



# The challenge of population growth

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**The absorption of future population growth is one of the biggest challenges facing Papua New Guinea. Even if the fertility targets of the 1991 National Population Policy had been met, a huge increase in school places, jobs and health services would have been required. Since fertility appears not to have declined, the need for investment in social infrastructure has become even more urgent.**

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The population of Papua New Guinea has increased by almost 60 per cent since independence, from around 2.7 million in 1975 to at least 4.1 million in 1995. Censuses taken between 1966 and 1990 indicate that the population growth rate for Papua New Guinea citizens has been reasonably constant at around 2.3 per cent per annum, and there is no indication that it is slowing (National Statistical Office 1994). The early censuses were a combination of partial counts and estimates, and recent censuses have almost inevitably undercounted populations in inaccessible areas; therefore present annual growth rates could be as high as 2.6 per cent.

It can be argued that even a rate of 2.6 per cent is not exceptionally high by world standards, and is considerably less than the growth rates of neighbouring Vanuatu and Solomon Islands. However, much of Papua New Guinea's terrain is rugged and

inhospitable, arable land is scarce and industrial development and urbanisation are limited. Already population pressure in some upland areas has resulted in land degradation, while continuing law and order problems in towns are but one reflection of a lack of employment opportunities. The absorption of future population growth is one of the biggest challenges facing Papua New Guinea today.

Concern about the implications of sustained population growth led to the formulation of a National Population Policy in 1991. The goals of the policy included reducing the total fertility rate from an estimated 5.4 children per woman in 1980 to 4.4 by 1995, and to only 3.2 by 2000. This was to be achieved by means of a dramatic increase in the family planning prevalence rate, from about 3 per cent in 1991 to 63 per cent by 2000 (Papua New Guinea 1991a). Although it was

subsequently recognised that these targets were overly ambitious, the government of Papua New Guinea remains firmly committed to slowing the population growth rate. Two issues are considered here: What are the developmental implications if these population targets are or are not achieved? What is needed to bring about a substantial reduction in fertility?

### Developmental implications of expected population growth

Population projections indicate that even if the National Population Policy fertility targets are met over the next two decades, the total population would exceed 5.7 million in 2010 and continue to increase at more than 2.1 per cent per annum (McMurray 1993). Further declines in the total fertility rate would be required to stabilise the population growth rate, and in the interim there would be a substantial increase in absolute population size. This would generate a demand for more school places, additional health services and more wage jobs.

### The demand for school places

It is difficult to obtain a true picture of rates of school attendance in Papua New Guinea. Many pupils are older than the expected age for their grade, and drop-out rates are high, both between grades and between school levels. Census figures for 1980 indicated that some 74 per cent of children of primary school age were attending school. The 1990 census figures indicated that of those aged 10–14 years, when school participation would be expected to be at a maximum, only 48 per cent of rural children and 76 per cent of urban children were actually attending school. This suggests that enrolment rates have probably remained more or less constant since 1980.

The demand for school places is projected to increase substantially even if the fertility targets of the National Population Policy are achieved (Table 1). Since these targets are recognised as ambitious, the projections can be considered as minimum estimates. Gradual increases in the percentage of children enrolled between 1980 and 2010 are assumed in accordance with the education

Table 1 Projected demand for school places, 1980–2010 ('000s)

	1980	1990	2000	2010
Primary (6–12 years)				
Males	225.9	274.8	379.6	384.9
Females	206.5	259.2	365.1	370.4
Total	432.4	534.0	744.7	755.3
Junior secondary (13–16 years)				
Males	45.2	66.1	90.4	121.9
Females	38.2	60.4	87.2	117.1
Total	83.4	126.5	177.6	239.0
Senior secondary (17–18 years)				
Males	6.6	11.7	15.5	23.2
Females	5.3	10.7	14.9	22.2
Total	11.9	22.4	30.4	45.4

Source: McMurray, C., 1993. 'Papua New Guinea', in R.V. Cole (ed.), *Pacific 2010: challenging the future*, National Centre for Development Studies, The Australian National University, Canberra.

objectives of the population policy. For primary school, the assumed increase is from 74 per cent in 1980 to 100 per cent in 2010. For junior secondary school the assumed increase is from 30 to 50 per cent, and for senior secondary it is from 10 to 20 per cent.

Under these assumptions, a very substantial increase in the number of school places for all age groups would be required. For primary schools an increase to 100 per cent enrolment would require 322,900 more places in 2010 than in 1980, an increase of 75 per cent. The situation is even more daunting for secondary schools. A 187 per cent increase in the number of junior school places, that is, 155,600 more places, would be required in 2010 compared with 1980. For senior secondary schools an increase of 33,000 places, or 281 per cent, would be required just to increase enrolments from 10 to 20 per cent of the eligible age group. The prospects for such a massive investment in education are poor given the current funding crisis in the Papua New Guinea public sector.

### The demand for employment

The implications of population growth for employment generation also are substantial. The 1980 census indicated that 9.2 per cent of the total citizen population was employed in wage jobs, 15.3 per cent of males and 2.6 per cent of females (National Statistical Office 1994). If the National Population Policy targets were achieved, a total of 123,500 more wage jobs would be required to maintain these

percentages in 2010. Compared with 1980, this represents an increase of more than 100 per cent (Table 2). The 1990 census showed that while the overall percentage of citizens in wage jobs remained constant, this comprised a decrease from 15.3 to 14.4 per cent for males and an increase from 2.6 to 3.5 per cent for females. This failure of the supply of wage jobs for males to keep pace with demand is partly because fertility has not declined in line with the National Population Policy objectives.

Another possible explanation is that most overseas investment has been in capital-intensive extractive industries, such as mining and forestry, rather than in manufacturing and small business which would generate more employment. At the same time, employment in the public sector has been strictly controlled by a policy of structural adjustment. Lack of growth in employment has, in turn, restricted growth in the domestic market, and discouraged small business investment. As a result the non-wage subsistence sector is presumably absorbing the surplus, since staying in the village is the usual fall-back option for people who cannot find wage employment.

### Urban services and health care

There is also evidence of demand outstripping supply in the provision of urban services and health care. If North Solomons province is excluded, the percentage of the population living in urban areas has increased from 12 per cent in 1980 to 15 per cent in 1990. The average annual population growth rate in urban areas in the intercensal period was 4.6 per cent, compared with only 2 per cent in rural areas (National Statistical Office 1994). Although this urban growth rate is considerably slower than the 7.2 per cent estimated for the period 1966–80 (Walsh 1987), it nonetheless represents a substantial rate of increase and exceeds the rate of dwelling construction. The average annual growth rate in the number of citizen dwellings in urban areas was 4.2 per cent

Table 2 Projected demand for wage jobs, 1980–2010 ('000s)

	1980	1990	2000	2010
Males	94.4	123.9	160.1	198.3
Females	11.5	17.8	24.8	31.1
Total	105.9	141.7	184.9	229.4

Source: Author's calculations.

in the intercensal period, a deficit of 0.4 per cent compared with the population growth rate (National Statistical Office 1994). Only 49 per cent of citizen dwellings had piped water, 60 per cent had electric lighting and only 19 per cent had electricity for cooking (National Statistical Office 1994).

There is wide variation in health conditions in Papua New Guinea, but they are particularly poor in rural areas, where the majority of the population resides. Low life expectancy at birth, high infant mortality and extremely high maternal mortality in some areas are major causes for concern. Respiratory infections, malaria, hepatitis B, and sexually transmitted diseases are widespread, especially in the Highlands, while unsafe water and a lack of sanitation in many areas contribute to a high prevalence of diarrhoea. The National Health Plan noted an increase in the prevalence of measles, whooping cough and typhoid (Papua New Guinea 1991b).

Per capita expenditure on health remained almost constant in real terms at around 20–22 kina in the period 1986–90, which was approximately 3.5 per cent of GNP (Papua New Guinea 1991b). The National Health Plan acknowledged the need to increase per capita expenditure in order to effect a much needed improvement in basic health indicators, while pointing out that funding during the plan period was uncertain (Papua New Guinea 1991b). Since then, the government has sought international aid funding for several major health initiatives, including the Population and Family Planning Project, with specific objectives to improve maternal child health services and family planning service delivery.

### **The prospects for slowing the population growth rate**

The contraception prevalence rate is generally low throughout most of Papua New Guinea. It appears that at no time

since the establishment of the first family planning clinic in 1962, have more than 5 per cent of women of reproductive age been current acceptors of modern methods of family planning (Gillett 1990; Papua New Guinea 1991b). There are a number of reasons for this, with three being particularly important.

First is the pro-natalist outlook of most rural communities. Even though there is a tradition of spacing children and limiting total family size by long durations of breastfeeding, spouse separation, and, to a lesser extent, induced abortion, there is a widespread pro-natalist attitude in Papua New Guinea society, and strong cultural support for a large family (McDowell 1988). Although traditional practices limiting fertility are being eroded, there is a continuing belief, especially among men, that large numbers of children are needed to strengthen the family and to bring political power to the community. To some citizens, advice from Port Moresby that fertility should be reduced is perceived as no more than a strategy to reduce the power and influence of their community.

Although some women may desire smaller families to both reduce their workload and the pain, inconvenience and danger of pregnancy, their views are likely to be over-ruled. Gillett (1990:116) comments, 'women may desire family planning, but their husbands may view it as a threat. The use of contraception may be looked upon as a license for promiscuity or a way of depriving the husband, or group, of offspring.' Even though family planning services were made legally available to every woman in the early 1990s, some medical personnel are unwilling to provide them unless they have the husband's consent, in case he takes action against them.

Second, low education levels among women of childbearing age and a general shortage of employment opportunities for women contribute to the low family

planning prevalence rate in Papua New Guinea. Many studies in different societies throughout the world have shown that women with secondary or higher education tend to have smaller families than those with little or no education. Educated women are more likely to work in paid employment or simply to prefer a small family so they can give more attention to individual children. Educated women are also more able to resist social pressures to have a large family because they tend to have higher status and the ability to assert themselves. Barriers to improving the education and health status of women are discussed in Avalos (this issue).

Third, the low prevalence rate can be attributed to poor access to family planning services and insufficient family planning education. Although Papua New Guinea has a network of hospitals, clinics, aid posts and mobile services providing family planning services, in practice these services are often inaccessible or non-functioning. The reasons for this are many. In addition to negative attitudes, family planning commodities are poorly distributed, services are irregular, clients are not educated in the range of methods available and the expected side-effects, and service delivery personnel are often inappropriate.

In addition to setting fertility targets, the government of Papua New Guinea needs to address factors limiting the use of family planning. The pro-natalist outlook of society can only be addressed in the long term. In industrial countries the small family norm has occurred as a consequence of economic development. The opportunity cost of bearing and rearing children has increased with the proliferation of education and employment opportunities for both men and women, while social security and saving schemes have eliminated the need for a large family for support in old age. In Papua New Guinea, fertility is also lower in urban areas, where education levels are higher and there are more opportunities for employment (Bakker 1986).

Increasing the educational levels and status of women is also a long-term strategy, although it is a widely recognised planning objective in Papua New Guinea. It has been officially incorporated into recent five-year plans and health plans and also into the National Population Policy of 1991. However, massive investment in the education sector is needed if school participation rates are to be increased, particularly those of females, which lag substantially behind those of males.

Some education for adult women who have left formal education can be provided by women's organisations and non-governmental organisations. Research has shown that adult literacy programs and specific education in health and childcare may be as effective in raising awareness as formal education. If coupled with employment generation schemes, such as handicrafts and cottage industries, such strategies may achieve changes in women's attitudes and status similar to those which occur with formal education and modernisation. A number of women's organisations and non-government organisations are becoming increasingly active in the improvement of the status of Papua New Guinea women, organising quality literacy and health education programs, and in some provinces even participating in the social marketing of family planning commodities. More government support is needed for such organisations, since they have the potential to make a very substantial contribution to fertility reduction by providing the pre-conditions for an increase in the family planning prevalence rate.

The third obstacle to an increase in the family planning prevalence rate, poor service delivery and lack of education, is the focus of the Papua New Guinea Population and Family Planning Project. This project addresses the problem in various ways, including improving health service delivery in general, providing more health personnel and training existing



personnel, developing educational and promotional campaigns and improving the distribution of family planning commodities.

It must be recognised that the initial effect of initiatives to improve health service delivery could be an increase in fertility, especially in the Highlands where one factor depressing fertility is poor health. Although the 1980 total fertility rate for the country as a whole was 5.4 children per woman, in the Highlands region, Bakker (1986) estimated the total fertility rate at only 4.8. One factor contributing to this was high levels of secondary infertility among women, often due to sexually transmitted disease. In contrast, the total fertility rate was 6.3 children in the Islands region, where health was generally better (Bakker 1986). Improvements in health service delivery in the Highlands could thus be expected to contribute to an increase in fertility unless family planning uptake increases with sufficient speed to offset these changes.

Another factor which could have a substantial effect on the Papua New Guinea population equation is HIV/AIDS. AIDS is reaching epidemic proportions in developing countries in Africa and Asia, and resulting in significant increases in both adult and child mortality. In parts of Papua New Guinea, at least, high prevalences of sexually transmitted diseases and multiple sexual partnering, as described in the report of the *National Study of Sexual and Reproductive Knowledge and Behaviour* (National Sex and Reproduction Research Team and Jenkins 1994) provide preconditions for HIV/AIDS transmission similar to those in East and Central Africa. In these areas, the highest mortality is usually among adults of working age, followed by increased mortality of their children.

As only a very small proportion of Papua New Guinea citizens are likely to have had blood tests, the actual prevalence of HIV/AIDS is a matter for speculation.

According to official statistics for December 1994, 236 people were reported as having contracted the HIV virus, of whom 62 had developed full-blown AIDS, but a more recent report prepared for the National Aids Council estimates 285 HIV/AIDS cases (Pyakalyia 1995). If AIDS were to become a major cause of mortality in Papua New Guinea, its impact on projections of school enrolment and employment could be dramatic. Since mortality tends not to occur for up to 10 years after HIV/AIDS has been contracted, however, the full impact of an epidemic, were one to occur, would be unlikely to be felt until after 2000. This would not have much effect on the projected demand for additional school places or wage jobs, or for other services in that year (Tables 1 and 2).

### **The need for immediate action**

Demographic analysis of the 1990 census and 1991 Demographic and Health Survey was not complete at the time of writing, so no recent fertility estimates are available. Comparison of 1990 census figures with projections based on 1981 fertility rates, however, suggests that little or no reduction in fertility occurred in the intercensal period (McMurray 1993). The projections of the demand for school places and jobs are based on the National Population Policy target of a sharp decrease in fertility (Tables 1 and 2). The assumption underlying the projections is that fertility would already have declined to 4.9 by 1990. Hence the actual numbers of school places and jobs required in the next 15 years are almost certainly more than projected here, while the demand for health care and urban services will continue to expand rapidly.

Achieving a balance between population growth and economic development is one of the greatest challenges facing the government of Papua New Guinea. At present, substantial

proportions of the population receive little benefit from social investment, so the rate of social and economic development must exceed that of population growth if there is to be any real improvement in living standards. This means directing the profits from mining and forestry development towards large-scale investment in schools, health and welfare, urban infrastructure and employment.

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