to such reasons as land disputes and lack of resources.

About 80 % of available labour are prepared to engage in some sort of work to earn cash while 20 % carry out subsistence agriculture.

Port Moresby is the main industrial and shopping centre with numerous tradestores and banks.

The Papua New Guinea Banking Corporation has agencies in all the districts of the province.

There are seven settlement schemes with rubber and other cash crops.

The Office of Business Development is encouraging community groups to establish Savings and Loans Societies in numerous parts of the province. However few of these are very successful.

AGRICULTURAL DEVELOPMENT PROGRAMME

Fresh foods

At present, fresh foods are the highest income-earning cash crop in the Central Province.

In general, people in rural areas grow their own food, but most of the food consumed in the National Capital District is purchased.

Using a per capita consumption figure of 475 kg of fresh food per annum, it has been estimated that the total consumption of fresh foods for the province would be 132 000 tonnes, with 50 000 tonnes consumed in the National Capital District.

It is interesting to note, from the following figures, that an estimate of the actual consumption in Port Moresby adds up to only 43 025, leaving a shortfall of 7 000 tonnes.

These figures suggest that some people in Port Moresby may be short of food.

It is estimated that the following quantities of fresh foods are consumed by people in the National Capital District per annum—

	<i>tonnes/ annum</i>
Imported by Food Marketing Corporation from Lae and highlands	2 600
Imported from overseas	3 000
Produced by Central Province farmers for sale in National Capital District	22 000
Produced by National Capital District backyard gardeners	125
	<hr/> 27 725 <hr/>

Cereal products replacing traditional staples, mainly imported from overseas, are as follows—

	<i>tonnes/ annum</i>
Flour	7 000
Cereal and flour products	300
Rice	8 000
	<hr/> 15 300 <hr/>

(An additional 10 000 tonnes of the above commodities are imported through Port Moresby for rural centres, plantations, etc.)

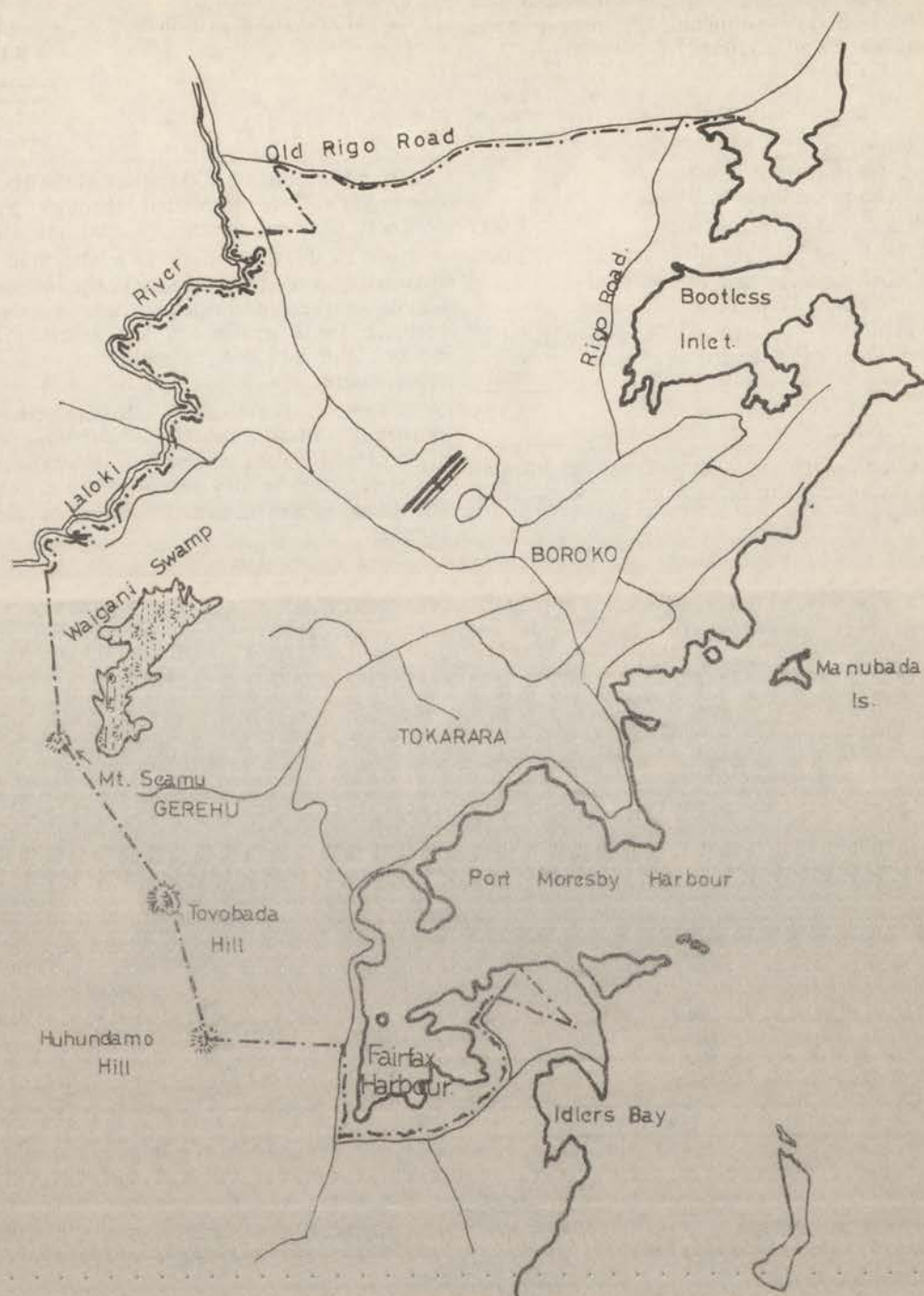
It is likely that there is a shortage of reasonably priced fresh foods in the National Capital markets, and this programme aims to increase local production to correct this before this before aiming at import replacement.

People in rural areas also experience shortfalls. Food shortage problems are aggravated by poor soil, the low rainfall, and the eight months' dry season. Farmers also sell food which should be eaten by their families.



Mr Umia's family weeding a garden.

NATIONAL CAPITAL DISTRICT



The overall aim of the programme is to encourage farmers with road access to Port Moresby to eventually provide the people of the National Capital District with sufficient reasonably priced fresh foods to replace imports from both outside Papua New Guinea and other areas such as Lae and the highlands.

Along with this aim it is important that the people in rural centres and villages also become self-sufficient and develop a farm output that will provide them with an adequate and nutritious diet.

The national government has provided an outlet for fresh foods with the establishment of a wholesale fresh food market in Port Moresby, and the Port Moresby City Council has built market facilities at Waigani, Gordon, Hohola, Morata, Boroko and Kilakila. There is also the large, almost traditional, market at Koki.

The government has also established a 50 ha vegetable farm at Moitaka.

A village farm-gate buying service which was started last year was discontinued as people were dissatisfied with prices and operational expenses were too high.

Planting material is sold to farmers when required.

A machinery service has been organized, so that farmers can hire tractors and implements to plough their ground. This is very important, as the amount of labour needed to dig hard ground using hand tools makes vegetable-growing unattractive compared with other activities such as paid employment or fishing.

The 1976-77 programme includes the following.

One thousand citrus trees will be distributed at Kuriva and Kapogere.

Farmers will be encouraged to plant a further 200 ha of vegetables along the Hiritano Highway.

Two small irrigation plots have already been established near Port Moresby, and four more will be introduced. Two or three field staff will be trained in irrigation techniques.

Pamphlets on gardening techniques will be designed in three languages and distributed.

Production of the more perishable food will be encouraged closer to Port Moresby.

There will be an intensive propaganda campaign to encourage people to produce sufficient food to satisfy both subsistence and

cash crop needs.

In 1977-78 it is expected that production could increase by 10 000 tonnes. With population growth the deficiency of fresh foods will still be considerable. It is expected that a further 300 ha will be cultivated this year.

Field staff will receive more training on irrigation and in 1978-79 the Department will set up a group of irrigation extension technicians. A further 200 ha will be cultivated, including 10 to 20 irrigated farms.

If the above programme is successful and population growth remains at 8 % the amount of food imported will be reduced by 75 % by 1979-80.

As roads are developed to isolated areas such as Mt Koiari and Gailala, more farmers will become productive.

The Central Province should be self-sufficient in most fresh foods by late 1981. Rice and flour imports would be the exception but these could be halved as locally produced staples take their place.

Fresh foods—National Capital District

Last year the Department of Primary Industry investigated the practicability of increasing the level of backyard food production to make the urban dweller more self-sufficient. Two field officers were involved full-time on liaising with interested groups, leaders, housewives etc.

It is estimated that out of a total Papua New Guinean population in the National Capital District of 96 400 there is a potential for home food production among about 70 % of families, with an average area per producing household of about 122 m² (0.012 2 ha). The total potential home garden area is about 100 ha.

Seventy per cent represent 8 360 suburban holdings. Some 5 000 families are excluded as they are either on blocks without suitable garden land or are settlement families without land.

The possible yield per household garden is 100 kg per annum. The average number of people per household is eight.

There are also schools with an average potential garden area of 0.5 ha, where food can be produced for sale.

Along with the objective of self-sufficiency is the problem of overcoming the high rate of malnutrition among children caused



National Capital District rural development officer, Mrs Juana Hernandez, in front of a blackboard showing the crop rotation schedule she designed for Port Moresby home gardeners. With Mrs Hernandez are (from left to right), Councillor Ara Geno, chairman of the Moale Youth Centre, PRDO Joachim Kupe, Councillor Francis Griffin, chairman of the Koki Market Trust and Councillor Mahiro Kivovia.

generally by their inability to obtain sufficient quantities of the right foods.

A 40 m² nursery has been established at the DPI office at Kilakila.

Demonstration plots have been established at Wariarata Scout Camp and Bavaroko community school, ranging in size from 200 m² to 500 m².

Vegetable seedlings are being distributed at 2 t each; 1 856 seedlings have been distributed this year. Packets of seeds are sold at 5 t to 15 t per packet. Two rotary hoes and 48 hand tools have been purchased for hiring out.

The Housing Commission and the Port Moresby City Council have set aside areas of land within the National Capital District city plan, and these areas will be developed as allotments for home vegetable growers.

The 1976-77 programme is as follows.

A small utility with driver and a trailer are to be obtained.

Radio programmes in English, Motu and Pidgin will be broadcast 15 minutes per week. A permanent provincial broadcast officer will be nominated from among the DPI staff, if a suitable person can be obtained.

Extension staff will increase contact with urban gardeners; we will attempt to contact

500 housewives through community groups and field days.

In conjunction with the Department of Health, 12 slide shows on nutrition will be held for urban gardeners, schools and community groups.

An exhibition at the Port Moresby Show in June will show examples of small vegetable plots and poultry houses suitable for suburban gardens.

Two pamphlets on poultry and one on gardening are planned.

The use of manure and compost will be encouraged on field days.

As well as carrying out the extension programme, the Department will liaise with other departments to solve land and water shortages.

The programme over the next four years will continue along the same lines. The amount of home garden land available for cultivation will be increased to 216 ha by 1980-81. The number of housewives reached by extension workers will be 750 in 1977-78, 1 130 in 1978-79, 1 690 in 1979-80 and 2 530 in 1980-81.

Urban dwellers will be encouraged to grow 1 500 chickens, increasing to 5 160 chickens



National Capital District housewife, Mrs Hau, with her family in the garden at her home in Gerehu. The Hau family moved into their home five months ago, and now have tomatoes, chinese cabbage, corn, pumpkin, cassava, bananas, beans and sweet potato growing.

by 1980-81.

Farm Machinery Hire Service

This service was established last year. At the time there were approximately 50 privately owned tractors and equipment in the Mekeo area, and more at Rigo, but their owners were reluctant to lease them, so the Department decided to provide a service.

Tractors and farm implements were bought by the government, and hired out to farmers and groups who have insufficient funds to buy their own machinery.

The rice-growers in the Mekeo area were the first to use this facility. In 12 months they paid K18 000 for hire of the machinery.

An important part of the aim of this programme is to encourage farmers to produce more fresh foods for the Port Moresby market. The cultivation of hard ground using hand tools, especially where labour was short, was discouraging to would-be vegetable growers, and was restricting production and providing only a low income for the farmers.

The Department now provides machinery for hire to these vegetable growers, plus technical advice.

Sufficient tractors and equipment were obtained to meet farmer demand along the Hiritano Highway and at Kupiano.

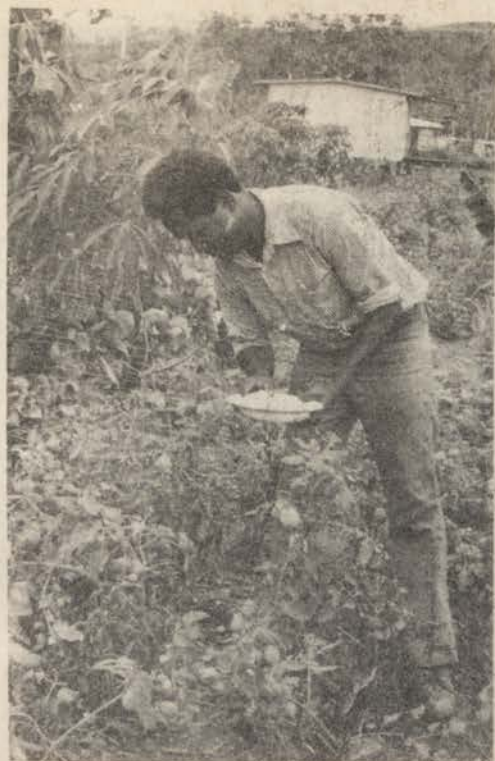
There are about 200 to 300 ha with potential for vegetable growing waiting for this machinery.

In 1976-77 the requirements for equipment will be further investigated, and the correct equipment, particularly rice harvesters, will be made available.

Ten farmers and DPI operators will be trained in a two to three week course at Bereina on the technicalities of operation of tractors and setting of farm equipment to achieve maximum efficiency.

Five or six farmers will be selected for a trial planting of Metro corn for fresh food and stock feed.

Trials on mechanized pasture development will be conducted in March, 1977, and if they are successful a field day will be held at Rigo



Rural development assistant Anthony Alsau picks a good harvest of tomatoes from Mrs Hau's garden.

to demonstrate the techniques.

Four new tractors and six trailers and two row-crop planters will be purchased, and a new rice harvester if required.

In 1977-78 the farm advisory service and operator training will be increased to cater for an additional 100 farmers on the Hiritano Highway. Further small irrigation units will be introduced, particularly in the Port Moresby area. Three more tractors and, if necessary, another rice harvester will be obtained.

In 1978-79 farmers using the service will be increased to 600. The service will be introduced in a small way in isolated areas such as Mt Koiari and Gailala, when roads are built into these areas.

Along the Hiritano Highway, and in other areas where the service will have been operating for three years, farmers will be encouraged to become self-sufficient in machinery, beginning in 1979-80. At the same time the equipment will be directed to new areas i.e. Gailala, Mt Koiari and Cape

Rodney.

Fisheries

The Department of Primary Industry provides freezers and arranges a market for fish, and advises fishermen.

Last year portable freezers and ice boxes were positioned at Hula, Deboin, Hisiu, Poukama, Bereina, Kupiano, Abau and Kapakapa. Frozen fish was transported to the Food Marketing Corporation for sale in Port Moresby.

The freezer at Hula was later moved—it was successful for a time, then people stopped fishing, so it was moved to another spot.

Low prices are a cause of lack of interest in selling fish through the freezer, but freshly caught fish sell readily at high prices in town markets. People also stop fishing when they have sufficient money for their immediate needs.

In 1976-77 five more freezers will be installed. Staff at freezer locations provide advice about fishing, handling of fish and maintaining and running of the freezers.

School leavers will be trained to take an interest in fishing in suitable areas.

In 1977-79 village groups will be encouraged to take over the village freezers.

An investigation was being carried out last year into processing of tilapia. Extension staff are advising villagers on improved handling and processing of fish, with a view to having processed fish available when there is a shortage of fresh fish.

Last year 3 000 trout fingerlings were released at Gosipi near Wotape, and 3 000 in the Loma River near Tapini. If this introduction proves successful more high altitude rivers will be seeded in 1978-79.

Rice

In 1975 there were 240 ha planted to rice, in the Mekeo area, and production was 528 tonnes. About 40 farmers were involved.

Although the area planted increased last year, there was no improvement in production per hectare. Production could be higher if thorough weeding were done. Another problem was that farmers were sowing non-viable, weedy and weevil-infested seed, and using poor varieties.

Some rice plots and other good potential land are under dispute.

A plan to set up a rice trial and

demonstration plots at Cape Rodney was not achieved last year.

In 1976-77 a rice trial and demonstration plots for villagers will be planted at Cape Rodney.

Mekeo plantings will be increased to 500 ha and growers to 70.

The Department will plant 20 ha at Bereina using varieties IR8, IR9 and NG 6637 short stem which will be weeded before harvest to produce clean seed of pure variety.

Farmers will be encouraged, through their own organization, the Mekeo Rice Growers, to plant clean seed only of the best variety, and to clean-weed their plots.

Plans will be completed for the rice mill at Bereina, which will include facilities for sun-drying and ratproof storage.

Harvesting problems will be resolved, and a second harvester will be purchased if necessary.

In 1977-78, through development of new areas at Cape Rodney, the area planted will be increased to 600 ha. More encouragement will be given to small village farms. The new rice mill at Bereina will become fully functional, and a small mill will be established at Cape Rodney.

In 1978-79, if problems such as insects, disease and processing are manageable in small village plots, this aspect could be developed to 100 ha.

A Provincial Rice Growers' Association will be formed with the object of developing self-sufficiency in the industry—harvesting, processing, marketing etc.

In 1979-80 large-scale mechanized dry rice farming at Cape Rodney will be developed to 200 ha.

The total area for the province will increase to 1 000 ha. With improved management, production could reach 3 000 tonnes.

By 1980-81 the more successful farmers will be planting 50 to 60 ha, and will be completely independent in cultivation and planting machinery. Some could own harvesting machinery, and lease it to other farmers.

Subsistence

The Department provides encouragement and advice to subsistence gardeners, and maintains a constant watch on the food garden situation so as to anticipate possible food shortages and problems of malnutrition.

Extension officers aim at improving the methods of farming used where appropriate, to increase food production at the village level and improve the overall level of nutrition.

Planting material, particularly more nutritious vegetables, is made available for distribution to farmers.

School leavers will be encouraged to play a greater role in subsistence agriculture.

Cattle

There are 157 village cattle projects with 1 800 head. There are 22 large cattle stations with 3 734 head.

The abattoir at Tiaba near Port Moresby kills 150 head of village cattle per annum, and 1 400 head of plantation cattle per annum. The slaughterhouse at Tapini kills 100 head per annum, half of which are mission-owned.

Cattle project development is progressing slowly—the level of interest is declining.

In village cattle projects the estimated calving survival rate is 40 %.

Village cattle project management is poor. The cattle training scheme is ineffective because young trainees leave projects to take up other employment.

Copper deficiency in the Karuama area of the Goilala district caused death of about 150 cows at calving last year.

With the exception of the Sogeri area the province is free of ticks.

In 1976-77 the level of assistance and advice will be improved by better positioning of experienced staff. Field staff will visit projects once every three months in all areas. They will maintain a high level of reporting to the Development Bank on management and loan repayments of 150 projects with bank loans.

Two projects at Marshall Lagoon will be stocked with 20 head, two at Kapogere with 20 head and 1 bull, one at Tapini with 5 bulls and 24 heifers, and 8 bulls will be distributed in the Mt Kotari area.

In future, only cattle project owners will be accepted for training courses. Twenty farmers will be trained per year.

Two "sick" paddocks of 1 ha each with improved pasture will be established at DPI stations in the five districts of the province.

Tick control will be maintained in the Sogeri area. Tests are at present being carried out in copper-deficient areas, and a copper deficiency correction programme will be

implemented when the test results are known.

In 1977-78 plans will be made for slaughterhouses for Kupiano and Bereina, and these will be completed in 1978-79.

With improved management, solution to the copper problem, and better allocation of advisory services the number of village cattle should reach 3 500 head in 1978-79.

Takeover of expatriate-owned stations by Papua New Guineans is expected to begin in about 1977-78, and it is possible that all Central Province cattle will be owned by Papua New Guineans by 1980-81. The total number of cattle in the province should be 8 000 to 10 000 head, provided managerial levels improve.

Rubber

Rubber is planted in 200 village plots and 500 block holdings. The total area of mature rubber is 445 ha, with 497 ha of immature trees. Production is 195 tonnes per annum.

There are also 30 plantations, totalling 9 500 ha, with an annual production of 4 800 tonnes.

On village blocks, people tap according to their need for money. At present the price is stable, and growers are satisfied with the price. Tapping is increasing in the Cape Rodney area and the factory is nearing its limit. Cape Rodney is also increasing plantings.

In 1976-77 up to 50 ha of bud-grafted rubber trees will be planted out from established nurseries at Cape Rodney and Bailebo.

New nurseries, with field potential of 30 ha, will be established in the Cape Rodney area. These nurseries will all be for budded material.

There are no plans for planting out trees from nurseries at Bakoiudu.

Three processing units will be established for Bakoiudu smallholders. A central factory will be planned for Kubuna if this is found to be necessary.

One-quarter of the farmers and half of the staff working on rubber will be trained on tapping and bud-grafting, by two Malaysian experts.

In 1977-78 a further 53 ha of budded material will be planted at Cape Rodney and Bailebo. In these areas it is anticipated that plantation production will decline due to old and uneconomical trees and labour shortages.

More nurseries with a potential for 28 ha will be established at Cape Rodney and Bailebo.

Cape Rodney could move into production of crepe rubber from cup lump and polybag collection.

In 1978-79 Cape Rodney will probably begin to produce technically specified rubber, laboratory tested and rated on international standards, in place of RSS and crepe production.

In this area plantings will be increased by 25 ha, and nurseries with potential for 28 ha will be planted. This will be planted out the following year. Plantings will be increased by 28 ha each year.

At Kubuna, nurseries using polyclonal seed will be established. Ten hectares will be planted in 1980-81.

The bud-grafted rubber which will be used in the Cape Rodney and Bailebo areas is expected to produce at the rate of 1 500 kg per ha per annum, and seed rubber will produce 1 000 kg per ha per annum.

Prices are expected to remain stable during the next five years, although this depends on the price of artificial rubber.

By 1979-80 plantation production is expected to decline to 4 300 tonnes.

Coconuts

Last year the production of copra was 815 tonnes from village growers and 4 823 tonnes from plantations.

A large quantity of coconuts is sold through fresh food markets, particularly in Port Moresby.

Price fluctuation and the amount of labour needed discourage growers from producing copra.

In 1976-77 17 new copra driers will be constructed: 13 at Abau, 2 at Kairuku, 1 at Port Moresby and 1 at Rigo.

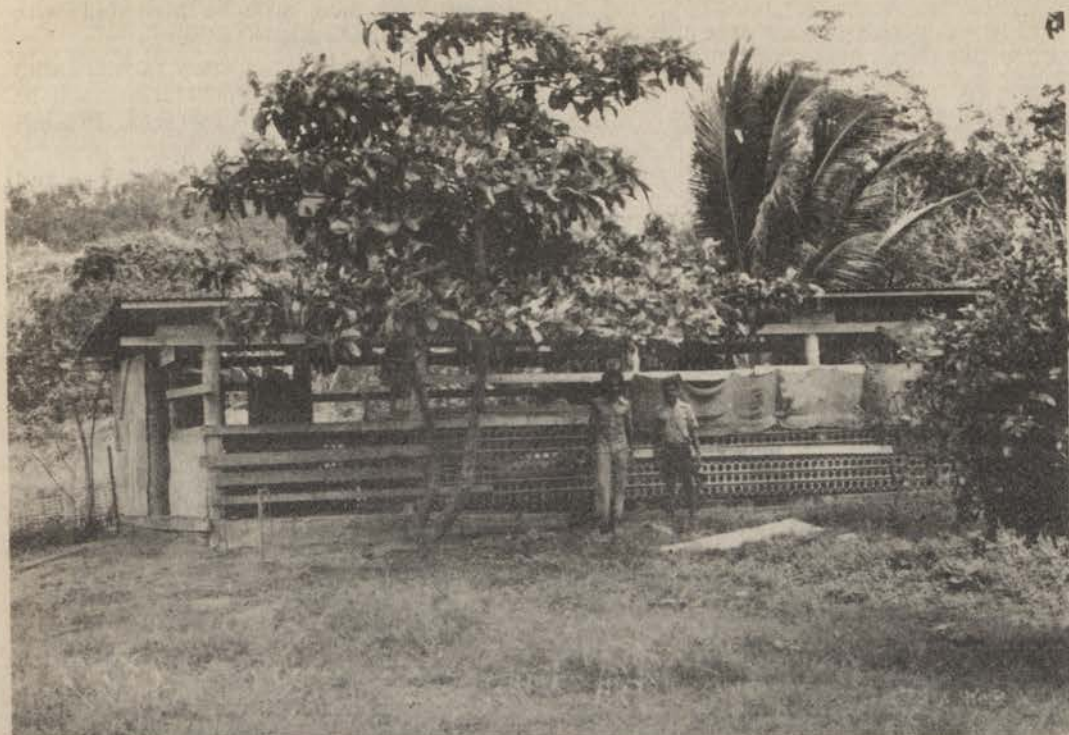
The area of coconuts in the Abau district will be increased by 62 ha.

Introduction of livestock under coconuts will be encouraged to reduce labour costs.

In future years, no increase of area is planned, but advisory services to farmers will be continued.

Coffee

In 1965 coffee rust was discovered in Sogeri and the Rigo Koiari. All coffee was



Pig house belonging to Mr Kedu Aruma, of Kerekadi.

destroyed in those areas and DPI staff have conducted regular 6-monthly inspections to ensure that no coffee is grown either deliberately or accidentally in the control areas. This prohibition will continue for these areas.

Last year 14.5 tonnes of Arabica coffee and 2.2 tonnes of Robusta coffee were produced. Main plantings are approximately 50 ha of Arabica in the Mt Koiari area.

Interest in coffee is low, although an increase of 10 ha was achieved last year. Price fluctuations have discouraged growers.

Management of coffee gardens could be improved. Growers neglect maintenance while the coffee flush is on, and for social obligations.

The 1976-77 programme is to rejuvenate all old trees, to improve maintenance on existing gardens and bring into production deserted gardens, and to encourage growers to increase their plantings to 500 trees per family. Fifty kilograms of Besuki coffee seed will be planted in nurseries in the Abau district. Statistical data will be collected.

Local government councils will obtain 30

coffee pulpers in 1976-77, and more pulpers will be bought in future years to achieve an adequate supply to villages.

A permanent coffee shed will be constructed at the DPI station at Efogi. As the Mt Koiari people are the most responsive, DPI field activities will be concentrated on that area. A continuing programme of Arabica nursery establishment will provide for expansion by 10 ha in 1976-77, 20 ha in 1978, 40 ha in 1979, 20 ha in 1980 and 10 ha in 1981.

Cocoa

There are about 7 ha of old low-yielding cocoa trees at Maipa in the Kairuku district. It is planned to increase this in 1977-78 to 12 ha using 12 000 clonal cuttings. This area will be served by a central fermentary costing K20 000, to be built in 1979-80.

It is doubtful if full potential will be realized until a road is put into the area.

Suitable areas for village cocoa plantings in the Abau district will be investigated in 1976-77. If necessary a DPI nursery of 3 ha of clonal cuttings will be planted for later

distribution.

Existing cocoa growers will be encouraged to improve their management techniques.

Wildlife

One demonstration crocodile farm with five crocodiles has been constructed at Bailebo in the Abau district.

There is growing interest in crocodile farming in the Abau district.

Feasibility studies will be carried out in areas where crocodile farms have been requested, including a study of availability of food, and projects will be established in 1976-77.

Extension officers involved in crocodile farming will be trained.

The Department of Primary Industry will purchase skins in the Abau district.

It is hoped that the industry will develop to a stage where by 1980 medium-sized community-owned farms each with 150 crocodiles will be established at Abau.

Pigs and poultry

There are 30 pig projects. Fifteen of these are moderately successful.

The Development Bank is reluctant to lend money for pig projects, as a number have failed.

In 1976-77 the Department will continue to encourage and improve the existing projects, and discourage the establishment of unsound piggeries.

The feasibility of setting up intensive pig-breeding projects in the Port Moresby district will be investigated. Other possible schemes for sound and viable piggeries will be investigated.

Pig farmers will be given necessary training similar to cattle farmers.

There are 15 newly started broiler poultry projects. A market has been achieved and the projects have satisfactorily passed the developmental stages.

Poultry farmers will be provided with training similar to cattle farmers.

Advice will be given to new farmers who want to keep poultry. Up to 20 farmers will be encouraged to join the supervised broiler-growing scheme in 1976-77.

Growing of peanuts, soyabeans, corn and sorghum for stock feed is being encouraged. By 1980, provided the fresh food programme is successful, farmers will be encouraged to develop 500 ha for the production of stock feed mainly along the Hiritano Highway.

Chillies, cardamoms, ginger, pueraria

Interplanting of chillies with rubber is being encouraged.

Further introduction of cardamoms in high altitude highland areas of the Central Province is planned for 1976-77.

Two hundred and fifty kilograms of ginger will be obtained for farmers in 1976-77.

One hundred kilograms of pueraria seed were produced for sale last year.

Sugar

The Department of Primary Industry has been conducting trials in sugar-growing for several years.

In 1964 overseas consultants confirmed that certain areas had suitable soil, climate and access for development of the industry. Following that, DPI representatives visited India and Australia to determine a development plan which would involve in particular the village farmer. Research work by the Department in the Markham Valley indicated that the varieties of Ragnar and Pundar were the most suitable. Several shipments of these were planted as one plot in the Kemp Welch area of the Central Province. This plot has now been successfully expanded to 20 ha. In 1976-77, bulking up in association with field research will continue in preparation for expansion of the project.

Implementation of the Kemp Welch sugar programme is dependent on adequate finance being available.