

# SOUTHERN HIGHLANDS PROVINCE

By Paul E. Kahata, Provincial Rural Development Officer

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Paul Kahata

*Mr Kahata is married, with two children. His wife Lin is a school teacher in Mendi.*

The climate of the province is typically "highlands" with cool nights and warm days, but is generally wetter than other provinces. The average rainfall exceeds 3 300 mm, varying from 2 360 mm at Kaupena in the Ialibu subprovince to Pangia with nearly 5 080 mm.

Temperatures range between 21 °C and 0 °C, with the average high at about 18 °C.

The most conspicuous feature of the climate is the lack of seasonal contrast. The average number of rain days at all stations is about 230 per annum.

Much of the province is mountainous. The mountainous area would cover roughly 41.1 % of the total area of the province.

Plains occur over 8.3 % of the total area and are basically in the Ialibu-Kumbeme area to the south of Mt Giluwe, and in the Mendi-Tambul area to the west of Mt Giluwe, in the Tari Valley area south-west of Koroba, around the shores of Lake Kutubui and in isolated parts of river valleys.

The remainder is hills, slopes, ridges, terraces, etc.

Limestone base soils are widespread. Soils derived from sedimentary rock, volcanic derived soils, and small areas of alluvial flood plains and swamps occur in other areas.

The land with high potential for crops and grazing occurs mainly between 1 220 and 1 525 m in altitude, with a minor part between 1 000 and 1 000 m.

Areas above 2 300 m, and all the limestone areas, are generally unsuitable for all forms of agriculture.

There are three major road systems. These are the old Mount Hagen to Mendi road, and the new Mount Hagen to Mendi road, and the Highlands Highway, which connects the province through the major towns in the highlands to the port of Lae.

The three eastern subprovinces, Ialibu, Kagua and Pangia, can be reached by road, as well as Mendi, Poroma, Nipa and Margarima in the centre of the province.

Until recently air transport provided the only link within the province and with the rest of the country. Altogether there are 21 airstrips in the province.

Telephone links major centres in the province with the rest of the country.

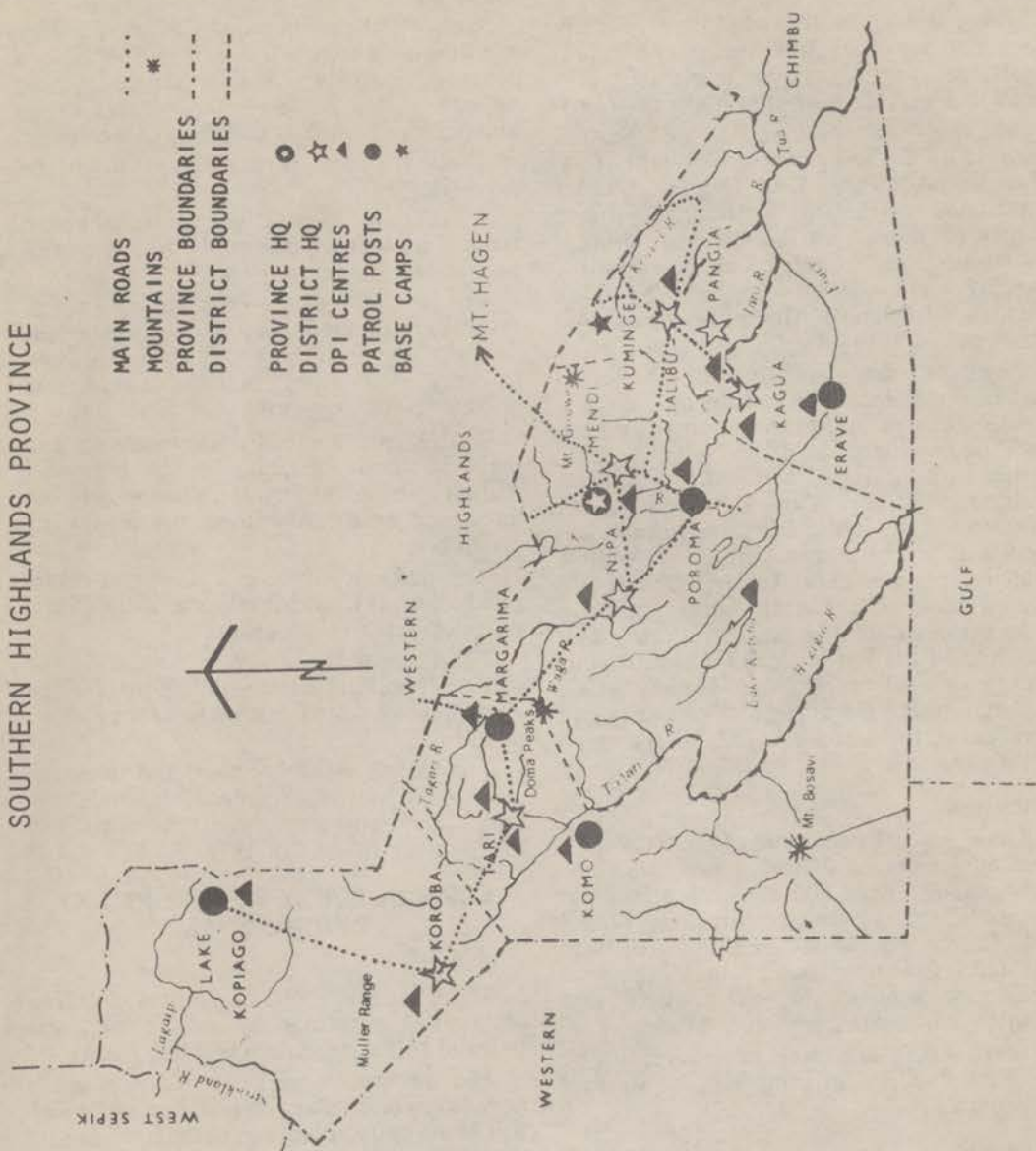
## People

The total population at present is estimated at 220 000.

Because of the incidence of malaria below about 1 400 m, approximately 97 % of the population live above 1 400 m.

Total Southern Highlands population density is 7 per km<sup>2</sup>, with a maximum of 83 per km<sup>2</sup> in a small area around Koroba.

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The main language groups are the Huli (Tari area, part of Koroba and Margarima), Duna (Koroba and Lake Kopiago), and Imbongu (Ialibu and part of Pangia, Mendi, Nipa and Poroma).

Kagua and Pangia also have their own dialects.

There are 14 local government councils. Each member of the Area Authority is usually a president or a nominated member of a council. The Area Authority meets quarterly.

Members of parliament are Andrew Wabiria (Koroba-Kopiago), Matiabe Yuwi (Tari-Komo), Ibne Kor (Nipa), Tombol Unganaibe (Poroma-Kutubu), Momei Pangial (Mendi), Yano Belo (Kagua, Minister for Housing and Supply), Turi Wari (Ialibu-Pangia) and Ron Neville (Southern Highlands Regional). All are also members of the Area Authority.

Leaders are mainly members of parliament, local government council presidents, area authority members and the traditional village leaders. Some notable leaders are Matiabe Yuwi, MP, Andrew Wabiria, MP, Turi Wari, MP, Undi Nandi, president of the Ialibu LGC and junior vice-president of the Area Authority, Andrew Andaija, president of the Tari LGC and senior vice-president of the Area Authority, Posu Ank, president of the Area Authority and president of the Lai Valley LGC, and Tubiri Wagep, president of the Mendi LGC, chairman of the Development Authority and member of the Land Board and the Area Authority.

### Education

There are 104 community schools, with a total enrolment of 25 000. There are three high schools, with 900 students attending. There are four vocational centres. The Mendi and Erave vocational centres are both oriented towards basic building and machinery studies and the Pangia and Koroba centres are agriculture biased.

There is only one teachers' college, run by the Asia Pacific Christian Mission in Tari subprovince.

### Missions

The three main missions in the province are Catholic, United and Lutheran. Many other missions also operate in the province.

### Economic development

The agriculture potential of the province is

far from clear. Present levels of cash cropping are low, and it is difficult to predict future development. The problem is simply that no cash crop capable of absorbing anywhere near the total land and labour available in the Southern Highlands Province has so far been identified.

Coffee is the main crop, with small holder plantings of about 600 000 trees. The various local government councils are promoting coffee plantings and an increase in smallholder plantings could be expected.

Cattle is also an expanding industry in the province.

Pyrethrum, previously an important cash crop, is now unimportant due to a low price paid to the grower.

Private enterprises run trade stores, sawmills, trucking and a garage in the province. Several Papua New Guinean owned trucking firms and building contractors operate in the province.

The Department of Primary Industry and the Southern Highlands Development Authority have put forward a proposal for an integrated area development project for the province.

The proposal involves coffee, tea, cattle, rural health and road development as well as a nutrition research programme.

Total cost of the project is estimated to be over K 10 million and it is hoped that foreign aid will be found to finance a large proportion of this.

The World Bank is considered to be the most likely source of finance. It has indicated that it may send a project appraisal team to PNG before the end of 1976.

## AGRICULTURAL DEVELOPMENT PROGRAMME

### Coffee

There are about 695 ha planted to coffee, and coffee plantings by smallholders are believed to be more than 600 000 trees.

The various local government councils now have coffee planting programmes which will boost coffee plantings in the province six times. There are 12 such developments, with areas of 16 to 40 ha. They are being funded by the economic branch of the Area Authority, and the Development Authority.

In smallholder plantings, expansion of approximately 30 % has been achieved in the past year.





Rural development assistant Peter Nemehi visiting a village cattle project.

Interest in coffee planting is good in most areas. Management and per capita plantings, however, are generally low.

The present Department of Primary Industry extension programme is to increase smallholder plantings by 230 ha to 923 ha.

This programme will continue over the next few years. Coffee pruning will be emphasized in the extension programme. Extension officers will aim to improve productivity by improving harvesting and processing methods, to improve parchment quality.

By 1980 we hope to reduce the need for government-run nurseries.

Local entrepreneurs show management problems in purchasing parchment coffee. The department will assist them to overcome these problems. We aim to ensure that all sound coffee produced is purchased, and to increase purchasing by private buyers.

By 1980 we anticipate that a significant proportion of production in the Pangia, Ialibu, Kagua, Erave and Mendi areas will be purchased by private buyers.

A research trial has been established at Pimaga, which is only at 800 m, and much warmer than the rest of the province, to compare the performance of Robusta and Arabica coffee.

## Cattle

There are 386 smallholder cattle projects, with over 2 800 stock, and about 2 500 cattle on large properties or missions.

Interest in cattle is high and widespread in all parts of the province.

Present aims are to increase stock numbers to 3 176 and projects to 443, during 1976-77.

A 500 ha project will be started at Lavani. By 1979 this project will be 20 % stocked, and should have 250 head by 1981.

At present stock has to be purchased from outside the Southern Highlands for new projects. At times there have been delays in getting stock. However, the Sugu Bulmakau Company, set up by the Development Bank in the Sugu Valley, aims to eventually have 1 000 breeders, and when fully developed will be able to supply stock for new projects in the province.

A programme of pasture improvement at present underway aims to increase the area planted to improved pasture by at least 50 ha in 1976.

Health control is carried out, including supervision of slaughter floors at Kapiago, Koroba, Tari, Ialibu, Kagua and Pangia.

A new slaughter slab is to be built at Komo. There is a need for a road from Kapiago to



Koroba, so that Kopiago cattle can be slaughtered and marketed at Koroba. This is planned for 1978-79.

### Chillies

This crop is very popular in the lower altitude areas. It has been proved to grow well in Erave, Prooma, Pimaga, Komo and Lake Kutubu areas.

Present Plantings are 195.4 ha. Present production is 27 tonnes.

Interest in chillies is growing, particularly in the Lake Kopiago and Erave areas. However, in Pimaga, the main production area, people are becoming involved in other rural improvement projects.

The Department of Primary Industry purchases chillies. Poor access to some areas around Lake Kutubu leads to partial harvesting. The department will endeavour to ensure that all production is marketed.

Aims for this crop include increased plantings from 195 to 272 ha by the end of 1976-77. Lai Valley and Kagua expect significant expansion in 1977-78. A replanting and pruning cycle is being promoted to maintain production. Improved drying methods will be encouraged to improve quality.

If old plantings are replaced and productivity kept up, and if overcoming transport problems enables complete harvesting, then this means a production potential of 136 tonnes per annum. This expansion will be carried out if there is a good market for chillies.

### Fisheries

Trout are being introduced into the province's rivers. The introduction of trout is doing well. Demand for fingerlings outstrips supply. In 1975, 120 000 fingerlings of rainbow trout were raised from eggs imported from Australia, at the Komia establishment.

Interest in carp is low except for some institutions.

Rivers where trout have been introduced are being surveyed to check progress of the trout, and to check the effects of the trout on the river ecosystems. Rivers surveyed so far have shown trout doing well and breeding.

Extension officers will talk to people to gain acceptance of the need for protection of trout laying sites.

A trial of trapping local trout and incubating green eggs will be started at Komia

this year. By 1978 developments at Komia will include a race and two small holding ponds. Two temporary traps for trout may be needed. By this time we should be able to decide whether trout eggs are still needed from Australia.

### Piggeries

There are at present 114 pig projects with 581 stock.

Only piggeries with good management are able to survive economically due to the high cost of protein food.

Hence, expansion is not expected, unless food costs can be reduced. In the Koroba area, the number of piggeries is declining.

Trials were planned for last year on the use of soyabean for pig food. Lack of seed held up trials, but seed increase plots were established. Work on this programme, aimed at reducing the cost of protein food, will continue.

Sweet potato grazing trials are also being carried out.

A pig breeding centre has been established at Kagua.

However, the programme aims only to maintain stock at approximately present numbers, and to improve management at all viable piggeries. Owners of uneconomic piggeries will be encouraged to close down.

No major expansion of piggeries will be planned until protein food costs can be reduced.

### Poultry

Again, there is a very low level of extension due to high food costs. No new projects are planned.

### Subsistence

The main problems in this area are seasonal food shortage due to unplanned planting patterns, and child malnutrition. Much of the problem is due to commitment of able-bodied men to wage employment and other economic activities.

The Southern Highlands Province Nutritional Committee was formed recently to assist in policy planning aspects.

At Piwa research trials with subsistence crops are being carried out.

The Department of Primary Industry keeps a watch on food shortage and frost problems.

Extension officers are encouraging people

to plan their plantings to give continued food supply, and they are encouraging diversification of crops.

Extension officers are also encouraging use of soil fertility building practices.

Conservative attitudes to establish practices and patterns are slowing progress in this area.

### Vegetables

Extension in vegetable growing is undertaken throughout the eastern part of the province where access is good. Supply of vegetables to local markets has been achieved, but there is some irregularity of supply of particular vegetables.

Approximately 1 tonne of vegetables was bought last year by the Fresh Food Project.

Interest of farmers is variable. The future aims for this programme are to expand production of cabbages, carrots and potatoes, in Pangia, Ialibu, Kagua, Mendi and Nipa subprovinces. The Fresh Food Project will purchase all sound produce.

The cool store at Mendi will be completed in 1976-77, and one will be built at Ialibu.

The Oktedi market will be investigated to see if they can buy Southern Highlands vegetables.

Extension officers will continue to

encourage expansion, and to emphasize improved cultivation methods and quality. If the Oktedi market develops, vegetable production in the western part of the province will be increased in about 1978. Vegetables will probably be shipped by air from Tari or Koroba.

### Pyrethrum

This was previously an important cash crop. However, enthusiasm fell due to a low return paid to the grower. It is now not an important activity. Only the Margarima area produces a small amount (about 50 kg) for sale. However, in this area cattle is becoming the main activity.

Present plantings are approximately 7 ha.

The Margarima local government council has a project to plant 20 ha in 1976-77.

Any expansion of the industry beyond this depends on the results of the Margarima project.

### Tea

There are two major tea plantations—the Peregai tea estate and the Catholic Mission estate.

A smallholder tea scheme at Wangiabugi in Ialibu subprovince caters for 12 smallholder tea growers.



Wildlife Officer Michael Aukugo (left) and village people at Was cassowary farm.



Both the two plantations and the smallholders sell their green tea to a factory in Mount Hagen.

There are 22 ha of smallholder tea. There are no plans as yet to increase the small tea growers, either their size or numbers.

Extension officers will concentrate on improving pruning, plucking and crop hygiene. In 1976-77 the programme will encourage farmers to own their own tools.

A permanent tea-buying shed will be built at Wangiabugl.

### **Other crops**

Research is being carried out into several minor crops. These include tobacco, bixa, cardamon, pepper, fruit, soyabeans and orchids.

### **Tobacco**

Trial plots have been established at Poroma and Nipa, in association with the local government council. Further developments will depend on the trial results.

### **Bixa**

All bixa available will be purchased to assess production capacity. This is to enable an assessment of overseas markets. Japanese interests have shown some interest in the crop.

Farmers through Kagua subprovince and the Pimaga area will be encouraged to harvest, whereas up to now the Department of Primary Industry only purchased what the farmers wanted to bring in in the Erave area.

In 1975 all production was purchased, but not much was harvested.

### **Cardamon**

Trials are being carried out with cardamon at Erave and Pimaga. The future of this crop will depend on the results of the trial.

### **Bees**

Bees may be investigated in future if a bee expert is recruited for PNG. It is considered that this may be a very suitable industry for the province.

### **Wildlife**

Investigations are being carried out into cassowary, butterfly and crocodile programmes.

A cassowary research centre at Kiburu was almost completed last year, although progress

was delayed by land problems. Trial run sales of cassowary to local people were successful. Fourteen birds were sold at K75 to K80.

In 1876-77 sales of young birds from the Kiburu centre will begin. Twenty young birds will be sold to local growers, for them to raise to a marketable size.

By 1977 results of feeding trials at the research centre should be available, and



Feeding a young cassowary at Was cassowary farm.

extension workers will be able to pass on these techniques to growers. Sales of young cassowaries to growers will be increased to 50.

The research centre will also start observations of breeding pairs.

Field investigations on wildlife by workers based at the research centre may be spread to other highlands provinces after 1978.

A wildlife management area is being established at Siwi-Utame. Another management area at Erave will be investigated this year, and if negotiations prove successful, will be established in 1977-78.

Butterfly business prospects are being investigated.

Last year the wild crocodile population in the Mt Bosavi area was investigated. A large population was discovered, indicating that this may be a suitable area for the establishment of crocodile farms.