

On the Move: Migration, Urbanization and Development in Papua New Guinea

*Many people in urban and rural Papua New Guinea have
yet to benefit from the country's
recent independence*

By A. Crosbie Walsh*

Papua New Guinea has seen incredibly rapid social change^{1/} Most of the country's coastal population, however, have had a longer period of time in which to adjust to the "modern" world than many people in the highlands whose existence was unknown to the outside world until the late 1930s. Ex-

* The author is a Reader in Geography at Massey University, New Zealand. During the period 1982-1983, he was Visiting Professor in Geography at the University of Papua New Guinea. This article is based on publications prepared for Papua New Guinea's National Statistical Office, i.e. *Inter-provincial Migration in Papua New Guinea* (1985) and *Migration and Urbanization in Papua New Guinea: The 1980 Census* (1987); data from censuses before 1980 are taken from *Demography of Papua New Guinea*, Ronald Skeldon (ed.), (Boroko, Institute of Applied Social and Economic Research, 1979), pp. 77-145.

Figure 1: Regions, provinces and towns with populations over 3,000 in 1980

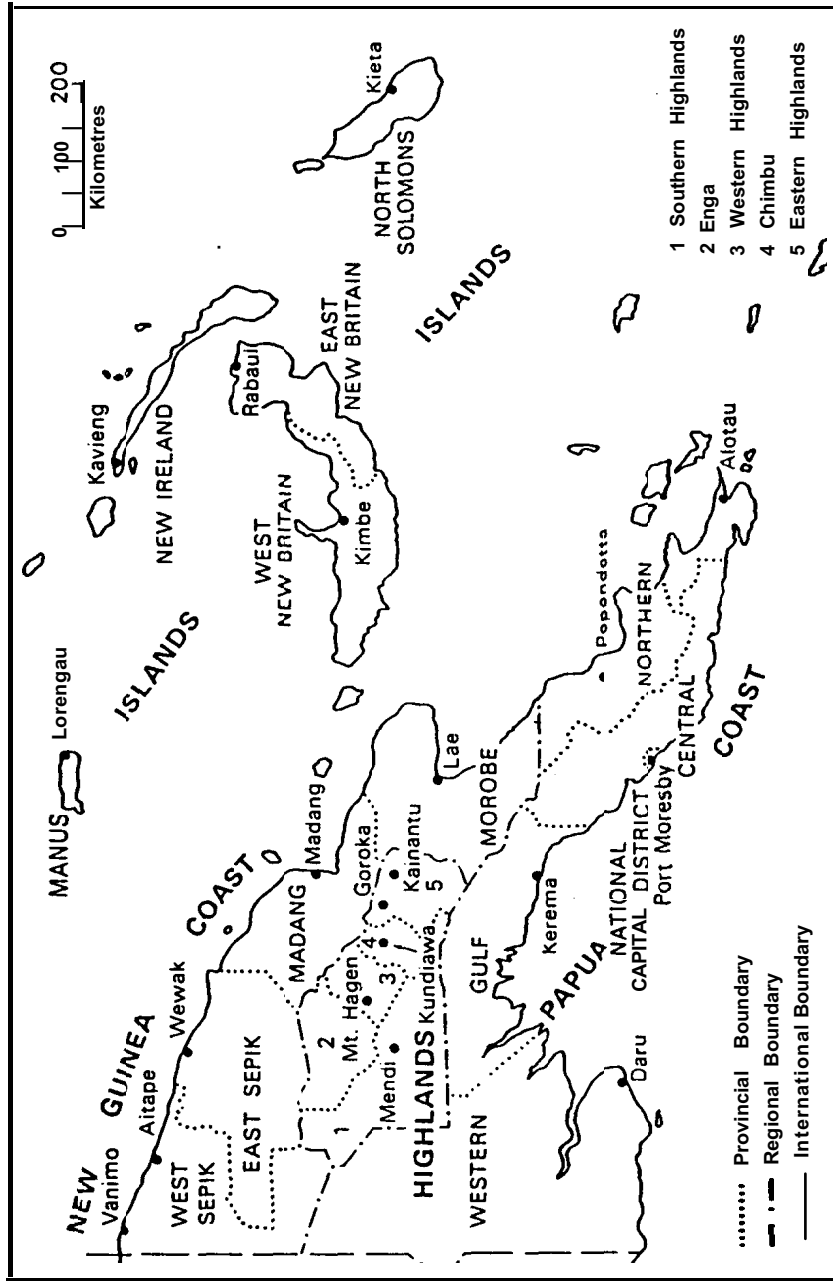


Table 1: Some regional indicators, 1980 Census^{a/}

	Papua coast	Highlands	New Guinea coast	Islands	Papua New Guinea
Population (%)	19.3	37.5	28.5	14.7	100.0
Area (%)	43.3	13.5	30.8	12.4	100.0
Density (km ²)	2.9	17.9	6.0	7.6	6.4
Population change (1971-1980)	2.1	2.0	2.5	2.7	2.2
Urban (%)	25.1 ^{b/}	4.6	13.9	11.8	12.3
Largest town (1,000)	123.6	18.5	61.6	20.5	
No. of towns over 10,000	1	2	3	2	8
Rural non-village (%) ^{d/}	5.5 ^{c/}	4.5	4.1	13.1	5.8
Wages/Econ. Active (%) ^{e/}	14.7 ^{c/}	5.6	8.1	17.1	9.7
Distribution of wages (%)	28.8	22.2	23.5	25.5	100.0
No schooling (%) ^{f/}	69.3	93.2	84.8	63.4	81.8
School population: females (%) ^{g/}	41.9	36.7	37.7	45.0	40.5
Migrants (%) ^{h/}	12.6	8.0	8.4	8.9	9.1

- Notes:**
- a/** All indices (except Nos. 6 and 7) concern the citizen population only.
 - b/** Only 6.9 per cent excluding National Capital District.
 - c/** Only 7.4 per cent excluding National Capital District.
 - d/** Mainly plantations, missions, work camps and the like.
 - e/** Wage earners of the economically active population aged 10 years and over, excluding students, houseworkers and those too old, too young or too handicapped to work.
 - f/** Mean of provincial percentages, "not at school" population.
 - g/** Mean of provincial percentages, "at school" population.
 - h/** People not living in their province of birth; many migrated within the same regions.

Source: Walsh (1985).

tensive areas of the highlands were connected to the rest of the country by road less than two decades ago.

Papua New Guinea is a country of vast physical and human contrasts. Extensive swamps, impenetrable bush-tangled rocky terrain and high mountains have until recently been most effective barriers to human settlement and communication. Malaria and other tropical diseases have kept most coastal populations low; in the more densely populated highlands, settlement has been restricted to the valley floors. Traditionally, people lived in small clan groups. Complex trade networks existed in some areas but there was generally limited contact, other than in warfare, with other groups. Physical and social isolation has produced a situation where some 700 distinct languages are spoken by fewer than three million people.

Developed country contact^{2/} and post-independence developments have acted to reduce isolation and bring about the reduction of some contrasts of a traditional nature, but they have also created new contrasts and inequalities, especially in relation to access to the money economy. Something of these contrasts, which originate in physical geography and in the imprint of traditional and modern technology and social organization upon local environments, can be seen at a regional level (**table 1**).

Much of the Papua coastal region (**figure 1**) comprises mangrove and forest swamp, rough hill country and extensive areas of savanna. Population densities are low and, if Port Moresby (the National Capital District) is excluded, the level of urbanization and wage employment is low. Longer “contact” has produced higher general levels of schooling, and more schooling for girls. Out-migration from provinces close to Port Moresby has been relatively high. The highlands region contains over one third of the country’s population at locally high density levels; it was the last region to be “contacted” and it is currently the least urbanized. Proportionately fewer of its people are educated or in wage employment. Until recently, out-migration mainly involved single males on labour contracts who worked in coastal and island copra plantations. Today, much migration is to towns and coffee plantations within the highlands and to urban destinations elsewhere.

The New Guinea coastal region comprises distinct pockets of modern economic activity (it contains three of the country’s larger towns) surrounded by extensive areas of subsistence and semi-subsistence agriculture. Coastal areas and provinces to the east provide more wage earning opportunities than inland areas and the Sepik provinces to the west. Migration has been mainly to the port towns of Lae and Madang, the mining towns of Wau and Bulolo and to plantations in the islands region. Migration to plantations was most evident from the Sepiks. The islands region was the earliest area contacted by Europeans. Christian missionaries, traders, “blackbirders,” land- and labour-hungry plantation owners, German, Australian and Japanese administrators, and Chinese settlers have all left their mark. Today, plantations have been overshadowed by a palm oil resettlement scheme (West New Britain) and copper mining (North Solomons) as a source of employment. The islands region has higher levels of schooling (especially for girls) and wage employment than other regions, and all but small, isolated Manus were provinces of net migration gain.

The 1980 and earlier censuses

Given the physical and human complexity of Papua New Guinea, the overall low level of literacy and the shortage of suitable manpower, it should be no surprise to learn that the 1980 census was the first to attempt a total

coverage of population. Earlier censuses (1966, 1971) were based on a complete coverage of the population in the urban and rural non-village sectors and a 10 per cent sample of the population in the rural village sector. In 1980, two types of census schedules were used: in the rural villages, a short form asking basic questions, and in urban areas and rural non-villages, a long form asking expanded questions on fertility, employment and migration.

The census showed a citizen population of 2,978,057, which indicated an annual intercensal growth rate of 2.2 per cent (1971-1980). Provincial increases ranged from 0.7 to 4.2 per cent, mainly as a result of differing migration rates. The National Capital District's annual intercensal growth rate was 7.8 per cent. Assuming a continuation of these growth rates, the population of Papua New Guinea will double within 30 years; the population of the National Capital District, within nine years; and all provinces, within 100 years. Given the youthfulness of the population (43 per cent aged under 15 years; less than 4 per cent aged 60 years or more), continuing improvements in health, particularly that of women and children, and the general absence of family planning practices, future growth rates could far exceed those indicated.

Barely 35 per cent of the economically active population (aged 10 years and over, excluding students, houseworkers and those too old or too young to work or the handicapped) earned money, and only 10 per cent earned money from wage or salaried employment. Women comprised about 13 per cent of wage and salaried workers. Other money-earning came from "business" (an assortment of mainly small-scale activities) (3 per cent) and "farming and fishing for food and money" (23 per cent). If these largely "informal" money-making activities are added to "subsistence" (27 per cent) and "other" (mainly villagers at home or on visits to towns) (11 per cent), the formal sector is seen to involve directly a very small proportion of the population.

Formal sector employment is limited in extent and in complexity. Its location is also at variance with the distribution of population. Rural villages, which comprised 82 per cent of the population, accounted for only 23 per cent of wage jobs. Rural non-villages, with only 6 per cent of the population, accounted for 28 per cent of the wage jobs, and urban areas, with 12 per cent of the population, accounted for 49 per cent of the wage jobs. Considerable variation in access to wage employment has also been shown to exist between regions (**table 1**). It is obvious, therefore, that the foregoing demographic and economic factors greatly influence the level and type of migration and urbanization which is occurring in Papua New Guinea.

Comparisons with earlier censuses for the purpose of migration and urban analysis are difficult for a number of reasons. Firstly, earlier censuses,

as noted, were largely based on sample surveys which asked a very limited number of questions. Secondly, in the 1971 census, urban populations were adjusted upwards (by unrecorded and unknown mathematical factors) because the enumerated populations were considered to be significantly undercounted. This assumption is now considered most unlikely. Thirdly, a classificatory change occurred with independence: "indigenous" and "non-indigenous" became "citizen" and "non-citizen". The two sets of terms are not quite synonymous. Fourthly, several provincial boundaries were changed and two new administrative areas, Enga province and National Capital District, were carved out of Western Highlands and Central provinces, respectively. With migrants defined for most census purposes as persons not resident in their province of birth, intercensal comparisons are hazardous when they are concerned with specific inter-provincial migration streams or the total volume of "lifetime" migration^{3/}

Fifthly, the urban boundaries used in 1980 were often different from those used in 1971. This led to the inclusion, in some cases, of peri-urban, mainly squatter, settlements and to their exclusion in other cases. Furthermore, the boundaries used in 1980 were not always consistent with regard to this type of settlement. As a consequence, it is most difficult to make firm statements about urban size, urban growth rates or to compare the socio-economic characteristics of individual towns.

Many of these problems, of course, occur in varying degrees in the more developed countries but they are particularly serious in countries such as Papua New Guinea which lack long histories of census taking and where information on births, deaths and other vital statistics is incomplete. Unreliable temporal perspectives and statements on past trends must increase the probability of error in a variety of exercises undertaken in the course of development planning, most especially at subnational levels of analysis.

Inter-provincial migration

The most readily available and reliable census information on migration at the provincial level concerns inter-provincial lifetime migrants. This limited definition of 'migrant' means that two important types of migration in Papua New Guinea, short-term and short distance migration, are considerably understated in most census analyses.

Nearly one in ten (9.1 per cent) of the citizen population were inter-provincial lifetime migrants in 1980. Precise comparison with earlier censuses is not possible for the aforementioned reasons, but it is evident that the number of migrants and the importance of both in- and out-migration streams has increased. During the period from 1966 when the indigenous-citizen popu-

lation increased by 39 per cent, migrants increased by 116 per cent, even when the provinces which had experienced boundary changes are excluded from the calculation. One of the excluded “provinces” is National Capital District, which accounted for nearly one quarter of all in-migrants in 1980. Its exclusion clearly results in a considerable understatement of the increase in migration.

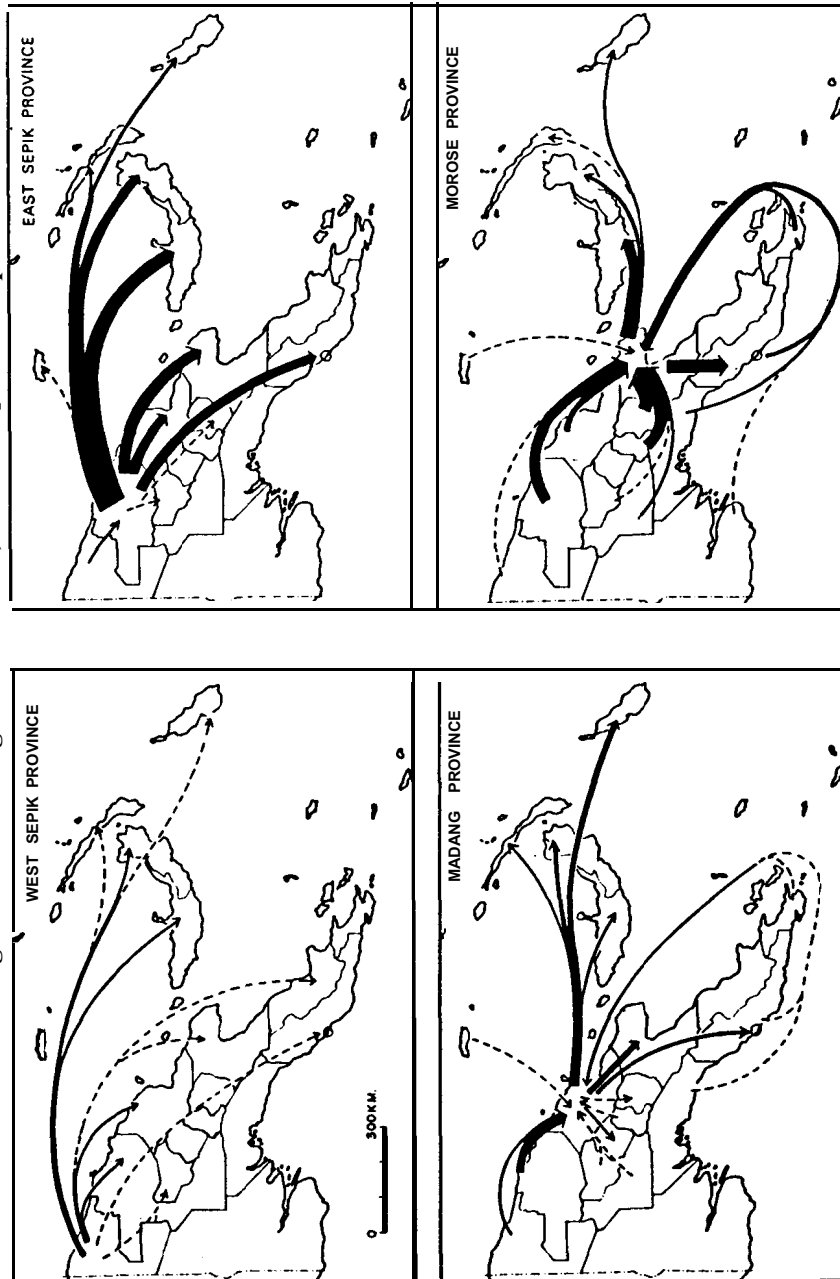
Differences in the net migration streams of the four New Guinea coastal provinces provide a vivid, visual example of the types of influences affecting migration patterns. The construction of a development continuum (comprising such indices as education, health, communications, urbanization and wage employment) would show the four provinces to be ranked from low to high in a west-to-east direction, with West Sepik and East Sepik at very low levels and Madang and Morobe at generally higher levels of development (**table 2**). The net migration continuum, if it can be called that, shows a similar gradient (**figure 2**, **table 2**). The Sepik provinces were clearly provinces of net migration loss. In-migration rates were low; they suffered losses to all other provinces with which they had significant migration linkages, and islands’ plantations (rural non-villages) were a particularly important destination. The stronger linkages of and losses by East Sepik compared with less developed West Sepik appears to lend some weight to notions of underdevelopment.^{4/} By contrast, more developed Madang and Morobe showed both gains and

**Table 2: A development-migration continuum:
New Guinea coastal provinces**

	West Sepik	East Sepik	Madang	Morobe
Secondary education (%) ^{a/}	1	1	2	3
% Urban population	5	10	10	22
Largest town (1000)	3	20	21	62
Wages/econ. active (%) ^{b/}	4	5	8	12
Assumed development rank	4	3	2	1
Out-migration rate ^{c/}	64	105	14	82
In-migration rate ^{d/}	26	36	64	105
In-migrants/all migrants ^{e/}	28	24	46	51
Migrant destinations:				
Rural non-village (%)	41	34	34	31
Urban (%)	47	56	53	59

Notes: **a/** Senior school grades 10-12 for “not at school” population.
b/ See note e, table 1.
c/ Out migrants/born in province x 1,000.
d/ In-migrants/resident population in province x 1,000.
e/ In-migrants/in-migrants + out-migrants x 100; a score of less than 50 indicates net migration loss.

Figure 2: Net migration streams, New Guinea coastal provinces



losses from several provinces; their in-migration rates were much higher than that of the Sepiks. In-migrants almost equalled out-migrants in Madang; Morobe showed a net migration gain. For Morobe, at least the urban area was a more important migrant destination than the rural non-village. The contrast was, of course, greatest at the extremes of the continuum, and the overlap between East Sepik and Madang on some indices produced more of a stepped than a lineal continuum.

Viewed from another perspective, higher than average out-migration occurred from overpopulated Chimbu and long-contacted and resource-deficient Gulf, East Sepik and Manus provinces, from East New Britain to the neighbouring, newly developing West New Britain, and from rural Central to nearby urban National Capital District. High in-migration rates were associated with the more urbanized provinces (National Capital District and Morobe), provinces experiencing rapid development in recent years (Western Highlands, West New Britain and North Solomons), and the copra economy provinces of East New Britain and New Ireland.

With regard to changes in levels of migration, out-migration rates increased progressively (1966, 1971 to 1980) from all provinces except West Sepik. The increases were most noticeable from the more remote highland provinces. In-migration rates also increased in most provinces, most especially in Western Highlands, National Capital District, Morobe, West New Britain and North Solomons. Provinces to experience declines in their in-migration rates were the remoter highland provinces, isolated Manus, and the formerly important copra producing provinces of New Ireland and East New Britain. Over time, potential migrants have become aware of more attractive alternatives to plantation employment. The remote and little developed Sepik provinces showed no increase in their in-migration rates. This situation could change, however, if international border problems intensify.

Census questions on the duration of residence and previous residence were asked only in urban areas, rural non-villages and in a 10 per cent sample of rural villages. The question on previous residence asked where respondents were on Independence Day (16 September 1975). Of migrants aged five years and older, 37 per cent had moved before independence, 12 per cent had returned to their province of birth, 11 per cent had moved before and after independence, and 40 per cent had moved since independence. The groups were labelled, respectively, "past", "returned", "restless" and "recent" migrants. Although the high proportion of recent migrants lends some support to the view that migration levels continued to increase, it should be noted that many of these migrants were likely to have been short-term visitors and circular migrants who have since joined the ranks of the returned migrants.

The importance of such mobility becomes evident when urban migration is considered. Most restless migrants were almost certainly modern sector migrants, wage workers and their dependants moving between non-village destinations. All migration categories were male dominated with sex ratios (15-44 years) ranging from 192 for past migrants and 195 for restless migrants to 200 for recent migrants and 243 for restless migrants compared with 97 for the non-migrant population. Although the composition of migrant streams had become more balanced in terms of age and sex, over time, significantly improved balances seem unlikely until migration itself becomes more permanent. This will require major changes in the nature of employment, housing and social welfare in the towns.

It is evident that the people of Papua New Guinea are becoming more mobile, even in remote areas of the country, and that migration destinations are those most strongly associated with wage employment. The correlation between male wage jobs in rural non-villages and urban areas and male migration in 1980 was an incredible 0.976. The town and mine site, which are adopted symbols of an independent Papua New Guinea, have replaced the largely negative symbols of colonialism and the plantation as major sources of wage employment. In 1971, rural non-villages (which include plantations) were the destination for 42 per cent of the migrants while urban areas (which include the North Solomons mining towns) were the destination for 46 per cent of the migrants. By 1980, the figure for rural non-village migration had dropped to 28 per cent and that for the urban area had increased to 59 per cent. The rural non-village, however, continued to be an important destination for migrants from the remoter highland provinces (it accounted for 65 per cent of Southern Highland destinations) and the rural village was an important destination for National Capital District out-migrants, many of whom were probably the town-born children of rural-urban and return migrants. There was some indication of urban-urban lifetime migration, most especially between Goroka, Lae and Port Moresby, but this is unlikely to become obvious in census records until higher numbers of people are town-born. Inter-urban mobility by formal sector employees is, of course, most significant, but as most of these people were rural-born, they were shown (misleadingly) as rural-urban migrants. All sector migration streams were male dominated in 1980 (sex ratios: rural village, 108; rural non-village, 251; and urban, 170) but urban migration in particular was less male dominated than at earlier censuses.

Notwithstanding the comments above which show the overall volume and direction of migration to be shaped by major national and regional imbalances, it is evident that if all things were equal many migrants would opt for short distance migration. This is shown in the high level of intra-provincial (district) migration, in the strength of stream and counter-stream between

adjacent provinces, and in the strength of “relative salient” streams,^{5/} which show highlands, islands and Papua coastal migration networks, in particular, to display marked degrees of independence from national influences. It should encourage the Government, embarked as it is on an active policy of decentralization, to be aware that not all migrants want to be where they are currently located.

The towns

Most towns were established during colonial times and their location and size, by and large, were reflections of how well they served colonial interests. Their distribution (**table 1**), form and functions bore little relationship to indigenous spatial patterns, lifestyles, needs or interests. The indigenous population was largely irrelevant to the urbanization process, and it was illegal until the early 1960s for indigenes to reside in some towns without employment or a special permit. Much of this colonial heritage is still evident today.

The definition of “urban” in Papua New Guinea, as in most Pacific islands, is a non-rural settlement of at least 500 people. Given this definition, some 60 places, accommodating 12 per cent of the population, were deemed urban in 1980. Most towns were very small. Only 21 had populations over 3,000, and only eight had populations over 10,000. The National Capital District was by far the largest with a population of 124,000. In the remaining hierarchy, only Lae, the second largest town (population 62,000), came close to where one would have “expected” it to be in terms of the rank-size rule.^{6/} Towns with populations over 10,000 were the regional centres. They departed least from their expected size, although the smallest was only 69 per cent of expected. The smaller provincial and district centre towns (populations over 3,000) were about one half their expected size, and the very small, district centres (populations under 3,000) were between 44 and 25 per cent of their expected size. In 1966, urban primacy was a salient feature of urbanization in Papua New Guinea. In 1980, primacy (or perhaps duopoly, given the importance of Lae) was, if anything, even more pronounced.

Primacy, of course, was not limited to population size. The urban population as a whole (for towns with populations over 3,000) was only 62 per cent of its expected size. Manufacturing was 73 per cent of expected size; however, wage work, 53 per cent; private work, 55 per cent; government work, 41 per cent; and services, 43 per cent were all much lower.^{7/} It is interesting to note, given the Government’s strong emphasis on decentralization, that private sector employment was somewhat more equitably distributed than government employment, according to this index, at both regional and national levels.

The recency of citizen urbanization and small urban populations means that migration plays a major role in shaping the demographic characteristics of towns. In the 21 major towns,^{8/} only 28 per cent of the population was town-born (most of them were children of migrants) and the proportion of the town-born population ranged widely from a low of 15 per cent in the new resource towns of West New Britain and North Solomons to a high of 46 per cent in remote Manus. Town populations, then, generally had proportionately fewer children, proportionately more late teenagers and working-age adults, fewer old people and far fewer adult women, especially in the more migration-prone 15-44-year-old age group, than the country as a whole (**table 3**). However, there was considerable variation between towns. Towns where migrants had been resident for a longer period of time and where district migrants were relatively more important than short-term migrants and inter-provincial migrants tended to have more balanced populations.

Table 3: Some urban and national demographic characteristics

	Percentage aged:			Child-woman ratios ^{a/}	Dependency ratios ^{b/}		Sex ratios ^{c/} 15-44 years
	0-14 years	15-44 years	Over 44 years		Youth	Age	
Towns	41	54	5	791	711	18	154
Country	43	43	14	772	810	69	110

Notes: **a/** Children 0-4 years/women 15-59 years x 1,000.
b/ Youth, 0-14 years/15-59 years x 1,000; Age, 60 years and over/15-59 years x 1,000.
c/ Males/Females 15-44 years x 100.

Source: Walsh (1985).

Urban growth rates are difficult to establish owing mainly to boundary changes and the upward "adjustment" of urban populations following the 1971 census. One effect of overstating the 1971 urban population was to overstate intercensal growth from 1966 and understate subsequent growth. Urban growth rates were, therefore, assumed to have declined in recent years.

A reconsideration of census figures, based on comparable urban boundaries, enumerated (and not adjusted) populations, which distinguishes between citizen (indigenous) and non-citizen (non-indigenous) populations shows a very large drop in the non-citizen population after 1971 and a considerable increase (and only a fractionally lower growth rate) in the citizen population. Between 1971 and 1980, the enumerated urban citizen population increased at an annual rate of 7.2 per cent (national growth rate = 2.2 per cent), and their

urban population increased by 91 per cent. During this same period, the non-citizen urban population fell by 39 per cent. In 1971, one urban resident in five was non-indigenous; in 1980, non-citizens comprised a scant 7 per cent of town populations.^{9/} Intercensal annual urban citizen growth rates varied from 19 per cent to minus 2.6 per cent in Aitape, the only town to experience a population loss.

Generally, the larger towns as well as the new administrative and the “special situation” towns^{10/} had above average growth, while the smaller, older administrative towns and those which had lost their former special situation as well as towns with much informal housing had below average growth. The recency of towns in Papua New Guinea, their colonial heritage, their fast changing demographic structures and the marked differences in their rates of growth suggest that current patterns are by no means permanent.

In many ways, the most important census economic variable is the “type of employer” because it indicates likely levels and types of work available, the extent to which employment relies on local or national resources, and the extent to which employment is likely to be sustainable and capable of growth.

The Government was the major employer in most towns and an important employer in all of them. Predictably, service activities were the major urban industry. In many of the larger towns, however, especially those in which manufacturing and mining were important activities, private sector employment was more important. In almost all towns, most people lived in housing provided by the government or private business. Almost all other citizens lived in informal housing because few have the income to purchase their own homes. The typical urban situation (and the considerable range between towns) with regard to employers, major industry and housing variables is shown in **table 4**.

With most formal sector business activity being foreign-owned and the informal sector being relatively undeveloped, wage and salaried employment is an especially important source of income for urban dwellers. The level of urban wage employment, however, was relatively low (under two thirds of the economically active) and the range between towns was again considerable (**table 4**). The unemployed (much understated in census results), people deriving their only income from the small-scale and irregular sale of food and fish, people with no declared income and a miscellaneous group of “others” typically accounted for 40 per cent of the urban economically active population. Towns “over-represented” in wage employment were the country’s two largest towns and recently established towns associated with local resource exploitation. Informal activities, unemployment and “others” were relatively more important in towns of low growth. They were invariably towns

Table 4: Some urban economic characteristic^{a/}

	Percentage range		Average ^{b/}
	Low	High	
Employer: Self	1	19	6
Government	19	75	50
Private business	19	80	37
Industry: Manufacturing	1	49	6
Mining & quarrying	0	33	2
Service	22	64	36
Housing: Informal ^{c/}	10	66	32
Government	18	65	37
Private business	1	66	15
Economically active:			
Wage and salaried workers	43	87	61
Growing food for sale ^{d/}	1	10	3
Food for subsistence only	1	15	5
Unemployed	4	20	6
Other ^{e/}	8	35	20
Households with some informal income	12	58	30

Notes: **a/** For towns with a population of over 3,000.
b/ The average of each town's percentage.
c/ Traditional villages in the urban area and squatter settlements.
d/ For "economically active", see note e, table 1. Fishing or cultivating food for sale and subsistence; no formal sector income.
e/ "Other activities and not looking for work". This probably included rural visitors and concealed unemployment.

Source: Walsh (1985).

where local, district migration was relatively more important than inter-provincial migration. It is evident that many people in urban and rural Papua New Guinea have yet to benefit from the country's relatively recent independence.

The very marked differences between towns and the apparent relationship between several of the demographic and economic variables under discussion suggested that it could be useful to determine the relationships more precisely. Some 38 census variables were finally selected from over 60 variables because of the strength and number of significant correlations with other variables.

Particularly strong correlations were shown to exist between three sets of employment-related variables: (a) households with no wage incomes, those growing food for sale and those growing food for subsistence only; (b) private sector employment, those in wage employment, and manufacturing and mining; and (c) government employment, those in services and professional/technical occupations. In turn, these sets of variables were seen to be strongly related to a number of other economic, social, general demographic and migration variables.

This led to the notion of three basic types of towns: informal towns associated with the first set of variables above; private sector towns associated with the second set; and government towns associated with the third set. It was evident that certain types of towns were associated with certain types of migration.

Urban migration

Urban migration has been shown to be particularly important in Papua New Guinea: as a destination for most migrants, as the source of most urban populations and as the major component in urban growth. Most such migration originates in rural areas.

Intra-provincial or district migrants accounted for about one third of the town populations and one quarter of all urban migrants. They were especially important in towns with relatively stagnant economies (for example, towns in Daru and Sepik provinces) and for those with more dynamic economies (for example, towns in Morobe and North Solomon provinces). It seems likely that migration to the former towns would include many short-term rural visitors while migration to the latter towns was probably more job-related. In most provinces, the district with the highest migration rate was either the district in which the town was located or one adjacent to it. Distance, access and density of rural population appeared to play the major roles in determining the level of district migration.

As might be expected, the majority of inter-provincial migrants moved to the largest towns, nearly one half (44 per cent) to National Capital District. The exceptionally strong correlation between male urban inter-provincial migration and wage employment (0.976) has already been noted. So too has the propensity for people to migrate, if all things are equal, to places in their own province or region. For example, National Capital District was an especially important urban destination for migrants from the Papua coastal region and relatively close Morobe and Eastern Highlands. Distance decay was also a noticeable feature of migration from New Guinea coastal provinces to Lae.

Factors most influencing urban inter-provincial migration flows, then,

were town size, wage employment and distance or ease of access. Historical links between regions were also important. Labour migration between New Guinea coastal and islands regions and the long association of Gulf people with the National Capital District are outstanding examples. As previously stated, there was also a suggestion of direct urban-urban migration between the more and longer urbanized provinces.

Short-term, circular migration has long been recognized as an important part of Melanesian migration.^{11/} In the past, it was more commonly associated with contract work in plantations and mines; currently, it is also an important component of urban migration and contributes largely to the high proportion of urban residents who are recent arrivals. Most migrants had been residents in the town for under five years; about one urban migrant in four had been a resident for under one year. For inter-provincial migrants, proportions ranged from 15 per cent in the National Capital District to a massive 40 per cent in the small highland town of Kainantu and, for district migrants, from 14 per cent in North Solomon mining towns to 35 per cent in recently formed, fast-growing Kimbe in West New Britain. There was a tendency for towns with high proportions of district migration also to have high proportions of recent arrivals. All highland towns had high proportions of recent arrivals. The densely populated hinterlands of highland towns and the ease of movement between highland provinces probably resulted in a high level of short-term visiting and tentative job search for district and inter-provincial migrants.

Factors producing differences between towns in the duration of residence concern their relationship to their own hinterlands (population density, availability of rural wage work, level of rural incomes), attributes of the towns themselves (size, amount and type of work), ease of access and the extent of previous migration links. Rural visitors, tentative job seekers and intending migrants rely heavily on kinsfolk already resident in the towns for a variety of services.^{12/} What is not clear is the relative importance of these factors and how they are influenced by changes in the national economy.

Most small towns in Papua New Guinea comprise two distinct elements: the "station" and the "corner". The station is the modern formal sector (government, missionary and private business offices and residences); the corner comprises informal, self-help housing at the periphery. The station is part of the national system of formal employment and job transfer; it mainly attracts inter-provincial migrants. The corner is part of a local system where mainly district migrants comprise visitors and those staying with relations in the hope of gaining employment in the station. These two elements – the station and the corner, the formal and the informal sector – are often less obvious in the large towns but they are there nonetheless. Many people in

Papua New Guinea towns are non-permanent residents. The high proportion of unskilled jobs tending towards employment instability, access to formal housing linked to employment, and the absence of social welfare provisions for the unemployed, the sick and the elderly all contribute towards non-permanence. So long as the sharp contrast exists between station and corner, between those with some and those with little to no access to the benefits of the modern economy, the number of short-term migrants is likely to remain high, although the proportion may drop as more citizens become at least relatively more permanent urban residents.

Urbanization and urban migration

The strength and interdependence between groups of variables representing demographic, economic and social aspects of urbanization led to the proposition that there are three basic types of towns in Papua New Guinea. Similarly, two types of migration were identified. One type, i.e. born in district (residence under one year; migrants aged 0-14 years), was called "conservative migration". The other type, i.e. born in other province (residence for 10 or more years; migrants aged 15 years and over), was called "innovative migration".

If, as has been implicitly assumed, urbanization and migration are part of the same process, one would expect to see a close relationship between urbanization and migration variables and between types of towns and types of migration.

Relationships between variables associated with informal activities, private business and government employment can be separately arranged around three central, strongly correlated variables: (a) households with no wage incomes, growing food for sale, growing food for subsistence only, which are typical of informal activities; (b) private employment, wage employment, manufacturing and mining, which are typical of private sector activities; and (c) government employment, service, professional/technical occupations, which are typical of government activities. The correlations between urban and migration types were as below:

Urbanization	Migration	
	Conservative	Innovative
Informal	0.364	-0.399
Private sector	-0.657	0.703
Government	0.654	-0.686

Table 5: An urbanization-migration typology

	1. Informal – Conservative	2. Formal-government – Conservative	3. Formal-private – Innovative
General demographic	Youth and age dependency	Youth and age dependency	Population size High annual growth Adult masculinity Non-citizen population High child-woman ratio
Economic	Households with no wage incomes Food for sale and subsistence Unemployed and "other" activities Female wage workers	Government employment Service Professional technical Female wage workers	Private business employment Households with no informal income Wage employment Manufacturing Provincial migrants, high percentage of wage work
Social	Informal settlement Female household heads Many adults, no schooling	Government housing	Private business housing More adults with higher schooling
Migration	Born in district Short duration of residence Children among migrants		Born in other province Longer duration of residence Adult and older migrants

Clearly, there were no “pure” situations. All towns possessed some elements of all urbanization and migration types. Within the typology proposed (table 5) however, 12 towns fitted neatly into only one urbanization-migration category, four towns were both informal and government-conservative towns, three of the remaining towns combined other urbanization types and “informal” Goroka and “government” Popondetta were innovative rather than conservative towns.^{13/}

All typologies have limitations. In this case, the extent to which some census variables are indicative of current as distinct from past trends is not always clear. The construction of migration streams from net “lifetime” migration is a case in point.

The extent to which census boundaries arbitrarily affect the socio-economic characteristics of towns is also not always clear. The inclusion or exclusion of a peripheral settlement here or there could lead to a reclassification of individual towns. Perhaps there are no town “types” but only underlying social and economic constructs.

Whatever its limitations, the typology does serve to highlight likely inequalities of opportunity in the urban system of Papua New Guinea by identifying groups of variables related to human deprivation and by demonstrating their association with certain urban and migration features.

It also demonstrates most clearly that migration and urbanization are both part of the same process of “development” and change. In Papua New Guinea, this process has yet to reduce many of the social and spatial inequalities created by colonialism without creating new ones in their place.

References/footnotes

1. Kiki, Albert Maori (1968). “Ten Thousand Years in a Lifetime” (Melbourne, Canberra).
2. New Guinea was under German administration from 1884 to 1914; it was a League of Nations mandate and, later, a United Nations trust territory under Australian control until independence in 1975. Papua was under Australian administration from 1904. The northern islands and the northern coast were under Japanese control during the Second World War.
3. A “lifetime” migrant is a person not resident in his province of birth at the time of the census. Unless otherwise stated, all discussion concerns the citizen population only.
4. For example, Frank, A.G. (1966). “The Development of Underdevelopment” *Monthly Review* (New York) pp. 17-31 and Forbes, D.K. (1984). *The Geography of Underdevelopment* (London, Croom Helm), especially Chapter 7, “Migration, Circulation and Urbanisation in Indonesia”.

5. Relative salience shows the extent to which the volume of individual migration streams to a destination exceed the “expected” volume, as determined from overall migration levels to that destination. See “Migration and Development in Southeast Asia: A Demographic Perspective”, Pryor, R.J. (ed.) (O.U.P., Kuala Lumpur, 1979).
6. According to rank-size rule, the second ranked town can be “expected” to have one half of the population of the largest town, the third ranked town one third of the population, and so on.
7. Walsh, A.C. (1983). “Up and Down the PNG Urban Hierarchy” *Yugl-Ambu*, vol. 10, No. 3, pp. 47-58 and (1984) “Much Ado about Nothing: Urbanization, Predictions and Censuses in Papua New Guinea” *Singapore Journal of Tropical Geography*, vol. 5, No. 1, pp. 73-87 elaborate on these various hierarchical structures.
8. The 21 “major” towns included all regional, provincial and district towns except Wabag, the new administrative centre of Enga province, the population of which was less than 3,000. All subsequent discussion concerns these towns.
9. The non-indigenous urban population was 23,000 in 1966 and 41,000 in 1971. The non-citizen urban population in 1980 was 26,000. Many non-indigenes in the New Guinea towns were Chinese who opted for Australian citizenship and emigration prior to independence. Rabaul lost 56 per cent of its non-indigenous (non-citizen) population between 1971 and 1980.
10. For example, the North Solomon mining town of Kimbe, which was associated with an oil palm resettlement scheme, and Rabaul, a commercial centre for the formerly important copra industry.
11. See, for example, Chapman, M. and Prothero, R.M. (1985). *Circulation in Population Movement: Substance and Concepts from the Melanesian Case* (London, Routledge and Kegan Paul).
12. Walsh, A.C. (1986). “Where Times Flies: Urban Temporality in Papua New Guinea” Proceedings of the 14th New Zealand Geography Conference and 56th ANZAAS Congress [Geography] (New Zealand Geography Society, Palmerston North) discusses source and destination factors affecting short-term urban mobility.
13. Private-Innovative: National Capital District, Lae, North Solomon mining towns, Rabaul, Mt. Hagen, Bulolo and Kimbe;
 Informal-Conservative: Wewak;
 Informal-Innovative: Goroka;
 Government-Innovative: Popondetta;
 Government-Conservative: Lorengau, Alotau, Kundiawa and Mendi;
 Informal-Government-Conservative: Aitape, Kainantu, Daru, and Kerema;
 Government-Private-Conservative: Vanimo;
 Informal-Government-Innovative: Kavieng; and
 Informal-Private-Innovative: Madang.