Enclaves or equity

The rural crisis and development choice in Papua New Guinea

International Development Issues No. 54

The Australian Government's Overseas Aid Program

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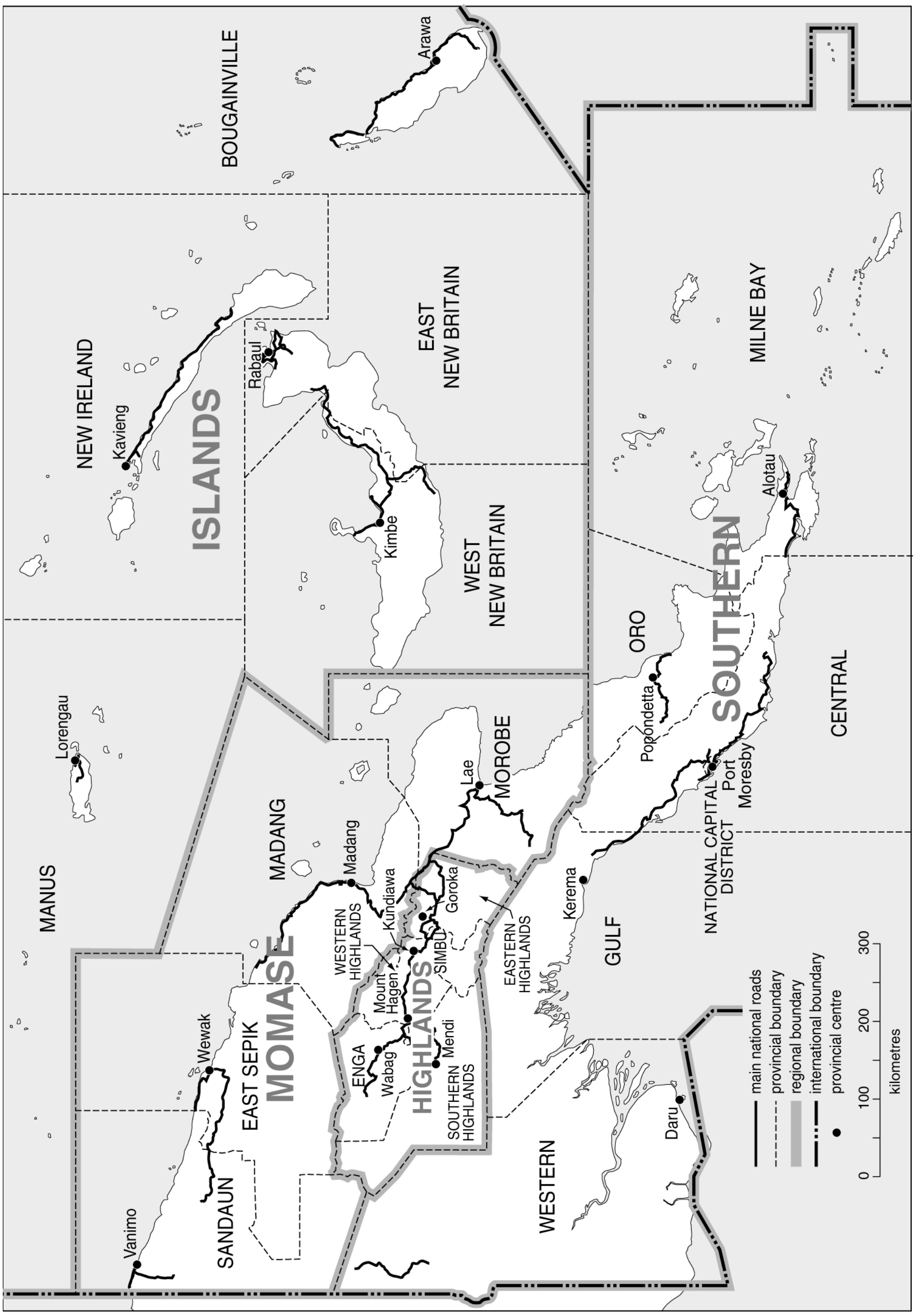
Michael Baxter
Canberra

Papua New Guinea



Abbreviations and acronyms

FAO	Food and Agriculture Organization of the United Nations
fob	free on board
GDP	gross domestic product
GNI	gross national income
GNP	gross national product
HDI	human development index
HPI	human poverty index
K	kina
MP	Member of Parliament
MRSF	Mineral Resources Stabilisation Fund
MTDS	Medium Term Development Strategy
NCD	National Capital District
PNG	Papua New Guinea
UNDP	United Nations Development Programme

Currency equivalents at 1 November 2001

One Papua New Guinea kina (K) = A\$0.54 or US\$0.27

A\$1.00 = K1.85

US\$1.00 = K3.7

Summary

Enclaves or equity

Rural Papua New Guinea is in a serious social and economic crisis. Overall in rural areas, living standards are worsening, the population is increasing rapidly, the resource base is being depleted, income-earning opportunities are decreasing, access to services and transport infrastructure is declining, the infrastructure itself is deteriorating and effective government support is uncommon.

There are rural areas with better living conditions – for example, those associated with resource projects and areas close to urban markets or other significant income sources. These exceptions, however, exist within a broad sweep of rural deprivation. The enclaves and the equity challenges they present epitomise the nation's rural crisis. Whether and how the crisis is addressed depends on the development objective – enclaves or equity – chosen by the Government and people of Papua New Guinea.

The rural crisis is in fact a national crisis. Links between rural and urban communities are particularly strong in Papua New Guinea because 80–85 per cent of the nation's 5.1 million people live in rural areas and the rural sector makes a significant contribution to the national economy. Failure to effectively address the crisis will have severe negative ramifications for the population and economy as a whole.

The crisis has built up over a long period. The need for effective intervention is now pressing.

- Public revenue could fall significantly in the coming 10–15 years as the mining and petroleum sector declines, leaving fewer public funds to address the crisis.
- Living standards in many rural communities are already poor and will get worse. This threatens to further destabilise the rural economy and make effective action more complicated and expensive.
- The longer the delay in addressing the rural crisis and the enclave and equity issues it encapsulates, the greater the damage that will be inflicted on the urban and indeed national economies.

Challenges and constraints

Papua New Guinea's social and economic indicators have improved from a low starting point at independence in 1975. However, significant social and economic inequity remains and just over a third of the population are living below the poverty line based on internationally accepted nutritional requirements.

The differences in living standards between rural and urban areas are dramatic. Living conditions in rural areas in general are poor; the rural poverty rate is almost three times that of urban areas, with 94 per cent of the poor living in rural areas.

Rural areas suffer from limited economic activity and opportunity, limited access to services, remoteness from urban markets, high-cost and deteriorating transport infrastructure, low and declining levels of public and private investment, a range of law and order and governance problems, and environmental pressures. They also face accelerating population pressure. Ignoring the possible consequences of an HIV/AIDS epidemic, an additional 1.3 million people will live in rural areas by 2010.

Rural people do what they can in the face of these challenges and constraints, but there is only so much they can achieve in the unsupportive context of current national economic policy.

The economy and the rural sector

Overall, economic policy and management in Papua New Guinea are dominated by fiscal and monetary concerns at the national level. Insufficient attention is given to growth and structural issues. The present Government has barely had time to do anything other than address economic management and political crises.

Despite strong efforts to improve the economic environment by reforming policies and institutions, the economy is very weak. Real gross domestic product is likely to be negative in 2001, and domestic and international confidence in the economy has collapsed. Both situations augur poorly for rural areas as much as for the nation as a whole.

Few of the policies that usually distort prices and incentives in the rural sector exist in Papua New Guinea. However, other aspects of economic management adversely affect the sector. These include liquidity crises, inappropriate expenditure patterns (including overemphasis on recurrent costs and inadequate attention to investment), poor budget management and the impact of low growth on public finances and demand. The underfunding of services and infrastructure in rural areas, as well as the failure to effectively address longstanding concerns for rural communities about governance and the investment environment, suggest an antirural bias in public policy.

The formal economy is dominated by the mining and petroleum sector. In 2000 this sector contributed 21 per cent of gross domestic product, 77 per cent of exports and about 33 per cent of government internal revenue. It faces serious challenges, not so much because of a lack of prospectivity but because of the unattractive investment environment.

The mining and petroleum sector appears to be in the early stages of decline. This is suggested by its negative real growth in four of the past eight years, the sharp decline in exploration, the failure so far to finance two pending major projects, the general decline in its revenue going to government, and the projected closure of all existing mines and oilfields by 2014 (although at one gold mine the processing of ore will continue for 13 years after that date).

The decline of the sector will have major repercussions on public finances, which will affect all aspects of the economy. At the very least, it will require the Government to comprehensively review its revenue and expenditure policy, and indeed to review its entire development strategy as the sector's revenue has facilitated recurrent cost expenditure patterns that are otherwise unsustainable.

The decline of the mining and petroleum sector may not occur in the time frame suggested, particularly as new oil finds and the funding of the PNG–Queensland gas project could quickly strengthen the sector and its contribution to the national economy. Even if that were to be the case, the economy's reliance on the sector raises questions about whether the public revenue it generates is being used effectively for the long-term benefit of the economy. After all, by definition non-renewable resources, such as minerals and hydrocarbons, must eventually be exhausted.

There is little to show among the vast majority of the population who live in rural areas that the revenue generated by the mining and petroleum sector has been used effectively or is being used to increase productivity in those areas. This is despite the fact that the rural sector should become a main source of growth in the economy before the mining and petroleum sector does eventually decline.

Renewed awareness of the limitations of relying on the mining and petroleum sector, concern about how the public revenue derived from the sector has been used over the past 30 years, and the current rural situation provide an opportunity to rethink the development choices confronting Papua New Guinea.

Toward a strategy to deliver growth and equity

The rural crisis should be addressed not only in the interests of equity and of improving the social and economic conditions of the majority of the population, but because rural areas have a crucial role to play in Papua New Guinea's development. It is inconceivable that the long-term development of the nation can take place without effectively addressing the role and needs of rural areas given their social, economic and environmental functions. Growth in the rural sector is a necessary condition for long-term, broadly based economic growth in Papua New Guinea.

On paper, many government policies do give priority to rural areas, but they have not been successful. There are numerous reasons for this, including diffuse development objectives, inefficient and distortional budget management practices, and the failure of public resources to reach rural areas in significant amounts.

A strategy for rural sector growth could be built on principles that:

- adopt a clear, limited role for government to address equity and efficiency in the rural sector and to support – not duplicate – the role of the private sector
- encourage the informal sector throughout rural and urban areas
- give priority to establishing growth in real gross domestic product in the rural sector, but do not ignore the need to also provide critical services and social investment, such as education and health care
- address poverty directly and tackle gender constraints to development
- approach financing imaginatively and openly, giving priority to public expenditure where counterpart resources are provided and acceptable financial management systems are operating, and
- make difficult choices, avoid wasteful practices and establish priorities and a sequence for interventions.

Actions to address the rural crisis

To address the rural crisis, and the enclave and equity issue in general, three general steps could be taken by the Government and people of Papua New Guinea.

- First, design and implement a strategy to improve rural livelihoods.
- Second, make better use of financial, natural and human resources.
- Third, encourage donors to take on new roles and responsibilities to strengthen their contributions to development in Papua New Guinea.

In addition to these broad steps, and consistent with them, a number of actions could be taken now to start the process.

Investments – to be led by government

1 **Develop marketplaces and expand their functions**

Expand the facilities and functions of urban and other produce marketplaces to cater for greater numbers of farmers and other vendors, to encourage the sale of a wide range of household goods by farmers and informal sector traders, and to be service centres for government, non-government and commercial agencies.

2 **Strengthen the means and content of communication for rural communities**

Produce and distribute oral and written material on governance, social, health, technical, financial and business matters for rural inhabitants. The main distribution channels for the material would be government and other services located in marketplaces, and revamped national and provincial public radio services.

3 **Prioritise road and port development**

Prioritise investment in the transport sector to maintain and construct selected roads and ports in the active commercial hinterlands of major urban centres. The extent of this investment should be based on resources available in the medium-term fiscal framework, with due priority given to capital over recurrent costs and the sustainability of all proposed investment.

Policy – to be implemented by government

4 **Set and implement targets for recurrent or capital expenditure as well as for rural or urban expenditure**

Set annual targets for recurrent or capital expenditure *and* for rural or urban expenditure for investment and service provision in national, sectoral and provincial budgets, and implement them.

5 **Improve budget management**

Improve budget management in the near term by giving attention to the timely and predictable release of funds, the full integration of the Social and Rural Development Grant and the Province/District Support Grant in the provincial budgetary system, and the aggressive use of counterpart financing resources.

6 **Encourage development of the informal sector**

Encourage development of the informal sector, especially in trading, retailing, manufacturing and services, by removing restrictions on its development and ensuring that government policy and material assistance create an enabling environment for it.

7 Resolve important longer term policy issues

Resolve four longer term policy issues: the enforcement of the Public Finances (Management) Act, the implementation of the Organic Law on Provincial Governments and Local-Level Governments, the use and management of public revenue derived from the resources sector, and land mobilisation.

Initiatives to be taken by donors

8 Promote broad-based economic growth

Allocate a reasonable share of donor support to promote broad-based economic growth, in addition to support for social development and governance.

9 Ensure sustainable expenditure patterns

Ensure that donor programs do not encourage or require levels of recurrent cost support that are inappropriate to the medium-term fiscal framework.

10 Choose activities and resource transfer mechanisms to maximise impact

Choose activities and resource transfer mechanisms that maximise expenditure and impact in Papua New Guinea. Priority should be given to activities that support investment rather than recurrent costs and that entail expenditure on local costs and management through Papua New Guinea administrative systems.

The rural crisis

A serious economic and social crisis affects rural Papua New Guinea. This has evolved slowly and, through its scale and possible ramifications, is today a national crisis. There have been few concerted efforts to address the crisis, and the conditions to do so are not improving. Papua New Guinea can no longer avoid the rural crisis and therefore the challenge of achieving social equity and sustainable rural growth.

Rural Papua New Guinea is in a serious social and economic crisis. Generally in rural areas, living standards are worsening, the population is increasing rapidly, the resource base is being depleted, income-earning opportunities are decreasing, access to services and functioning transport infrastructure is declining and effective government support is uncommon.

In large areas, people have given up hope that they might rely on government resources and programs to support their efforts at economic and social betterment. Without a radical change in public policy and priorities, funds available from the public or private sectors for investment in rural areas are unlikely to increase substantially under current growth scenarios and resource projections. Low living standards and their worsening trajectory sum up Papua New Guinea's rural crisis.

However, there are exceptions to poor living conditions in rural areas. Within resource project enclaves, as in urban areas, there is generally a reasonable level of health care and education, often some access to power, water and sanitation, and some employment and business opportunities. Other areas, often those close to urban centres or with a remunerative income source, also have better living conditions.

These exceptions highlight another important feature of Papua New Guinea today – the major disparities in living conditions and economic opportunities between rural and urban areas (box 1), between different rural locations, between rural areas and enclaves, as well as within rural communities in general. The enclaves of better livelihoods and the equity challenges they embody epitomise the nation's rural crisis and the fundamental development choice confronting the nation – support for enclave development or support for social and economic equity.

Box 1 **Defining 'rural' and 'urban'**

'Rural' and 'urban' in reality are not dichotomous conditions but exist in a continuum. Some people in urban areas in Papua New Guinea live in a rural environment growing some of their own food and with limited access to traditional urban services such as water, sewerage, rubbish collection and electricity. Some rural inhabitants, particularly those in resource project enclaves, enjoy some of these services but the vast majority do not. 'Rural–urban' comparisons are used to highlight the differences at a broad level between the lifestyle of most people who live in rural areas and the lifestyle of those in urban areas, and the fundamental enclave nature of the availability of social services and utilities (for example, power, water and telecommunications) in Papua New Guinea.

In rural areas, economic activity encompasses the 'rural sector' (agriculture, forestry, fisheries, natural resource management, and other rural farm and non-farm economic activities) and the 'resources sector' (mining, oil, gas, commercial forestry and marine fisheries activities). The 'mining and petroleum sector' is a component of the resources sector.

Evolution of the crisis

The rural crisis in Papua New Guinea has been evolving since independence, but particularly took hold during the 1990s. The situation owes much to structural aspects of the economy and to economic priorities and management.

The national economy depends on the resources sector – principally minerals and petroleum, but also forest and marine products – for a large part of its foreign exchange earnings and an important share of internal revenue. Economic management has given priority to ensuring that the country is open to the trade and investment on which the export-orientated resources sector depends. In contrast to the highly productive, formal resources sector, the majority of rural (and even a good proportion of urban) dwellers have a semisubsistence lifestyle with a low level of productivity. To them, informal sector activities and organisations are as important as the formal.

Rural areas have benefited in a general sense from the trade, foreign exchange and other policy regimes on which the resources sector depends, as well as from the revenue the sector contributes to local populations and government. However, the revenue received by local communities has generally not resulted in sustainable improvements in living standards, nor has the revenue contributed to government resulted in identifiable broad improvements in rural living conditions.

The fundamentally rural nature of Papua New Guinea's society and economy has long been apparent. However, income from mining and petroleum and to a lesser extent from forestry, especially after the late 1980s, overshadowed the significant contribution of other activities in rural areas.[1] The fact that major economic crises in the early and mid-1990s were overcome without changing the fundamental direction of economic management (to a large extent because of the revenue generated with the start of oil production and exports in 1991) no doubt reinforced the belief among some that the nation could prosper without particular attention being given to rural areas.

Government economic management in the 1990s increasingly focused on macro-economic issues, structural adjustment and governance. Such attention is laudable and essential. However, the resultant balance has been increasingly fragile. In the long term the production and revenue that the economy will depend on will be derived primarily from the rural sector, not the mining and petroleum sector. Therefore much should be done to facilitate the growth of human and physical capital in rural areas. This has yet to happen. For example, public and private investment in the rural sector for capital or even recurrent activities has declined significantly in recent years – from an already low base.

Beyond the rural crisis – a national crisis

The rural crisis in Papua New Guinea is in fact a national crisis. In any economy rural and urban areas are closely linked. There is interdependence between national policies – macroeconomic, structural, public sector management and social inclusion – on the one hand, and the economic and social situation in rural areas on the other. Other aspects of this rural–urban synergy are the two-way physical, social and commercial links between rural and urban areas, and the interdependence of rural farm and rural non-farm activities.

In Papua New Guinea the rural–urban interdependence is particularly strong. Some 80–85 per cent of the population lives in rural areas, about 30 per cent of the gross domestic product (GDP) comes from the agriculture, forestry and fisheries sector, the vast majority of food consumed is grown domestically, and many people unemployed in urban areas survive through informal employment in rural areas. Rural societies also play key roles in the welfare of the unskilled, underemployed and resource-poor, and as the cultural lodestar of the nation.

Another reason why the rural crisis is a national crisis stems from the negative ramifications that an underproductive, unemployed, poor and disaffected rural population can have on the nation as a whole. If such a population were to move to urban areas in search of, for example, employment or services, it could cause severe

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1 Policies calling for a balanced development strategy date from the late 1980s, but on the whole they were not pursued. An example of such a strategy is presented by David Mai, *Beyond the Minerals Boom: A Strategic Plan for Developing the Industrial, Construction and National Business Sectors in Papua New Guinea by the Year 2000*, Department of Trade and Industry, Waigani, 1993.

disruption and diversion of resources to address social and law and order problems in either rural – as the recent siege of Port Moresby's electricity and water supplies suggests – or urban areas.[2]

Policy-makers in Papua New Guinea have generally placed a lower priority on the needs of the rural population because of their distant location and muted voice due to widespread illiteracy and weak links with the national political system. If they continue to do this, not only will the rural population suffer and its potential be wasted but the nation could suffer greatly in terms of its economic, social and political development and cohesion.

Why the crisis needs to be addressed

Because the rural crisis has developed gradually and has so far been confined largely to rural areas, policy-makers may be tempted to continue to not address it, or to rely on ongoing efforts to reform the structure and management of the economy to resolve it. Such an approach could also be encouraged by the fact that the Government and aid donors have declared for some time that rural areas are a development priority but with little apparent result. And it is unlikely that similar policies and programs will produce different results.

There are, however, a number of reasons why the rural crisis needs to be addressed without further delay.

- *It encapsulates the fundamental enclave or equity choice that confronts national development.* The choice taken will affect many aspects of public policy and resource allocation for many years – and not just in the rural sector.
- *Revenue from the mining and petroleum sector could decline significantly during the next 10–15 years if the investment climate for exploration and development does not improve.* This will lead to ongoing public expenditure cuts and radically altered expenditure patterns. Even if the decline does not occur in the time frame suggested here, public revenue from the sector needs to be used in a more sustainable and equitable fashion.
- *Living standards in many rural communities are poor and are likely to get worse.* This is due to population growth and limited economic opportunity under the current government development strategy.

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2 While it is important socially and politically, the urban population of Papua New Guinea is in fact relatively small. The rate of urbanisation has been modest. In 1975, 88 per cent of the population lived in rural areas; the proportion in 2000 is estimated to have been 80–85 per cent. Port Moresby, the country's principal city with a population of 252 000 in 2000, is currently experiencing a declining rate of growth and is growing more slowly than the population at large. Port Moresby grew by 2.6 per cent a year in the period 1990–2000 compared with an average of 4.6 per cent a year in the previous decade and a national growth rate of 2.7 per cent a year over the period 1980–2000.

- *Urban centres and the national economy are particularly vulnerable to the consequences of the rural crisis.* This vulnerability comes from the symbiotic rural–urban relationship and the importance of social harmony and public confidence to national economic wellbeing.
- *The rural sector is a key to the nation's long-term economic growth.* There is no shortcut for Papua New Guinea from the classic development model, especially given the limited social and economic attainment of the population and the absence of well-developed infrastructure. Productivity must be increased by value-adding small and medium enterprises in which the rural population and resources have a crucial role.
- *The Government's national and international credibility is at stake.* Not only must the Government be able to show results, but it must do so at a time when more is expected internationally of Papua New Guinea than previously due to fewer aid resources, fatigue with enduring problems (especially where a favourable resource situation has been undermined by political instability and widespread corruption), and greater experience and expectations (for example, that poverty alleviation is a key development goal).

Addressing the rural crisis – and enclave and equity issues more broadly – will not be easy. During the past decade the quality of political decision-making has declined as has public administration and probity. Leaders and administrators will find it difficult to effectively address either long-term strategic issues or the immediate needs of the rural population for improved services and infrastructure. Indeed, the combination of political uncertainty generated by the 2002 general election, a weakening economy and a decline in administrative effectiveness all point to the situation getting worse.

Because the rural situation has been allowed to reach its present stage, and the rural–urban disparities have become so apparent, addressing the crisis will entail hard choices and long-term commitment. The significant opportunities and resources squandered during the past 15–20 years leave few options.

Ultimately, rural people themselves, with support from the private sector, will take up much of the responsibility for their development. But they will still need a public policy framework and government-led investment. Governance and public sector reform should continue, but not at the expense of defining and implementing a strategy that will address rural challenges in the time frame needed. To rely on only the structural reform program and associated institutional strengthening to do this would be a mistake. The 1990s saw a series of initiatives in economic reform and management, but these reforms are incomplete and have not sufficiently addressed the fundamental enclave or equity choice facing the nation. Economic policy should ensure that the basic resources needed for investing in people and infrastructure are made available and that a start is made on reducing poverty. Economic reform efforts to date have achieved little toward these ends.

Papua New Guinea can no longer afford to avoid the hard challenges and choices to be made in fostering equitable and sustainable rural development and rural–urban linkages. Addressing these challenges will expose intractable problems that are culturally and politically charged (such as equity, aspects of land tenure, and good governance) and will continue to alter traditional values and ways of life. But society will be ill-served if these problems are seen to prevent Papua New Guinea from determining strategic directions, developing a common vision and goals, and encouraging bottom-up approaches to rural development and greater social and economic equity.

Various reports have noted the dichotomy in social and economic conditions and opportunities between rural and urban Papua New Guinea and the enclave nature of the country's development.[3] However, none has adequately emphasised the scale and urgency of the crisis and the likelihood of it becoming significantly greater than it is today. The purpose of this report therefore is to describe features of today's situation, analyse factors that contributed to it, and suggest some measures for enhancing the welfare of present and future generations of Papua New Guineans, especially but not only those living in rural areas.

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3 Two recent reports are World Bank, *Papua New Guinea: Improving Governance and Performance*, Washington, DC, 1999, and World Bank, *Papua New Guinea: Strategies for Agricultural and Rural Development – Issues and Challenges*, Washington, DC, 2001.

Social and economic achievements and challenges

Some of the social and economic achievements of Papua New Guinea since independence have been notable, particularly given the low starting point. However, there is much still to be done, with slightly more than a third of the population living in poverty.

National achievements

Papua New Guinea's social and economic indicators have improved markedly since the nation gained independence in 1975.[4] Life expectancy has increased from 49 years to 58 years, infant mortality has decreased from 86 deaths per 1000 live births to 58, total fertility has fallen from 5.8 births per woman (in 1980) to 4.2 and the adult literacy rate has increased from 45 per cent to 64 per cent. The human development index, a measure of health, education and income, has increased consistently since 1975.[5] Papua New Guinea is now ranked in the 25th percentile in this index — 122nd of 162 countries. During the 1980s it was around the 20th percentile.

GDP per person in 1999 was US$810 (or US$2260 on a purchasing power parity basis), which is below the level of the early 1990s before the kina was floated. It was highest (US$1339) in 1994 when GDP totalled US$5.4 billion, compared with US$3.8 billion in 1999. GDP per person is likely to be lower in 2000 and 2001 due to the slowdown in GDP growth and the increase in population reported in the 2000 census.

These changes in social and economic conditions are notable given the limited achievement at independence and the tremendous constraints to growth that the nation has had to address, including:

- a culturally diverse and physically scattered population, with serious problems of access to services and markets in many areas

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4 Unless indicated otherwise, data in this section are from World Bank, *World Development Indicators 2001*, World Bank, Washington, DC, 2001, and United Nations Development Programme, *Human Development Report 2001: Making New Technologies Work for Human Development*, Oxford University Press, New York, 2001.

5 The human development index is derived from life expectancy at birth, adult literacy rate, gross enrolment ratio and GDP per person.

- minimal productive infrastructure and limited participation in the cash economy
- few traditions of governance and few established institutions that are required for the effective operation of a nation state
- limited public education and health services
- a population with minimal experience outside their community, and
- significant growth in the population, which almost doubled from 2.7 million to 5.1 million between 1975 and 2000.

Not only has Papua New Guinea had to address such challenges, but it has done so while continuing to function as a democracy and working with a shrinking contribution from foreign aid.[6]

International comparisons

While not diminishing the achievements of the past 25 years, when compared with other developing countries in the Pacific or Asia – or elsewhere – Papua New Guinea's social achievements appear limited.

The country has many characteristics of the world's poorest nations. Although its GDP per person places it among the lower middle-income countries according to the World Bank's world development indicators, its human development index places it at the lower end of the 'medium human development countries' of the United Nations Development Programme. This is largely because its high (if unequally distributed) GDP per person overcompensates for low scores in the other components of the index. Papua New Guinea's social and economic indicators are generally worse than 70–80 per cent of reporting countries. Although Papua New Guinea has recorded some improvements since independence, these have been from very low starting points and within a context of economic growth that has barely kept up with population increases.

Compared with Asian countries, Papua New Guinea has not performed particularly well in terms of economic growth during recent decades (figure 1 and table 1).[7]

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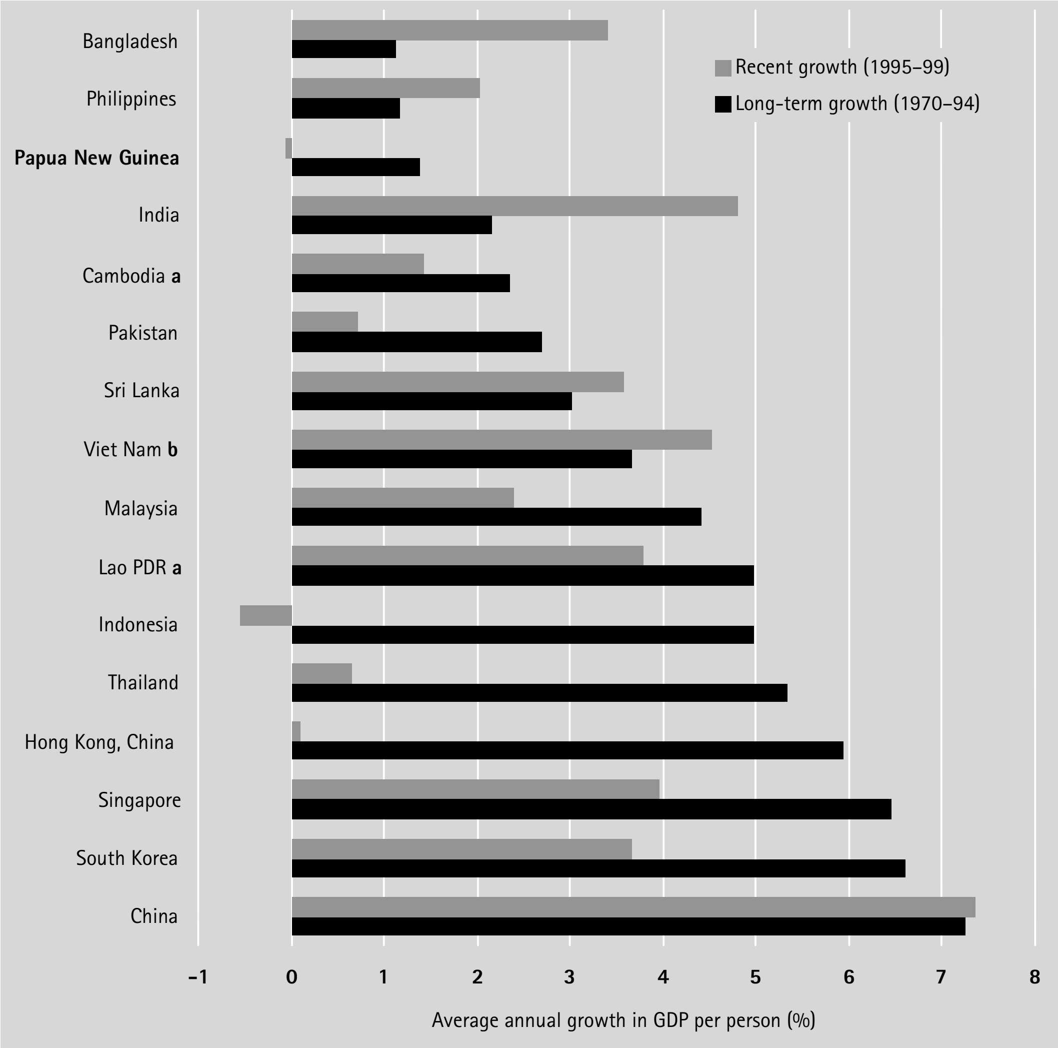
6 In 1975 the aid received by Papua New Guinea was equivalent to US$112 per person or 24 per cent of its GDP. Only one country, Jordan, received aid that accounted for a greater share (30 per cent). In 1997, Papua New Guinea's aid was equivalent to US$78 per person or 9 per cent of GDP (in 2000 it was 6 per cent) and 30 other countries' aid accounted for greater shares (up to 50 per cent for Guinea Bissau). See Deborah Brautigan, *Aid Dependence and Government*, Expert Group on Development Issues, Almqvist & Wiksell International, Stockholm, 2000, pp. 12–13.

7 Because of extreme exchange rate variations, it is difficult to compare Papua New Guinea's economic development over time with other countries. Since 1975 the kina has been worth up to A$1.80 (compared with A$0.54 on 1 November 2001) and US$1.60 (US$0.29 on 1 November 2001). Tim Curtin (personal communication, 27 September 2001) points out that at current prices in Australian dollars, Papua New Guinea's GDP per person has grown by 7.1 per cent a year since 1974–75 while Australia's has grown by 7.4 per cent. He attributes the limited social achievement in this period to the significant growth of a middle class in Papua New Guinea since 1975.

Figure 1 **Economic growth in Asia and Papua New Guinea**



a Long-term growth covers the period 1990–94. **b** Long-term growth covers the period 1985–94.
Data source: World Bank, *World Development Indicators 2001*, World Bank, Washington, DC, 2001.

Between 1975 and 1999, GDP per person grew at an average annual rate of 0.9 per cent, although the rate was higher (2.3 per cent) from 1990 to 1999. Papua New Guinea also performs poorly compared with Asian and Pacific neighbours on key social indicators (table 1). It has the lowest human development index and highest human poverty index of 12 Pacific countries.[8]

8 United Nations Development Programme, *Pacific Human Development Report 1999: Creating Opportunities*, UNDP, Suva, 1999, pp. 17–18. Papua New Guinea's human development index in this report is 0.314, compared with 0.861 for Palau, 0.822 for Cook Islands and 0.774 for Niue (the top three performers). Its poverty index is 52.2, compared with 4.8 for Niue, 5.9 for Tonga and 6.1 for Cook Islands (the top three performers on this index).

Table 1 **Selected social and economic indicators**

Indicator	Papua New Guinea	China	Indonesia	Thailand	Viet Nam	Fiji	Samoa	Solomon Is.	Vanuatu
Health									
Infant mortality per 1000 live births **a**	58	30	42	28	20	18	23	21	36
Under-5 mortality per 1000 **a**	77	37	52	33	42	22	27 **b**	26	44
Maternal mortality per 100 000 live births **c**	370	55	450	530	160	44	70	549	68
Low-birth weight babies (% of births) **d**	16	..	15	7	11	18	..	..	..
DTP-vaccinated children under 1 year (%) **e**	56	98	64	97	93	86	98	69	90
Measles-vaccinated children under 1 year (%) **e**	57	97	71	94	93	70	91	64	94
Physicians per 100 000 population **d**	7	162	16	24	48	37	34	..	..
Life expectancy (years) **a**	58	70	66	69	69	69	69	65	65
Education									
Adult literacy (% aged 15 and over) **d**	64	84	66	95	68	93	80	..	..
Economic									
GDP per person (US$) **a**	810	780	600	2 010	370	2 310	1 070	750	1 180
GNI per person, purchasing power parity (US$) **a**	2 260	3 550	2 660	5 950	1 860	4 780	4 070	2 050	2 880
GDP growth per person, 1975–99 (%) **d**	0.9	8.9	4.6	5.7	4.8	0.7	0.2	..	..
GDP growth per person, 1998–99 (%) **a**	0.9	6.1	–1.3	3.4	3.5	6.4	0.5	–3.5	-6.0
Agriculture contribution to GDP (%) **f**	30	18	19	10	25	18	18	22	22
Human development index ranking **d**	122	87	102	66	101	67	96	..	..

a 1999 data from World Bank, *World Development Indicators 2001*, World Bank, Washington, DC. **b** From World Health Organization, Western Pacific Region, www.wpro.who.int. **c** Latest reported data from 1990–99, from *World Development Indicators 2001* and from World Health Organization, Western Pacific Region, www.wpro.who.int. **d** Most recent data from United Nations Development Programme, *Human Development Report 2001: Making New Technologies Work for Human Development*, Oxford University Press, New York, 2001. **e** Most recent data from *World Development Indicators 2001*. **f** From *World Development Indicators 2001* and *Human Development Report 2001*. **..** Not available.

Regional variation and inequity

National data inevitably mask significant spatial variations in social and economic characteristics. This is indeed the case in Papua New Guinea where the main urban area, the National Capital District, has a human development index that is more than double the national average and almost three times that of the poorest performing province, Sandaun. The overall strong social and economic performance of the Islands Region, and the poor performance of the Highlands, are apparent from the provincial indexes (figure 2).

The inequity suggested by the variation in provincial human development indexes is borne out nationally by the Gini index.[9] The Gini index for Papua New Guinea is

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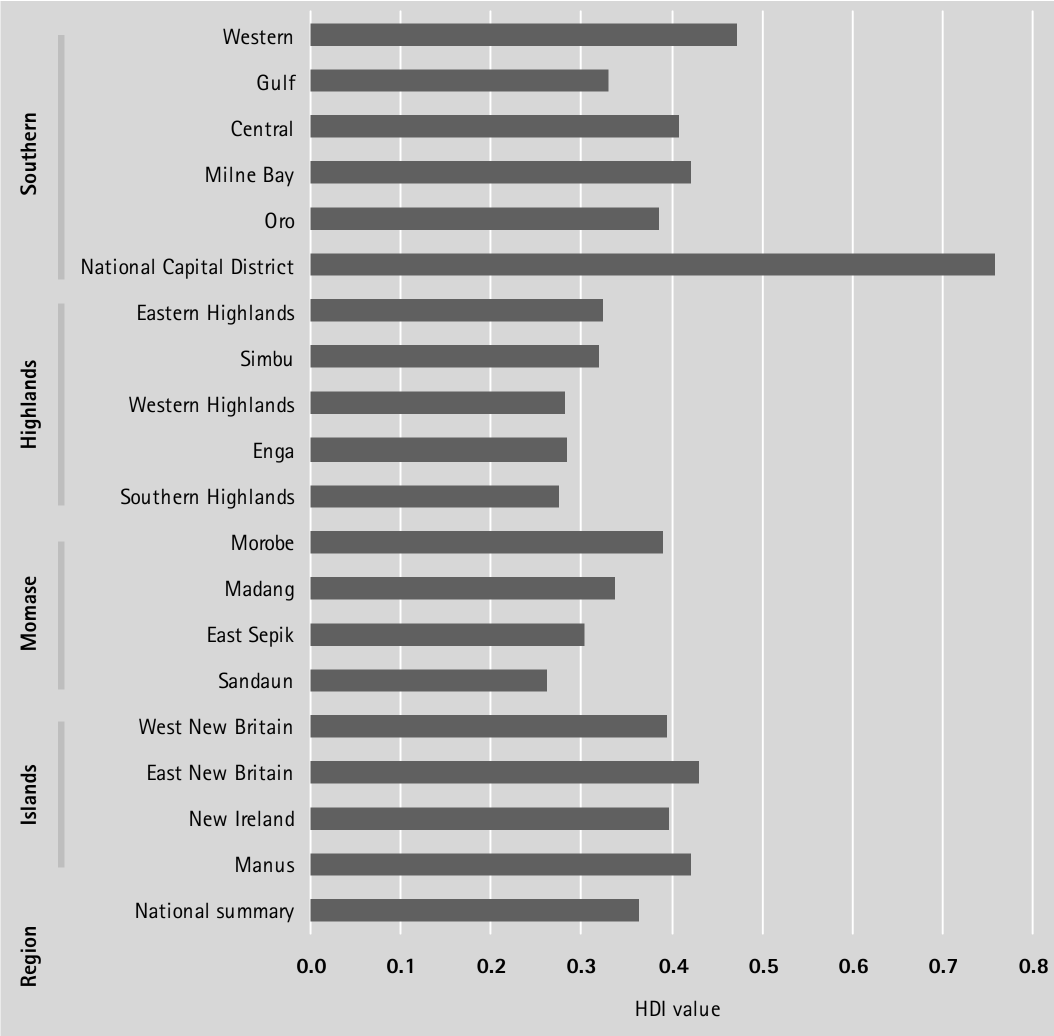
9 The Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A rating of zero indicates perfect equality, with every household earning exactly the same; 100 implies absolute inequality, with a single household earning all a country's income.

Figure 2 **Provincial human development indexes, 1996**



Note: Data for Bougainville are not available.

Data source: Office of National Planning, *Papua New Guinea Human Development Report 1998*, Office of National Planning and United Nations Development Programme, Port Moresby, 1999, p. 177.

50.9. Only 17 of 114 countries with Gini coefficients reported in *World Development Indicators 2001* have more inequitable income distributions.

Another suggestion of inequity in Papua New Guinea comes from consumption patterns. In 1996 the poorest 10 per cent of the population (in terms of consumption per person) accounted for 1.7 per cent of consumption, while the richest 10 per cent accounted for 40.5 per cent.[10]

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10 World Bank, *World Development Indicators 2001*, pp. 70–2. The 1996 household survey produces slightly different data: a Gini index of 46.0, with the richest 10 per cent of the population accounting for 36 per cent of measured consumption and the poorest 50 per cent accounting for 20 per cent (John Gibson and Scott Rozelle, *Results of the Household Survey Component of the 1996 Poverty Assessment for Papua New Guinea*, Department of Economics, University of Waikato and Food Research Institute, Stanford University, 1998, p. 38).

Poverty

The disparity in economic and social indicators between provinces, between rural and urban areas, and in the population as a whole suggests that there is extensive poverty in Papua New Guinea. There is a dearth of robust data on the issue, with one notable exception – the 1996 Household Survey.[11] This survey presents sufficient evidence to confirm that there are considerable differences in consumption among the population and that nutritionally inadequate levels of consumption do exist and are particularly conspicuous in rural areas.

The survey offers the following findings on poverty.

- Almost 2 million people – 37.5 per cent of the 2000 population of 5.1 million – live in households where the real value of consumption per adult equivalent is below the poverty line.[12]
- The National Capital District has the lowest poverty rate (26 per cent) and Momase Region has the highest rate (46 per cent).
- The rural poverty rate (41 per cent) is 2.5 times the urban rate (16 per cent).
- About 94 per cent of the poor are in rural areas, with 74 per cent of the poor located in the Highlands and Momase regions.
- Poverty is high in households headed by women (48 per cent of such households are below the poverty line) or where the household head has had no schooling (51 per cent).
- Poverty is highest among households where the most important income source of the household head is from cocoa or copra, fishing, hunting or gathering. Almost half of these households are poor.
- About 31 per cent of all people aged 15 years or over have no cash income earning activity.

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11 John Gibson and Scott Rozelle, *Results of the Household Survey Component of the 1996 Poverty Assessment for Papua New Guinea.*

12 This is an extrapolation of an estimate by Gibson and Rozelle (p. 60), who estimated that 37.5 per cent of the population was below the 'upper poverty line' in 1996. The upper poverty line is based on a 'food poverty line' that gives the required nominal value of consumption for a basic diet that meets food-energy requirements of 2200 calories per adult equivalent per day. An allowance for the consumption of basic non-food items is made to the food poverty line to establish a 'lower poverty line' and an 'upper poverty line' (with a more generous allowance). These poverty lines are adjusted to reflect the dietary preferences and costs in each region. Gibson and Rozelle calculated that 37.5 per cent of the population was below the upper poverty line, 30.2 per cent below the lower poverty line and 17.0 per cent below the food poverty line. There is some disagreement in Papua New Guinea on the actual presence of poverty, as some people define it in cultural terms (that is, a person is 'poor' only if he or she is without any social support system). The definition used here is based on internationally accepted nutritional requirements. 'Poverty rate' as used here refers to the upper poverty line using the head-count index.

Social indicators of the population disaggregated by wealth (table 2) illustrate the extreme variation in living standards across the nation. For example, the wealthiest 25 per cent of the population consumes more than twice the calories and three times the protein of the poorest 25 per cent; literacy, school attendance, and access to safe water, sanitation and electricity are all significantly greater for wealthier people.

Table 2 **Social indicators by wealth distribution, 1996**

Indicator	Poorest 25 per cent	Second 25 per cent	Third 25 per cent	Richest 25 per cent	National average
Literacy rate (%)					
Females over 14 years	31	38	43	57	43
Males over 14 years	48	54	61	77	61
Never attended school (%)					
Females over 14 years	60	54	47	37	49
Males over 14 years	40	38	29	20	31
Stunting among children (%)	62	50	47	30	47
Piped water in households (%)	4	6	11	27	12
Flush toilet in households (%)	0	3	15	32	7
Electricity in households (%)	2	3	13	31	12
Calories per adult equivalent per day	1 955	2 587	3 158	4 200	..
Protein per adult equivalent per day (g)	27	41	60	94	..

.. Not available.

Sources: World Bank, *Papua New Guinea: Improving Governance and Performance*, World Bank, Washington, DC, 1999, tables 3.2 and 3.8, which are derived from John Gibson and Scott Rozelle, *Results of the Household Survey Component of the 1996 Poverty Assessment for Papua New Guinea*, Department of Economics, University of Waikato and Food Research Institute, Stanford University, 1998.

Rural–urban differences

Given that more than nine out of every ten poor people live in rural areas, it is to be expected that the differences in living standards between the wealthy and the poor have rural–urban expressions. Overall, there are marked differences in the economic and social indicators of rural and urban areas, notwithstanding the fact that conditions in some rural areas are better than in others and that a relatively high proportion of people in urban areas also have low living standards.

With respect to nutrition, for example, the rate of stunting (low height for age) in rural children is more than twice the rate for urban children (47 per cent compared with 20 per cent). The poor nutritional status of rural adults compared with urban adults is not dissimilar to that of children. These rural–urban differences do not reflect differences in calorie availability in urban and rural areas (it is similar).

They reflect fundamental differences in rural and urban diets – urban diets having higher energy density and protein content.[13]

Whether it is provincial government revenue, personal income, radio and television ownership or road access, the National Capital District – which can be taken as a proxy for 'urban' – performs far better than all other provinces in terms of economic indicators (table 3). Personal incomes in the National Capital District were 19 times the average in the poorest province, Gulf, in 1996. There are similar, though not as extreme, differences in resources available to government. Provincial government revenue per person in the National Capital District is almost five times the level in the province with the lowest level of support per person, Eastern Highlands (figure 3).

Table 3 **Selected indicators of rural–urban differences**

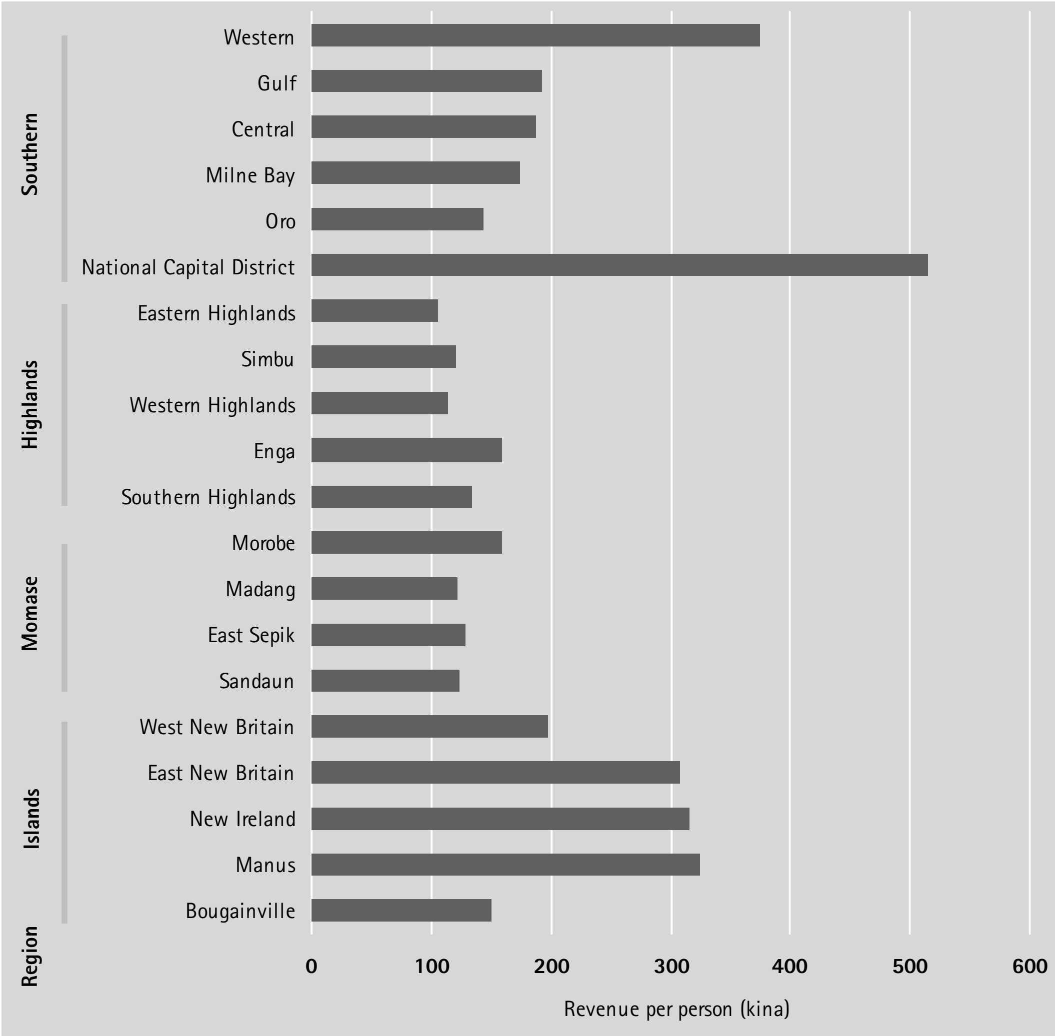
Indicator	Rural (minimum – maximum provinces)	Urban
Economic		
Provincial government revenue per person, 2000 (K)	106 (Eastern Highlands) – 374 (Western)	514
Income per person, 1996 (K)	318 (Gulf) – 1829 (Western)	6 091
Radios per 100 people, 1996	21 (Sandaun) – 57 (Manus)	70
TVs per 100 people, 1996	1 (Southern Highlands) – 11 (Morobe)	61
Population with road access, 1995 (%)	11 (Milne Bay) – 97 (Southern Highlands)	100
Social		
Human development index, 1996	0.263 (Sandaun) – 0.473 (Western)	0.759
Poverty rate, 1996 (%)	41	16
Location of poor, 1996 (%)	94	6
Adult literacy, 1990 (%)	23 (Western Highlands) – 73 (East New Britain)	81
Life expectancy at birth, 1996 (years)	45.7 (Sandaun) – 57.2 (Manus)	60.5
People not expected to reach 40, 1996 (%)	33 (Sandaun) – 15 (Manus)	13
Underweight 5-year-olds, 1996 (%)	11 (Enga) – 41 (Sandaun)	10
Infant mortality per 1000 live births, 1996	37 (Manus) – 110 (Sandaun)	38
Access to safe water, 1996 (%)	4 (Manus) – 54 (Central)	92
Gross enrolment (elementary, primary, secondary), 1996 (%)	32 (Enga) – 67 (Manus)	46

Note: National Capital District is a proxy for 'urban' in all cases except 'poverty rate' and 'location of the poor'.

Sources: Data are from Office of National Planning, *Papua New Guinea Human Development Report 1998*, Office of National Planning and United Nations Development Programme, Port Moresby, 1999, except: 'provincial revenue' (from 2000 provincial budgets); 'poverty rate' and 'location of the poor' (from John Gibson and Scott Rozelle, *Results of the Household Survey Component of the 1996 Poverty Assessment for Papua New Guinea*, Department of Economics, University of Waikato and Food Research Institute, Stanford University, 1998); and 'provincial government revenue' (from provincial budgets).

13 John Gibson, 'The nutritional status of PNG's population', in RM Bourke, MG Allen and JG Salisbury (eds), *Food Security for Papua New Guinea: Proceedings of the Papua New Guinea Food and Nutrition 2000 Conference, PNG University of Technology, Lae, 26–30 June 2000*, ACIAR Proceedings No. 99, Australian Centre for International Agricultural Research, Canberra, 2001, table 3, p. 410.

Figure 3 **Provincial revenue per person, 2000**



Data sources: Government of Papua New Guinea provincial budgets and revenue estimates, 2000, and 2000 census for population data.

Health data confirm similar rural–urban differences, though there is considerable variation in performance among provinces. Manus, for example, tends to perform well compared with the National Capital District. The larger, unequivocally rural provinces such as Sandaun, however, are in a different league. One in three people born in Sandaun will die before the age of 40 years, compared with almost one in eight in the National Capital District, and five-year-olds in Sandaun are four times as likely as those in the National Capital District to be underweight.

Difference between rural areas

Some rural areas are better off than others in terms of social and economic conditions. Resource projects, particularly mining projects, have usually resulted in marked improvements in health and education services for nearby populations, mainly because the companies generally assume responsibility for service delivery during the life of the project.

Comprehensive, independent data on living conditions in resource enclaves are not available. However, it is apparent that the impact of such services can be remarkable, particularly given that the projects are generally in remote areas. On Lihir Island, for example, the number of people affected by malaria has been reduced from 50 per cent to 10 per cent through the programs of Lihir Gold Limited.[14] Performance in peri-urban areas is also usually better due to access to services and more personal income.

Resource project enclaves aside, some rural areas are much poorer than others are. On the whole, poorer areas are characterised by isolation or difficult access (and hence a lack of services and markets), severe environmental constraints (such as flooding, steep slopes, high rainfall, poor soils and high altitude), a location across remote administrative borders, and few well-educated people.[15] Work that led to the identification of geographic features associated with poverty in Papua New Guinea identified 26 agricultural areas, with an estimated total population of over 100 000, where household incomes averaged less than K50 a year.[16]

The challenge ahead

A major challenge for Papua New Guinea is to improve living standards at the household level. Limited data from the mid-1980s suggest there was little improvement in the day-to-day living conditions of most Papua New Guineans, especially those in rural areas, between then and the 1996 Household Survey.[17]

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14 Lihir Gold Limited, *Annual Report*, 2000, p. 7.

15 BJ Allen and RM Bourke, Poverty and agriculture in Papua New Guinea: an in-depth description of six agricultural systems, Department of Human Geography, Research School of Pacific and Asian Studies, Australian National University, Canberra, 1997, mimeo, p. 18.

16 LW Hanson, BJ Allen, RM Bourke and TJ McCarthy, *Papua New Guinea Rural Planning Handbook*, Australian National University, Canberra, 2001. The areas fall into three broad groups: very low population density and very low land use intensity; low population density and low land use intensity; and medium–high population density and medium–high land use intensity.

17 World Bank, *Papua New Guinea: Improving Governance and Performance*, pp. 81–2.

Given the country's economic performance since 1996, it is unlikely that living standards have improved significantly since then either. Indeed, anecdotal evidence from rural and urban areas supports this, as does evidence that between 1993 and 2000 the 30 per cent of wage-earners in the lower income group suffered a 43 per cent reduction in real wages.[18]

The following figures attest to the scale of investment required in social and physical infrastructure in Papua New Guinea.

- On average the population aged 15 years or above has only 2.9 years of schooling.
- Each year about 15 000 babies die before their first birthday.
- Around 50 per cent of children of primary school age do not attend school.
- Only 56 per cent of females aged 15 years or over are literate.
- About 58 per cent of the population do not have access to safe drinking water.
- At birth the probability of not surviving until the age of 40 years is 22 per cent.
- Only 4 per cent of roads are paved – the third lowest achievement among 173 countries for which comparable data are available.[19]

18 The real wages of the middle income group (nearly 50 per cent of wage-earners) declined by 11 per cent in this period, while the wages of the upper income group increased by 74 per cent. The top 22 per cent of wage-earners received 38 per cent of total wages in 1993 and 56 per cent in 2000. See Tim Curtin, Could have done better? Economic developments in Papua New Guinea since 1990, National Centre for Development Studies, Australian National University, Canberra, 2001, mimeo, p. 15.

19 World Bank, *World Development Indicators 2001*, pp. 52–3.

The rural situation

Papua New Guinea's social and economic indicators paint a dismal picture of living standards, particularly in rural areas, although there is tremendous variation in rural livelihoods. Aspects of the rural situation go some way toward explaining the factors behind the rural–urban differences in living standards and economic opportunities. There is only so much that rural communities themselves can achieve in response to the conditions that confront them within the context of current national economic policy and growth.

Limited economic activity

Among provinces the level of economic activity in their rural areas varies considerably (table 4). Such variation is also apparent within most provinces, even over relatively short distances. Overall, though, few provinces have a wide range of market activity and most have large areas where subsistence production dominates.

With the exception of fresh food produced for sale, each main rural-based activity in the market economy is confined to a few provinces. Mineral production, for example, takes place in seven provinces, and 84 per cent of the logs exported are from four provinces. Export agriculture is similarly concentrated – four provinces grow all the oil palm, two account for 75 per cent of coffee, three for 79 per cent of cocoa and five for 86 per cent of copra. As well as being concentrated in specific provinces, most major economic activities, such as mining, logging and, to a less extent, cash crop production, are confined to specific areas within provinces, and so directly involve relatively few people.

Some provinces have limited activity in the cash economy in rural areas. Manus, Sandaun, Simbu, Oro and Gulf provinces stand out as having few cash-based economic activities and, with the exception of Simbu, no road links to a major urban centre. So their populations have few opportunities to earn income by selling food crops. As might be expected, these provinces are among the poorest in terms of income per person.[20] As noted earlier, the 1996 Household Survey found that almost a third of adults nationwide earn no income.

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[20] Office of National Planning, *Papua New Guinea Human Development Report 1998*, Office of National Planning and United Nations Development Programme, Port Moresby, 1999, p. 176.

Table 4 **Provincial rural-based economic activities** a

	Mineral resources b		Forest exploitation c	Cash crops d		Major urban centre road access
Southern Region						
Western	Copper	100	24			
	Gold	22				
	Silver	56				
Gulf	Oil	5 e	22			
Central	Gold	3	3	Copra	1	Port Moresby
	Silver	7				
Milne Bay	Gold	9	3	Oil palm	12	
	Silver	31		Copra	5	
Oro				Oil palm	19	
Highlands Region						
Southern Highlands	Oil	95		Coffee	1	Mt Hagen
	Gas	100				
Enga	Gold	38		Coffee	2	Mt Hagen
	Silver	5				
Western Highlands				Coffee	44	Mt Hagen
Simbu				Coffee	9	Goroka, Mt Hagen
Eastern Highlands				Coffee	31	Goroka, Lae
Momase Region						
Morobe				Coffee	8	Lae
				Copra	2	
Madang				Cocoa	8	Madang
				Copra	21	
East Sepik				Coffee	5	
				Cocoa	5	
				Copra	3	
Sandaun			6			
Islands Region						
Manus			2			
New Ireland	Gold	25	2	Oil palm	7	
				Cocoa	6	
				Copra	11	
East New Britain			22	Cocoa	59	Kokopo
				Copra	32	
West New Britain			16	Oil palm	62	
				Copra	12	
Bougainville				Cocoa	14	
				Copra	10	

a Excludes the sale of fresh food. **b** Share of national production in 2000, by mineral. Small-scale production of gold (3 per cent of national production) and silver (1 per cent) is not included. **c** Percentage of national log exports in 2000. No province with less than 1 per cent is shown. **d** Percentage of national production. Latest available year: oil palm 1999, coffee 1998–99, cocoa 1997–98, copra 1998. No province with less than 1 per cent is shown. **e** Assumes about 10 per cent of Gobe production is from the south-east Gobe field in Gulf Province.

Source: Government of Papua New Guinea (Departments of Agriculture and Livestock, Mining, and Petroleum and Energy, and the Forest Authority).

For many rural inhabitants the most important income source is local food sales or remittances from people employed elsewhere in Papua New Guinea, generally in the formal economy.[21] Data on the extent of remittances is not readily available. However, their economic impact is probably significant in many areas. It is not uncommon in areas where there are limited local income sources – at Ialibu Basin in the Southern Highlands, for instance – for rural dwellers to say that their main way of earning money is to educate their children so they might get wage jobs elsewhere and remit money to the family. A quarter or more of a village's population might be resident elsewhere for long or short periods.[22] As there is no state welfare system, and because kin support systems are rarely an exclusive source of support for adults over long periods, some of the income of these external residents returns to the home village to support relatives and to ensure that the absentees' access rights to land and other resources remain strong.

Weak agriculture, forestry and fisheries sector

A major reason for the lack of income-earning opportunities in rural areas is the limited growth of the agriculture, forestry and fisheries sector. Between 1990 and 2001, the sector had six years of negative growth and six of positive growth (see figure 6 in the next chapter). However, its growth was greater than 5 per cent in only four years (1992–94 and 1996) and that was due mainly to price-related windfall gains. Since 1996 the sector has recorded only one year of positive growth. A variety of distortions affected agriculture, forestry and fisheries until the mid-1990s – in particular the overvalued exchange rate and wage awards, but also trade regimes and regulated credit.[23] Since these distortions were removed, the main constraints to the sector's growth have been low prices, limited market access and limited demand, although there are constraints to development and financing that derive in part from the land tenure system.

Agricultural production falls into two parts: food production for household consumption and domestic markets, and tree crops grown for export. The value

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21 While internal remittances are important, Papua New Guinea is one of the few developing countries where overseas sources of personal remittances are not significant, probably because of the low level of human capital and, until recently, the relative isolation of the country.

22 An interesting question is whether there is a particular proportion of village (or family or lineage or clan) members that need to live and earn money elsewhere to meet the cash demands, or the broader means of living, of village-based residents. The proportion of village members working away would no doubt reflect the home village's resources (including land), cash needs, income-earning opportunities, and so on.

23 The 'hard kina' exchange rate that was enforced until 1994 led to an overvalued exchange rate for many years, which helped put the agricultural, forestry and fisheries sector into the parlous state that it is in now. In adopting this policy there was a trade-off between keeping inflation down and dampening growth in the rural sector. Until 1992, wage policy supported parity of urban and rural wage rates, which severely limited formal employment in the rural sector.

of household food production is about half that of all crops, and was equivalent to about a quarter the value of the GDP in 1996. Household food production is dominated by sweet potato. The quantity of sweet potato produced (1.3 million tonnes in 1996) is three times that of the next food crop, banana. Sweet potato is the most valuable food crop and provides 30 per cent of the calories consumed by the rural population.[24] The main export crops are coffee (38 per cent of the value of agricultural exports during the period 1996–2000), palm oil (29 per cent), coconuts and coconut products (14 per cent) and cocoa (9 per cent).

Another main export of the agricultural, forestry and fisheries sector is forest products. These (logs in the main) accounted for 5 per cent of total exports during the period 1998–2000, down from the 14 per cent average for the previous three years. Exports of forest products have recently been 25–35 per cent of the value of exports from the sector as a whole. Exports of marine products are also important and expanded during the period 1998–2000 to be about K135 million a year, or about 10 per cent the value of agriculture exports.

Essentially all rural Papua New Guineans (and a good share of those living in urban areas) grow food crops for their own consumption. The sale of these predominantly subsistence crops is an important income source for those rural people who have access to urban markets. The sale of fresh food was the second most important source of agricultural income, providing K39.6 million or an estimated 20 per cent of agricultural income in 1996. Such sales were made by 25 per cent of the total population. The sale of Arabica coffee was the most important source of agricultural income (K65.1 million or 33 per cent of agricultural income).[25]

Trade in betel nut, which accounts for 10 per cent of agricultural cash income,[26] can be over long distances and of high value (in places, it involves plane charters for transport). In contrast, vegetable sales are generally local and direct between grower and buyer, though there is also some long-distance trade, such as between the Highlands and Lae and the Port Moresby market.[27] With the economic crisis and the accelerating depreciation of the kina since 1998, the demand for vegetable crops in urban centres has increased, and producers with access to urban markets have responded. Post-1996 data are not available on the size of this trade but its relative

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24 John Gibson, 'The economic and nutritional importance of household food production in PNG', in Bourke, Allen and Salisbury (eds), pp. 39–40.

25 Bryant J Allen, R Michael Bourke and Luke Hanson, 'Dimensions of PNG village agriculture', in Bourke, Allen and Salisbury (eds), pp. 529–53, table 9.

26 Allen, Bourke and Hanson, table 9, p. 543.

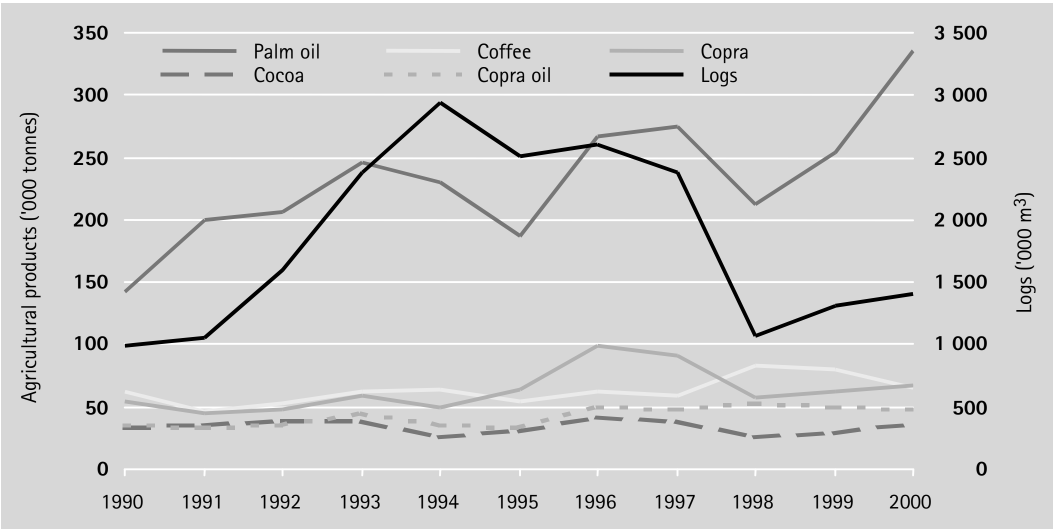
27 Sea shipments of vegetables from Lae to Port Moresby (75–80 per cent of which are Irish potato and sweet potato) averaged almost 5000 tonnes a year over the period 1996–2000, with another 100 tonnes a year transported by air. This information was provided by the Fresh Produce Development Corporation.

importance to rural producers (as well as to urban traders and consumers) has increased significantly since then.

The export sector responded positively to the floating of the kina in 1994. Compared with the three years prior to 1994, export volumes during the period 1998–2000 were 25–40 per cent higher for palm oil, copra and coffee, but lower for cocoa and logs (figure 4).[28] Cash crop production is constrained by falling international commodity prices – although the floating kina policy modifies some of the impact that falling prices might have (figure 5). A Coffee Industry Corporation study showed that for every 1 per cent decline (increase) in the farmgate price of coffee, production fell (increased) by 3.8 per cent. US dollar prices for coffee, palm oil, coconuts and coconut products, cocoa and forest products are all at or near historic lows.

The current weak performance of agricultural and forest exports is suggested by the fact that mineral exports in 2000 accounted for 77 per cent of the value of all exports, their highest share ever. Mineral exports (including oil, once exports started in 1992) have been assuming an increasing importance in exports ever since independence. They averaged 46 per cent of the value of exports during the period 1975–79, 56 per cent in the 1980s and 69 per cent in the 1990s.[29]

Figure 4 **Agricultural and log exports**

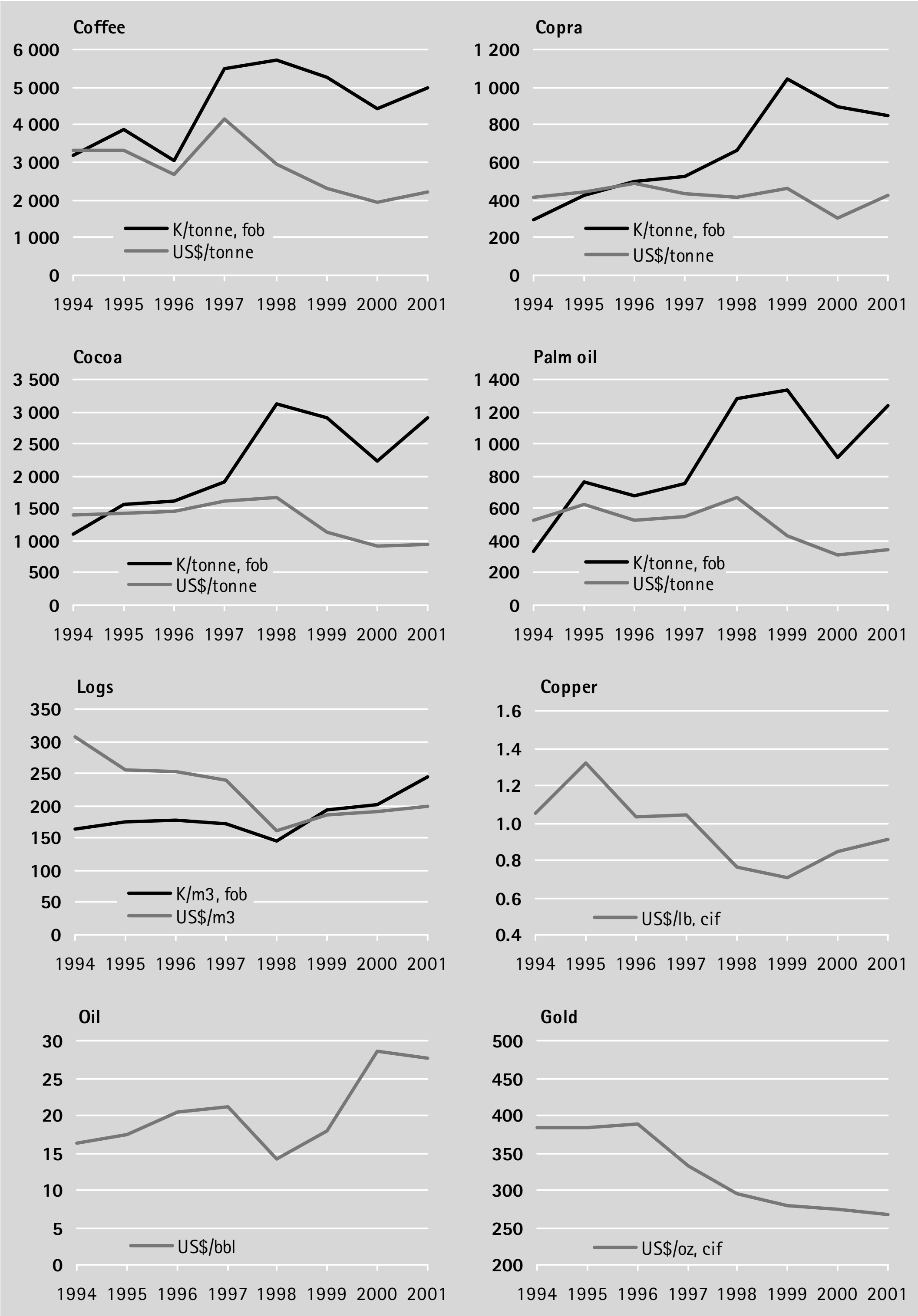


Data source: Bank of Papua New Guinea, *Quarterly Economic Bulletin*, Port Moresby, various quarters.

28 Commodities that increased export volumes in 1998–2000 compared with 1991–93 were coffee (40 per cent – 1998 was a year of record production for coffee), copra oil (32 per cent), copra (25 per cent) and palm oil (23 per cent). Those with decreased export volumes were cocoa (–18 per cent) and logs (–25 per cent). See Bank of Papua New Guinea, *Quarterly Economic Bulletin*, Port Moresby, various quarters.

29 Bank of Papua and New Guinea, *Quarterly Economic Bulletin*.

Figure 5 **Commodity prices**



Note: Data for 2001 are projected. Kina and dollar data for individual commodities are from different markets and may not be for strictly comparable commodities due to the limited availability of comparable data. For example, for logs the kina price is for the low-grade mixed species that dominate Papua New Guinea's exports while the international price is for high-value species. Kina and international prices are presented to demonstrate trends rather than to make direct comparisons of price levels.

Data sources: Kina prices are from Bank of Papua New Guinea, *Quarterly Economic Bulletin*, Port Moresby, various quarters, and Government of Papua New Guinea, *Budget 2001*, Port Moresby, 2000. US dollar prices are from World Bank, *Global Commodity Markets, Global Economic Prospects* and *Commodity Price Data (Pinksheets)*, www.worldbank.org, accessed August–September 2001.

Low export prices have exacerbated other problems facing producers of tree crops. Copra and cocoa are marginally economic to produce when the currency depreciates and prices fall.[30] In contrast, an analysis of the impact of depreciation on the competitiveness and profitability of tree crops concludes that coffee and palm oil would be profitable with or without currency depreciation and with up to a 30 per cent reduction in commodity prices.[31]

Deteriorating infrastructure and transport and law and order problems are other reasons why large amounts of smallholder and plantation crops are not harvested, especially coffee, cocoa and copra. Deteriorating road transport and buyer safety have resulted in 30–50 per cent of the Highlands coffee crop – which is the main source of income for over half the rural population – not being harvested in recent years, and the trees themselves not being maintained. Indeed, it is likely that more than half of the cash crops planted in Papua New Guinea are not regularly maintained or harvested. For most, once maintenance falls off, production is difficult to restore.[32] So even though Papua New Guinea may be suited to widely growing many crops (one estimate is that only 7 per cent of the land suited to tree crops is so used), unless the crops can be brought to market, production will not start or will soon stop.

Declining production and exports have an immediate impact on rural livelihoods. Not only are cash returns to growers reduced, but so are employment opportunities. The decline of log exports is said by the industry to have resulted in the loss of 6000 rural jobs in the four years 1997–2000. Landowner royalty payments from forestry projects also declined during that period – by 50 per cent to K30.1 million. In 1996 they were approximately equal to income from the sale of fresh food. Royalty payments in 2001 are estimated at about K20 million[33] – much less than the value of fresh food sales, which have increased considerably in recent years.

If there were to be sustained growth in the agriculture, forestry and fisheries sector, incomes and employment in both farm and related off-farm rural areas would increase dramatically. However, it is difficult to see how this will occur in the short

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30 As noted above, poverty is highest among households where the most important income source of the household head is copra or cocoa, fishing, hunting or gathering.

31 Chinna Kannapiran, 'Impacts of currency depreciation on the tree-crop sector in Papua New Guinea', *Pacific Economic Bulletin*, vol. 15, no. 1, 2000, p. 79.

32 This is particularly so in the plantation sector with its high-input high-output regime, but also applies to some extent to the low-input medium-output or low-output situation of most village cash crops. According to Gerard Stapleton (*Plantation Cost of Production Survey*, Coffee Discussion Paper 19, Industry Affairs Division, Coffee Industry Corporation, Goroka, 1997), coffee plantations were considered to be in a perilous situation in 1995 because over half of the coffee trees in the plantations were over 30 years old, a situation that presumably has worsened.

33 Forest Industries Association, The forest industries of Papua New Guinea: a statistical profile of key indicators, May 2001, mimeo.

term. Even when prices start to rise – and not overlooking the price sensitivity of small producers – forgone crop maintenance, a lack of capital to invest in production, and deteriorating roads and other transport facilities will seriously limit the market response.

Few services and limited public investment

Service delivery by government agencies in rural areas is poor. Those services available are likely to be in the form of schools and health centres, in both cases complemented by significant church-delivered services (which are partly funded by government).[34] Service levels, particularly outside education and health, are declining because of a lack of funds for operating costs. Few funds other than for salaries reach rural areas from either the national government or the provincial governments. This is most stark at the local level of government, which is responsible for building and maintaining some local infrastructure among other things. Many local-level governments have not received funds for anything but sitting allowances since the provincial and local-level government reforms were introduced in 1995.

The delivery of education and health services is weaker in rural areas than in urban areas, especially in the more isolated areas where there are few economic opportunities. For example, rural health expenditure per person in 2000 was a third of the expenditure in urban areas and, while there was a national average of one doctor for each 17 200 people, the ratio ranged from 1:4000 in the National Capital District to 1:162 000 in Central Province.[35] A recent review of provincial government budget support for the health sector showed that it is on average about a fifth of the level required to deliver a minimum package of health care, and in six provinces it is less than a tenth of the requirement.[36] In education, the national deficit of 12 per cent in the number of primary-level teachers is greatly exceeded in Gulf Province, which has a deficit of 42 per cent, and in Enga, Western and Sandaun provinces, which have deficits of 25–29 per cent. In contrast, the National Capital District has a 13 per cent surplus of primary-level teachers.[37]

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34 Nationally, churches account for 51 per cent of schools, 46 per cent of school enrolments and about 50 per cent of health services delivered to rural areas. Some 80–90 per cent of the cost of church health services is met by government.

35 RC Duncan, Papua New Guinea: poverty analysis, poverty reduction and the appropriateness of AusAID's development assistance, AusAID, Canberra, 2001, mimeo, p. 9.

36 Public Sector Reform Management Unit, Functional and Expenditure Review of Health Services: Interim Report on Rural Health Services, Government of Papua New Guinea, Port Moresby, 2001, draft.

37 P Baki, Education deconstruction and reconstruction: plans, progress, constraints and reconstruction, Paper presented at the National Development Forum, Consultative Implementation and Monitoring Council, Port Moresby, 2001, mimeo, p. 12.

Another important aspect of this dearth of rural services and public investment is the decline in information sources and information reaching rural communities. Very little extension material, market intelligence, health and other social information, and effective government information is available. There are few regional newspapers or functioning radio stations.

Deteriorating infrastructure

Papua New Guinea's physical infrastructure – from roads, airports and ports to government houses, water, sanitation and power systems – is deteriorating. Inadequate capital and maintenance budgets and landowner disputes are the main factors behind this. Due to higher costs, fewer users and lower visibility, the deterioration is most marked in rural areas.

Roads provide an illustration of the challenges faced in maintaining infrastructure. The national network comprises some 8600 kilometres of national roads and 16 500 kilometres of provincial and district roads. These assets are worth K5000 million and users spend about K1000 million a year on vehicle operation. While annual maintenance requirements (excluding capital investment and overheads) are K175 million, K20 million is allocated for national road maintenance, and a considerably lesser amount for provincial or district roads. In fact, the highest maintenance funding during the period 1990–99 was 50 per cent of requirements; in 1999 it was 36 per cent.[38]

Road maintenance in Papua New Guinea is an expensive business, given the small vehicle fleet (61 000 in 1999) and low traffic levels, as well as the impact of terrain and climate on roads. However, inadequate maintenance has a direct cost – to operators (an estimated 20 per cent of vehicle operating costs), to the economy (a net loss of more than K60 million a year) and to rural communities (a lack of access to markets and services).[39]

Limited private investment and credit

Aside from large-scale resource projects in forestry and mining, there is limited private investment in rural Papua New Guinea. There has been no new major development in forestry since 1994 or in mining since 1997, aside from a small oil field. Food and smallholder cash crops are grown largely without purchased inputs. Credit from the banking system is basically not available for rural production,

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38 Asian Development Bank, Road Sector Cost Recovery Improvement Project, TA No. 3191-PNG, 2000, draft, pp. 21–2.

39 Asian Development Bank, Road Sector Cost Recovery Improvement Project, pp. 29, 34.

especially to smallholders, due to concern about the economics of production and loan repayments. Bank lending for agriculture in 2000 was K87 million (US$30 million) out of total bank credit of K1.7 billion – down from K315 million (US$320 million) in 1993.[40] Microfinance systems have very limited reach and few appear to be able to meet operating costs.

Governance problems

The failure of governance is a notable aspect of the current rural situation. Aside from interventions in law and order problems, and education and health, few government institutions reach rural areas. All communities are in a local-level government area but this level of government has few resources and so has generally had no developmental impact. This and other aspects of the *Organic Law on Provincial Governments and Local-Level Governments 1995* have had little positive impact because resources and provincial staff skills are not commensurate with the functions (for example, education, health, road maintenance and agriculture extension) that were transferred to their jurisdiction. As well, key related acts and regulations for implementing the Organic Law are yet to be completed.[41]

Law and order problems are serious in some rural areas but not all – life in many communities continues without significant problems. Law and order problems are common, particularly where money and/or land access disputes are involved. In the Highlands Region – which produces 87 per cent of the country's coffee, and where coffee accounts for perhaps 70 per cent of agricultural income – the coffee industry, particularly the plantations, is in a state of crisis due mainly to law and order issues. The country's largest single producer of coffee, Wahgi Mek Plantations in Western Highlands Province, which at one time had 3000 employees, virtually went out of production in 2001 due to conflicts with landowners.

The consequences of poor law and order are also seen in the decline of crop sales at the farmgate, the closure of rural bank branches and agencies, and the reluctance of financial institutions to lend for rural activities and of input suppliers to maintain services away from major centres. Some provinces have only one or two bank branches, not only because of the low level of business but because of concerns about the security of staff and cash. In many rural areas, tourism (which has been very significant in some areas) has been seriously curtailed and even ended because

40 Bank of Papua New Guinea, *Quarterly Economic Bulletin.*

41 There are 14 Acts of Parliament awaiting amendment to bring them into line with the Organic Law. A recent summary of the situation with respect to the Organic Law is provided by Leo Meninga, Recommendations of the National Monitoring Authority for strengthening financial and technical capacity of local-level governments, Paper presented at the Regional Development Forum, Alotau, 2001, mimeo.

of concerns over client safety. Such problems are particularly obvious in the Highlands but they prevail quite widely.[42]

Another aspect of the effect of weak governance on rural situation is the under-representation and low empowerment of the rural population. Although some commodity boards (such as the Coffee Industry Corporation), churches and non-government organisations make limited contributions, there are essentially no agricultural extension services and no rural finance, input or produce marketing organisations.

Although 104 of the 109 Members of Parliament (MPs) represent predominantly rural electorates, they have not been able to develop or implement an effective pro-rural policy framework. This may be due in part to the electoral system in which MPs can be elected with a very small share of the total vote[43] and so can effectively ignore large areas of their electorates and be as likely to be re-elected. In addition and in the absence of other economic opportunities for the population at large, even the most devoted MPs are faced with unrealistic expectations and pressures that can undermine any leadership role they might have in planning and funding long-term development strategies.[44]

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42 The Western Highlands Provincial Government describes the law and order situation in the following terms. 'The law and order situation was deteriorating during the 1980s and is getting worse. Tribal fighting has increased with more victims dying due to a proliferation of firearms. More economically significant are the sometimes immense damage inflicted on food gardens, cash crops, livestock and other entrepreneurial establishments. People are now reluctant to commit themselves to any new economic activity, as they fear the destruction of the project in the next tribal fights. Other crimes ... are increasing along with land compensation claims and roadblocks. Mob violence and looting in urban centres and on mine sites are new phenomena ... White-collar crime and political corruption are frequent ... A new area of criminal activity involving the trading of drugs for guns and money is a dangerous trend ...' (Department of Western Highlands, *Provincial Profile and Data Sheet 1998*, Western Highlands Provincial Government, Mt Hagen, 1998).

43 By focusing attention and benefits on a smaller part of the electorate, MPs can gain stronger support from a critical number of people than if they diffuse attention to the broader electorate. In the most recent general election in 1997, only 14 of the 109 victorious candidates (out of 2372 candidates in all) won with more than 30 per cent of the formal votes cast in their electorates; 16 won with less than 10 per cent of the formal vote, including three who won with less than 7 per cent. As one commentator put it: 'Democracy is rampant but ... it is becoming less representative'. See Sean Dorney, 'The Sandline Affair: an Australian perspective', in Beno Boeha (ed.), *Australia – Papua New Guinea: Crime and the Bilateral Relationship*, NRI Special Publication 24, National Research Institute, Port Moresby, 1999, p. 128.

44 As Prime Minister Paias Wingti said in 1992, 'The demands that are put by the people on the leaders ... it's much greater than the amount of money he's got to give. So in turn the leader is forced to look at other ways of looking after them. And that is the breeding ground for activities that are not proper' (Dorney, p. 129).

So unless rural communities are close to urban centres or resource enclaves, or have good relations with an MP, they are left largely to their own devices, except for some limited education, health, legal and judicial services.

Vulnerability of the rural sector

The rural sector is highly vulnerable to a range of events that could quickly and radically undermine its performance. These vulnerabilities are not usually as immediately apparent or dramatic as those in the cash-based and politically exposed urban areas, but they could affect the rural sector in an equally serious fashion.

Environmental factors are a cause of vulnerability. The most obvious are adverse climatic conditions such as drought and frost, and disasters such as floods, volcanic eruptions and tsunami, but also longer term factors such as rising sea levels and soil degradation.

A recent example of the massive impact of adverse environmental conditions was the 1997 El Niño-induced drought, which crippled food output, and mineral and tree crop production and exports. Overall, the drought reduced real GDP by 1.8 per cent in 1997. The mining and petroleum sector's real GDP declined by 2 per cent in 1997, with production at Ok Tedi stopped for six months and at Porgera for two. The drought contributed to a 2.5 per cent decline in agriculture's real GDP in 1997 and an 18 per cent decline in 1998. More than 500 000 rural dwellers were affected by the drought, and in the second half of 1997 more than 250 000 people were considered to be in a life-threatening position.

The 1997 drought was unusual in its severity, not in its occurrence.[45] El Niño conditions occur in the western Pacific every 3–8 years. And, though unlikely, one cannot even be ruled out in 2001 as 'nearly half the available computer predictions are indicating an El Niño in the next 6–9 months'.[46]

Given the rainfall-based nature of the country's agriculture and the dependence of the rural population on their food gardens, a severe drought inevitably has a disastrous effect on nutrition, which is already relatively poor in many rural areas. For people with few nutritional or economic reserves, a severe natural calamity such as a drought can quickly push them into a precarious position. The most vulnerable areas, where drought-related deaths did occur in 1997–98, are those that are remote,

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45 During the past 100 years major and widespread droughts (often associated with rainforest fires and repeated frosts in high valleys) occurred in 1902, 1912–14, 1941, 1972, 1982 and 1987, with lesser droughts in 1906, 1910, 1931 and 1965 (AusAID, Review of Australian assistance to the PNG drought, Canberra, 1998, mimeo, p. 1).

46 Bureau of Meteorology, Government of Australia, www.bom.gov.au, accessed 16 July 2001.

inland, poor and generally rely on one staple food.[47] Lack of access makes it difficult for the situation to become known and makes it hard for the population to move to a safer area or for assistance to be delivered.

Although the consequences of weather-related disasters for rural communities can be severe, the country generally has good food security. This reflects the range of crops grown, including key introduced species such as sweet potato, cassava, Chinese taro and maize, and the development of a cash economy and the capacity of many rural people to purchase food when their own subsistence supply is insufficient.[48]

The rapid rate of **population growth**, and the resultant pressure on the resource base, is another major source of vulnerability in the rural sector. Between 1980 and 1990, the total population increased by 0.6 million, and between 1990 and 2000 by about 1 million. If the 2.7 per cent annual rate of increase between 1980 and 2000 continues, the current rural–urban ratio stays the same and the possible consequences of the HIV/AIDS incidence (box 2) are overlooked, there will be an additional 1.3 million rural inhabitants in 2010 and 3.2 million by 2020. That is, in 2020 there will be 73 per cent more rural dwellers than the 4.4 million in 2000. Of course, the rates of growth between and within provinces vary. During the 1990s the Highlands Region, where four of every ten Papua New Guineans live, had the fastest rate of population increase – almost 30 per cent.[49]

While Papua New Guinea has a low average population density (11 people per square kilometre), some rural areas have high densities. The Highlands Region has the highest rural density with 32 people per square kilometre.[50] The five provinces in

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[47] For the drought experience in one such area, see Pierre Lemonnier, 'Drought, famine and epidemic among the Ankave-Anga of Gulf Province in 1997–98', in Bourke, Allen and Salisbury (eds), pp. 164–7.

[48] Opinions about the level of food security in Papua New Guinea differ between the Government of Papua New Guinea (particularly the Department of Agriculture and Livestock) and the Food and Agriculture Organization, on the one hand, and a number of researchers on the other. For the argument that food security is generally not a serious issue (which is summarised here in the text), see John Gibson, *Food Security and Food Policy in Papua New Guinea*, Discussion Paper No. 83, Institute of National Affairs, Port Moresby, 2001, and RM Bourke, 'An overview of food security in PNG', in Bourke, Allen and Salisbury (eds), pp. 5–14.

[49] The intercensus increases in the population are broad estimates as it is generally held that, while the 1980 and 2000 census counts are reasonably accurate, the count for 1990 is low (to an unknown extent) due to undercounting. Consequently, while population growth from 1990 to 2000 was 3.1 per cent a year, the 1980–2000 population growth rate of 2.7 per cent is more reliable. See National Statistical Office, *Papua New Guinea 2000 Census: Preliminary Figures*, Government of Papua New Guinea, Port Moresby, 2001, p. 5. Some observers believe that some of the 2000 population counts for the Highlands may be high and that 2.5 per cent may be a more feasible 1980–2000 national annual rate of growth.

[50] The population densities of other regions are Southern (excluding the National Capital District) 6, Momase 10 and Islands 12.

Box 2 **Possible economic impact of HIV/AIDS in Papua New Guinea**

Papua New Guinea has the highest incidence of HIV/AIDS in the Pacific, with an estimated 10 000 to 15 000 cases at the end of 2000. Even so, the extent of the disease is moderate compared with the incidence in neighbouring Asian countries. Despite the slow establishment of the disease, which was first reported in 1987, and its relatively low incidence at present, it is predicted to become widespread and rampant.

The spread of HIV/AIDS could have a range of serious impacts on the economy of Papua New Guinea. HIV/AIDS is being transmitted in Papua New Guinea almost exclusively by the
e
providing government-owned or managed production or processing facilities
purchasing crops or subsidising transport costs, particularly to

ompensate for low prices
providing directed and subsidiseda New Guinea could lead to the following impacts by 2020 compared with the situation without the impact of AIDS.

- The adult population could be 13–38 per cent lower.
- Real GDP growth could be 2.6–7.5 per cent lower.
- Gross national product per person could be 6–17 per cent lower.
- Real consumption could be 2–7 per cent higher.
- Real investment could be 4–11 per cent lower.
- The current account as a percentage of GDP could be 0.5–1.5 per cent lower.
- Tax revenue could be 3–7 per cent higher.
- The budget surplus as a percentage of GDP could be 9–21 per cent lower.
- The real exchange rate could be 0.6–1.6 per cent lower.

If Papua New Guinea's HIV/AIDS experience is similar to that of the three African countries mentioned above, other impacts will include a considerable strain on the health care system and a reduced demand for schooling. In agriculture, there could be a shift to less labour-intensive crops. Firms will face higher labour costs, particularly for skilled workers.

HIV/AIDS will exacerbate the problem of poverty. It will increase the ratio of dependants to income earners. The share of the household budget spent on basic needs will decline as resources go to medical costs and funerals, and household debt will increase for the same reason. The distribution of income is likely to become more skewed as real wages for skilled labour increase while unskilled rates remain unchanged.

Source: AusAID, Economic impact of an HIV/AIDS epidemic in Papua New Guinea, dreft, Canberra, 2001, mimeo.

the Highlands Region are the most densely settled provinces in the country. Western Highlands Province has a population density of 52 people per square kilometre, which is almost five times the national average and more than 25 times the density of the least densely settled province, Western Province, which has a density of 2 people per square kilometre. Of course, these averages mask areas of the Highlands that have many more than 52 people per square kilometre. Very high densities (over 300 people per square kilometre) also occur on very small islands.

At a broad level, the rural resource base has been able to accommodate the increasing population. However, in many areas this has been at a cost to the resource base, the health of the population, and rural productivity and incomes. Signs of environmental stress from unsustainable land and forest use include declining agricultural productivity, soil erosion and loss of fertility, deforestation, contamination of water sources[51], poor nutrition and lowered living standards, the expansion of cash transactions into fields traditionally based on exchange, and conflicts over access and ownership of land and other resources. Unless land-use technologies change dramatically or alternative income sources that reduce people's reliance on the land are identified, the resource base of the rural population will degrade to unsustainable levels.

Because a large share of rural income comes from domestic sales of produce and exports of crops and logs, the rural sector is particularly sensitive to **international price movements** (Papua New Guinea is a price taker in all commodities it produces) and to external shocks, such as the 1998 Asian financial crisis. Beyond prices and demand, export earnings are vulnerable to the impact of rules of origin, the quarantine and technical requirements of importing countries, internal infrastructure to process products and deliver them to port, and shipping services.

Finally, the rural sector is also vulnerable to the **behaviour of its Members of Parliament**. This has important ramifications for the rural sector because development activities rely heavily on funds controlled by MPs. Each member effectively controls an annual K1.0 million Social and Rural Development Grant and the K0.25 million District or Province Support Grant. There is another K0.25 million for which they are accountable but which does not need the spending approval of the Joint Provincial or District Planning and Budget Priority Committee, unlike the other two grants. These resources take on greater significance than their immediate value. They represent the larger share of funds available at a district level for investment and, as they can be used as counterpart funds for other government programs, they can potentially leverage considerable sums.[52] Even where district or provincial committees are required to be involved, an MP is often able to have a commanding influence on the use of these funds.[53] That being so, an area or community that an MP sees no gain in supporting is unlikely to receive much benefit from these funds.

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51 Water contamination is a critical issue in rural areas given that only 32 per cent of the rural population has access to an improved water source, compared with 88 per cent of the urban population.

52 The expectation that individuals or communities should provide counterpart funds is increasingly common, for example, through the Basic Services Improvement Program and the proposed Rural Infrastructure Authority. However, there are few cases yet where counterpart funds have actually been required and made available.

53 The Office of Rural Development has had a role in the contracting and financial management of Social and Rural Development Grant funds since mid-2000 but not in investment selection, provided the proposed project is of a certain size and has an appropriate development priority.

Enclaves

One feature that stands out in the above account of the rural situation is the existence of enclaves of high productivity and better living standards associated with resource projects and urban areas.

It is inevitable that such enclaves are created when location-specific mineral and forest resources are being exploited. The considerable variations in rural living standards within and between provinces are insignificant in comparison with the vast differences associated with resource enclaves (and urban areas) – differences in income, employment, the services provided and living standards.

While resource project enclaves are very important to local communities, a number of points should be kept in mind. First, sooner or later the revenue generated and the services provided by resource projects will end.

Second, resource projects usually directly benefit relatively few people. Compensated landowners, direct employees and locally contracted service providers generally number in the hundreds for a project, not thousands. However, the amounts that individuals receive can be significant, particularly when compared with the situation before the project. Social benefits, such as improved health care and education, are usually more widespread (which is probably due as much to the management provided by the resource company as to the funding).

Third, notwithstanding the relatively large sums involved and the gross impact of the mining and petroleum sector on the national economy, there are often limited economic benefits for the area beyond the enclave, such as the province – and certainly less than expected by the provincial population.

Finally, although resource projects do boost local investment, savings, skills, social conditions and expectations, there is no evidence in Papua New Guinea that these improvements will be sustained. Probably not many of these ‘improvements’ will remain when the mines cease production or logging ends. The introduced levels of service are generally not sustainable, particularly as the services are typically provided by the mining company rather than by government or churches. Rarely are additional permanent sources of income developed, although the skills acquired by people associated with providing services are valuable. In Western Province, for example, Ok Tedi Mining Limited actively researched and promoted alternative income-generating activities, but the reality is there is no alternative, post-mine economic base for the North Fly region.

The rural response

Rural communities in Papua New Guinea face significant challenges: limited economic opportunity, a weak agriculture sector, few services and limited public or private resources, deteriorating physical infrastructure, and weak governance. How do rural inhabitants respond to this situation?

To some extent, people respond in traditional ways. The cultural values of supporting kin and sharing access to resources within the local community still dominate and are reflected in the subsistence and exchange basis of traditional society, which continues to a large extent in rural areas. These traditional behaviours are also common in urban areas as few families there are without strong ties to their rural homes and traditions. The depth of traditional production systems and behaviours is suggested by the fact that the introduction of cash crops has generally not adversely affected nutrition.[54] Although cash crops contribute substantially to the economic welfare of 75 per cent of rural Papua New Guineans, most producers of these crops also grow the greater part of their families' food requirements. Even many urban dwellers grow at least a part of their food requirements.

In the absence of significant cash incomes and other food sources, food gardening continues to be the mainstay of village economic activity. Villagers have largely intensified their land use rather than expand into less-used land, especially in more densely settled areas. The rural population increased by 50 per cent between 1975 and 1996, five times the rate of expansion of village land used for gardening.[55] Despite this, food production has been able to keep pace with population growth.[56]

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54 'All available evidence indicates that, over the period in which cash cropping has increased, there has been an improvement in the growth of children' (Bourke, 'An overview of food security in PNG', p. 8). See also PF Heywood and RL Hide, 'Nutritional effects of export crop production in Papua New Guinea: a review of the evidence', *Food and Nutrition Bulletin*, no. 15, 1994, pp. 233–49.

55 From 1975 to 1995 the area of village land cultivated increased in the Southern Region by 11 per cent (ranging from 3 per cent in Milne Bay Province to 26 per cent in Western Province), in the Highlands region by 4 per cent (from 1 per cent in Eastern Highlands to 7 per cent in Western Highlands), in the Momase Region by 10 per cent (from 8 per cent in Madang to 18 per cent in Sandaun) and in the New Ireland and New Britain regions by 17 per cent (from 8 per cent in New Ireland to 64 per cent West New Britain). See JR McAlpine, DF Freyne and G Keig, 'Landuse and population change in PNG, 1975–1995', in Bourke, Allen and Salisbury (eds), table 2, p. 279.

56 Historically, this intensification of production has been based largely on the introduction of new crops. The possibility of further introductions is coming to an end, which means that intensification in the future will depend more on management techniques. See RM Bourke, 'Intensification of agricultural systems in Papua New Guinea', *Asia Pacific Viewpoint*, vol. 42, nos 2/3, 2001, pp. 221–37.

The more intensified land use is often due to the inflexibility of land ownership and settlement patterns rather than to land shortage at a broad level.

Rural people have also responded to the challenges they face by moving their place of residence. They have moved to urban areas but perhaps more important has been their migration to other rural areas. Often villages have relocated to roadsides. Sometimes, individuals, and later their families, move to increase their access to employment and services access. Peri-urban areas, coastal areas with good road connections to towns, mining projects and agricultural estates are particularly attractive destinations.

Between 1980 and 1990 the fastest growing areas included the Gazelle Peninsula, the coastal strip adjacent to Port Moresby and areas close to all other urban centres, and parts of Southern Highlands, Western Highlands and Enga provinces.[57] The provinces with the greatest long-term rates of growth (1980–2000) are without a major urban centre but with important resource developments in rural areas. Southern Highlands with oil and gas developments grew by 4.2 per cent a year, West New Britain with forestry and oil palm developments grew by 3.7 per cent and Western with copper and gold developments grew by 3.3 per cent.

In responding to their situation many rural communities have assumed that government will not effectively intervene in wealth generation or governance at a village level. This does not deter people from asking for services and improved access. But expectations are not high and people tend to get on with their lives, expecting little and largely fending for themselves (unless a resource project is established, which takes on many of government’s traditional service and income provision roles). In fact, in some rural areas people power has filled the vacuum left by absent state power, as the numerous ongoing disputes over resource ownership and access suggest.

Rural communities have shown considerable initiative and fortitude in addressing the social and economic conditions they face, as exemplified by a village in Oro Province (box 3). There is, however, only so much they can achieve within the context of current national economic policy and growth, and it is only a matter of time before their responses fail because of increasing population and resource pressure.

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57 Gael Keig, ‘Rural population growth in Papua New Guinea between1980 and 1990’, *Asia Pacific Viewpoint*, vol. 42, nos 2/3, 2001, pp. 255–68.

Box 3 **The response of a rural village in Oro Province**

Barevoturu-Timbeki is typical of a relatively well-educated village with reasonable market access in coastal Papua New Guinea. This Orokaiva village lies on the lower slopes of Mt Lamington in Oro Province, some 30 kilometres west of Popondetta and 5 kilometres off the Popondetta–Kokoda road. It is linked to this road by a smaller one that local communities have maintained for decades with minimal government support.

Barevoturu-Timbeki has had access to education and health care since the 1930s, and has contributed staff to teaching and other professions, especially through the Anglican Church. Residents have grown many cash crops since that time. Rubber, coffee, cocoa, coconut, as well as cattle have all been tried. The main crops now grown for cash are betel nut and vegetables. Coffee and cocoa grow in the village but are no longer maintained or harvested. People from Barevoturu-Timbeki have lived and worked throughout Papua New Guinea since the 1960s in a range of skilled and unskilled positions in both the formal and informal sectors.

Barevoturu-Timbeki has experienced significant change during the past 30 years.

Population. Between 1970 and 2000 the number of village residents increased by 88 per cent to 1252. The population of neighbouring Kiorota village increased by 151 per cent. Barevoturu-Timbeki residents explain their lower rate of increase as the result of them heeding their leaders' call over the years to keep the population under control because of potential land shortages. In 1970, 23 per cent of the population with strong family ties to the village were living elsewhere in Papua New Guinea and so are not included in the local census figure. The proportion of 'absentees' is about the same today.

Resources. There is increasing pressure on land, water and forests due to population growth and the need for more houses. Land pressure is seen in shortening garden land rotations (three years is now common), the smaller size of the locally grown vegetables (*Colocasia* taro and yams), land disputes, fear of losing land rights though vaguely rumoured land mobilisation schemes, and priority given to maintaining even distant kin relationships. Water quality is declining, with typhoid reported among water users a few kilometres downstream of the village. Timber suitable for buildings is more difficult to locate, and some firewood is now sold in the village. There is now little hunting due to an absence of animals.

Cash transactions. A thrice-weekly market has recently been established in the village for the sale of food and firewood among village residents, with some vendors coming from neighbouring villages. Previously, the only cash transactions in the village were for processed products at small trade stores.

Culture. Family ties and exchanges, both within the village and with neighbouring villages, appear to be as strong if not more so than earlier. Families are now more aware of and involved in distant kin relationships. The number of churches and services has increased, as have sports teams and competitions.

Other things have not changed. Still, few people leave the village permanently though a lot make trips to towns to sell produce and visit friends, and even to seek employment for a few months or years. People continue to experiment with new crops (rice and vanilla bean are currently being tried), but with no extension support. Purchased inputs are not used for food crops. Staple foods continue to come from gardens. The main purchased foods are rice, condiments and canned fish and meat. Girls have children early and, despite the education of their parents and the presence of community elementary and primary schools, many children drop out of school after a couple of years. The village aid post is staffed but has few medicines. Water continues to be collected from open sources and there is no electricity. Aside from the teachers and the aid post orderly, government staff do not visit the village unless there is a dispute that cannot be handled internally.

As well as the family ties and exchange, another strength of Barevoturu-Timbeki is its entrepreneurialism. Individuals pursue the provincial government and donors for support (unsuccessfully, so far, for a water system and a mini hydro-electricity plant), run passenger trucks, charter planes to sell betel nut in Port Moresby, and reconnoitre food markets in neighbouring Milne Bay and Morobe provinces.

Note: For an account of Barevoturu-Timbeki in 1970, as well as aspects of migration in the community at that time, see Michael Baxter, *Migration and the Orokaiva*, Occasional Paper No. 3, Department of Geography, University of Papua New Guinea, Port Moresby, 1973. Also see Michael Baxter, 'Orokaiva: rural–urban contacts and attitudes', in Marion W Ward (ed.), *Change and Development in Rural Melanesia, Papers Delivered at the Fifth Waigani Seminar, Port Moresby, 14–20 May 1971*, University of Papua New Guinea, Port Moresby, and Research School of Pacific Studies, Australian National University, Canberra, 1972, pp. 296–308.

Conclusions

The imbalance in achievement and opportunity between rural and urban Papua New Guinea and between enclaves and other areas more generally suggests a bias in public policy and practice. A pro-urban bias is common in many countries – policy focuses on participants of the monetary, often predominantly urban, economy. These people have most in common with decision-makers, they have political clout due to their visibility, and their concerns may also seem not only more immediate but also easier to address than those experiencing what can appear to be a rural malaise.

In the sense of the traditional major economic biases against the agricultural, forestry and fisheries sector – such as an overvalued exchange rate, trade regimes, wage awards and regulated credit – antirural bias may not exist in Papua New Guinea. On the other hand, there is apparently little in public policy that facilitates growth of the rural sector more widely or service provision to rural communities.[58] There are, however, marked differences in rural and urban living conditions, service access, public investment, effective governance and so on that do suggest a bias in practice, if not policy, against the rural sector. This is surprising given the overwhelming rural nature of Papua New Guinea's society and population, as well as the importance of rural-located resource projects to the economy as a whole.

Effectively addressing the social and economic challenges facing rural Papua New Guinea will not be easy. However, there are two basic reasons why they should be tackled and which put into perspective the consequences of any delay in doing so.

First, it is inconceivable that the long-term development of Papua New Guinea can take place without effectively addressing the role and needs of the rural sector given its social, economic and environmental functions. International experience demonstrates that the growth of the rural sector, and of agriculture in particular, is a necessary condition for long-term, broadly based economic growth. But it is not a sufficient condition for growth. Also required are equitable agricultural growth (so that purchasing power is spread among the rural population), well-developed infrastructure (so that there are strong links with input and product markets, and access to non-farm goods and services), food security, open-market policies and efficient credit institutions.

Second, while there are numerous sources of vulnerability for the rural sector, and hence for the economy at large, it is important to recognise the real vulnerability of the people who depend on the rural sector for their livelihood. If incomes decline because crops cannot be sold, or services cease because staff cannot be paid or are not sufficiently secure to work in rural areas, the welfare of the rural population will suffer dramatically.

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58 One source of this antirural bias may be a colonial administration proclivity for urban living. Prior to independence there were few development policies promoted that foresaw as their outcome productive and well-serviced rural communities; services and wage employment other than as plantation labour were largely urban-based.

An overview of the economy

Improvement in rural social and economic conditions depends in part on sound management of the economy as a whole and on economic policies that directly address the needs of the rural population. Aspects of these policies have contributed to the rural crisis and might affect the resolution of the crisis.

The economy of Papua New Guinea is highly dualistic – both very productive and remarkably unproductive major sectors coexist in this relatively small economy.[59] There are weak physical and financial connections between the urban sector and the mining and petroleum sector on the one hand and the rural sector on the other. The monetary economy is open and closely linked to international markets, yet the greater part of the country's population leads a subsistence way of life, not significantly participating in the monetary economy.

Key elements of economic policy – interest rates, debt management and exchange rates, for example – are managed satisfactorily compared with many developing countries. However, great swathes of Papua New Guinea are largely stagnant in terms of activity in the monetary economy. The nation has received considerable income from resource projects over the past 30 years, but there is little investment or achievement to show for this, particularly in rural areas where around eight out of every ten people live.

Performance

The performance of Papua New Guinea's economy during the past decade has been mixed but overall it has been poor. Economic growth has barely kept up with population growth. The average annual rate of growth in real GDP in the 1990s was about half the rate in the 1980s. Performance has been extremely variable from year to year, both for the economy as a whole and for individual sectors (figure 6).

The first half of the 1990s saw considerable growth fuelled by a mining (oil) boom and fiscal expansion, followed by a major fiscal management crisis. The most recent fiscal crisis, which developed during the Skate regime, has been largely brought

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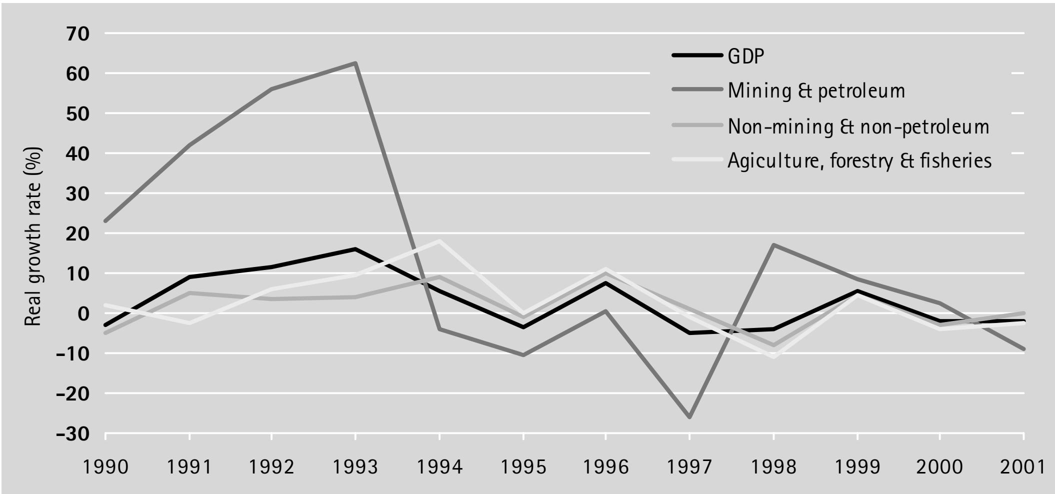
59 In terms of GDP (US$3.8 billion in 1999) Papua New Guinea ranks 121 out of 200 countries in World Bank, *World Development Indicators 2001*. Other economies of a similar size are Guinea and Haiti (US$3.6 billion), Azerbaijan and Madagascar (US$3.7 billion), Mozambique (US$3.8 billion) and Gabon (US$4.0 billion).

under control since the Morauta Government assumed power in July 1999. This Government, which found the economy 'in ruins, where the most basic preconditions for growth had been destroyed',[60] has addressed key aspects of fiscal and monetary management. Nevertheless, the national economy remains in a precarious position. A significant slowdown in economic activity has taken root. Revised estimates of real GDP growth are –1.8 per cent in 2000 and –2.0 per cent in 2001. While inflation has been brought down (to around 8 per cent during the year to June 2001), the exchange rate has continued to depreciate (figure 7).

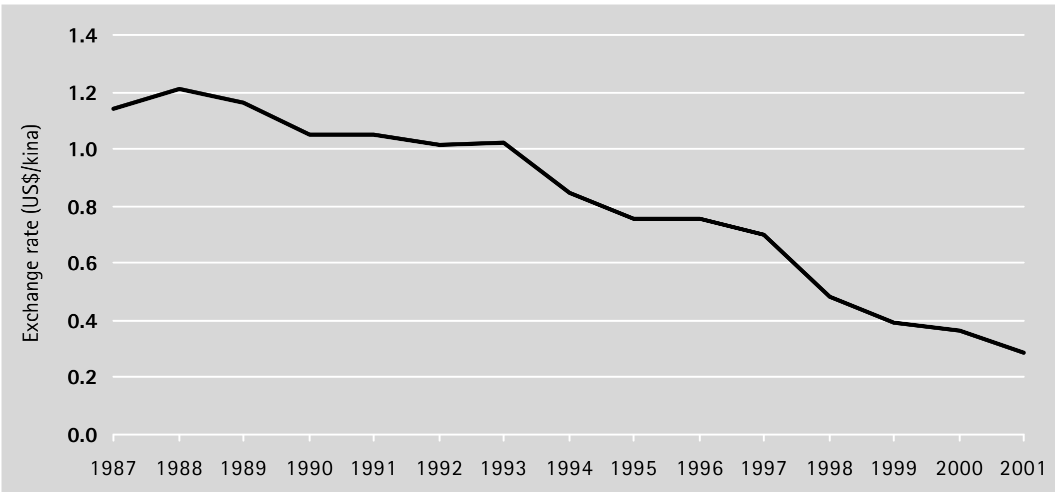
Figure 6 **GDP and sectoral growth rates**



Note: Data for 2000 are provisional; data for 2001 are estimates.

Data sources: International Monetary Fund, *Papua New Guinea: Fourth Review Under the Stand-By Arrangement and Request for Waiver of Performance Criteria*, Washington, DC, 7 September 2001, table 18, and World Bank, *Papua New Guinea: Improving Governance and Performance*, World Bank, Washington, DC, 1999, table 1.2.

Figure 7 **Nominal exchange rate** US dollar per kina



Note: The figure for 2001 is projected.

Data sources: Bank of Papua New Guinea, *Quarterly Economic Bulletin*, Port Moresby, various issues; Government of Papua New Guinea, *Budget 2001*, Port Moresby, 2000.

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60 Moi Avei, Supporting statement on the Budget 2000, Ministry of Planning, Port Moresby, 2000, mimeo, p. 12.

Immediate concerns

The Government is preoccupied with a variety of immediate challenges to economic management, apart from the recent downward revised estimates of growth (which are likely to worsen if a broader global recession takes hold). These include:

- the ongoing liquidity crisis, with a resultant dependence on external funding and continuous revision of revenue projections and expenditure ceilings
- low domestic and international confidence in the economy and the investment climate, with increasingly limited business activity[61]
- slow progress with the privatisation program, which has negative impacts on domestic and international credibility and the budget, and
- public concern over the appropriate direction of structural reform.

Dealing with these problems is important, as their resolution is required to establish the attractive investment environment necessary for long-term growth. But dealing with them is difficult – in the short term because they are likely to attract increasing attention as individuals and parties position themselves for the 2002 general election, and in the long term because tackling them successfully will result in fundamental changes in the structure and management of the economy.

The resources and effort required to address these immediate concerns should not be allowed to distract attention from critical broader issues, such as the future of the resources sector and the consequences of this for the national economy and for social and economic development in rural Papua New Guinea.

The dominant resources sector

The economy of Papua New Guinea is dominated by the resources sector. The resources being exploited are principally minerals, oil and gas. Forestry and lately marine fisheries play smaller but nevertheless important roles.[62] Exploitation of these

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61 In general, an attractive or sound investment climate entails macroeconomic stability, good governance (rule of law, absence of corruption, a functioning financial sector and a regulatory framework for social and environmental concerns), sound infrastructure and an educated and healthy people. Papua New Guinea currently falls short on practically all these measures. A review of business confidence is provided by Michael Manning, *Factors Contributing to the Lack of Investment in Papua New Guinea: A Private Sector Survey*, Discussion Paper No. 74, Institute of National Affairs, Port Moresby, 1999. More than 90 per cent of the companies surveyed said that the greatest obstructions to business are crime, corruption, poor infrastructure and policy instability. Overall, the governance problems and investment climate have not improved since the survey.

62 The forestry industry contributes about a fifth of the share of internal revenue that the mining and petroleum sector does (the 1997–2001 average of the revenue collected through the forest export tax compared with the revenue collected from the mining and petroleum tax, mining levy and dividends). The value of forest and marine product exports are about 15 per cent and 4 per cent, respectively, of mineral and petroleum export earnings (annual average 1996–2000). Data sources are the Bank of Papua New Guinea, *Quarterly Economic Bulletin*, and the National Fisheries Authority.

resources has a large positive impact on the nation's short-term growth rate, tax and revenue base, and export earnings, but their impact on the country's political and social development has been doubtful.

An economy that has a strong natural resource base and is export-orientated, as is Papua New Guinea's, has great potential. Through economic development it can generate wealth and income, which can be shared by the population. The increase in national prosperity can help finance physical infrastructure and public services that develop human capital and so enable the population to participate further in economic opportunities.

Indeed, Papua New Guinea has benefited from the resources sector since the first products of the current mining boom (as opposed to the gold booms of the 1890s and 1930s) were exported in 1972, and logs became a significant export in the 1980s. The relatively high national income per person and the share of internal revenue derived from mining attest to the sector's impact on the national economy.

However, economies dominated by the resources sector face major challenges. Because the surge in income that comes from exploiting a resource is usually temporary, whereas public sector labour markets are rigid and public policy is often difficult to reverse, commodity-based development can have significant costs to the community. This is especially so in countries that have relatively underdeveloped social and economic structures, and lack strong economic policy and robust governance. Not only can the windfall revenue from resource projects facilitate corruption and be used for consumer and other unsustainable ends, it may have little positive impact on those parts of the population and economy not directly linked to the resources sector. This, in fact, has been the case in Papua New Guinea.[63]

Conclusions

Overall, economic policy and practice in Papua New Guinea is dominated by fiscal and monetary concerns at the national level, with insufficient attention given to growth and structural issues. The present Government has barely had time to do other than address economic management and political crises.

Despite strong efforts to improve the economic environment through the reform of policies and institutions, the economy is in a very weak condition. Real GDP growth in 2001 is likely to be negative, and domestic and international confidence in the economy has collapsed – both auguring poorly for rural areas as much as for the nation as a whole.

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63 Discussion of the stabilisation and sterilisation challenges faced by Papua New Guinea as a result of its resource-based economy, as well as of the Mineral Resources Stabilisation Fund, can be found in AusAID, *Papua New Guinea: Improving the Investment Climate*, International Development Issues No. 39, AusAID, Canberra, 1995.

The mining and petroleum sector

In many ways the future of Papua New Guinea's economy in the medium and long term will reflect developments in the mining and petroleum sector as much as the Government's broader economic management.

Contributions of the mining and petroleum sector

Papua New Guinea is a significant producer of gold and copper, and a minor producer of silver and crude oil. The production of all four commodities has a major impact on the economy.[64]

Throughout the 1990s the mining and petroleum sector accounted for an average of 24 per cent of real GDP, 69 per cent of the value of exports, and 18 per cent of government internal revenue. In 2000 the sector's share was 21 per cent of real GDP, 77 per cent of exports, and 21 per cent of internal revenue (see figures 8 and 9). The impact of the sector is in fact considerably greater than these figures imply. Other taxes and duties on the sector bring its contribution to about 33 per cent of internal revenue,[65] without accounting for the impact on internal revenue from industry contractors and purchases. As one would expect from the different scale of mining and petroleum developments, their impact on internal revenue is variable. Three companies accounted for 89 per cent of the sector's contribution to mining taxes during the period 1991–2000 (figure 10).

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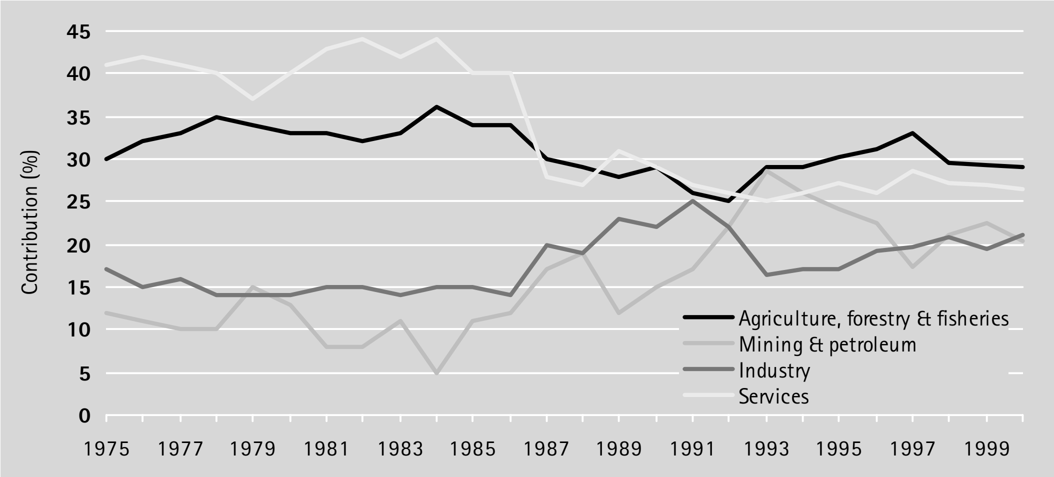
64 The other major commodity is gas. The only gas currently produced in Papua New Guinea is from the Hides field, which is used exclusively to produce power for the Porgera mine. However, there are gas reserves of about 2660 million barrels of oil equivalent. Their development is contingent on sales agreements within Australia to justify the construction of the PNG–Queensland pipeline, and the arrangement of project financing. The 2600 kilometre pipeline to Gladstone would have the capacity to carry 600 million cubic feet of gas a day for 30 years.

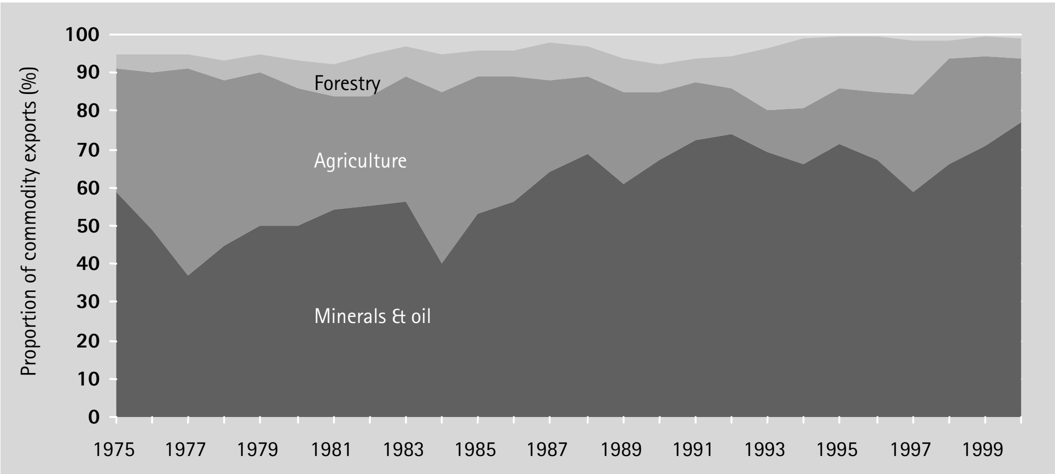
65 The 21 per cent contribution (that is, K509 million) to internal revenue in 2000 is composed of company tax, the mining levy and dividends paid to government by Orogen Minerals Ltd. In 2000 the mining and petroleum sector contributed another K315 million through duties, royalties, salary and wages tax, withholding tax and the tax credit scheme, resulting in the direct provision of 33 per cent of internal revenue. The data source is the Papua New Guinea Chamber of Mines and Petroleum.

Figure 8 **Sectoral contributions to GDP**



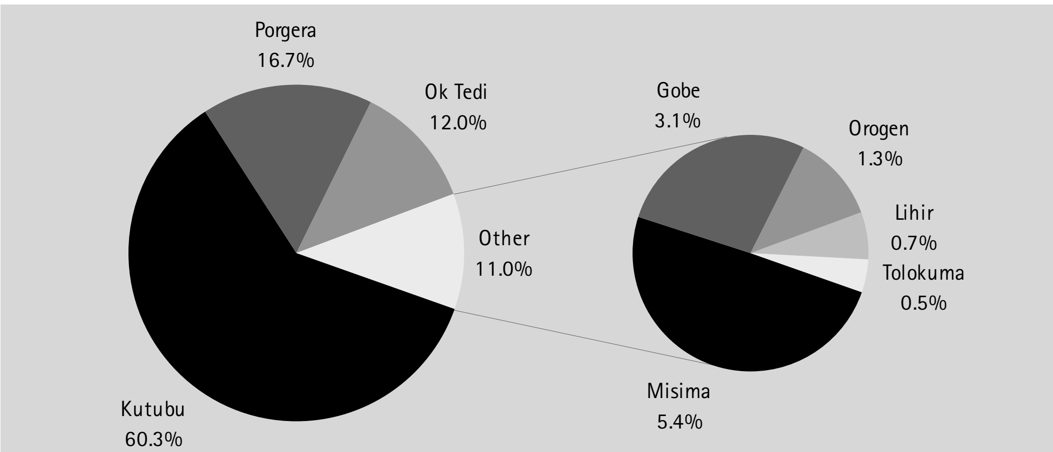
Data sources: Data for 1975–99 are from AusAID economic reports; data for 2000 are estimated from Government of Papua New Guinea, *Budget 2001*, Port Moresby, 2000.

Figure 9 **Sectoral composition of commodity exports**



Data source: Bank of Papua New Guinea, *Quarterly Economic Bulletin*, Port Moresby, various issues.

Figure 10 **Company contributions to mining taxes, 1991–2000**



Note: Mining taxes are composed of mining and petroleum taxes, Mineral Resources Stabilisation Fund dividend and payment (until 1998), mining levy (from 1998) and mineral and petroleum dividends (from 1999). Not included are company payments of duties, royalties, salary and wage tax, withholding tax and the tax credit scheme.

Data source: Derived from Philip Daniel, Keith Palmer, Alistair Watson and Roland Brown, *Review of the Fiscal Regimes for Mining and Hydrocarbons*, Papua New Guinea Tax Review, Port Moresby, 2000, chart 2.1, p. 48.

Impacts of the sector

In addition to its contribution to the national economy, the mining and petroleum sector has important local consequences. While resource development projects operate virtually as isolated enclaves, they all have important impacts on local leadership and society, access and settlement patterns, social services, the physical environment and, particularly so, the local economy.

Different projects have different impacts on the local economies, but generally they entail direct payments to landowners as compensation and royalties, employment of the local population (and other Papua New Guineans and expatriates), and the contracting of locally owned companies to provide goods and services to the mine. Other economic benefits derive from the national government, such as Special Support Grants and the Tax Credit Scheme.[66] In addition, landowners can benefit from equity in the mining companies. Landowners have equity in all but three mines and oilfields, the national government also has equity in some and, in the case of Ok Tedi and Porgera, the provincial government holds some equity.[67]

The economic impact of a mine on the local economy is illustrated by the Ok Tedi mine in Western Province (table 5).[68] Between 1982 and 1999 Ok Tedi contributed an estimated K26.4 million a year to the Western Province economy, equivalent to about two-thirds of provincial government revenue in 1999.

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66 Details of the payments made to local communities by mining companies are given by Colin Filer, David Henton and Richard Jackson, *Landowner Compensation in Papua New Guinea's Mining and Petroleum Sectors*, Papua New Guinea Chamber of Mines and Petroleum, Port Moresby, 2000.

67 The Papua New Guinea Government's policy is to seek a 30 per cent share in new mines and a 22.5 per cent share in new oilfields and gasfields. Most of the state equity is held by Orogen Minerals Ltd, which is 51 per cent owned by the Mineral Resources Development Company Ltd. State and landowner participation in mining companies is: Ok Tedi – Papua New Guinea Government 15 per cent, Fly River Provincial Government 12.5 per cent and mine-affected landowners 2.5 per cent; Porgera – Orogen Minerals 20 per cent and Yuwai 65 (Yuwai 65 is 50 per cent owned by the provincial government and 50 per cent by landowners) 5 per cent; Misima – Orogen Minerals 20 per cent; Lihir – Orogen Minerals 7 per cent and landowner company Mineral Resources Lihir 10 per cent; Kutubu Petroleum Development Licence (PDL) 2 – Orogen Minerals 25 per cent and landowner company Petroleum Resources (Kutubu) 7 per cent; Hides PDL 1 – landowner company Lavana 6 per cent; Gobe PDL 3 – Orogen Minerals 26 per cent, landowner company Petroleum Resources (Gobe) 2 per cent; Gobe PDL 4 – Orogen Minerals 30 per cent, landowner company Petroleum Resources (Gobe) 2 per cent. Orogen Minerals or the Independent State of Papua New Guinea is not participating in Tolukuma, Hides PDL1 or Moran PDL 5. Landowners are not shareholders in Misima, Tolukuma or Moran PDL 5.

68 For discussion of aspects of the impact of Ok Tedi on Western Province see Michael Baxter, *Western Province, Papua New Guinea: Development Status and Prospects*, AusAID, Canberra, 2000.

From 2000 until mine closure in 2009 or 2010 Ok Tedi's contribution to the province will increase dramatically due to the impact of dividend payments to the provincial government on its recently acquired additional equity. After 2000 the mine will contribute on average K78 million each year to Western Province. This amount includes K28 million a year to the Fly River Provincial Government, equivalent to about 80 per cent of the total provincial non-mine revenue in 2000. Such an amount, plus a further K10 million a year in Special Support Grants and activities under the Tax Credit Scheme, should have a positive impact on the province's 152 000 inhabitants. However, the province's track record to date in spending its mineral windfalls gives few signs that this K346 million or so in total will be productively used for the benefit of its population which, despite a relatively high average income per person, includes some of the poorest people in Papua New Guinea.

As income from mining projects is of great significance both nationally and locally, its disappearance on mine closure will be very disruptive, as well as rapid. The dislocation caused by the precipitous decline in the mining and petroleum sector has already been seen in Papua New Guinea. During the 1980s, Bougainville Copper was responsible for 40–50 per cent of the country's foreign earnings and 15–20 per cent

Table 5 **Ok Tedi mine financial contribution to Western Province**

Source and distribution of funds	Annual average 1982–99 Actual	2000 Estimate	Annual average 2001–09 Estimate
	K million	K million	K million
Direct from Ok Tedi Mining Limited			
To landowners	5.3	18.3	23.0
To Fly River Provincial Government	4.8	4.4	28.4
Expenditure on goods & services	6.9	4.7	5.2
Wages & salaries for Western Province staff	6.6	10.0	11.4
Subtotal	23.6	37.4	68.0
From PNG Government (mine-related)			
Special Support Grant	2.5	4.4	6.0
Tax Credit Scheme	0.3	6.2	4.0
Subtotal	2.8	10.6	10.0
Total	**26.4**	**48.0**	**78.0**
Total provincial budget	..	56.8	..
Ok Tedi Mining Limited revenue	365	441	600

Note: Payments for 1982–99 are averaged over 18 years. Some payments are for shorter periods. The dates that payment streams started are: cash to landowners and goods and services 1982, Fly River Provincial Government 1984, wages and salaries 1985, Special Support Grant 1990, and Tax Credit Scheme 1997. Payments to the Fly River Provincial Government are net of revenue that it spent on equity buy-back. This was K23.3 million in 1997–99 and K10.1 million in 2000. In addition, Ok Tedi Mining Limited estimates that businesses in Western Province receive K1.1 million annually in net income from mine-related business. **..** Not available.

Source: Ok Tedi Mining Limited.

of its internal revenue. Throughout the 1980s each year the mine produced more than 150 000 tonnes of copper, 50 tonnes of gold and 15 tonnes of silver.[69] Its contribution to the country's revenue ceased in May 1989, with major public finance impacts and dislocation at the national and local levels.[70] It was a factor in Papua New Guinea seeking its first structural adjustment loan.

In some ways the impact of the mining and petroleum sector on the broad economy is limited. It accounts for only 7 per cent of formal sector employment and few new jobs. Employment in mines is generally around 90 per cent Papua New Guinean but the numbers are small. For example, although the Lihir mine produces 25 per cent of Papua New Guinea's gold, it employs only 960 people.[71] And, as might be expected in the mining industry, there are no significant value-adding activities in Papua New Guinea.[72]

These figures, however, belie the broader impact that the sector has on employment and the economy in general. Each mine creates considerable employment in both the formal and informal sectors. Ok Tedi has about 2000 direct employees (8 per cent of whom are expatriate). It also employs another 2000 contractors on or around the mine, 60 per cent of whom come from the local ('preferred') area, and some 90 landowner businesses employ another 1500, primarily local people.[73] In addition, the K5 million or so it spends each year on goods and services, and the K10 million paid as salary and wages to staff from Western Province (table 5), have an impact on the broader economy. Lihir gold mine paid more than K20 million to local business through contracts and casual work in 2000,[74] and the Misima mine contributes about K25 million a year to the local and provincial economy and 3–4 times this amount to the national economy.[75]

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69 Donald Denoon, *Getting under the Skin: The Bougainville Copper Agreement and the Creation of the Panguna Mine*, Melbourne University Press, 2000, pp. 192–3.

70 The impact of the mine's closure includes the outcomes of the 12-year insurgency that eventuated and the ongoing cost to the economy of making up lost ground in the development of Bougainville since peace was established. The Australian Government has provided through AusAID about A$100 million to the peace and reconstruction effort in Bougainville during the past five years and is likely to continue to provide support.

71 Lihir Gold Limited, *Annual Report 2000*, 2000, p. 8.

72 Apart from a gold refinery in Port Moresby that refines a large part of the gold bought from small-scale miners, the first mineral/oil processing in Papua New Guinea will be a K500 million, 32 000 tonnes a day, crude oil refinery, which is being constructed near Port Moresby. The refinery will open in 2002 and use both domestic and imported feedstock.

73 Ok Tedi Mining Limited.

74 Lihir Gold Limited, p. 8.

75 Placer Dome, Asia Pacific, *Misima Mine Sustainability Report 2000*, 2000, p. 11.

Beyond the formal mining and petroleum sector is the small-scale, informal alluvial mining industry. This industry employs (largely part-time) 80 000 miners and accounts for about 3 per cent of the gold and 1 per cent of the silver produced each year in Papua New Guinea, worth together about K100 million a year.[76]

Because of its structure, a decline in the sector would have a direct impact on the rural population in or near project enclaves that benefits from royalty and compensation payments, employment and the services provided, as well as on industry-related suppliers, services and contractors throughout the economy. Its direct impact on other rural inhabitants would not be great. Its indirect impact, however, would be considerable. As the sector accounts directly for about a third of government internal revenue, its decline would constrain public expenditure, including services provided. Of course, what the Government does with the revenue from the mining and petroleum sector is the issue – or the problem. If not much income from resources has been directed to rural areas, further expenditure constraints would have little immediate impact. But they would represent further forgone opportunity to address the needs of the majority of the country's population.

Prospects of the sector

The critical role of the mining and petroleum sector in the national economy and the importance of this role continuing were acknowledged by the Prime Minister of Papua New Guinea in the 2001 budget.

> Papua New Guinea's long-term economic development depends to a large degree on the successful implementation of proposed projects, including the Ramu Nickel/Cobalt and the PNG–Queensland gas projects. The importance of these projects commencing in a timely fashion is underlined by the current phase-down in production from a number of existing projects.[77]

Such a statement raises the issue of whether the sector can continue to play a central role in the economy. What are the prospects of the mining and petroleum sector after being significant contributors to the economy for 30 years?

It appears that the end of the sector's dominant role in the national economy is in sight. Indeed, its decline may have already begun, as the following points suggest.

- There was negative real growth of mining and petroleum GDP in four of the years from 1994 to 2001, when there were only three years of negative growth of non-mining and non-petroleum GDP (figure 6).

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76 The employment, production and poverty alleviation role of small-scale, informal mining elsewhere is covered by Michael Baxter, Garimpeiros of Poxoreo: small-scale diamond miners and their environment in Brazil, PhD dissertation, University of California, Berkeley, 1975.

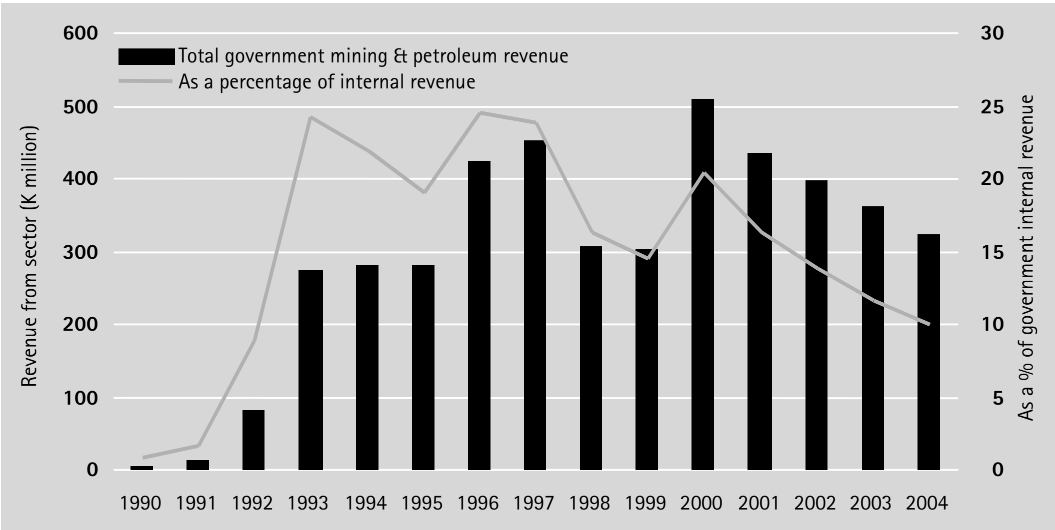
77 Government of Papua New Guinea, *Budget 2001*, vol. 1, 2000, p. 56.

- Mineral and oil exploration has declined rapidly in recent years. It is now at levels that are unlikely to generate major new mineral finds, though important oil/gas finds may still be made at the current exploration levels.
- It has not been possible to arrange financing for the major cobalt–nickel project that is ready for development, and financing is proving difficult for the PNG–Queensland gas project.
- Papua New Guinea government revenue from the mining and petroleum sector is on a downward trend (figure 11).

Four of the five principal mines and two of the three oilfields in production in Papua New Guinea are at a mature stage of production, which will be reflected in sharp output declines in the near future (figure 12). In terms of volume, peak production years were 1988 for copper (the last year that both Bougainville Copper and Ok Tedi operated simultaneously), 1991 for silver, 1993 for oil and 2000 for gold. The mines will cease production between 2001 and 2014, though some milling of their ore will take longer. At current estimates, the last copper will be produced in 2010, silver in 2011 and oil in 2013, while gold production will continue at Lihir until 2027, 13 years after mine closure (table 6).

Oil production is in steep decline. Production in 2001 will be less than half the 1993 maximum. Known reserves are about 340 million barrels, with an annual production of about 40 million barrels. Production from the three oil fields will end between 2008 and 2013.

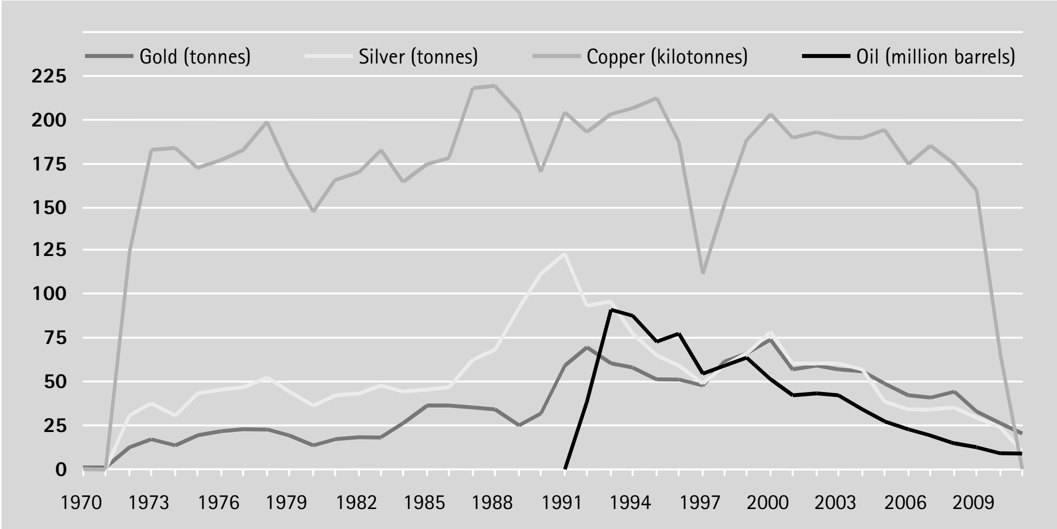
Figure 11 **PNG government revenue from the mining and petroleum sector**



Note: Mining and petroleum revenue is composed of mining and petroleum taxes, Mineral Resources Stabilisation Fund dividend and payments (until 1998), mining levy (from 1998) and mineral and petroleum dividends (from 1999). Data for 2000 are estimates; data for 2001–04 are projections.

Data sources: Bank of Papua New Guinea, *Quarterly Economic Bulletin*, Port Moresby, various issues; Government of Papua New Guinea, *Budget 2001*, Port Moresby, 2000.

Figure 12 **Mineral and oil production and the outlook to 2011**



Data sources: Papua New Guinea Chamber of Mines and Petroleum; Papua New Guinea Departments of Mining, and Petroleum and Energy.

Table 6 **Life spans of mines and oilfields**

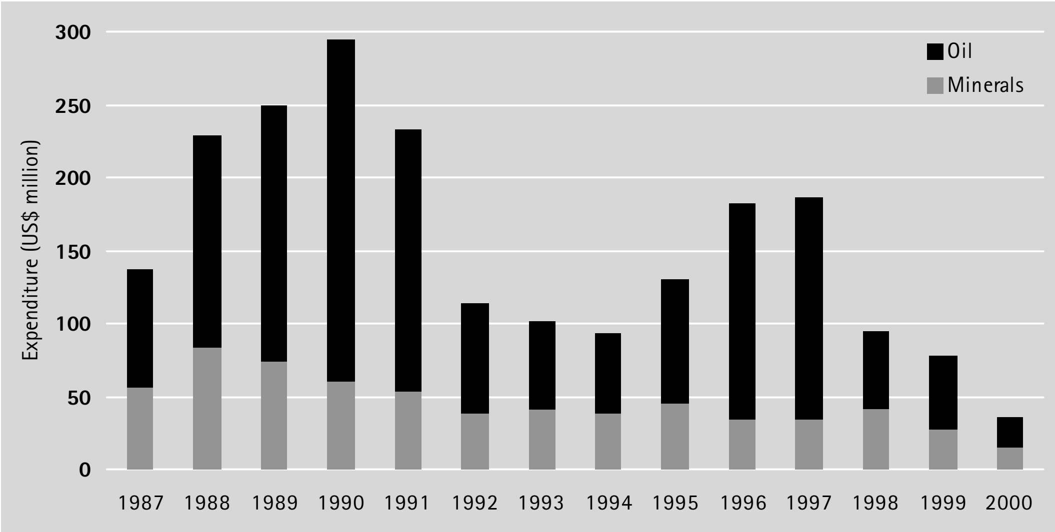
Mine/field	Province	First production	Estimated end to production	Estimated end to processing	Share of PNG production in 2000			
					Gold a	Silver a	Copper	Oil
					%	%	%	%
Ok Tedi	Western	1984 b	2010	2010	22	56	100	na
Porgera	Enga	1989	2007	2011	38	5	na	na
Misima	Milne Bay	1989	2001	2004	9	31	na	na
Lihir	New Ireland	1997	2014	2027	25	na	na	na
Tolukuma	Central	1995	2006	2006	3	7	na	na
Kutubu	Southern Highlands	1991	2009	2009	na	na	na	47
Moran	Southern Highlands	1998	2013	2013	na	na	na	12
Gobe	Southern Highlands & Gulf	1998	2011	2011	na	na	na	41

a Small scale miners produce about 3 per cent of the gold and 1 per cent of the silver production. **b** Gold and silver were first produced at Ok Tedi in 1984 and copper in 1987. na Not applicable.

Sources: Papua New Guinea Chamber of Mines and Petroleum; Papua New Guinea Departments of Mining, and Petroleum and Energy; Mineral Resources Development Company Limited.

There are three other signs of the projected decline of the mining and petroleum sector. First, expenditure on exploration for minerals has dropped consistently since its 1988 high of US$83 million to an estimated US$13 million in 2001, a 16-year low (figure 13). The situation with petroleum exploration is similar. From a peak of US$235 million in 1990, when the Kutubu field was being developed, funds spent on exploration declined through much of the 1990s to US$20 million in 2000.

Figure 13 **Expenditure on mineral and oil exploration**



Data source: Papua New Guinea Chamber of Mines and Petroleum.

Second, the Government's recent efforts to create a 'package of reforms designed to give Papua New Guinea a competitive fiscal regime for attracting investment in mining and petroleum exploration and development'[78] have not been successful. Overall, the reaction of the industries to these changes has been negative.[79]

Third, there is declining foreign interest in mining and petroleum in Papua New Guinea. This is not because of a lack of prospectivity for minerals or oil but rather due to fiscal and other concerns, particularly relative to opportunities elsewhere.[80]

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78 Philip Daniel, Keith Palmer, Alistair Watson and Roland Brown, *Review of the Fiscal Regimes for Mining and Hydrocarbons*, Papua New Guinea Tax Review, Port Moresby, 2000, p. 7.

79 The Papua New Guinea Chamber of Mines and Petroleum is critical of what it takes as the incomplete and inconsistent nature of the reforms: '... the mining and petroleum taxation regime is being subjected to *ad hoc* changes and uncertainty which is exactly what the [Taxation] Review was supposed to remove' (Papua New Guinea Chamber of Mines and Petroleum, Industry concerns with the new mining and petroleum taxation regime introduced in the 2001 budget (following the taxation review), p. 4). See also Papua New Guinea Chamber of Mines and Petroleum, Mining and petroleum sectoral committee report, Paper presented at the National Development Forum, Consultative Implementation and Monitoring Council, Port Moresby, 2001.

80 As the review of fiscal regimes put it, 'Papua New Guinea, once perceived as an attractive home for mining and petroleum investment, is now perceived as a difficult and unattractive investment environment', and for the mining sector (less so for oil) there is a '... significant problem of non-competitiveness, especially for marginal projects' (Daniel et al., pp. 7, 69). The Fraser Institute rates Papua New Guinea ninth out of nine countries assessed on its 'investment attractiveness index', an index that takes into account geological attractiveness and the effects of government policies on exploration investment. The other rated countries are, in descending order of attractiveness, Chile, Peru, Mexico, Australia, Brazil, Argentina, South Africa and Indonesia. See the Fraser Institute, 'Annual survey of mining companies 2000/2001', www.fraserinstitute.ca.

The decline of the mining and petroleum sector may not occur according to the schedule projected in figure 12. The production of existing mines and oilfields could be extended if the investment climate improves and market conditions change. Also significant new finds might be made, especially of oil. Work could start on the US$850 million Ramu nickel and cobalt mine and/or the US$3.5 billion PNG–Queensland gas project. However, beyond these projects, both of which have been facing problems in securing finance for more than a year,[81] there are no strong candidates for early production.

Conclusions

The mining and petroleum sector has generally benefited from macroeconomic policy. It has been able to isolate itself from many of the problems faced by the rural sector by building its own infrastructure and providing most of its own services. It has made a substantial contribution to national and local economies although this has generally not resulted in sustainable activities or public investment. The sector faces serious challenges, not so much because of a lack of prospectivity but because of an unattractive investment environment.

A number of points concerning the decline of the sector should be kept in mind. Non-renewable resources are eventually exhausted. Given the dominance of resource income in government revenue, the decline of these industries will force radical change in public expenditure. Public revenue from the resources sector is windfall income that should be used on sustainable activities and for the long-term benefit of the entire population. Instead it has been used as general revenue rather than as a pool of savings for investment (through, for example, the now defunct Mineral Resources Stabilisation Fund).

The resources revenue has facilitated expenditure and consumption behaviour that is unsustainable and difficult to alter. This behaviour has been at the cost of creating public assets that could have assisted in transforming the economy into one in which the resources sector plays perhaps a minor role. Without waiting to verify the future of the resources sector, the Government should improve the effectiveness of its spending of the public revenue derived from the sector.

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81 The difficulty of arranging financing for mineral development in Papua New Guinea is suggested in this comment by Barry Cusack, Managing Director, Rio Tinto Ltd: 'To restart the Bougainville operations, you would have to put in well north of [US] $1 billion, and if you'd like to put a cheque with that sort of number into that part of the world, you'd be pretty brave' (*Post Courier*, Port Moresby, 20 April 2000). The environment for foreign direct investment in Papua New Guinea, in the mining sector or elsewhere, has declined markedly since this comment was made. The fact that BHP (now BHP Billiton) has agreed in principal with the Government of Papua New Guinea to transfer its 52 per cent stake in Ok Tedi to an independent company (in effect giving the Government 90 per cent ownership of the mine) suggests the unattractive investment environment Papua New Guinea presents to this major mineral producer.

Economic issues relevant to the rural sector

The mining and petroleum sector is important to the economy of Papua New Guinea for the revenue it generates. But there are other features of the economy that are particularly relevant to the rural sector. These result in the underfunding of services and infrastructure in rural areas.

A fundamental feature of the national economy is that it is prone to instability. This was well demonstrated in the late 1990s when poor fiscal management, the El Niño-induced drought, falling commodity prices, and the East Asian financial crisis occurred more or less simultaneously. The coincidence of these factors led to significant falls in real GDP and a deterioration in the fiscal position. Central bank financing was used to fund the resultant deficit, leading to a decline in foreign reserves and the value of the kina, and an increase in the inflation rate to around 20 per cent in early 1999.

Some instability is inevitable given the commodity-based nature of the economy and its consequent susceptibility to external shocks. There are, however, a number of related factors that are both symptoms and causes of this instability – structural issues, weak economic and budget management, liquidity crises, expenditure constraints, limited investment and high recurrent cost expenditure. These factors also have an impact on the wellbeing of the rural sector and how its concerns are addressed.

Structural issues

A variety of structural elements contribute to the economy's fundamental instability. One is the domination of the economy by mining, petroleum, forestry and export agriculture. As these rural-located industries together account for more than half of the real GDP, any major change in demand, production or prices has a major impact on the economy, and on the rural sector. From another perspective, the non-rural component of the GDP is small, which means there is limited ability within the balance of the economy to productively absorb the rural population as the rural sector contracts.

Another structural feature of the economy particularly relevant to the rural sector is its basic formal–informal dualism. There are few links between the formal and informal sectors. Little is done in terms of policy or investment to exploit the economic activity or employment synergies, or to strengthen the informal sector in general, despite its importance to the economy.

The critical role of the informal sector in absorbing a large proportion of the labour force has come about from the limited capacity of the formal sector to do so. In 1999 there were about 100 000 school-leavers,[82] but perhaps only 3000–5000 of these (primarily males) were employed in the formal sector.[83] Wage employment has scarcely grown since 1988 and still does not exceed 250 000, which is only 9 per cent of the labour force aged 20–55 years.[84] Rural employment in the formal sector declined by 2.1 per cent between 1989 and 1999, and in 1999 was almost the same as in 1984.[85] The employment capacity of the formal sector is aggravated by low levels of human capital and productivity and a high cost structure, though this has been less the case since the 1992 labour market reforms.[86]

While formal sector opportunities in rural areas are declining, the rural sector as a whole accounts for more than three-quarters of the labour force as 'rural self-employed', primarily in agriculture, though with locally important involvement in trading, small-scale mining, forestry and fishing. In contrast, about 9 per cent are employed in the public sector or the urban private sector. The balance is in rural formal employment (6.4 per cent) or in rural or urban unemployment (8.5 per cent).[87]

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82 These 100 000 school-leavers included 25 000 from elementary school and grade 2 primary school, 36 000 from grade 6, 20 000 from grade 8, 14 000 from grade 10 and 3000 from grade 12. This number of school-leavers is likely to increase as the school system is unable to absorb the current rapid expansion in elementary school attendance. Sources are: Papua New Guinea Government and Australian Government, Primary and Secondary Teacher Education Project, personal communication; and National Department of Education, *1999 Education Statistics of Papua New Guinea*, Government of Papua New Guinea, Port Moresby, 1999, tables 9 and 21.

83 Papua New Guinea Minimum Wages Board, *The 2000 Minimum Wages Board Determination*, Port Moresby, nd, p. 41.

84 Tim Curtin, Could have done better? Economic developments in Papua New Guinea since 1990, National Centre for Development Studies, Australian National University, Canberra, 2001, mimeo, p. 3.

85 Papua New Guinea Minimum Wages Board, p. 43.

86 See Theodore Levantis, *Papua New Guinea: Employment, Wages and Economic Development*, Asia Pacific Press and Institute of National Affairs, Canberra and Port Moresby, 2000, p. 16.

87 Levantis, p. 77. The limits of official employment data should be recognised. The official index ignores employers of fewer than 20 workers (and thereby discounts small-scale professional, commercial and agro-industry activity), samples employers of 20–50 workers, and is reasonably complete for only larger employers. See Curtin, Could have done better? Economic developments in Papua New Guinea since 1990, p. 3.

In addition to rural self-employment, the employment potential of the informal sector is suggested by the fact that there are 60 000 vendors in formal and informal marketplaces in Port Moresby.[88]

The role of official development assistance is another structural feature of the economy relevant to rural concerns. While Papua New Guinea's reliance on foreign assistance has decreased continuously since independence, donors have an impact on both economic policy and expenditure levels and patterns.

Foreign aid amounts to a relatively small share of GDP but it is significant with respect to the development budget (where it is assigned within the national budget) and to recurrent expenditure. For example, Australia's A$320 million annual transfer is equivalent to about 15 per cent of Papua New Guinea's combined recurrent and development budget expenditure.[89] Grants from donors account for half of the development budget.

Given the constrained budget situation, donor funds (especially grants and untied loan support from the multilateral banks) can have a major impact on the nature and direction of government expenditure. In addition to carrying much of the development budget, donors can assume an important role in financing particular sectors – for example, about a quarter of Papua New Guinea government expenditure on education and health is financed by Australia.

With such relatively heavy involvement within an environment of weak budget management and policy development, donors can encourage particular programs or expenditure that in the longer term may be neither appropriate nor sustainable. For example, technical assistance activities, which are the greater part of the programs of most grant donors, have had little success in terms of sustainability while steering valuable donor and government resources to high recurrent cost structures. Resources from adjustment loans also largely fund recurrent costs. If this external grant and loan financing had not been available, or had been used largely for investment, the realistic recurrent cost demands on government would be quite different from what they are today.

88 International Labor Organization, *Papua New Guinea: Urban Informal Sector Study, Phase I*, International Labor Organization, Suva, 2000.

89 Although Australian aid to Papua New Guinea has declined by 58 per cent in real terms during the period 1975–76 to 1999–2000, Australia remains the largest individual donor, accounting for about two-thirds of Papua New Guinea's net aid. Australia granted A$7.4 billion (in current prices) as aid to Papua New Guinea during the period 1975–76 to 1999–2000.

The management, revenue and expenditure issues noted earlier, as well as governance in general, are more than enough to keep donors occupied. Addressing these issues is critical. However, it is also important to address what will happen as the structure of the economy changes – and, with it, revenues – and how public investment can better reach the vast majority of the population.

Economic and budget management

When compared with the situation that prevailed until the early 1990s, budget management systems are now very weak. The critical links between realistic long-term planning, resource allocation, expenditure and reconciliation have largely broken down at all levels.

This weakness in management has a major negative impact throughout the economy, but disproportionately so on the rural sector. The few funds allocated to the rural sector are often either not released in a timely fashion or not used for the intended purpose. At the provincial level, where considerable sums are spent[90] and decisions should have a strong direct impact on rural communities, expenditure is not recorded in most cases. Many provincial and local-level government accounts (like those of most national departments and statutory authorities) have not had an effective audit for years. Although a variety of questionable budget practices used prior to the July 1999 change of government have largely ended,[91] late and incomplete fund releases, and the absence of expenditure review and accountability, still make it very difficult to achieve expenditure for anything but staff costs (and there are often problems there, too).

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90 In 2001, provinces have been allocated K497 million or 12.5 per cent of Government of Papua New Guinea expenditure under their direct control (value-added tax receipts and other internal revenue, grants under the Organic Law and Special Support Grants). Another K452 million (11.4 per cent of expenditure) will be spent in provinces by central agencies on staffing grants, teacher salaries, church health services and education subsidies. See Peter Heijkoop, Public financial management in PNG: a journey from direct authority to partnership and advocacy, Seminar No. 5, AusAID Seminar Series on PNG 'Dilemmas and Contradictions in PNG Development', AusAID, Canberra, Annex 1.

91 Such practices included: making unbudgeted and non-transparent expenditures by using the Minister of Treasury's transfer discretion; overestimating items in the budget to provide additional discretionary resources; cutting departmental allocations for goods and services through lower warrant authorities; accumulating arrears over the year, especially to pension funds; incorporating cash payments made in the subsequent year in the previous year's accounts; using trust funds to facilitate the carryover of expenditures between years; processing manual cheques, which were not entered in the accounting system in a complete or timely fashion; making off-budget expenditures through off-budget expenditure sales; and breaching Central Bank legal financing limits. See World Bank, *Papua New Guinea: Improving Governance and Performance,* p. 29.

The range of measures included in the World Bank's current Governance Promotion Adjustment Loan suggests the overall weakness of economic governance in Papua New Guinea. This loan includes more than 80 conditional actions in the fields of fiscal management, debt management, governance, civil service efficiency, business operating environment, health and education services, and forest management. The actions that the Government of Papua New Guinea has committed to implement under the loan read like a primer for the establishment of a national economy – and the loan is complemented by a tranched Asian Development Bank loan supporting a comprehensive program to reform public sector management.

If economic and budget management is weak at the national level, it is even weaker in most provinces, especially at district and local government levels within provinces. But the problem is not only staff skill levels. On the whole, resource flows from either national grants or provincial internal revenue are poorly predicted and their receipt erratic;[92] records of actual expenditure are rarely available and are not audited anyway; and basic elements of the *Public Finances (Management) Act 1995* are neither followed nor enforced (such as the edict against issuing manual cheques or not depositing provincial receipts into the official provincial account).

While each level of government is supposed to prepare comprehensive development and expenditure plans, shortcomings such as those just mentioned (as well as a common failure to manage well the revenue side of the budget) make the exercise pointless and so it is generally not done. For most provinces, even though they may have considerable budgets (including on a per person basis – figures 3 and 14), their expenditure management is largely a matter of making sure that critical personnel-based costs are met. Provincial governments undertake minimal development investment.

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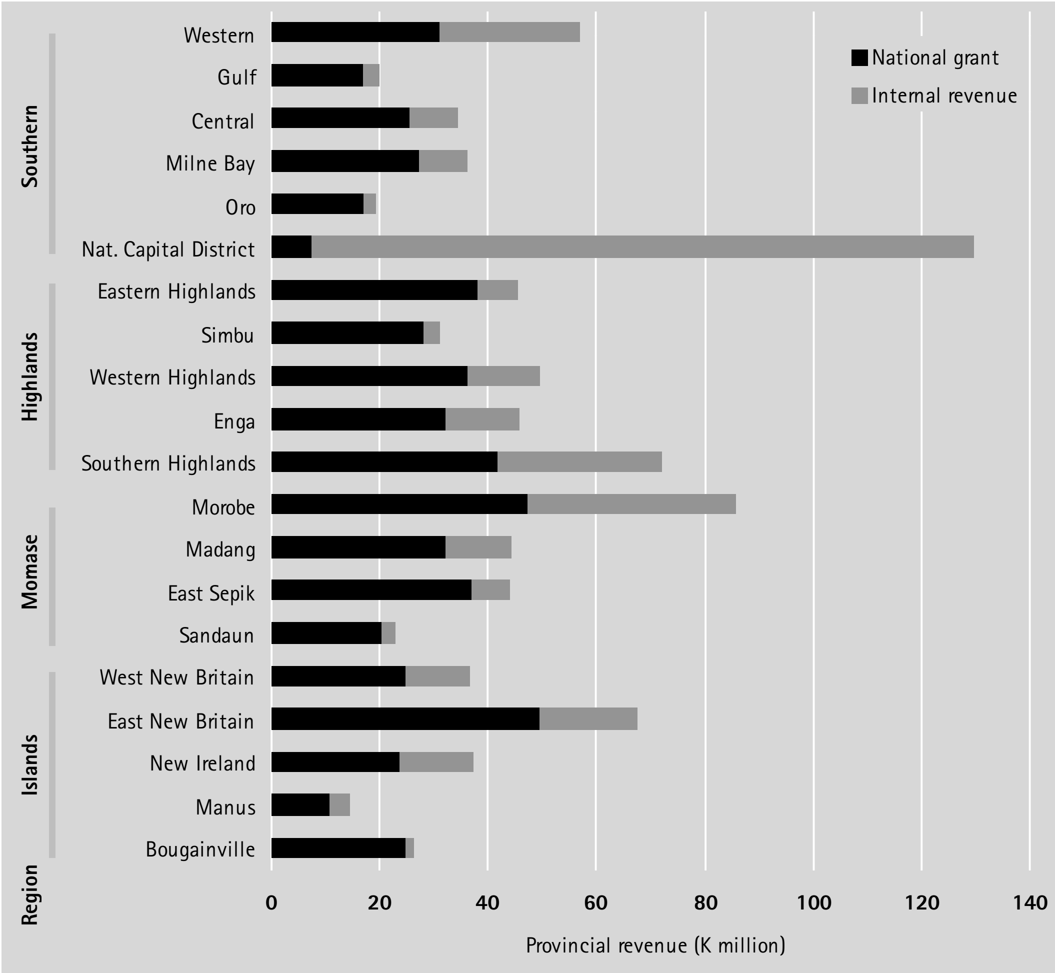
92 The provincial financing formulas (under the Organic Law on Provincial Governments and Local-Level Governments) are a source of confusion and conflict. Some provinces have successfully sued the national government for failing to fulfil them. Under the Organic Law, provinces were to receive funds from the national government against five grants (Administration, Provincial Infrastructure, LLG and Village Services, Town and Urban Services, and Derivation). The National Economic and Fiscal Commission calculated that these grants were worth K276 million in 2001. The actual amount made available for them in the budget is K133 million. The Government argues that it more than makes up the shortfall with other funds that are not foreseen under the Organic Law, such as the Rural Development Funds allocated to Members of Parliament, funding of the Church Health Service and education fee subsidies. The provinces generally believe they are being short-changed.

Figure 14 **Sources of provincial revenue, 2000**



Data source: Papua New Guinea provincial budgets and revenue estimates, 2000.

Liquidity crises

The Morauta Government has faced major liquidity crises since it assumed office in 1999, notwithstanding the fact that commitments for US$315 million in external emergency financing were secured in 2000.[93] These crises not only occupy much of the attention of national government but they result in frequent changes of expenditure plans and delayed and unpredictable spending authorisation and fund release, particularly for anything other than wages and salaries. For example, the 2001 national budget included K168 million for infrastructure maintenance. By July 2001, K12 million had been released to the department involved and only K7 million of this had been spent. At the end of September 2001, provincial conditional grants were underspent by 33 per cent, and out of a total development budget of

93 Equivalent to about 8 per cent of GDP, these commitments were from the Government of Australia (US$110 million), the International Monetary Fund (US$115 million) and the World Bank ($90 million). Some are yet to be disbursed.

K1037 million, only K284 million had been spent (with domestic funding under this budget underspent by 35 per cent).

The liquidity crises are to some extent a product of the fiscal situation inherited by the Government. Debt servicing had become a main element of expenditure, accounting for 41 per cent of expenditure in 1999 (table 7), almost double the level of three years earlier and equivalent to 31 per cent of GDP. Since 1996, public and private sector investment has been declining (see figure 15), which suggests that borrowing has been for refinancing and recurrent expenditure.

Although decreasing, debt servicing will continue to draw considerable resources for some time, as public debt is estimated to be equivalent to 54 per cent of GDP in 2001 (down from 67 per cent in 1998). While not unduly large by international comparison, this debt does carry a significant exchange rate cost because two-thirds of it is external. Shortfalls in revenue collection, due in part to the contracting economy and the weak management of collection, are another main contributor to liquidity problems.

While debt servicing is projected to decrease, revenue projections and expenditure patterns suggest that liquidity crises are not going to disappear quickly. As such, their negative impact on planning and expenditure will continue for some time.

Table 7 **Government expenditure**

	1995	1996	1997	1998	1999	2000	2001
Recurrent (% of expenditure)	62	66	62	58	40	47	48
Development (% of expenditure)	11	12	15	20	19	25	26
Amortisation & interest (% of expenditure)	27	21	22	22	41	28	25
Expenditure (K million)	2 025	2 039	2 443	2 732	4 053	3 817	3 969

Note: Data for 2000 are estimated; data for 2001 are projected.

Sources: 1995–98 data from Government of Papua New Guinea, *Budget 1999*, vol. 1, Port Moresby, 1998, table 10; 1999–2001 data from Government of Papua New Guinea, *Budget 2001*, vol. 1, Port Moresby, 2000, table 9.

Expenditure constraints

The liquidity crises bring into perspective how limited Papua New Guinea's resources are for development. A quarter of government expenditure in 2001 will go on debt servicing, almost a half on recurrent costs, and the remaining quarter nominally to the development budget.

Papua New Guinea allocates a relatively small amount to development spending. The allocation to the development budget dropped from 5 per cent of GDP during the 1980s to 3.5 per cent in 1995–96. In 2001 it is 3.6 per cent (excluding foreign grants and loans). These proportions are low compared with those of other countries in the region during the 1990s, when Viet Nam allocated the equivalent of 14 per cent of its GDP to development expenditure and Indonesia 8 per cent.

Only a small share of the amount allocated to 'development' goes to development or capital expenditure. Of the K1051 million 2001 development budget, much of the K525 million contributed by donors is for recurrent costs such as technical assistance, as is the greater part of the K391 million that is foreseen (but not guaranteed) to come from domestic sources. The K135 million identified from loan funds is largely dependent on up-front counterpart expenditure by government and other operational requirements. After taking into account requirements for counterpart funds, the Rural Development Fund and other commitments, only K74 million of the K391 million domestic contribution is left. And, as noted earlier, that is likely to be at least partly spent on what is normally regarded as recurrent, not development, costs (assuming it is made available).

The development budget is allocated largely to priority areas and these areas are receiving more funds than previously. Between 1999 and 2001 the funding for health increased by 52 per cent, for infrastructure by 37 per cent, for law and order by 32 per cent and for education by 18 per cent. The recurrent–development composition of these increases or actual expenditures are not available. But relatively small amounts are spent on development investments in these areas.

The challenges presented by the small amount of funds actually available, the myriad of projects and implementing agencies, and the ineffective monitoring systems mean that the development budget has a very limited developmental impact. The 2001 development budget is to fund 186 projects and programs, which are implemented via 26 national departments, 25 statutory authorities, 20 provincial governments and 89 district administrations. Although 33 per cent of the budget is allocated to the priority area of infrastructure (and other amounts are earmarked for basic education and so on), expenditure is not monitored to indicate, for example, how much is actually received by a priority area or the proportion that goes to development as opposed to recurrent costs.

Few provinces, and certainly very few local-level governments, receive significant funds for development. Western Highlands Province assumes that only 10 per cent of funds will be available for development as opposed to recurrent costs.[94]

Expenditure problems have their origin in revenue and, from one perspective at least, that is not encouraging. In the short term, receipts are falling – down 11 per cent in the six months to June 2001 compared with the corresponding period in the previous year. Expenditure was down almost 14 per cent on the same basis. In the long term, about a third of the Government's internal revenue comes directly from the mining

94 Western Highlands Province, *Corporate Plan 1999–2004*, Western Highlands Provincial Government, Mt Hagen, 2000, p. 113.

and petroleum sector and both the amount raised and its share of revenue are declining (see figure 11). If that decline is not compensated for, further constraints on expenditure will be needed.

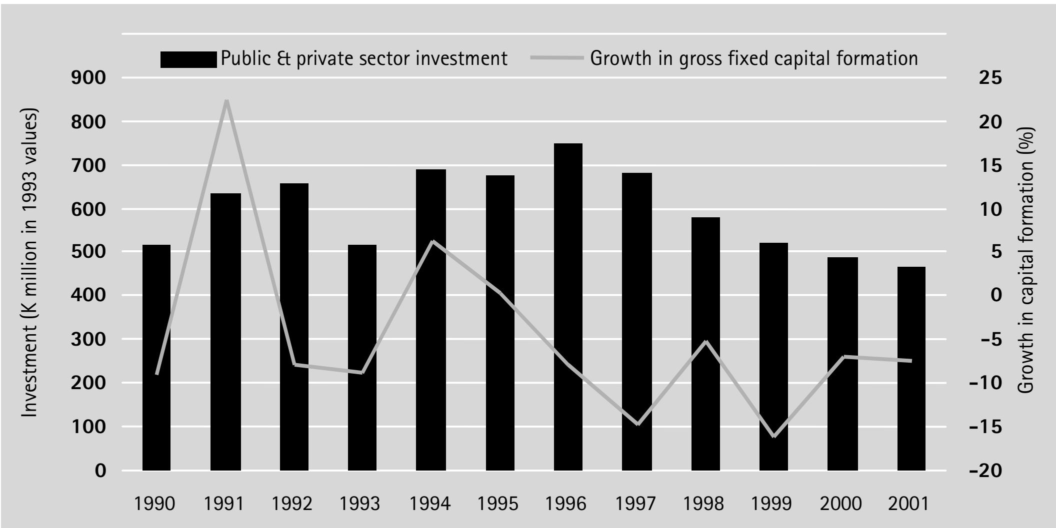
Investment

Three features of investment are particularly relevant to the rural population. One is that public investment is low by international standards and was stagnant at around 6 per cent of GDP throughout the 1980s and 1990s. Little new foreign direct investment is now being made in Papua New Guinea. Public and private sector investment has decreased steadily for the past five years, and in only two years since 1990 has there been positive growth in gross fixed capital formation (figure 15).

Another is that much less of the country's mining revenues has been invested than is the case in other mining and oil-producing economies. About 16 per cent of Papua New Guinea's mining and oil gains has been used for investment compared with 35 per cent in a sample of mining countries and 50 per cent in oil-producing countries.[95]

Third, private investment is driven largely by the mining and petroleum sector. There is very little investment in the rural sector or in manufacturing not related to mining. An estimate based on employment data shows an annual 4–5 per cent decline in

Figure 15 **Investment trends**



Note: Data for 2000 are provisional; data for 2001 are estimates.

Data sources: World Bank; Papua New Guinea National Statistics Office.

95 World Bank, *Papua New Guinea: Improving Governance and Performance*, p. 13.

investment in agriculture and manufacturing in the late 1990s,[96] and it is not likely to have improved since then. Gross capital formation in 1999 was 18 per cent of GDP compared with an average of 26 per cent for low–middle income countries.

Low investment rates mean that, not only is the basic infrastructure for human capital and economic development not being established, but current assets are being run down and will become increasingly more difficult to replace because of the ongoing depreciation of the kina.

Recurrent costs

The level of Papua New Guinea's recurrent expenditure is one reason why public investment is limited. Almost half of government expenditure is accounted for by recurrent costs and a quarter by debt servicing (table 7). The allocations to recurrent costs are driven by established cost structures – institutions and staff that need to be maintained. Teaching is a good example: the number of school students increased by 76 per cent between 1992 and 1997,[97] an increase that could be met only through greater recurrent cost financing.

Additional resources allocated to the services sector can be quickly consumed through further recurrent cost financing. The health sector provides an example of this. At national and provincial levels the sector received a funding increase of 60 per cent between 1996 and 2000. This increase resulted in the amount spent on goods, services and capital investment at the national level increasing only marginally and at the provincial level it actually decreased slightly. A related review of the health plan showed no marked change in performance during this period, despite the funding increase.[98]

There has been a decrease in overall government staff numbers through redundancy programs in recent years, but today's numbers are still greater than they were in 1990, when there were 50 300 public sector employees. The estimated number in 1999 was 54 000, of whom 41 per cent were in the teaching service, 22 per cent with national departments, 19 per cent with the police and defence forces, 14 per cent with provincial departments and 4 per cent with statutory

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96 World Bank, *Papua New Guinea: Improving Governance and Performance*, p. 13.

97 That is, an additional 370 000 students, from elementary school through to high school. See Baki, p. 6.

98 Public Sector Reform Management Unit, Functional and Expenditure Review of Health Services: interim report on rural health services, Government of Papua New Guinea, Port Moresby, 2001, draft.

bodies.[99] Between 1990 and 1999, the share of recurrent costs for personnel expenditure increased from 40 to 45 per cent of non-interest recurrent spending.[100]

Ironically, while a high share of public expenditure goes to recurrent costs it is still not adequate. The high salary component and the decreased expenditure on related goods and services mean that, although recurrent costs crowd out resources for investment, recurrent budgets do not enable public institutions to function effectively. Delayed salary payments, paid staff without funds to travel outside their offices, non-functioning aid posts and health centres, and the collapse of road maintenance are all symptoms of inadequate recurrent cost funding.

Potential sources of longer term stress

In addition to the issues already noted that affect economic performance, there are a variety of potential sources of longer term stress that could have a significant impact on the national economy, and therefore on rural areas. These potential sources include the following.

- Whether using the 1990–2000 *population growth* rate (3.1 per cent a year) or the 1980–2000 rate (2.6 per cent a year), Papua New Guinea's population will double in less than 30 years, and more quickly in regions with higher growth rates, such as the Highlands with its annual rate of 3.6 per cent during 1990–2000. The rate of urbanisation may be slowing (from the example of Port Moresby), which is beneficial in limiting the demand for urban services, but it increases the urgency of addressing rural needs because it suggests that urban areas have reached their absorptive limits.
- *The spread of HIV/AIDS* could significantly slow population growth. An epidemic could mean that the adult population in 2020 could be 13–38 per cent lower than it would be without an epidemic. This reduction would come at a high social and economic cost to national institutions, productivity and leadership, as well as to families (see box 2).
- *Community pressure and reactions* to government policies could inhibit decision-making. There is already increasing popular pressure in Papua New Guinea to reduce social and economic inequity, improve economic and social indicators, improve service delivery and increase infrastructure construction and maintenance – all in a radically changed resource situation and with limited economic activity and employment, especially in rural areas.

99 World Bank, *Papua New Guinea: Improving Governance and Performance*, p. 129. It has been argued that '... PNG's public service is hardly overblown, nor is it overpaid' (Curtin, Could have done better? Economic developments in Papua New Guinea since 1990, p. 24). However, the relevant issue is really the effectiveness of staff and the affordability of their cost from a public resources perspective.

100 World Bank, *Papua New Guinea: Improving Governance and Performance*, p. 129.

- Continuing or worsening *law and order problems* – apart from the direct cost to the economy –affect many facets of life and are a very serious constraint to economic development.[101]
- Continued *corruption* and low accountability not only limit performance but also lower the public's expectation of performance.
- Increased *pressure on the resource base* – which is visible today in the occurrence of diseases such as typhoid, in unsustainable crop production and forest management systems, and in conflicts over resource access and compensation – will negatively affect the livelihoods of the rural population.

Conclusions

Few of the policies that usually distort prices and incentives in the rural sector exist in Papua New Guinea, which is an achievement. The exchange rate is market-driven; there are no export crop price supports; bank lending is not subsidised and, although there is some directed credit, the amounts involved are very small. There are no significant trade barriers apart from a log export tax; inputs are not subsidised; and there is minimal government involvement in input or output marketing. Minimal amounts of public resources are sunk in commodity price stabilisation funds. Wage policy[102] and inflation trends encourage economic activity.

However, other aspects of economic management have a strong negative impact on the sector. These include liquidity crises, expenditure patterns, weak budget management, as well as the impact of low economic growth on public finances and demand. The underfunding of services and infrastructure in rural areas, and the failure to effectively address longstanding rural governance and investment concerns suggest an antirural bias in public policy.

101 The direct cost to the economy of crime and law and order problems has been calculated at 4.7 per cent of GDP, composed of losses of 2.0 per cent, public security 1.8 per cent and private security 0.9 per cent. These figures do not include opportunities forgone as individuals and companies do not undertake economic activity due to law and order concerns. See Levantis, p. 16.

102 Wage policy at present is somewhat unclear. The minimum weekly wage has been K22.96 since 1992. The Minimum Wages Board recommended in 2000 that this be increased to K60.42. This recommendation is under review by government. See Papua New Guinea Minimum Wages Board.

Toward a strategy for rural development

The rural crisis needs to be addressed not only in the interest of equity and to improve the social and economic conditions of the majority of the population but because the rural sector has a critical role in the country's development. The state of the national economy and in particular the rural sector, and the experience with earlier programs in rural areas, suggest the challenges ahead. Nonetheless, Papua New Guinea needs to start to make development choices that address the equity and enclave issue and improve rural livelihoods.

The role of the rural sector

The rural sector in Papua New Guinea performs significant economic, demographic, resource maintenance, livelihood and cultural functions. Each of these functions is somewhat specific to Papua New Guinea. At the same time, though, there is a common global function of the rural sector in economic transformation that also applies to Papua New Guinea, which should be kept in mind when considering development strategies for the economy as a whole, as much as for the rural sector.

Rural Papua New Guinea has an important production function. Considerable amounts of foodstuffs are imported but nothing like the amounts that are grown and traded internally.[103] Locally produced items contribute an average of 85 per cent of household calories in the rural sector, and about 80 per cent of the calories of Papua New Guinea as a whole.[104] The importance of domestically produced food will continue with population growth and the depreciation of the kina, though the

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[103] In 1998, the latest year for which detailed information is available, imports of foodstuffs were valued at K521 million, which was 19 per cent the value of all imports and equivalent to 51 per cent the value of agricultural exports. The chief imported foods were cereals and milling products (39 per cent of food imports), meat (16 per cent), animal and vegetable fats and oil (8 per cent), mixed preparations (6 per cent) and fish (5 per cent). Data are from Government of Papua New Guinea, Department of Trade and Industry.

[104] Gibson, *Food Security and Food Policy in Papua New Guinea*, p. 16.

composition of demand is likely to change in response to changes in income.[105] In addition to food, rural Papua New Guinea produces the 17 per cent of national exports by value that comes from crops, as well as the 5 per cent derived from forest products and the 77 per cent from minerals and oil.

The rural sector is by far the country's largest employer and provider of welfare. More than eight out of every ten people in the workforce are employed in rural areas, with more than three-quarters of these self-employed, principally in food and other crop production. Given that there is no state-based welfare system, the rural sector and society perform a critical welfare function generating employment, sustenance and shelter for the greater part of the population.

Rural Papua New Guinea is a demographic sponge. It has absorbed much of the doubling of the population since independence. More than 1 million people were added to the national population during the 1990s, the vast majority of these living in rural areas. And most of the nation's projected 1.6 million additional people by 2010 will also live in rural areas. It is the rural areas that take the large majority of the 100 000 school-leavers each year who are unable to find formal employment (and the many young adults who do not go to school). The absorptive capacity of rural Papua New Guinea is one reason why the urbanisation rate is a low 15 per cent, and why the growth rate of Port Moresby has slowed (and hence its serious social and economic problems are less severe than they might be otherwise).

Rural Papua New Guinea is home to the country's impressive natural resource base of forests, biodiversity, soils, water and minerals. The forest and biodiversity resources in particular are unique.[106] These natural resources are the productive foundation of rural Papua New Guinea and are the basis of the economy at large. The resources are also important from another perspective. They are the foundation of the livelihood and cultural life of the 80–85 per cent of Papua New Guineans who live in rural communities, and who have ownership rights to essentially all these resources under customary title.

Although a contrary impression may be given by the large rural population, its limited participation in the national economy and the prevalence of traditional

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105 The quantity and quality of food consumed reflect changes in income. An increase in income may be spent on perceived 'better' food (for example, quality fresh meat, yam rather than sweet potato); a fall in income may result in the purchase of cheaper products (for example, lamb flaps in place of beef, and cassava rather than taro).

106 Papua New Guinea contains one of the world's four remaining significant tropical rainforest wildernesses. Closed natural forests, ranging from high altitude and montane forests to lowland mixed forests and coastal mangrove forests, cover 36 million hectares or 77 per cent of the total land area. These forests support approximately 200 species of mammals, 15 000–20 000 plant species, 1500 tree species and 750 bird species (53 per cent of which are endemic), and comprise one of the world's richest reserves of biodiversity harboured in an intact, contiguous tropical forest.

Box 4 **Role of agriculture in economic growth**

A recent study found that agricultural growth contributed to the early stages of the economic transformation in Asia by:

- raising living standards of the rural population, so unleashing an increase in domestic demand for non-agricultural goods and services
- providing relatively low-cost labour to the industrial and service sectors
- generating capital to finance the non-agricultural sector
- fostering development of agro-industrial industries, which was often both the spawning ground of private firms that later entered the domestic market and fostered the development of managerial skills and urban infrastructure
- generating foreign exchange earnings, which were a key to early industrialisation, and
- transforming rural regions by diversifying income sources and providing increased livelihood opportunities.

The study concluded (p. 19): 'Only a dynamic, rapidly growing agriculture can create the sustained surpluses necessary to drive the economic transformation.'

Source: Mark W Rosegrant and Peter BR Hazell, *Transforming the Rural Asian Economy: The Unfinished Revolution*, Oxford University Press, Hong Kong, 2000.

culture and customary land title, Papua New Guinea's economic development is likely to broadly follow world experience, including that of Asia. This experience indicates that the increased productivity of agriculture, and of the rural sector in general, has been a driving force in national economic development (box 4).

The large contribution of agriculture to Papua New Guinea's GDP – a share that will perforce become larger as the mining and petroleum sector declines – and its role in employment mean that development of the agricultural, forestry and fisheries sector is an essential part of broader economic growth. Productivity gains in this sector will have economywide significance. The impact of agriculture's growth on value adding and employment in the non-farm economy suggests the synergies that derive from the sector.[107]

Long-term development in Papua New Guinea will therefore need to be based on the economic transformation of rural areas. As economic growth will depend on greater farm and non-farm productivity in rural areas, these areas cannot be ignored in terms of social, productive and infrastructure investments, and the sustainable management of the natural resource base. Perhaps if Papua New Guinea had a

107 The experience in Asia is that the income multiplier effect of agricultural growth is 1.5–2.0 (that is, every unit increase in agricultural value added results in a 1.5–2.0 times increase in value added in the non-farm economy), and that there are employment elasticities of about 1.0 (that is, every 1 per cent increase in agricultural gross output is associated with a similar increase in rural non-farm employment). See Mark W Rosegrant and Peter BR Hazell, *Transforming the Rural Asian Economy: The Unfinished Revolution*, Oxford University Press, Hong Kong, 2000, p. 21.

better trained and healthier population, more competitive infrastructure and service costs,[108] political stability, and more predictable access to land, it could rely on labour-intensive export industries to reduce dependence on the rural sector, as occurred to some extent in Singapore and Taiwan. But it does not have these conditions. And, as significant improvement in most of these areas is likely to take many years, an effective start to tackling the challenges of the rural sector assumes an added urgency.

Rural Papua New Guinea as a development priority

In the light of the obvious challenges facing rural areas, it is useful to understand how the Government of Papua New Guinea is addressing the rural crisis, to appreciate how the rural sector's needs might be better addressed.

The Government's development plans and spending priorities do give some attention to rural areas. For example, the Medium Term Development Strategy 1997–2002 defined national development priorities as:

- elementary and primary education
- primary health care
- transport infrastructure maintenance
- law and order
- promotion of income-earning opportunities for local entrepreneurs (largely smallholding farmers), particularly in rural areas, and
- peaceful resolution of the Bougainville crisis.

The comprehensive goals of the Medium Term Development Strategy, which in fact refers to rural areas more than implied in the above six priorities, have been maintained in the budgets brought down since it was first developed. In July 1999 the incoming government had as one of its five goals the removal of obstacles to investment and growth, especially in agriculture.[109] The 2001 budget launched the National Program for Reconstruction and Development and the Development Charter Program. These programs maintain the strategy's priorities but give a particular focus to service delivery, income-earning opportunities, basic infrastructure and less-developed areas.

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108 In 1999 electricity prices in Papua New Guinea were three times higher than in Indonesia, labour costs four times higher and urban rents ten times higher (World Bank, *Papua New Guinea: Improving Governance and Performance,* p. 13). See also Duncan, p. 12.

109 The other four were: to restore the integrity of key institutions of state and the way that government operates; to stabilise the kina, earn international respect and confidence, and reduce price inflation; to restore stability to the national budget and focus attention and resources on its priority areas such as education, health and infrastructure; and to continue the search for lasting peace in Bougainville.

There has also been a focus on service delivery and rural areas beyond these key policies. The discussion and resolutions of the regional and national Development Forums arranged by the Consultative Implementation and Monitoring Council give priority to service delivery and infrastructure investment in rural areas, as do the comprehensive Public Sector Reform Program in general and its integral Services Improvement Program in particular. Individual government sector strategies acknowledge the needs of rural areas and populations,[110] and the Organic Law on Provincial Governments and Local-level Governments has as one of its main objectives the strengthening of service delivery to local communities. With similar objectives, the Rural Development Fund was started in 1996, expanding the discretionary funds for MPs that had first been established by Prime Minister Somare in 1984 to increase the flow of funds to rural areas. Finally, it has recently been agreed that a Rural Infrastructure Authority should be established to leverage private and other funds for constructing and maintaining smaller infrastructure, and to identify, plan and oversee implementation of the projects funded with such resources.

Challenges to implementing government intentions

As key government programs have apparently given some priority to the rural sector and, as has been seen, most common traditional anti-agricultural policies do not exist in Papua New Guinea, *why has there been so little improvement in rural living conditions or productivity?* A recent Minister of Planning suggested one possible reason:

> ... over the years, Papua New Guinea has designed many worthy development plans and strategies, and presented many laudable policy statements. It seems that Papua New Guinea has always been preoccupied with developing statements of good intent. However, our weakness has been our lack of commitment and/or inability to match these statements with implementation on the ground.[111]

No doubt there is some validity in the Minister's suggestion that the problem is a lack of commitment and inability. However, a wide range of factors contributes to this gulf between intention and achievement.

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110 Current sector strategies and plans give priority to the rural sector. The strategies and plans for agriculture (Department of Agriculture and Livestock, *National Agricultural Development Strategy: Horizon 2002–2012*, Government of Papua New Guinea, Port Moresby, 2001), for example, are comprehensive. The health and transport plans give attention to the rural sector, but their estimated costs are so great they are unlikely to be implemented (National Health Plan 2001–2010, K8.9 billion; National Transport Development Plan 2001–2010, K6.0 billion). In general, sector plans are not properly costed, assume too much of government financing, have little reference to other sectors and sectoral plans, and lack realistic implementation plans. As such, they would be difficult to implement even if funded.

111 Moi Avei, The National Program for Reconstruction and Development, Information Paper No. 1 to Members of Parliament, Ministry of Planning, Port Moresby, 2000, mimeo, p. 5.

Few funds reach rural areas. Recurrent costs and other expenditure priorities result in few funds being allocated in national or provincial budgets to rural areas, expenditure controls mean that only a small amount of allocated funds are actually released, and expenditure is often on activities (for example, feasibility studies or largely irrelevant roads or buildings) that have limited practical impact on service delivery or the income-earning activities of the rural population.

Government objectives are so diffuse that they encourage little discipline in planning or implementation. While the Medium Term Development Strategy and the subsequent budgets do include a rural priority, they also cover four or five other main areas of activity – none with particular focus on rural concerns but each requiring a rural emphasis if it is to be successfully implemented. Rural development requires close coordination among a range of government departments, as well as with agencies outside government. Particular effort is required to ensure these departments and agencies have a clear mandate to deliver investment and services to rural as much as to urban areas, coordinate their planning and implementation, and leverage their responsibilities, resources and skills.

Public expenditure and economic and budget administration practices undermine support for the rural sector. Budget and program planning, implementation and monitoring are weak. Plans are largely drawn up without reference to resource availability or to realistic cost calculations. Resource allocations are inconsistent with agreed tasks or schedules. Professed priorities are not adequately funded. Physical and financial monitoring of program implementation is minimal – at all levels of management and implementation, actual expenditure as opposed to allocated resources is essentially unknown.

It is difficult to achieve social or economic growth in the rural sector. It *is* difficult to achieve progress in a sector that on the whole is undercapitalised, underskilled, dispersed, has poor transport and market access, and for which there is no clear, easy solution. This difficulty is compounded by the vast needs for social and infrastructure investment in rural areas. The active representative political system also makes it difficult to make choices that in some way imply less for others.

Poverty reduction needs direct pro-poor approaches. There is adequate evidence in Papua New Guinea and elsewhere that broad growth in the economy alone is not enough to address the needs of the poor.[112] Both social welfare and income-generating activities need to be constantly reviewed to ensure that poverty alleviation objectives are being met.

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112 'Economic reforms in developing countries can create opportunities for poor people. But only if the conditions are in place for them to take advantage of those opportunities will absolute poverty fall.' See Martin Ravallion, Growth, inequality and poverty: looking beyond averages, World Bank, Washington, DC, nd, mimeo, p. 20.

Some government officers are unable or unwilling to implement programs, and are not held accountable for a lack of results or effective expenditure. There are many excellent officers in government at all levels, and many effective individuals in private sector companies, non-government organisations and local communities. Unfortunately their impact is sometimes undermined by underperformance in the public service.

There is little evaluation and learning. Strategies become mantras and are not adjusted in the light of implementation experience. For example, there is increasing reference in government strategies to promoting income-earning opportunities, but few details are given other than that they include 'agricultural extension and the promotion of efficient downstream processing activities'.[113]

A platform for rural development

As the daunting set of challenges to the implementation of government intentions suggests, a specific comprehensive strategy is needed to address the rural crisis and to stimulate growth in the rural sector.

A strategy is needed because there is only so much that rural inhabitants can do on their own, and recent government initiatives have not had much impact on their needs. Addressing the broader enclave and equity issues facing the nation, which are intertwined with the challenges facing rural areas, requires national leadership. Better market access and communications need public funds, as does the provision of health care and education services. Stronger law and order and governance structures require government leadership. And robust financial systems and the sustainable exploitation of resources need policy frameworks that government is best placed to take the lead in developing. While communities and non-government agencies can do much to support rural development, they are most effective when operating within a comprehensive policy context that addresses rural needs.

The following principles could be the platform for a strategy to develop rural Papua New Guinea.

Accept a clear, limited role for government

Government has a crucial role in addressing equity and efficiency in rural areas, in leading initiatives to strengthen the rural sector while not duplicating the role of the private sector, as well as in maintaining its focus on macroeconomic and international issues. It needs to promote the following messages.

- The development of Papua New Guinea depends on generating growth, income and employment in both rural and urban areas.

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[113] Avei, The National Program for Reconstruction and Development, p. 6.

- Rural poverty is significant and its amelioration requires concerted, comprehensive effort.
- While lifting rural productivity is a key to long-term growth, diversification within and beyond the sector is important.
- Change needs to be long-term and incremental.
- Opportunities are uneven and so responses must be varied.
- There will be inevitable dislocation and trade-offs as the rural sector becomes more productive and performs an increasing role in the national economy.

While crucial, the role of government must be limited. After all, the poor receive many of their basic services through private providers or their own efforts. Government's primary role should be in developing policy, directly or indirectly providing some services and infrastructure, making the agreed public funds available in rural areas in a transparent and accountable fashion, and creating an environment that attracts funds to the rural sector and enables the sector to fully participate in the monetary economy.

Actively develop the informal sector

The informal sector is the largest employer in Papua New Guinea and accounts for a significant share of economic activity. The sector is an important source of productivity, income and savings, and performs key welfare functions such as employing the less-skilled. For all its worth, little is done to encourage the informal sector in rural or urban areas.

Development of the informal sector will require a review of the range of restrictions on it in rural and urban areas – such as institutional, legal, political and economic restrictions, policy and legislation, vocational and skills training, finance, markets and infrastructure – and subsequent action on these.

Invest in economic growth and social development

Investing in social development is important – but not more so than encouraging growth in real GDP per person in the rural sector through demand and supply responses and by facilitating income generation.[114] The importance of economic growth in poverty alleviation is suggested by the finding of a study in Papua New Guinea that, for every 10 per cent increase in household economic resources, nutrient availability increases by 4–7 per cent, with the greatest response being in rural

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114 A well-known example of where social development was pursued over economic growth is the Indian state of Kerala. There, emphasis on equity rather than income growth has led to poor outcomes in terms of poverty alleviation. See Govindan Parayil (ed.), *Kerala: The Development Experience – Reflections on Sustainability and Replicability*, Zed, London, 2000.

households.[115] As the economic future of Papua New Guinea will be fundamentally rural-based, the priorities in public investment should reflect this, while acknowledging the need for recurrent costs to be sustainable.

Address poverty directly

At a global level, after illness and injury the most important perceived factors determining the fate of poor people are the scope for entrepreneurial activity and the availability of employment.[116] The opportunity for jobs and entrepreneurial activity in the private and informal sectors is critical for the poor, hence the pervasive importance of small and medium enterprises, small informal business activity and microfinance. In many cases, improved security of property rights increases access to credit, and access to credit enhances opportunity and security for the poor.

If Papua New Guinea's rural poor have similar concerns to their global counterparts – and there is no evidence to the contrary despite the particular nature of their cultural values and access to land – these conclusions suggest a clear focus for initiatives that target poverty alleviation.

Tackle gender concerns

The unenviable position of women in Papua New Guinea is well known, as is their important role in the informal sector in rural and urban areas.[117] As food production and marketing have grown during recent years, the economic roles of women have expanded. A strategy to address rural growth and social concerns must build on these roles and tackle behaviours and attitudes that negatively affect the wellbeing of women and their involvement in economic activities.

Approach financing imaginatively and openly

The need for public investment in rural areas at a time when government resources are likely to decrease means that public expenditure must be radically reviewed and redirected, and additional sources of investment identified. Individuals, communities, non-government agencies including churches, and the private sector will continue to provide important investment resources for development. Public funds should leverage such resources, giving priority to public expenditure where counterpart

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[115] Gibson, 'The nutritional status of PNG's population', p. 411.

[116] See Deepa Narayan, Robert Chambers, Meera K Shah and Patti Petesch, *Voices of the Poor: Crying Out for Change*, Oxford University Press, New York, 2000.

[117] A comprehensive recent summary of gender issues in Papua New Guinea is in Elizabeth Brouwer, Bruce Harris and Sonomi Tanaka (eds), *Gender Analysis in Papua New Guinea*, World Bank, Washington, DC, 1998. The fact that *World Development Indicators 2001* shows that female life expectancy in 1999 was greater than male life expectancy for the first time should not be seen as a sign that gender problems have been resolved.

resources are provided and where acceptable financial management systems are operating. Within these limits, all public resources should be allocated in a transparent, predictable and accountable fashion, based on known social and economic priorities and costed plans, and managed under the one system of financial administration to a uniform standard of probity.

Make difficult choices

Building a strategy for development entails making choices. Even if equity – as opposed to enclave – development is adopted as a fundamental development principle, not all areas and communities will have the same development priorities, and there never will be sufficient funds to address all needs.

Even if there were a similar amount of development funds available for each province, there should be considerable variation in how they are used. Interventions must be targeted and selective. In some areas it may be more effective to invest public funds primarily in education and health care, even in social safety nets. But in areas with significant productive potential and good connectivity to markets and services, it may be more effective to focus on establishing and maintaining transport infrastructure. The expectations that public funds should be leveraged with other resources and their management be above question give further grounds on which choices about resource allocations can be based.

An example of a difficult choice concerns the resources that should be devoted to roads. The economic benefit to rural areas and more generally of adequate road maintenance is clear. Roads also have a significant role in nation building and communication. Road links between the main productive and inhabited area, the Highlands, and the largest internal market, Port Moresby, and between provincial capitals on the mainland (which half are presently without) and on New Britain could have major economic and social benefits for rural Papua New Guinea. But what are the benefits and opportunity costs of pursuing such megaprojects?

Another example of a difficult choice concerns the exploitation of forests and of biodiversity more broadly. Current efforts by government to support small and medium-sized domestic forest operations and so provide greater financial returns and management responsibility to local communities are running into strong opposition from the large-scale forest industry and some resource owners involved in these current projects. How can these long-term and short-term interests be reconciled and sustainable management of renewable and non-renewable resources be assured?

Avoid waste

On the whole, experience in Papua New Guinea and elsewhere shows the following are wasteful uses of public funds:

- providing agricultural extension, unless locally relevant technologies are available to increase production or income[118]
- providing government-owned or managed production or processing facilities
- purchasing crops or subsidising transport costs, particularly to compensate for low prices
- providing directed and subsidised finance
- providing staff for services but not providing operating funds
- giving priority to some recurrent costs over capital investment
- developing and implementing plans without resource envelopes and subsequent monitoring of expenditure and results against objectives, and
- making an investment without a meaningful counterpart contribution.

Variations in performance and expectations between and within countries should be allowed for, but often time and money can be saved if experience is objectively considered.

Be patient

The strategy for rural growth should recognise the need for gradualism – to ensure minimal social disruption – and for modest expectations, progressive engagement, and community-based and multidisciplinary initiatives. Given the depth to which poverty is entrenched in Papua New Guinea, it is not going to be reduced rapidly without broad community engagement even if public revenue did not decline.[119]

Prioritise and sequence interventions

Some issues that constrain rural livelihoods, and will increasingly do so, will be resolved only over the medium to long term. But initiatives to promote growth can be undertaken while these longer term issues are being addressed (see, for example, box 5), though ultimately the sustainable improvement of rural livelihoods depends on the resolution of these issues. Three such issues requiring a longer term approach are land tenure, finance and governance.

Land tenure. Almost all land (97 per cent) in Papua New Guinea is held under customary tenure. A challenge is to evolve a tenure system that is appropriate to

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118 Or unless agricultural researchers are interested and able to use the farmer contact that extension staff have to strengthen the effectiveness and relevance of their research. This role of extension is difficult to develop.

119 As Duncan (p. 11) puts it, '... the governments of the countries where absolute poverty has been substantially reduced have been able to provide investors with secure access to land, security of contracts, and reasonably well-functioning infrastructure, as well as political and policy stability. As well, the country has had, or quickly gained, a reasonably well educated population.'

changing social and economic conditions and needs (including population increase), while facilitating production, population and labour mobility, and the inevitable long-term evolution of a less rural-based society. Land market flexibility will enhance growth prospects in the rural sector and this is likely to be based at least in the medium term primarily on usufructuary access (through, for example, lease/lease-back systems). The way this is achieved should be identified and resolved in a locally appropriate fashion, keeping in mind the intransigence of the issue, the importance of property rights to poverty alleviation, and cultural attitudes.[120] It should also be kept in mind, though, that there is no significant example of a traditional land tenure system being the basis for large-scale commercial agriculture development, or of a traditional tenure system yielding rapid and sustained agricultural productivity growth.

Finance. Finance is required for development, and there are clear roles for public and private investment, particularly for the private agricultural sector. Today there are practically no institutional sources of finance for the private sector in rural areas, including microfinance agencies. This is not so much because there is a shortage of funds for lending[121] or because of the very restricted areas under leasehold or individual land titles. The land title situation is an important constraint to the development of rural financial markets, but also important are the unattractive economic returns to investment in most agricultural activities and the experience of banks regarding repayments in the rural sector in general. An appropriate approach to such problems is to address the issue of risk by establishing strong incentives for repayment. On the savings and small-scale lending side, microfinance with full cost recovery and transparent management subsidies, if needed, is a long-term development goal. In either case, these finance problems are likely to require attention over the long term.

Governance. Progress on governance issues is impeded by low literacy rates and limited contextual experience, especially in rural areas, which restrict the exercise of individual rights and the development of realistic expectations. Within this context, law and order issues certainly need to be addressed, but equally important is the need for an agreed system that ensures and accounts for transparent, predictable and autonomous public resource flows to rural areas. Such budget management is handled satisfactorily in some agencies and provinces but overall it is not. Until there is a widespread, demonstrated commitment to follow and enforce the Public Finances (Management) Act, planning and financial management efforts are of limited use.

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120 Relevant cultural attitudes are not only to do with the significance of land but are also related to the fact that land compensation may be regarded as an ongoing income stream rather than a one-time payment.

121 'Papua New Guinea's macroeconomic performance would also have gained immeasurably if it had not been so difficult, even impossible, for the commercial banks to channel the immense liquidity that is a permanent feature of the banking system ... to the rural economy.' See Tim Curtin, 'The economy of Papua New Guinea – macroeconomic policies: implications for growth and development in the informal sector', *Pacific Economic Bulletin*, vol. 15, no. 1, 2000, p. 174.

Strategic options to address the rural crisis

It is the Government and people of Papua New Guinea who are responsible and accountable for the direction and pace of their development – and it is they who should draw up the detailed strategy to address their rural crisis. There are, however, a number of points from this report that could be relevant to this process.

With minimal further delay the Government and people of Papua New Guinea need to initiate actions that quickly produce positive results for rural areas, even though various institutions involved in governance of these areas need to be comprehensively transformed. To do this they must be able to put aside some issues to be worked on later or in parallel (such as land tenure, finance and governance, as previously noted), and accept that a start must be made in less than perfect circumstances with limited degrees of freedom.

Within these constraints and considerations, there are three general steps that can be taken and have early positive impacts on the rural crisis. Even while working on these steps, some specific actions could be taken by government and donors alike that will start to address the crisis facing rural Papua New Guinea (box 5).

Three steps toward addressing the rural crisis

1 Design and implement a strategy to improve rural livelihoods

If the Government and people of Papua New Guinea are to effectively address the multiple and conflicting demands of the rural sector, they must develop a clear, coherent and broad-based rural development strategy. This must be based on the insights and concerns of government, business and rural communities, and be guided by a sound medium-term financial framework that takes account of the resources likely to be available to government.

Box 5 **Actions to start to address the rural crisis**

Investments – to be led by government

1 Develop marketplaces and expand their functions
Expand the facilities and functions of urban and other produce marketplaces to cater for greater numbers of farmers and other vendors, to encourage the sale of a wide range of household goods by farmers and informal sector traders, and to be service centres for government, non-government and commercial agencies.

2 Strengthen the means and content of communication for rural communities
Produce and distribute oral and written material on governance, social, health, technical, financial and business matters for rural inhabitants. The main distribution channels for the material would be government and other services located in marketplaces, and revamped national and provincial public radio services.

3 Prioritise road and port development
Prioritise investment in the transport sector to maintain and construct selected roads and ports in the active commercial hinterlands of major urban centres. The extent of this investment should be based on resources available in the medium-term fiscal framework, with due priority given to capital over recurrent costs and the sustainability of all proposed investment.

Policy – to be implemented by government

4 Set and implement targets for recurrent or capital expenditure as well as for rural or urban expenditure
Set annual targets for recurrent or capital expenditure *and* for rural or urban expenditure for investment and service provision in national, sectoral and provincial budgets, and implement them.

5 Improve budget management
Improve budget management in the near term by giving attention to the timely and predictable release of funds, the full integration of the Social and Rural Development Grant and the Province/District Support Grant in the provincial budgetary system, and the aggressive use of counterpart financing resources.

6 Encourage development of the informal sector
Encourage development of the informal sector, especially in trading, retailing, manufacturing and services, by removing restrictions on its development and ensuring that government policy and material assistance create an enabling environment for it.

7 Resolve important longer term policy issues
Resolve four longer term policy issues: the enforcement of the Public Finances (Management) Act, the implementation of the Organic Law on Provincial Governments and Local-Level Governments, the use and management of public revenue derived from the resources sector, and land mobilisation.

Initiatives to be taken by donors

8 Promote broad-based economic growth
Allocate a reasonable share of donor support to promote broad-based economic growth, in addition to support for social development and governance.

9 Ensure sustainable expenditure patterns
Ensure that donor programs do not encourage or require levels of recurrent cost support that are inappropriate to the medium-term fiscal framework.

10 Choose activities and resource transfer mechanisms to maximise impact
Choose activities and resource transfer mechanisms that maximise expenditure and impact in Papua New Guinea. Priority should be given to activities that support investment rather than recurrent costs and that entail expenditure on local costs and management through Papua New Guinea administrative systems.

A strategy to improve rural livelihoods does not mean that unlimited public resources should be poured into rural areas. An effective strategy would make sure that all government programs addressed the rural constituency in an appropriate way. It would also recognise that some areas will have little opportunity for generating income, that labour and capital need to be mobile (and so, over time, the land market needs to become efficient) and that development takes time and requires some difficult choices to be made.

The strategy should have the following five aims:

- to reduce poverty

  This entails understanding who is poor, why they are poor, and what options exist to reduce the severity and incidence of that poverty.

- to strengthen access between markets and more productive areas[122]

  This should be done selectively on the basis of economic viability and on the basis of agreement on the minimal capital and recurrent cost of the fundamental infrastructure linkages to make these areas productive and on the means to fund these needs.

- to develop domestic markets

  This should be done especially by providing better market access, diversifying rural products and encouraging trading and other rural off-farm synergies with particular focus on liberalising informal markets. In addition, priority should go to increasing the productivity and profitability of food crops and small animals, and developing urban produce markets as centres of multisectoral informal trading, information exchange, business services and extension, as well as retailing and wholesaling.

- to develop international markets for Papua New Guinea's rural products

  Products with an international market are not just export commodities but also amenities (such as forests, biodiversity and marine life) that can attract international buyers to Papua New Guinea. The development of international markets will involve providing infrastructure, improving negotiation and other relevant technical skills, and ensuring that taxation and trade policy is competitive.

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122 Long-term rural growth implies the increasing involvement by producers in the marketplace. There are four main target markets for rural Papua New Guinea: (1) domestic consumers of foodstuffs, especially in towns and rural service centres; (2) the tourist industry for food, artefacts and services; (3) a foreign market in the Pacific Rim for niche horticultural, forest and marine products, including traditional products for expatriate islanders, and pollution-free marine, eco-timber and horticultural products; and (4) international markets for resource-based products, especially in minerals, fisheries, forestry, agriculture and tourism. See AusAID, *Income Generation for the Rural Poor: The Australian Aid Program's Rural Development Strategy*, AusAID, Canberra, 2000.

- to tackle biases against rural areas in policies, the allocation of resources and the implementation of planned and budgeted activities

  The biases in policies and programs that can negatively affect the rural sector include being pro-urban in the provision of services, focusing more on macroeconomic concerns than microeconomic concerns, taking a policy stance against the informal sector and giving priority in public expenditure to recurrent costs over investment.

Given the depth of knowledge in Papua New Guinea about rural areas and the strengths and weaknesses of government, it should take no more than a couple of months to establish the strategy and to begin implementing it. The strategy itself should be a brief, focused document that is widely discussed and updated frequently in the light of experience and changing social and economic conditions.

2 Use resources better

A key goal of the strategy to improve rural livelihoods will no doubt be the improved use of financial, natural and human resources. Without waiting for the strategy to be developed, there are a number of actions that could be taken immediately in this regard that could strengthen rural Papua New Guinea.

Financial resources

Much can be done to improve the effectiveness of existing public expenditure. The following six steps would help towards this end.

- Establish and implement indicative guidelines in the national budget on the amount of public expenditure and service provision that should take place in rural areas and on the proportion of capital investment and recurrent cost financing in public expenditure planning.
- Revisit the use of windfall public revenue from resource projects, at a national and, where relevant, provincial level.
- Set and implement reasonable financing formulas for provincial governments.
- Ensure that all public funds available for development within provinces are administered under a common, accountable system and that such funds are spent only as agreed on particular sectors and within agreed guidelines on recurrent or capital expenditure as well as on rural or urban expenditure.
- Leverage public funds with resources from the private sector, non-government groups and local communities.
- Enforce the Public Finances (Management) Act.

Natural resources

The rural sector should gain immediate benefits if the following two steps are given priority.

- Have agricultural research focus on food crops and small animals, particularly for at-risk rural situations but also to improve food production, marketing and nutrition.
- Continue work on community resource management systems that give priority to generating income and sharing benefits on a long-term sustainable basis.

Human resources

As well as continuing the support for upgrading the education and health status of the rural population at large, the following steps should receive attention.

- Develop technical, policy and administrative expertise – in and outside government and in all sectors – to handle rural issues.
- Recognise that rural communities, non-government organisations and private sector agencies have many valid development planning and implementation skills by assigning them tasks and paying them according to their results.

3 Review the roles and responsibilities of donors

Donors have provided significant resources to Papua New Guinea over the past 25 years and had a high level of access to and influence over the national government. The enclave–equity dichotomy and specifically the low levels of social and economic attainment in rural areas suggest that it is time to review aspects of the involvement of donors.

- Are donors doing enough to promote economic growth? Social development and governance are important, but their attention to these issues should be complemented by attention to growth, both because it is a valid end in itself and because of the positive impact it has on governance, law and order and social development. Because aid intended for investment in physical and human capital ultimately increases spending in those areas,[123] donors should be aware of the impact of their example of funding growth (or not funding growth, as the case might be).
- Are donors doing enough to ensure that their programs are not encouraging unsustainable patterns of expenditure? This question applies to capital investment as well as to recurrent cost activities, although the chief concern currently is unrealistic recurrent cost expectations.

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123 See Mark McGillivray and Oliver Morrissey, *Fiscal Effects of Aid*, Discussion Paper No. 2001/61, World Institute for Development Economic Research, United Nations University, 2001, p. 21.

- Are donors getting the appropriate impact from their grant and loan funds? The potential impact varies according to the resource transfer mechanism used – grants or loans, projects, programs or budget support, and technical assistance, recurrent cost support or investment financing. At a minimum, donors and government should recognise the nature of each transfer mechanism and its potential impact on the development objective concerned.

These three questions are important now and the answers to them will become more important if the current trend to more limited overseas development assistance continues. Donors will want their assistance to have a marked in-country impact within the framework of commitment to long-term, strategic interventions.

Finally, donors and the Government of Papua New Guinea need to keep in mind the inexorable challenges of the coming decades. The broad development trajectory of the economy and its component sectors, the likely size and location of the population, and the cost of worsening socioeconomic indicators can be reasonably surmised. Similarly, the fundamental goal of facilitating economic growth and socioeconomic improvement for the majority of the population is unlikely to change much in the decades ahead. But there will be numerous other changes – of expectations and of political structures and power, for example – that will both support and test the development of Papua New Guinea, and donors' contributions to it.

Actions to start to address the rural crisis

While a strategy is being prepared, some specific actions could be taken to start to address the challenges facing rural Papua New Guinea and to promote greater social and economic equity among the population at large. Implementing these suggested actions (and ultimately a comprehensive strategy) does not mean that other reforms should not continue to be pursued. In fact, their success is likely to depend on a sound macroeconomic framework. The Government has moved well in recent years on a broad reform agenda that includes strengthening the macroeconomic setting, competitiveness, the investment environment, fiscal prudence, governance and socioeconomic services. These reforms need to go forward in a prioritised way that is politically feasible, as they are the foundation of sound long-term economic management.

There also needs to be a shift in the distribution of public investment from urban to rural areas, and recognition that the resources available are less than has been assumed in the past and that the medium-term fiscal framework should be the basis of planning.

Investments – to be led by government

1 Develop marketplaces and expand their functions

Expand the facilities and functions of urban and other produce marketplaces to cater for greater numbers of farmers and other vendors, to encourage the sale of a wide range of household goods by farmers and informal sector traders, and to be service centres for government, non-government and commercial agencies.

The development and expansion of marketplaces will build on their present commercial and social importance to rural people, as well as their interface between rural and urban areas. Markets are one place outside their home village that most rural people regularly visit. Expanding the functions of marketplaces will facilitate the growth of the informal sector to commerce beyond fresh produce, and will provide an opportunity for rural (and urban) people to be exposed to a wide range of information that underfunded extension and other services are otherwise unable to provide.

The development of marketplaces will strengthen the social and economic role of women, who outnumber men as sellers and customers in markets. Not only will the markets' development enable women to earn more income and so improve family nutrition, but it will improve women's access to development-related information, which will in turn strengthen the social conditions for their families and communities.

Developing and enhancing the functions of marketplaces will require policy and attitudinal changes by government – to encourage the expansion of market functions and the informal sector, to use marketplaces as a source of two-way contact with the rural community, and to ensure that representatives of government and other agencies are present during market hours (including on Saturdays).

Facilities will need to be expanded to accommodate greater numbers of produce vendors (which have increased in recent years in response to strong demand for local foodstuffs), sellers of non-food items, and the new communication and service functions. Having power available where possible would facilitate the markets' sales (by providing cool/cold storage) and communication roles (by enabling telecommunications, and information and communication technologies such as internet access).

Marketing boards could take the lead in expanding facilities, though considerable government/other coordination and support would be required for the multipurpose functions of the expanded and enhanced markets. Although public funding would be required for the developments, with efficient management these marketplaces could be largely self-financing.

2 Strengthen the means and content of communication for rural communities

Produce and distribute oral and written material on governance, social, health, technical, financial and business matters for rural inhabitants. The main distribution channels for the material would be government and other services located in marketplaces, and revamped national and provincial public radio services.

An important problem facing rural communities is the absence of reliable, up-to-date information that could help improve their living standards. This is because relevant material is not available and because important traditional means of communication (radio and government/private sector activities in rural areas) have broken down. Material needs to be developed for radio, TV and the print media. These traditional media need to be funded and otherwise supported. But another dissemination channel should be developed – market-based extension services.

The types of information that need to be developed and could be conveyed through market-based extension services – whether or not other media are funded – include nutrition, child and maternal health care, HIV/AIDS prevention, safe water supply, adult literacy, school opportunities for drop-outs, legal rights of women and landowners, funding decisions made by Joint Provincial/District Budget Planning and Priority Committees and for Social and Rural Development Grants, provincial and district development plans, availability of bank, microcredit and other finance, and agricultural management practices, input use and diversification.

Access to such information, as well as the opportunity to discuss it with representatives of the relevant agencies in marketplaces, would result in a better-informed and more productive rural and urban population.

3 Prioritise road and port development

Prioritise investment in the transport sector to maintain and construct selected roads and ports in the active commercial hinterlands of major urban centres. The extent of this investment should be based on resources available in the medium-term fiscal framework, with due priority given to capital over recurrent costs and the sustainability of all proposed investment.

The need for Papua New Guinea to be selective in its transport sector development derives from the limited public resources available. This may mean priority will be given to maintaining existing assets rather than creating new ones. But construction cannot be ruled out so long as it is sustainable in terms of maintenance (and land is available). It should be kept in mind that the intensive economic activity that transport systems can support provides a basis for further infrastructure development and long-term growth. As well-served areas become stronger economically, they can become less reliant on public financing of infrastructure and social services.

As a result of prioritising road and port development, some areas would not have substantial new transport infrastructure development for many years. Funds would be allocated to maintain existing infrastructure and such areas should receive funding priority for other forms of development (for example, health care and education).

Policy – to be implemented by government

4 Set and implement targets of recurrent or capital expenditure as well as rural or urban expenditure

Set annual targets for recurrent or capital expenditure *and* for rural or urban expenditure for investment and service provision in national, sectoral and provincial budgets, and implement them.

Fundamental to overcoming the social and economic disadvantage of rural Papua New Guinea is shifting the distribution of public expenditure from urban to rural areas (where more than nine out of ten poor people live), achieving efficiency gains in expenditure, narrowing the fiscal focus on 'non-productive' activities, and redirecting investment to education and health and in support for rural formal and informal productive activity (especially through transport and marketplace development – see above). Giving priority to investment (with adequate recurrent cost allocations for the investment to be effective) and to rural over urban areas would be at the heart of a strategy to improve rural livelihoods and would indicate the commitment of government and donors to the strategy.

5 Improve budget management

Improve budget management in the near term by giving attention to the timely and predictable release of funds, the full integration of the Social and Rural Development Grant and the Province/District Support Grant in the provincial budgetary system, and the aggressive use of counterpart financing resources.

Release of funds. Funds allocated to rural activities need to be released in full, on time, at each relevant level. Even if funds are limited because of the fiscal situation, their predictable receipt provides a basis for realistic planning. The annual work programs of most local-level governments and of provinces and government departments are rarely implemented because the funds released are often so small and so late in the year that they are of little use for other than meeting allowances (for local-level governments) or staff salaries (without other operating costs). Even if the annual work programs were reduced – and staff numbers gradually reduced in line with them – their implementation would achieve more than is the case now.

Social and Rural Development Grant and Province/District Support Grant. These grants should be fully integrated in the province/district financial administration system. There, through participation in the province/district budget planning process, MPs can influence but not control their use. In addition, the implementation of these grants should be managed under principles similar to those now followed by the

Office of Rural Development (with respect to the size of investments, tendering procedures, progress monitoring and payment authorisation, for example).

These grants represent a large share of the funds available for development investment in provinces or districts. However, they are rarely used effectively for development since many MPs still regard them as personal resources and decisions on their use are not integrated with broader development priorities. Not only are these funds largely ineffective in supporting development but they are an ongoing source of dispute and resentment, and divert MPs from their prime policy-making role.

Counterpart funding. When public funds are being allocated, priority needs to be given to activities in which there are counterpart resources (in kind if not cash). This approach to funding has a number of advantages. First, it increases the impact of limited public resources. Second, it provides an objective measure for targeting and selecting investments. Third, it provides communities with the opportunity to demonstrate commitment to the proposed investment and its operation and maintenance. Fourth, it should also help to strengthen the revenue collection efforts of provincial governments as they seek resources for counterpart funding.

6 Encourage development of the informal sector

Encourage development of the informal sector, especially in trading, retailing, manufacturing and services, by removing restrictions on its development and ensuring that government policy and material assistance create an enabling environment for it.

The informal sector is likely to remain the largest employer in Papua New Guinea for many generations. It is active in agriculture, forestry, fishing and mining, in manufacturing (mechanical and carpentry activities, for example), in trading and retailing (of rural and manufactured products, for example) and services (transport, health care and finance, for example). The sector generates significant income and is a source of funds for investment. Government policies, and government and private attitudes and facilities need to support the sector and encourage its growth.

7 Resolve important longer term policy issues

Resolve four longer term policy issues: the enforcement of the Public Finances (Management) Act, the implementation of the Organic Law on Provincial Governments and Local-Level Governments, the use and management of public revenue derived from the resources sector, and land mobilisation.

Public Finances (Management) Act. Until the Act is enforced consistently, budget management, planning and the impact of expenditure are unlikely to greatly improve. Weak financial management is a concern, particularly at the provincial level where a significant share of public expenditure for rural areas should take place. While financial management and planning are adequate in some provinces, in a significant number of others – among them the poorest – bad financial management practices negate development potential, plans and progress.

Organic Law on Provincial Governments and Local-Level Governments. Given Papua New Guinea's cultural variation, weak national cohesion, physical characteristics and communication difficulties, some system of decentralised decision-making, expenditure and responsibility is required. The foundation of such a system is meant to be the *Organic Law on Provincial Governments and Local-level Governments 1995*. However, this law is in effect not being implemented due to a failure to establish the necessary supportive legislation and a failure to fund the system appropriately. As a result, most provinces suffer from weak political and administrative leadership, and their populations bear the cost in the form of minimal effective development expenditure. A decision should be made about whether this system of decentralised administration is to be implemented. If so, the legislative and funding issues should be resolved; if not, an alternative system should be designed, funded and implemented.

Public revenue derived from the resources sector. It has not proven easy for any country to effectively manage public revenue from the resources sector. Papua New Guinea has attempted different approaches. Some objectives of these approaches have been achieved but the parlous state of a large proportion of the population after 30 years of mining income suggests serious shortcomings in these efforts. The use of revenue from the resources sector should be reviewed in the context of soundly based budget frameworks at national and provincial levels to ensure that it has an appropriate impact, particularly in the light of the finite nature of such resources and the development needs of the majority of the population.

Land mobilisation. An efficient land market is critical to a country's long-term economic growth. The Papua New Guinea Government and society at large should continue to identify ways to mobilise land in efficient, culturally acceptable ways that allow secure long-term usufruct access to land and ultimately help to create an acceptable market for land.

Initiatives to be taken by donors

8 Promote broad-based growth

Allocate a reasonable share of donor support to promote broad-based economic growth, in addition to support for social development and governance.

Each donor should declare the proportion of its assistance that will be devoted to policy development and investments that support growth, and monitor the attainment of this intention.

Attention to growth promotion is required both in its own right and because of the follow-on effect of aid expenditure in national expenditure. It is not an either/or situation. Human capital and governance need support but not at the exclusion of pro-growth strategies and interventions. Promoting broad-based growth is more about creating the enabling infrastructure and policy environment than directly investing in growth (through, for example, government-owned plantations). Poverty will ultimately be alleviated by an educated, healthy population becoming more productive. In addition to supporting education and health improvements, donors need to help to ensure that economic opportunities develop. Giving appropriate attention to this topic will require long-term strategic collaboration among key donors, as is the case for all aspects of donor activity.

9 Ensure sustainable expenditure patterns

Ensure that donor programs do not encourage or require levels of recurrent cost support that are inappropriate to the medium-term fiscal framework.

Sustainability is a critical factor in project and program design for most donors. But sometimes donor activities encourage patterns and levels of consumption that are unsustainable over the long term. This can occur, for example, through donor support of recurrent cost activities that incorporate inappropriate counterpart staff or budget requirements or through the provision of untied funds (such as in adjustment programs) that ultimately support recurrent costs rather than capital investment. Of course, some recurrent cost support is useful, provided it does not establish inappropriate spending patterns and is not the only or main reason that an activity can endure.

All donors should specify the realistic incremental costs of their interventions over the long term, particularly to government and local communities, and identify the funding and/or savings that will support the required incremental expenditure.

10 Choose activities and resource transfer mechanisms to maximise impact

Choose activities and resource transfer mechanisms that maximise expenditure and impact in Papua New Guinea. Priority should be given to activities that support investment rather than recurrent costs and that entail expenditure on local costs and management through Papua New Guinea administrative systems.

Donors transfer funds to Papua New Guinea through a variety of means. Some are loans from multilateral banks or sovereign governments, including adjustment programs that are in effect largely unrestricted budget support. Others come as loans for investment activities, which are advanced against authorised government project expenditure, sometimes tied to the purchase of goods from particular countries. Donors also advance grant funding, a large part of which is often tied to the provision of technical assistance.

Whether loans or grants, donor funds should be spent on activities and come through mechanisms that maximise their impact in Papua New Guinea. This is most likely to happen when priority is given to investment (with adequate recurrent cost support for the investment to be effective), to only the most critical recurrent costs, to growth as much as human capital development and to the rural/urban balance of spending.

The impact can be also maximised by being very selective when using donor funds on technical assistance. Often, technical assistance has dubious long-term impact and can undermine local skill development. In addition, a large part of the funds allocated to technical assistance is usually spent offshore and has limited domestic impact. Donor support of local expenditure on agreed investment and recurrent cost activities can have strong development and growth impacts where appropriate policy, medium-term expenditure frameworks and adequate financial management systems are in place.

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Enclaves or equity

The rural crisis and development choice in Papua New Guinea

Rural Papua New Guinea is in a serious social and economic crisis. The Government and people of Papua New Guinea can no longer avoid the challenge of addressing the crisis – not only in the interests of equity and improving the conditions of the majority of the population, but because rural areas have a crucial role to play in the country's development.

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