

## The HIV/AIDS Crisis in Papua New Guinea

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The rapid spread of HIV/AIDS in Papua New Guinea has created a health emergency. At least 120,000 Papua New Guineans are likely to have HIV/AIDS and infections are spreading quickly. Infection rates are now estimated to be 2% to 3% of the population. If present rising infection trends persist, 18% of the population could be affected by 2010 and 25% could be affected by 2020. Papua New Guinea could lose a million people to the disease. The decline in the labour force and in gross domestic product per capita would be catastrophic.

The purpose of this paper is not to allocate blame but to present the dimensions of HIV/AIDS infection and its spread. It outlines the biological, social and political drivers responsible for the rapid rise of HIV/AIDS infections so that practical steps to arrest the current trends can be identified.

In Papua New Guinea, HIV/AIDS is spreading through heterosexual sex and social conventions of promiscuity. Old men sleeping with young girls keeps the virus circulating between generations; casual and commercial sex increases the chance that men will bring the virus home to their wives; the low status of women means they have little power to negotiate sexual relations, let alone condom use. Young women, often subject to rape, are the most vulnerable group in the country.

The HIV virus is attacking a population already debilitated by malaria, tuberculosis and diarrheal diseases. These are endemic because of low standards of living. High crime levels and suspicion of police and government also aggravate the epidemic by decreasing trust, and fuelling rumours and misinformation. The result is sorcery and quack remedies that become part of the problem and often lead to more violence, mainly against women.

The extent of the epidemic is probably underestimated because the health infrastructure is crumbling, particularly in rural communities. Most hospitals are poorly equipped and maintained and often run out of basic medical supplies. Anti-retroviral therapy can only be offered to a small proportion of those infected.

Australia has a direct interest in Papua New Guinea's HIV/AIDS epidemic because increasing numbers of Papua New Guinea nationals are accessing the Queensland health system in the Torres Strait islands and on Cape York.

Large volumes of aid, notably from Australia, but also from other countries and multilateral agencies, are being devoted to the epidemic. However, in the absence of a commitment by the Papua New Guinea government to fighting HIV/AIDS they are ineffectual.

Nowhere in the world has a country made serious headway in stopping or slowing the spread of HIV/AIDS without a serious and resolute commitment by those in power. There have been too many tragic precedents for Papua New Guinea to ignore their own HIV/AIDS epidemic. The world wants to help, but outside efforts alone cannot be effective without leadership from Papua New Guinea itself.

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**AIDS could kill over one third of the adult population in Papua New Guinea within 20 years**

## 1. The HIV/AIDS health emergency in Papua New Guinea

Papua New Guinea is in the throes of a generalised HIV/AIDS epidemic. At least 1%, and probably 2%, of the population is infected.<sup>1</sup> Geoff Clark, the World Health Organization (WHO) human resources officer for nursing in Papua New Guinea, believes HIV infection rate estimates of 1% or 2% are far too low.<sup>2</sup> WHO reported a 2% infection rate in antenatal clinics and an 18% rate in patients at Port Moresby General Hospital.<sup>3</sup> In the first half of 2004, Mt Hagen General Hospital reported that 2 to 3 out of every 10 patients that were admitted hospital had HIV/AIDS.<sup>4</sup> 'It is estimated that 50% of all patients in medical and tuberculosis wards in Port Moresby are there due to their AIDS illnesses.'<sup>5</sup> At Kundiawa Hospital, doctors estimated that confirmed cases were about 3%, but suspected that the incidence could be double that in the population. A recent survey found HIV/AIDS infection rates in Daru and Lae to be 19% and 20% respectively.<sup>6</sup>

Reporting is inherently fraught because HIV takes time to develop into AIDS, when symptoms appear. Information about transmission patterns and levels of infection thus usually refers to infections contracted five to ten years previously.<sup>7</sup> Without a health service structure that reaches into every community and provides diagnostic services, it is impossible to measure the incidence of HIV/AIDS accurately. Without such primary health care, HIV/AIDS is not identified; without data there can be no effective policy, prevention or cure.<sup>8</sup>

In Papua New Guinea, it is the women as well as the men who are infected. HIV/AIDS is mainly spread through heterosexual contact. Men drifting to towns and travelling along highways sleep with infected prostitutes and pass the virus on to their wives when they return home. Although there are some claims that only 16,000 people are infected,<sup>9</sup> estimates of 70,000 and 80,000 are also quoted.<sup>10</sup> A 2% infection rate would mean that 118,000 people are infected; a 3% infection rate would mean that 177,000 people are infected.

Estimates of increases in infections are frightening. In 1995, only around 300 people had been diagnosed with HIV/AIDS. HIV/AIDS increases rapidly because people are most infectious when recently infected. WHO estimated that new infections were rising at 20% a year and that this figure was increasing.<sup>11</sup> AusAID has estimated annual increases of 15% to 30% in numbers infected every year.<sup>12</sup> These rates mean that AIDS could kill over one third of the adult population in Papua New Guinea within 20 years.<sup>13</sup>

The Centre for International Economics prepared 'low', 'middle' and 'high' scenarios to illustrate the likely evolution of HIV/AIDS in Papua New Guinea, using infection and death rates in Kenya (Low), Zimbabwe (Middle) and South Africa (High) because Papua New Guinea's HIV/AIDS infections are following African trends.<sup>14</sup>

**Table 1: HIV/AIDS incidence and death scenarios for Papua New Guinea to 2020**

Year	Low scenario		Middle scenario		High scenario	
	Incidence	Death	Incidence	Death	Incidence	Death
2006	2.9 %	5,536	11.6%	42,921	11.6%	45,479
2010	6.5%	11,094	18.0%	54,131	18.0%	58,419
2020	8.0%	45,647	19.0%	98,928	25.0%	124,070

*Source:* Jorari and Lasia (1996) and Gregson et al. (1998). Three scenarios used for estimating the economic impact

The current HIV/AIDS trend suggests that the 'high' scenario will occur if the disease is not checked.

## 2. Asian and African experience of AIDS

Asian countries, including Thailand, Indonesia, China and India, have a distinct pattern of HIV/AIDS infection. HIV has spread quickly through injecting drug users, a flourishing sex industry and migrant workers.<sup>15</sup> In Indonesia the disease was so concentrated in

intravenous drug users that had the spread of HIV/AIDS among them been curbed, the entire epidemic could have been prevented.<sup>16</sup> In Thailand the sex industry and drug users were largely responsible for the spread of HIV/AIDS. However, the sex industry is controlled and a nationwide system of health centres meant that identification, prevention and treatment was possible. As a result, Thailand is regarded as having succeeded in limiting the depredations of HIV/AIDS with remarkable success. In both countries highly effective population planning campaigns markedly reduced fertility through the use of condoms, making for successful HIV prevention campaigns. Less effective health facilities and less open acknowledgement have made control more difficult in China and India, though previous birth control efforts also made some contribution to limiting infections. If the infection is concentrated in high-risk groups, identification, and therefore control, of the disease is easier.

African HIV/AIDS trends are far more worrying than those in Asia. South Africa, the worst hit African country, has around 20% of its population affected with HIV/AIDS.<sup>17</sup> Nine countries in the sub-Saharan region have an HIV infection rate of over 10% of the adult population. In Botswana, Namibia, Swaziland and Zimbabwe 20% to 26% of 15–49 year olds are HIV positive.<sup>18</sup>

Uganda's experience is tragic. Under Idi Amin, Uganda suffered a total collapse of its health system. Between 1975 and 1980, the country experienced epidemics of malaria, leprosy, visceral leishmaniasis, tuberculosis, cholera and 'virtually every vector-borne ailment known to the continent'. Ebola, Marburg, Lassa, West Nile fever, Crimean-Congo hemorrhagic fever and Chikungunya were also found. A measles epidemic led to thousands of children dying. Vaccinations for tetanus and whooping cough stopped, leading to a dramatic rise in incidence. Tens of thousands of refugees crossed borders, taking their infections to neighbouring countries.<sup>19</sup> Post-Idi Amin governments have had to struggle with the results of these years, as well as high levels of HIV/AIDS infections. Although some gains have been made, it is not yet clear whether Uganda has turned the corner.<sup>20</sup>

Unsanitary Sudanese hospitals similarly became 'amplifiers of microbial invasion' with Ebola and Lassa virus outbreaks in 1979.<sup>21</sup> Infections that should have only affected a few people were magnified by deficient hospital environments. Non-sterile equipment and needles were used on patient after patient, spreading diseases. These hospitals couldn't afford penicillin or mattresses for the steel bed-frames. They could not discard syringes after use. Even the well-run, Japanese-funded hospital in Kundiawa reportedly had similar problems with syringe shortages. In the Mt Hagen hospital syringes are tied to patients' hospital beds which means repeated use but at least only on a single patient.

The incidence of HIV/AIDS in Botswana is high, but it is nevertheless an exception. Workers who had been employed in South African mines were the primary transmitters of the disease. Botswana is a rapidly growing country that has an operating health system and hence identifies and treats those infected. It also has prevention policies in place.

In Africa, young people—particularly girls—are the most vulnerable, with most of the new HIV infections happening in the 15–24 age group. Infection rates in pregnant women are 30% in some areas of southern Africa. Estimates indicate that 60% of boys now aged 15 are likely to become HIV positive in Zimbabwe, Botswana and South Africa.<sup>22</sup> The South African experience shows the results of not dealing with HIV/AIDS aggressively. HIV/AIDS has devastated the country, creating orphans on an unprecedented scale by killing those in their reproductive years. Grandparents are overburdened, and at the same time, children often have to care for grandparents. South Africans now spend more time attending funerals than they do getting their hair cut, shopping or having barbeques.<sup>23</sup> HIV/AIDS has altered the entire fabric of the nation.

Given current trends in Papua New Guinea, a similar South African experience is less than ten years away.

Transmission patterns in Papua New Guinea are similar to Africa. The virus is mainly passed through heterosexual sex (although there is anecdotal evidence that homosexuality

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**The combination of multiple sex partners and the increasing prevalence of sexually transmitted infections ... puts Papua New Guineans most at risk of a devastating social catastrophe**

in Papua New Guinea is more widespread than is believed). HIV/AIDS occurs in rural as well as urban areas. As in Africa, women and girls are both physically and socially more vulnerable to contracting the virus than men and boys. UNICEF cites studies that show infection rates can be three to five times higher in young women than men.<sup>24</sup> Kundiawa Hospital found that people aged between 15–29 had higher infection rates than any other age group, that more women were infected than men, the number of children aged from zero to four with HIV was increasing, and that much was still unknown due to lack of proper information. The fact that around half of the cases tested at Kundiawa were asymptomatic suggests the hidden numbers could indeed be much higher than 3%.<sup>25</sup>

### **3. The etiology of HIV/AIDS and the economic effects**

In contrast to other, fast-moving infectious disease epidemics like the bubonic plague, HIV takes time to develop into AIDS and AIDS kills slowly, leaving households of sick people, child orphans and the ‘orphaned’ elderly who must be cared for. The slowness of the disease increases the chances of its spread. Unlike malaria, HIV/AIDS is not climate sensitive. It affects every stratum of society. There is no cure. Those who fall ill do not get better or acquire immunity.

In Papua New Guinea the sexual nature of the epidemic makes it difficult to discuss openly. Unlike Asian countries, Papua New Guinea has had no family planning policies so that public discussion of reproductive issues is unknown and taboo. Those infected are stigmatised. According to Professor Mathias Sapuri, Dean of Papua New Guinea’s School of Medicine and Health Sciences, ‘the combination of multiple sex partners and the increasing prevalence of sexually transmitted infections ... puts Papua New Guineans most at risk of a devastating social catastrophe’.<sup>26</sup> Regular sexual practices turn out to be highly risky.

High rates of HIV/AIDS infection have two principal economic consequences: an income effect, where sick people are taken out of the potential labour force and have less to spend; and a substitution effect, where people spend money and resources on medication.

The most economically productive age group—between 15–34 years—is the hardest hit.<sup>27</sup> A high proportion of men in this group are either underemployed or unemployed because of the lack of agricultural development and the absence of formal and informal jobs. Their leisure is a contributing factor in high HIV/AIDS infection rates. Male labour shortages are thus only likely to become evident in skilled occupations but here they will be severe because Papua New Guinea is already deficient in skilled and professional workers. Expatriates still fill many such posts. Training costs are likely to increase steeply across the board. Mines have some of the most effectively functioning health facilities in Papua New Guinea and will be able to identify and provide treatment for patients, but they will also be affected. Other industries will face more increases in costs.

The main impact will, however, be on female labour. Women are employed in skilled positions in the formal sector, but the main effect will be in rural areas. Women’s work is critical to the growing of food for a rapidly increasing population and for the cash crops that supply incomes for drinks, packaged goods, tobacco, marijuana, beer and school fees. Women also look after households, carrying out daily tasks such as bringing water to the village, and caring for children, the sick and dying and the elderly. The increasing death rates of women therefore puts enormous strains on communities. Girls are already being pulled out of school to help mothers. With more women dying, girls’ schooling will be further restricted and they will become even more susceptible to HIV/AIDS infections. The African experience suggests that, as infected people start dying, extended families reach ‘orphan saturation point’ with grandmothers unable to care for all the children made dependent on them.

HIV/AIDS is worse in economic and human terms than other infectious diseases that tend to kill the very young and the old.

#### 4. Health levels and HIV/AIDS

Papua New Guinea has the poorest social indicators in the Pacific.<sup>28</sup> Life expectancy is the lowest in the Pacific and infant and child mortality rates are the highest. In Papua New Guinea (as in Africa), HIV/AIDS infections are complicated by the prevalence of preventable, curable diseases that are air and waterborne. Most people infected by HIV/AIDS are likely to die of malaria, tuberculosis or diarrheal diseases. These diseases usually warrant less global attention, or as one writer put it recently, ‘Celebrities don’t host concerts to fight diarrhea.’<sup>29</sup> Malaria is also a very important component of the general ill health that makes Papua New Guineans highly susceptible to HIV/AIDS,<sup>30</sup> and is arguably the biggest killer in the country in its own right.

**Table 2: Health indicators for Papua New Guinea, Fiji and Samoa, most recent years available, 1999–2003**

	Population	Life expectancy, years		Adult mortality per 1000 population		Infant mortality per 1000 births
		males	females	males	females	
<b>Papua New Guinea</b>	5,887,000	58	61	322	265	67
<b>Fiji</b>	848,000	66	71	270	169	16
<b>Samoa</b>	185,000	66	70	235	203	25

Source: World Health Organization, *World Health Statistics 2006*, Core Health Indicators, www.who.org

Papua New Guinea’s maternal mortality rate is now the second highest in the world with one in 18 rural women dying in pregnancy or childbirth. The risk to both mother and baby are high because complications frequently arise during labour. Women are traditionally not attended at birth in villages. Of the infants who live, one in ten will die before their fifth birthday. Malaria, diarrhea and problems arising from malnutrition kill around 230 children a week.<sup>31</sup>

Rampant infectious diseases are both a consequence of the lack of economic growth and also an important factor in slowing growth. Economic models also show that controlling malaria alone could add around 1% of extra GDP growth per capita per year.<sup>32</sup> Malaria is either the biggest, or the second biggest killer in the country. The Human Development Report puts the incidence of malaria at 1688 cases per 100,000 people, or roughly 1.7% of the population.<sup>33</sup> Figures for malaria for children under five and those being treated with anti-malarial drugs are not available.

Tuberculosis is often linked to HIV/AIDS infection. Cases of the disease are growing ‘out of control’ in Papua New Guinea.<sup>34</sup> Reporting is, however, so inadequate that the Human Development Report puts tuberculosis figures at only 527 cases per 100,000. The deadly link between tuberculosis and HIV/AIDS was tracked closely in Haiti.<sup>35</sup> HIV/AIDS tends to undermine individual immunity and consume the medical funding and personnel available to control bacterial, viral and other parasitic microbes, leaving the population vulnerable to secondary and tertiary disease epidemics. In Uganda, for example, in 1991 HIV/AIDS was taking 55% of the health budget. In Zambia in 1991 HIV/AIDS overtook malaria, accounting for 80% of the hospital beds in Lusaka.<sup>36</sup>

The reduction and management of HIV/AIDS is closely linked to the control of sexually transmitted infections. These are widespread in Papua New Guinea. UNAIDS cites sexually transmitted infections surveys carried out between 1995 and 1999: the prevalence of gonorrhoea was 15% in the Highlands and 36% among sex workers; the prevalence of chlamydia was 26% in the Highlands and 31% among sex workers; and syphilis was found to infect 32% of sex workers.<sup>37</sup> Although some of the data may be up to ten years old, the decline in the health system makes it unlikely that these infection

**Papua New Guinea has the poorest social indicators in the Pacific**

rates would have declined; their incidence is likely to have increased. A 2001 study of 407 female sex workers in Lae and Port Moresby found very high sexually transmitted infection rates and often mixed infections, low levels of treatment, and highly inconsistent condom use.<sup>38</sup> The infection rates for sexually transmitted infections among the women are tabulated below.

**Table 3: Infection rates for sexually transmitted infections among female sex workers in Port Moresby and Lae, 1995–9.**

	Port Moresby female sex workers, %	Lae female sex workers, %
HIV	16.8	3.0
Syphilis	31.3	33.7
Chlamydia	32.8	30.2
Gonorrhoea	39.4	33.0
Trichomoniasis	21.2	44.1

*Source:* Information for the table taken from figures in the HIV/ STI study by Mgone, Passey, Anang, Peter et al, “Human Immunodeficiency Virus and Other Sexually Transmitted Infections Among Female Sex Workers in Two Major Cities in Papua New Guinea”, *American Sexually Transmitted Diseases Association*, 2001.

As well as being a problem in their own right, sexually transmitted infections facilitate the transmission of HIV. The findings show that while high-risk sexual behaviour is widespread, among female sex workers, transport workers, and members of the police and security forces it is even higher because the groups often interact.

Other diseases, notably typhoid, hepatitis A, dysentery and various intestinal infections are caused by contaminated food and water due to poor hygiene. In 2006, up to October, there were 1000 reported cases of typhoid. Vector-borne diseases like dengue, Japanese encephalitis, filariasis, are also a problem in many areas.<sup>39</sup> The frequency of filariasis in Papua New Guinea, for example, is higher than in any other region—the Pacific, Africa and Latin America—where it is endemic.<sup>40</sup> Lymphatic filariasis is not a terminal disease. It causes fevers, swelling and severe inflammations of the lymph system. Elephantiasis (gross swelling of the legs to the point of severe deformity) occurs in about 5% of those infected. This can result in gross disfigurement and life-long disability.<sup>41</sup>

Filariasis is only one of many infections that plague Papua New Guinea. It illustrates the barrage of parasites, worms and viruses that make good health difficult to maintain in the absence of access to clean water, decent housing (in particular the issue of smoke inhalation due to poor cooking facilities) and basic health services. The prevalence of disease debilitates people and causes suffering even if death is not the immediate result. Yet these diseases are preventable and curable. As little as ten years ago, the eradication of malaria in Papua New Guinea seemed possible. Not so today.

## 5. The decline of health services in Papua New Guinea

A country’s state of health depends to a marked degree on its standards of living, notably on nutrition, housing standards and associated water supplies, sanitation and power as well as on levels of education, particularly for girls. For the 85% of Papua New Guineans living in rural areas and for those living in urban shanty towns, standards of living have barely improved in 30 years. Thanks to the work of women, nutrition has remained adequate, but access to clean water, sanitation and power are still luxuries few attain.

The education of girls remains limited. Stagnant living conditions in particular explain the resurgence of malaria, a high incidence of chest disease, tuberculosis and the prevalence of diarrheal diseases among children. High levels of violence continue to affect the population. The continuing low status of women and girls is a major factor in the spread of sexually transmitted infections.

The second factor in the health of a population is a country’s health system. The

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consensus of studies suggests not only that there has been no improvement in Papua New Guinea's health infrastructure, but that health services have actually declined. Rural people often have to walk for hours, and sometimes days, or travel long distances by boat even in emergencies to reach a health centre. East Sepik, an area deeply affected by malaria, has only one hospital. Bad weather often complicates these difficult journeys.<sup>42</sup>

Transparency International reports that, since the mid-1980s, healthcare delivery has crumbled because of poor management and corruption. Some doctors in Port Moresby are running private clinics alongside the hospitals in which they are employed, selling the government-supplied medicines for private gain.<sup>43</sup> Sometimes, however, it is because they are not being paid. Equipment such as emergency generators and medicines are being stolen. Machines that are not stolen are not being maintained.<sup>44</sup> Hospitals and the few clinics still operating are constantly running out of medicines and medical supplies. In many hospitals in Papua New Guinea, there is not even running water to wash your hands. The following table is thus misleading because much of the public expenditure devoted to health does not reach hospitals and clinics and their staffs and patients.

**In many hospitals in Papua New Guinea, there is not even running water to wash your hands**

**Table 4: Health expenditure indicators, Papua New Guinea, Fiji, Samoa and Botswana, selected years, 1999–2003**

	Doctors per 1000 of population	Expenditure on health as % of GDP	Per capita health expenditure (\$US)
Papua New Guinea	0.05	3.4	23
Fiji	0.34	3.7	104
Samoa	0.70	5.4	94
Botswana	0.40	5.6	232

Source: World Health Organization, World Health Statistics 2006, Core Health Indicators, www.who.org.

**Table 5: Numbers of health personnel in Papua New Guinea, 2000**

Indicator	2000
Physicians (number)	275
Physicians (per 1000 population)	0.05
Nurses (per 1000 population)	0.53
Dentists (number)	90
Dentists (per 1000 population)	0.02

Source: WHO Core Health Indicators [http://www3.who.int/whosis/core/core\\_select\\_process.cfm?country=png&indicators=healthpersonnel&intYear\\_select=all&language=en](http://www3.who.int/whosis/core/core_select_process.cfm?country=png&indicators=healthpersonnel&intYear_select=all&language=en).

The share of gross domestic product spent on health is not a clear comparative indicator of the effort made by governments in the health sector. Expenditure per capita is a more useful comparative figure. It shows Papua New Guinea lagging far behind Botswana, a comparable African country that is making a serious effort to tackle the high HIV/AIDS infection rates imported from South Africa. Most of the Papua New Guineans who live in rural areas are not aware that they are supposed have access to aid posts where they would receive free medicine. 'Because they don't know, when they go to a hospital or a clinic and someone says they have to pay, they pay.'<sup>45</sup>

In the 1980s, most people lived no more than four hours walk away from a primary health post. Now the time taken is more likely to be four days. 'The standard of delivery has completely collapsed between the eighties and now.'<sup>46</sup> Bart Philemon, when Treasurer, agreed that 'since independence in 1975 no infrastructure development has taken place ... What they had was left over since independence: administrative buildings, health centres, schools, public servants' accommodation.' Philemon recognised that the government was not paying enough attention to health.<sup>47</sup>

**Much of Papua New Guinea's own health budget, as well as the aid contributions, have been absorbed by the administration in Port Moresby and the 19 Provinces**

The principal surviving health (and education) facilities outside the main towns are provided by churches. They are deeply involved in caring for people living with HIV/AIDS. The Catholic Church's Shalom centres, originally created for the specific needs of women, have expanded to care for both men and women.<sup>48</sup> The Catholic Church is the largest provider of health care in Papua New Guinea. It has become increasingly concerned with HIV/AIDS, providing specialised training for health workers and increasing health facilities in areas with high HIV/AIDS rates. Voluntary testing and AIDS care centres have been established at Shalom House Banz, Mingende Rural Hospital, Southern Highlands Clinic Mendi, St Mary's Medical Centre Boroko and Hohola Urban Clinic. These are helping to limit mother-to-child HIV infection.<sup>49</sup> Other churches also provide health facilities and the principal towns have public hospitals. Together these are woefully inadequate to deal with the HIV/AIDS infection rates. They are, moreover, not supported by a countrywide system of health posts that is essential to the identification and treatment of disease and trauma due to violence in general, and HIV/AIDS in particular.

There are only 275 doctors in Papua New Guinea—five doctors per 100,000 of the population. Most are in Port Moresby and the larger towns leaving the majority of Papua New Guineans without access to a doctor. Less than 500 people are receiving antiretroviral treatment.

Evidence of serious deficits in the quality of rural health care was emerging twenty years ago when there were very many more functioning health clinics than there are now. A 1988 study of the quality of rural health centres found that only 36% had running water inside the building, 40% of child clinics did not have refrigeration and 13% of wards in hospitals were unsanitary, with many more needing maintenance.<sup>50</sup> Jane Thomason, a widely respected health analyst, stated in 1993 that 'improvements are attainable through simple and inexpensive means; the only obstacle is lack of commitment by relevant national and provincial government authorities.'<sup>51</sup> Many of the health outposts critiqued in the 1990s no longer exist. It has been widely acknowledged that the failure of service delivery has contributed to low rates of economic growth.<sup>52</sup>

Both living standards and health infrastructure are important to the wellbeing of the population. Both are the result of government policy and hence rates of growth.

## 6. Aid and health

Since independence, Papua New Guinea has received large amounts of aid from Australia and other donors, with considerable aid expenditures devoted to health.

**Table 6: Aid flows to Papua New Guinea (in constant 2005 Australian dollars), 2000–2004**

	Australian aid	Total aid
2004	242.3	266.3
2003	208.9	220.3
2002	180.4	203.3
2001	158.2	203.1
2000	198.2	275.4

*Source:* OECD, Development Assistance Committee,

But most Papua New Guineans are unaware of these high aid flows. Aid has not reached the health needs of the population. Much of Papua New Guinea's own health budget, as well as the aid contributions, have been absorbed by the administration in Port Moresby and the 19 Provinces. Financial arrangements from central to provincial governments are a labyrinth that almost appears designed to facilitate the 'leakage' of funds. 'Ghosts' on the public payroll make up about 15–20% of the workforce. Management and accountability are almost non-existent.



## 7. Social factors: The catalytic converter

Sexual behaviour determines the mode and rate of transmission of HIV/AIDS. It is governed by cultural and social factors and attitudes.<sup>53</sup> Strong economic growth with its employment and income raising effects can transform societal norms, particularly with respect to the status of women. But without growth and higher standards of living, there can be no change. Improving the status of women in Papua New Guinea is central to stopping the spread of the epidemic. The low status of women in society leads to violence, high incidences of rape of women and young girls, commercial and casual sex, low levels of condom usage and generally high vulnerability. Health workers at Kundiawa hospital estimated that eight out of ten patients in their surgical ward were there as a result of domestic violence.

Girls aged 15–19 are the most vulnerable group in Papua New Guinea. They have the highest infection rate—four times the rate of boys in the same age bracket. UNICEF concluded that ‘with half the population of Papua New Guinea under 18, the battle against AIDS will only succeed if linked to giving young people, especially girls, more opportunities and giving them the power to take more control of their future’.<sup>54</sup> Sex education will have a limited effect if women have no choice in sexual relations.

Basic education raises the status of women. When they earn cash in jobs in their own right, their ‘bargaining power’ in the household increases.

Sister Tarcisia Hunhoff, Head of the National Catholic Aids Office of Papua New Guinea, confirmed that the highest incidence of HIV/AIDS infections was among girls aged 14–19. ‘They are particularly vulnerable because older men prefer to have sex with teenagers, particularly virgins.’ Sister Tarcisia wanted to negotiate with the Education Department to have the lunch hour in Port Moresby schools changed so that it did not coincide with the lunchtime of businesses because there was ‘a high incidence of men cruising school areas for lunchtime sex and offering to pay the girls’ school fees for intercourse. For young girls whose families are extremely poor, it can be a difficult proposition to fight.’<sup>55</sup>

Understanding the patterns of transmission is the key to a prevention strategy that seeks societal change. The low status of women means they are subjected to sexual violence and rape. They cannot negotiate safe sex with their partner, not even, in most cases, with their husbands. Rape increases the chance of injury and therefore the transmission of the disease. The risk of transmission is increased for the same reason in very young girls. Intergenerational sex—older men having sex with young women—is an important factor. So are multiple partners. When young women are infected they pass the virus on to their own age group. In African countries, ‘the more we look at it, intergenerational sex is a big, big driver ... If everybody would have sex with someone from their own age group, the epidemic would die out.’<sup>56</sup>

Because of their inferior position in society, women in Papua New Guinea are often blamed for spreading the virus and, when infected, ostracised by their communities. Sorcery, witchcraft and other supernatural forces are widely blamed for causing HIV/AIDS.<sup>57</sup> Accusations of sorcery have resulted in torture and murder. The ‘mysterious’ deaths of relatively young people, thought to be deaths from HIV/AIDS, are being blamed on women practicing witchcraft. There are reports of women being tortured for days in efforts to extract confessions. Women have been beaten, stabbed, cut with knives, sexually assaulted and burnt with hot irons. One woman had her uterus ripped out with a steel hook.<sup>58</sup> It is estimated that there have been 500 such attacks in the past year. Many accused witches (some men among them) died after or during torture. Such violence has been perpetrated by young men, often high on marijuana and armed with automatic assault rifles. They reportedly threatened some of the elder men who tried to intervene.<sup>59</sup>

**Improving the status of women in Papua New Guinea is central to stopping the spread of the epidemic**

**Factors that determine extent to which HIV spreads anywhere in the world include:**

- patterns of sexual behaviour (changing partners and how often);
- the frequency of rape;
- infectivity (individuals are more likely to pass on the virus when they themselves have been recently infected);
- the presence of other sexually transmitted infections;
- the age of female partners (women under 25 are more vulnerable): half of Papua New Guinea's population is under 18 years;
- the presence of social and/or economic pressure on women to be sexually active, usually without the right to use condoms;
- the extent to which condoms are available, affordable and socio-culturally acceptable;
- whether the male partner is circumcised.

All these preconditions for the rapid spread of HIV/AIDS are met in Papua New Guinea.<sup>60</sup>

Disruption of social structures exacerbates the spread of disease. 'History demonstrated repeatedly that ... the microbes exploited the weak points of economically bereft lives: chronic malnutrition, prostitution, alcoholism, dense housing, poor hygiene, and egregious working conditions'.<sup>61</sup> HIV/AIDS is now concentrated in Port Moresby and other towns, around mines and plantations, and along the main transportation routes, but it is spreading rapidly to the countryside.<sup>62</sup>

Port Moresby has grown rapidly from 120,000 in 1980 and 195,000 in 1990, to over 300,000 in 2003.<sup>63</sup> As more people move to Port Moresby, mostly into squatter settlements lacking basic services, the potential for microbial mayhem increases. Population concentration enables micro-organisms to multiply. Cities magnify minor contagions instantly as people touch and breathe on each other, make food, contaminate water that has multiple uses, become more promiscuous, produce large amounts of untreated waste (perfect for rats and insects) and, without strict government controls, allow stagnant pools of water to breed disease-carrying mosquitoes.<sup>64</sup>

## **8. Law and order**

There is no security in Papua New Guinea. People do not feel safe. Crime is rampant and gangs of *raskols* create random violence. Police are not trusted. Their presence is not visible on the streets. All the taxis in Port Moresby are trashed, foreigners cannot walk safely in the streets and restaurants are barricaded behind barbed wire. *Raskols* openly sell marijuana in the settlements. Frustration grows because corruption at high levels, while widely reported and known, seems to bring no punishment or jail: No high-profile person associated with, or accused of corruption has been convicted.<sup>65</sup> Alternatives to the official justice system are sought through informal clan courts, but often 'mob justice' flares up because it is known that wrong-doers will go unpunished.

Police abuse highlights the symbiotic relationship between disease and violence perpetrated by authority figures, leading to a breakdown of trust and the spread of a deadly disease. The National AIDS Council reports that 'patterns of male sexual behaviour including a high incidence of rape, *line-ups* (pack rape), sexual assault, and weak law enforcement' are contributing to the epidemic.<sup>66</sup> The rates of syphilis among Papua New Guinean sex workers who had been subjected to a *line-up* were significantly higher (49%) than in those who had not (26%).<sup>67</sup> Instead of curbing the violence, the police are part of it. They perpetrate rapes—including gang rapes. They target those who carry condoms, sex workers and men who have sex with men. They brand sex workers 'AIDS

**Patterns of male sexual behaviour including a high incidence of rape, *line-ups* (pack rape), sexual assault, and weak law enforcement are contributing to the epidemic**

carriers'. Carrying a condom can lead to police harassment. For example in a raid on the Three-Mile Guesthouse in Port Moresby, police included 'used condoms sighted in the rooms ... where the defendants were sighted' as evidence of prostitution. In another case, an outreach worker distributing condoms in Lae was physically attacked by police.<sup>68</sup>

Transparency International concluded that 'the actions of poorly trained reserves and auxiliaries have cost the government dearly, in legal fees and loss of trust in police.'<sup>69</sup> A HIV/AIDS activist in Port Moresby—who is HIV positive—explained that the stigma around the disease made it difficult to talk about openly: 'Because HIV is a disease that's passed on sexually, mainly in Papua New Guinea, so that's why they keep quiet'.<sup>70</sup> Because sex is a taboo subject not discussed in public, the link between the virus and sex means that people with HIV/AIDS are associated with illegal sex.<sup>71</sup> To say the least, this does not help create awareness, open discussion, or safe sexual behaviour.

Unemployment and underemployment affects the vast majority of men in Papua New Guinea, evidenced by the large groups of men gathered on the streets of towns and villages. The theft of millions of kina by politicians and government officials, combined with great differences between the few rich and the many poor, creates a climate of frustration and anger that fuel everyday crime and violence. *Raskols* claim that they are retaliating against the extreme violence perpetrated by police.<sup>72</sup> People have lost faith in the police, the justice system and their government.

The only countries that have successfully diminished the spread of HIV/AIDS have been those where the government has openly and strongly taken the lead in seeking to reduce infection rates. The founding director of the National AIDS Council Secretariat in Port Moresby, Clement Malau, expressed surprise at the 'slow phase response' of many government department heads, emphasising that 'an obvious constraint (was) the lack of true commitment by all leaders of (Papua New Guinea)'. He noted that in the national general election in June 2002, HIV/AIDS had not been an issue.<sup>73</sup>

## 9. Prevention and cure

The prevalence of disease and crime means that 'people live from day to day. It is hard to interest them in some action today that could affect their lives in five to ten years. The fear of death is not to them such a deterrent ... death is a part of everyday life and experience'.<sup>74</sup> The prevention of the spread of HIV/AIDS is thus much more difficult in Papua New Guinea (and most African countries) than in high income countries or rapidly growing Asian developing countries.

Successful preventive policies require government commitment, a widespread information campaign and trust between government and people. The open endorsement by political leaders of the dangers of inaction is a prime requirement. This helps to build trust. Faced with the emergence of HIV/AIDS in the 1980s, Australia had government commitment as well as high living standards, one of the longest life expectancies in the world and a strong health infrastructure that reached into every community (except remote Aboriginal Australia). HIV/AIDS was able to be largely confined to gay and drug injecting groups. High general education levels underpinned the information campaign. Opposition to the explicit messages of the HIV/AIDS information campaign was considerable. It had to be overcome before an aggressive sex education prevention programme could be mounted. Australia then used an official, powerful scare campaign to create awareness of the dangers of HIV/AIDS. The spread of new HIV infections plateaued.

If information is not presented correctly it can be harmful. Misinformation has been found to be a frequent problem with 'street theatre' presentations in Africa. The Papua New Guinea AIDS control body has commissioned two actors to dramatise how HIV/AIDS spreads. However their interpretations became problematic. One actor saw HIV as coming from the loss of traditional ways and the absorption of foreign lifestyles. He presented the spread of HIV/AIDS as the result of eating processed food that compromised the immune system.<sup>75</sup> While poor nutrition does weaken the immune system and leaves

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it more vulnerable to infections of all kinds, eating well will not prevent HIV/AIDS. In South Africa, where the government denied the viral causes of HIV and failed to commit to the dangers of HIV/AIDS, 'quack' remedies were promoted. The infection rate rose fifteen-fold in 12 years leaving South Africa with one of the highest infection rates in the world.<sup>76</sup> In Papua New Guinea, false cures are also being promoted. Male 'super-cisions' ('home-made' circumcisions, often involving slitting the foreskin vertically or inserting plastic objects) can lead to infection and increase the risk of HIV transmission. Billboards can be prone to misinterpretation in a barely literate society and promoting abstinence has not turned out to be a satisfactory solution.

The market can be flooded with condoms and preventive programmes but if people's understanding is not engaged, they will fail. This is happening in Papua New Guinea.<sup>77</sup> Dr Ninkama Mioya argues that attitudes and behaviour are not being changed. 'People know AIDS has no cure but still want to continue to have sex without a condom'.<sup>78</sup>

The Asian Development Bank has emphasised desensitising condoms as a product and making sure they are easily available in rural and urban areas in every outlet possible.<sup>79</sup> It found that buying condoms at low, subsidised prices was more effective—and more sustainable—in ensuring they were used than distributing them freely. Free condoms in Papua New Guinea frequently remained on the shelves until their expiry date. The Asian Development Bank found that abstinence was not a 'statistically effective strategy'. These conclusions run counter to the efforts of many churches which rely on teaching abstinence to young people and do not approve of the use of condoms.<sup>80</sup> The Asian Development Bank also found that a 'one size fits all' approach to information about sex did not work. Media campaigns that tried to diminish stigma were deemed to be a misallocation of resources. Worldwide 'this has never worked'. The study found face-to-face interaction with HIV-positive people most effective. This suggests that a grass roots movement is vital in educating people about the disease. Self-appointed HIV-positive outreach workers often succeed where officials or NGO staff do not.<sup>81</sup>

Where disease is prevalent and life is insecure, delivering messages about long-term health prospects becomes problematic. If life is uncertain, people will take pleasure when they can and even those aware of the danger may carry on as before; death can visit at any time. 'Poverty fosters a kind of fatalism'.<sup>82</sup>

Prisons in Papua New Guinea do not distribute condoms despite high levels of sexual violence and sex.<sup>83</sup>

Chains of infection need to be considered. HIV infections sit on top of the high prevalence of other infectious diseases, 'piggy-backing' or feeding off diseases like syphilis and gonorrhoea. HIV/AIDS often brings on tuberculosis and malaria. Waves of diseases, chronic sickness and sexually transmitted infections affect each other, further weakening immune systems, facilitating transmission of HIV and straining available health care.

There is no cure for HIV/AIDS. There is treatment but it has to be constant and administered by medical staff. The shortage of medical staff precludes the treatment of most people now thought to be infected in Papua New Guinea. Anti-retroviral therapy defers death and it was only introduced to Papua New Guinea in 2005 when it was made available to about 320 people.<sup>84</sup> It requires that drugs be administered each day under the supervision of medical staff trained in appropriate procedures. This is clearly impossible where people have to walk three or four days to a health centre. Unless properly administered, anti-retroviral drugs can be toxic. There have already been reports of people at Port Moresby General Hospital dying from the side-effects of anti-retroviral drugs acquired privately.<sup>85</sup> Improper administration also leads to the emergence of drug-resistant strains of the virus.

### **Obstacles to treatment and prevention:**

**Diagnostics.** It is not known how many people are infected. Many people infected do not know if they have the disease. By the time patients present, they often have full-blown AIDS and may die before they receive the results of their blood tests.

**Delivery and administration.** Anti-retroviral therapy has to be strictly administered otherwise it will lead to drug resistant strains and a lethal toxicity.

**Opportunistic infections.** Although anti-retroviral therapy may be available in some areas, other drugs needed to treat opportunistic infections (ones that take advantage of the lack of an immune system) are not. Patients die despite the anti-retroviral therapy.

**Weak immunity.** Immune deficiency, resulting from chronic sickness, poor nutrition, drug and alcohol abuse, makes people vulnerable to HIV. But HIV itself also attacks the immune system. HIV positive patients are thus extremely susceptible to other infectious diseases. They tend to die of malaria or tuberculosis, for example, before they die of AIDS. They do not live long enough to develop the rare cancers that afflict many HIV/AIDS sufferers in the West.

**Medical services.** These are already overwhelmed in Papua New Guinea. Port Moresby General Hospital does not even have the funds to feed patients. Food is brought in by relatives, many of whom live on the floor under their sick relative's bed.

**Pediatric HIV/AIDS.** This requires different drugs as does the prevention of mother-to-child transmission. The testing and treatment for sexually transmitted infections is also a key part of preventing the spread of HIV/AIDS.

**Stigma.** People are cast out from their families or left to languish in hospital. Some refuse to be tested. In Port Moresby General Hospital, the morgue has trays filled with the bodies of HIV positive babies for whom no-one acknowledges responsibility.

**If and when vaccines and microbicides become available, basic health infrastructure will have to be present if they are to be effective**

Medical science is seeking to develop vaccines and microbicides against HIV. Vaccines would hopefully only have to be administered once, and microbicide gels could be used by women to defend themselves without their partner's knowledge. But neither exists yet. If and when they become available, basic health infrastructure will have to be present if they are to be effective.

### **10. What can Australia do?**

Australia is committed to helping Papua New Guinea. This is evident in the share of total aid allocated to Papua New Guinea: from 1975 to 2005, Australian aid to Papua New Guinea came to \$22 billion (in constant 2005 dollars).<sup>86</sup> During the last six years, Australia has allocated over \$60 million to fight HIV/AIDS in Papua New Guinea.<sup>87</sup> China offered K2 million (A\$850,000) to help Papua New Guinea fight AIDS at the 2004 APEC meeting.<sup>88</sup> The Asian Development Bank is involved. Is the global Fund? CARE and World Vision are contributing. A Lowy/Australia-Asia Business Council initiative is adding the private sector to those seeking to assist Papua New Guinea fight the HIV/AIDS epidemic.

Australia's contribution, like that of the other aid donors, is principally driven by compassion. Australian voters care deeply about their Pacific neighbours and therefore support their Government's efforts to raise living standards in the Pacific in general, and

**In the absence of a government commitment to fighting the HIV/AIDS epidemic, Papua New Guinea is heading towards a humanitarian disaster**

in Papua New Guinea in particular. The Government's information campaign has made Australians aware of the scourge of HIV/AIDS infections and the devastation it can bring. Graphic pictures of the suffering of HIV/AIDS orphans in Africa have brought home the likely dimensions of an unchecked epidemic in Papua New Guinea. If unchecked, the HIV/AIDS epidemic could undermine the Papua New Guinean economy with a decline in the labour force by 13–38%, budget deficit increases of between 9–21% and gross domestic product fall of 12–48% by 2020. This is also causing grave anxiety in Australia on Papua New Guinea's behalf.<sup>89</sup>

As Papua New Guinean nationals access Queensland health services in the Torres Strait Islands and on the Cape York mainland, HIV/AIDS infection could become an issue. Queensland Health receives funding from the Australian Commonwealth government to offset costs incurred for Papua New Guinean medical evacuations. The Torres Strait Regional Authority is party to a Health Framework Agreement that means 'traditional visitors' arriving at an Australian island can access Queensland health services. The Torres Strait and Northern Peninsula Area Health District provides medical assistance to Papua New Guinean nationals on Boigu, Saibai, Dauan, Yam, Mabuiag and Badu that are more accessible and reputed to provide better health services than the Papua New Guinea health centre on Daru Island. In 1995 there were 500 consultations with Papua New Guinean nationals, but the numbers are thought to have grown.<sup>90</sup> The Torres Strait has a very high prevalence of sexually transmitted diseases, so high HIV levels in Papua New Guinea could be of great concern for Australia. HIV/AIDS is thus not only a humanitarian issue, but is becoming a health and security concern.

AusAID, bearing the responsibility of delivering Australian aid, fears the Government of Papua New Guinea is 'not fully engaged' against HIV/AIDS. This is the fundamental reason for the epidemic and for the failure of the considerable aid funds being spent to make a difference. A large amount of literature makes it clear that aid cannot be effective if a developing country's government does not take the appropriate policy measures to enable it to be absorbed and utilised. This is particularly true in the fight against HIV/AIDS where government leadership and the trust between government and people are key factors in the effectiveness of aid delivery.

The Papua New Guinean government must acknowledge the actual and potential dimensions of the spread of HIV/AIDS and its effects. It must also implement an active national health policy with programmes to prevent the spread of HIV/AIDS as an important component. Unless this happens, aid funding will continue to fail to achieve positive results.

Leaders have to speak out openly and be seen addressing HIV/AIDS issues candidly and forcefully. Education campaigns through radio, television and newspapers as well as education in schools must support this initiative. Information has to be mainly aimed at heterosexual transmission and at the role that the treatment of women plays in the spread of HIV/AIDS. Condoms have to be de-sensitised and made widely available at a low price.

The health system has to be reconstructed: refinancing hospitals in towns and reviving rural health centres to improve general health as well as facilitating HIV/AIDS education. Diagnostics have to improve to ascertain the extent of the epidemic and its growth, and those infected must be properly treated. This involves training and hiring doctors, nurses, medical technicians and health aides. A detailed health plan should be implemented and monitored province by province. But even with continuing high aid inputs, Papua New Guinea will only be able to revitalise its health infrastructure if it adopts overall growth policies aiming at a 7% plus annual growth rate.

In the absence of a government commitment to fighting the HIV/AIDS epidemic, Papua New Guinea is heading towards a humanitarian disaster. All that official and NGO aid organisations will be able to do is mount limited information and diagnostic campaigns and in doing so perhaps save a few lives. The epidemic cannot be turned around without a serious commitment to action by the government of Papua New Guinea.

## Endnotes

- <sup>1</sup> UNICEF, *HIV/AIDS and children* (New York), [www.unicef.org/aids/index\\_epidemic.html](http://www.unicef.org/aids/index_epidemic.html) (some definitions put it at >1% of all pregnant women).
- <sup>2</sup> Trevor Cullen, 'HIV/AIDS in Papua New Guinea: A reality check', *Pacific Journalism Review* 12:1 (2006), p 161.
- <sup>3</sup> *Post-Courier Online*, 23 September 2004, [www.postcourier.com.pg/20040923/news02.htm](http://www.postcourier.com.pg/20040923/news02.htm).
- <sup>4</sup> Martina Darius, 'AIDS infection levels higher than reported', *The National*, [www.thenational.com.pg/0826/national3.htm](http://www.thenational.com.pg/0826/national3.htm).
- <sup>5</sup> Sister Tarrisia Hunhoff, Head of the National Catholic Aids Office of Papua New Guinea and the Solomon Islands, quoted in Caritas Australia, *Aids in Papua New Guinea*, 1 December 2004, [www.caritas.org.au/newsroom/2004/world\\_aids\\_day\\_2.htm](http://www.caritas.org.au/newsroom/2004/world_aids_day_2.htm).
- <sup>6</sup> UNAIDS, *Papua New Guinea: Country situation analysis* (Geneva), [www.unaids.org/en/Regions\\_Countries/Countries/papua\\_new\\_guinea.asp](http://www.unaids.org/en/Regions_Countries/Countries/papua_new_guinea.asp) (accessed 25 October 2006).
- <sup>7</sup> World Health Organisation, 'Reported AIDS cases', *UNAIDS/WHO Epidemiological Fact Sheets on HIV/AIDS and Sexually Transmitted Infections*, Section 6, 2002 update.
- <sup>8</sup> Jenny Gordon, in Megan Howe, 'Papua New Guinea faces HIV epidemic', *The Lancet Infectious Diseases* 2:7 (July 2002), p 386.
- <sup>9</sup> Source.
- <sup>10</sup> Pacific Islands AIDS Foundation figures; quoted in Annabelle McDonald, 'HIV has struck 1 in 80 in PNG', *The Australian*, 30 June 2006; and Peter Curson, 'A time-bomb on our doorstep', *On Line Opinion*, 12 September 2006, [www.onlineopinion.com.au/print.asp?article=4865](http://www.onlineopinion.com.au/print.asp?article=4865).
- <sup>11</sup> Source.
- <sup>12</sup> AusAID, AusAID Country Information, *HIV/AIDS in Papua New Guinea* (Canberra: AusAID, August 2005), [www.ausaid.gov.au/country/png/hivaids.cfm](http://www.ausaid.gov.au/country/png/hivaids.cfm).
- <sup>13</sup> Megan Howe, 'Papua New Guinea faces HIV epidemic', *The Lancet Infectious Diseases* 2:7 (July 2002), p 386, [www.infection.thelancet.com](http://www.infection.thelancet.com).
- <sup>14</sup> AusAID, *Potential economic impact of an HIV/AIDS epidemic in Papua New Guinea*, prepared for AusAID by the Centre for International Economics (Canberra: AusAID, February 2002), p 34.
- <sup>15</sup> Jon Cohen, 'Asia and Africa: On Different Trajectories?', *Science* 304 (25 June 2004), pp 1932–1938, [www.sciencemag.org](http://www.sciencemag.org).
- <sup>16</sup> Jon Cohen quoting Elizabeth Pisani, an epidemiologist with Family Health International (FHI) in based in Jakarta, Indonesia, in 'Asia and Africa: On Different Trajectories?', *Science*, [www.sciencemag.org](http://www.sciencemag.org).
- <sup>17</sup> UNAIDS, *South Africa: Country Situation Analysis*, [www.unaids.org/en/Regions\\_Countries/Countries/south\\_africa.asp](http://www.unaids.org/en/Regions_Countries/Countries/south_africa.asp) (accessed 25 October 2006).
- <sup>18</sup> FAO (Food and Agriculture Organisation of the United Nations), *HIV/AIDS: a rural issue* (Rome) [www.fao.org/FOCUS/E/aids/aids1-e.htm](http://www.fao.org/FOCUS/E/aids/aids1-e.htm).
- <sup>19</sup> Laurie Garrett, *The Coming Plague: Newly Emerging Diseases in a World Out of Balance* (London: Penguin, 1995), pp 210–211.
- <sup>20</sup> 'Down, down, up and maybe down', *The Economist*, 30 June 2005, notes that 'this African success story is turning sour'; 'The war against AIDS and condoms', *The Economist*, 8 September 2005, described Uganda as 'a country whose mantle of success is slipping.'
- <sup>21</sup> Garrett, *The Coming Plague* (London: Penguin, 1995), p 220.
- <sup>22</sup> UNICEF, *HIV/AIDS and Children* (New York), [www.unicef.org/aids/index\\_epidemic.html](http://www.unicef.org/aids/index_epidemic.html).
- <sup>23</sup> Graham Pembrey, AVERT, <http://www.avert.org/aidsouthafrica.htm>.
- <sup>24</sup> UNICEF, *HIV/AIDS and Children*, [www.unicef.org/aids/index\\_epidemic.html](http://www.unicef.org/aids/index_epidemic.html).
- <sup>25</sup> Kundiawa Hospital internal report, *HIV/AIDS statistics, 2000–2005*.
- <sup>26</sup> Cullen, 'HIV/AIDS in Papua New Guinea', *Pacific Journalism Review* 12:1 (2006), p 156 (see n 2).
- <sup>27</sup> John C. Caldwell, paper prepared for AusAID Special Seminar, 22 November 2000, *It's Everyone's Problem: HIV/AIDS and Development in Asia and the Pacific AIDS in Melanesia*, p 13, available at [http://www.ausaid.gov.au/publications/pubout.cfm?ID=1694\\_779\\_8752\\_4921\\_7788](http://www.ausaid.gov.au/publications/pubout.cfm?ID=1694_779_8752_4921_7788).
- <sup>28</sup> See Table 2

- <sup>29</sup> Andrea Gerlin, 'A Simple Solution', *TIME Magazine*, 16 October 2006, p 36.
- <sup>30</sup> 'Infection with malaria promotes HIV and vice versa', *The Economist*, 9–15 December 2006, p 83.
- <sup>31</sup> Save the Children, *Papua New Guinea: Training volunteers to improve community health*, [www.savethechildren.net/new\\_zealand/what\\_we\\_do/our\\_projects/papua\\_new\\_guinea.html](http://www.savethechildren.net/new_zealand/what_we_do/our_projects/papua_new_guinea.html).
- <sup>32</sup> Bjørn Lomborg, 'Stern Review: The dodgy numbers behind the latest warming scare', *Opinion Journal WSJ*, 2 November 2006, <http://opinionjournal.com/extra/?id=110009182>.
- <sup>33</sup> UN, *UN Human Development Report 2005*, 'Leading Global Health Crises and Risks', [hdr.undp.org/statistics/data/pdf/hdr05\\_table\\_9.pdf](http://hdr.undp.org/statistics/data/pdf/hdr05_table_9.pdf).
- <sup>34</sup> Peter Curson, 'A time bomb on our doorstep', *OnLine Opinion*, 12 September 2006, [www.onlineopinion.com.au/view.asp?article=4865](http://www.onlineopinion.com.au/view.asp?article=4865).
- <sup>35</sup> Paul Farmer, *Infections and Inequalities: The Modern Plagues* (Berkeley and Los Angeles: University of California Press, 2001).
- <sup>36</sup> Garrett, *The Coming Plague* (London: Penguin, 1995), p 485.
- <sup>37</sup> UNAIDS, *Papua New Guinea: Country situation analysis* (Geneva), [www.unaids.org/en/Regions\\_Countries/Countries/papua\\_new\\_guinea.asp](http://www.unaids.org/en/Regions_Countries/Countries/papua_new_guinea.asp) (accessed 25 October 2006).
- <sup>38</sup> Charles Mgone, Megan Passey, Joseph Anang, Wilfred Peter, 'Human Immunodeficiency Virus and Other Sexually Transmitted Infections Among Female Sex Workers in Two Major Cities in Papua New Guinea', *Sexually Transmitted Diseases* 29:5 (May 2002), pp 265–270.
- <sup>39</sup> Fit for Travel, 'Papua New Guinea: Malaria Risk Areas', [www.fit-for-travel.de/en/reiseziele/l0120.htm](http://www.fit-for-travel.de/en/reiseziele/l0120.htm).
- <sup>40</sup> Moses Bockarie, James Kazura, 'Lymphatic filariasis in Papua New Guinea: prospects for elimination', *Medical Microbiology and Immunology*, Centre National de la Recherche Scientifique, <http://cat.inist.fr/?aModele=afficheN&cpsidt=14620375>.
- <sup>41</sup> Directors of Health Promotions and Education, 'Lymphatic filariasis', [www.dhpe.org/infect/Lymphfil.html](http://www.dhpe.org/infect/Lymphfil.html).
- <sup>42</sup> Save the Children, *Papua New Guinea: Training volunteers to improve community health*, [www.savethechildren.net/new\\_zealand/what\\_we\\_do/our\\_projects/papua\\_new\\_guinea.html](http://www.savethechildren.net/new_zealand/what_we_do/our_projects/papua_new_guinea.html).
- <sup>43</sup> 'PNG health standards slammed', *Australian AIDS Fund Incorporated*, 3 February 2006, [www.aids.net.au/aids-global-png-20060203.htm](http://www.aids.net.au/aids-global-png-20060203.htm).
- <sup>44</sup> Peter Curson, 'A time bomb on our doorstep', *OnLine Opinion*, 12 September 2006, [www.onlineopinion.com.au/view.asp?article=4865](http://www.onlineopinion.com.au/view.asp?article=4865).
- <sup>45</sup> Mike Manning, quoted in 'PNG health standards slammed', *Australian AIDS Fund Incorporated*, 3 February 2006, <http://www.aids.net.au/aids-global-png-20060203.htm>.
- <sup>46</sup> As above.
- <sup>47</sup> Hamish McDonald, 'A neighbourhood living on the edge', *Sydney Morning Herald*, 2 September 2006, p 29.
- <sup>48</sup> Vicki Luker, *Civil society, social capital and the churches: HIV/AIDS in Papua New Guinea*, paper presented at the Governance and Civil Society Seminar in Symposium: Governance in Pacific States: reassessing roles and remedies, University of the South Pacific, 30 September–2 October 2003, p 10.
- <sup>49</sup> Caritas Australia, *Aids in Papua New Guinea*, 1 December 2004, [www.caritas.org.au/newsroom/2004/world\\_aids\\_day\\_2.htm](http://www.caritas.org.au/newsroom/2004/world_aids_day_2.htm).
- <sup>50</sup> Jane Thomason, 'Quality of health services in Papua New Guinea: what do we know?', *Papua New Guinea Medical Journal* 36:2 (June 1993), pp 90–8.
- <sup>51</sup> As above.
- <sup>52</sup> Hugh White and Elsin Wainwright, 'Strengthening Our Neighbour: Australia and the future of Papua New Guinea', *Australian Strategic Policy Institute* (Canberra: ASPI, December 2004), p 26.
- <sup>53</sup> Marcella Villarreal, 'Culture, agriculture and rural development: a view from FAO's Population Programme Service', *Sustainable Development Department, Food and Agriculture Organization* (Rome: United Nations, June 2000), [www.fao.org/sd/wpdirect/WPre0132.htm](http://www.fao.org/sd/wpdirect/WPre0132.htm).
- <sup>54</sup> Shantha Bloeman, 'Using the performing arts to deliver a lifesaving message to children', *UNICEF* (New York: UNICEF, 19 December 2005), <http://www.unicef.org/infobycountry/>



- papuang\_30542.html.
- <sup>55</sup> Caritas Australia, *Aids in Papua New Guinea*, 1 December 2004, [www.caritas.org.au/newsroom/2004/world\\_aids\\_day\\_2.htm](http://www.caritas.org.au/newsroom/2004/world_aids_day_2.htm).
- <sup>56</sup> Peter Piot, Head of UNAIDS, quoted in Jon Cohen, 'Asia and Africa: On Different Trajectories?', *Science* 304 (25 June 2004).
- <sup>57</sup> Cullen, 'HIV/AIDS in Papua New Guinea', *Pacific Journalism Review* 12:1 (2006), p156 (see n 2).
- <sup>58</sup> Craig Skehan, 'Tortures linked to AIDS "witchcraft"', *Sydney Morning Herald*, 2 September 2004.
- <sup>59</sup> Craig Skehan, 'Hysteria in the Highlands', *Sydney Morning Herald*, 19 October 2004.
- <sup>60</sup> Human Security Centre, *Human Security Report 2005*, Part 4—HIV/AIDS and Conflict (New York: Oxford University Press, 2005), p 136.
- <sup>61</sup> Garrett, *The Coming Plague* (London: Penguin, 1995), p 475.
- <sup>62</sup> WHO, *Summary Country Profile for HIV/AIDS Treatment Scale-up—Papua New Guinea* (Geneva: WHO, December 2005), [www.who.int/hiv/HIVCP\\_PNG.pdf](http://www.who.int/hiv/HIVCP_PNG.pdf).
- <sup>63</sup> Sirus Naraqi, Bairi Felling and Stephen Leeder, 'Disease and Death in Papua New Guinea', *Medical Journal of Australia* 178:1 (2003), pp 7–8.
- <sup>64</sup> Garrett, *The Coming Plague* (London: Penguin, 1995), p 235.
- <sup>65</sup> Michael Manning, 'Papua New Guinea thirty years on', *Pacific Economic Bulletin* 20:1 (May 2005).
- <sup>66</sup> Human Rights Watch, *Papua New Guinea: 'Making their Own Rules': Part V Police Abuses and HIV/AIDS* (New York: HRW, September 2005), <http://hrw.org/reports/2005/png0905/7.htm>.
- <sup>67</sup> Charles Mgone, Megan Passey, Joseph Anang, Wilfred Peter, 'Human Immunodeficiency Virus and Other Sexually Transmitted Infections Among Female Sex Workers in Two Major Cities in Papua New Guinea', *Sexually Transmitted Diseases* 29:5 (May 2002), pp 265–270.
- <sup>68</sup> Human Rights Watch, *Papua New Guinea: 'Making their Own Rules': Part V Police Abuses and HIV/AIDS* (New York: HRW, September 2005), <http://hrw.org/reports/2005/png0905/7.htm>.
- <sup>69</sup> Transparency International, *Global Corruption Report 2006* (Berlin: TI, 1 February 2006).
- <sup>70</sup> Maura Mea interviewed by Shane McLeod, 'The stigma of AIDS in Papua New Guinea', *ABC Go Asia Pacific*, 10 May 2004, [http://www.abc.net.au/asiapacific/focus/pacific/GoAsiaPacific\\_1105069.htm](http://www.abc.net.au/asiapacific/focus/pacific/GoAsiaPacific_1105069.htm).
- <sup>71</sup> Cullen, 'HIV/AIDS in Papua New Guinea', *Pacific Journalism Review* 12:1 (2006), p159 (see n 2).
- <sup>72</sup> David Fickling, 'Raskol gangs rule the world's worst city', *The Guardian*, 22 November 2004, <http://www.guardian.co.uk/population/Story/0,,1309839,00.html>.
- <sup>73</sup> Megan Howe, 'Papua New Guinea faces HIV epidemic', *The Lancet Infectious Diseases* 2:7 (July 2002), p 386, [www.infection.thelancet.com](http://www.infection.thelancet.com).
- <sup>74</sup> 'The AIDS Battle', *The Tablet*, pp 1504–05 quoted in Cullen, 'HIV/AIDS in Papua New Guinea', *Pacific Journalism Review* 12:1 (2006), p159 (see n 2).
- <sup>75</sup> Hamish McDonald, 'A neighbourhood living on the edge', *Sydney Morning Herald*, 2 September 2006, p 28.
- <sup>76</sup> Robert Guest, *The Shackled Continent* (Washington DC: Smithsonian, September 2004).
- <sup>77</sup> Don Bradford, 'HIV/AIDS message ignored in PNG', *Post Courier*, 23 September 2004, <http://www.postcourier.com.pg/20040923/view01.htm>.
- <sup>78</sup> Cullen, 'HIV/AIDS in Papua New Guinea', *Pacific Journalism Review* 12:1 (2006), p156 (see n 2).
- <sup>79</sup> Asian Development Bank, *Social Marketing of Condoms for Papua New Guinea*, Appendix 3 (Sydney: ADB, March 2006), pp 31–34.
- <sup>80</sup> Caritas Australia, *Aids in Papua New Guinea*, 1 December 2004, [www.caritas.org.au/newsroom/2004/world\\_aids\\_day\\_2.htm](http://www.caritas.org.au/newsroom/2004/world_aids_day_2.htm).
- <sup>81</sup> Matthew Carney, 'Sick No Good', ABC, *4Corners* programme broadcast 14 August 2006.
- <sup>82</sup> Robert Guest, *The Shackled Continent* (Washington DC: Smithsonian, September 2004).

- <sup>83</sup> Human Rights Watch, *Papua New Guinea: Making their Own Rules: Part V Police Abuses and HIV/AIDS* (New York: HRW, September 2005), <http://hrw.org/reports/2005/png0905/7.htm>.
- <sup>84</sup> WHO, *Summary Country Profile for HIV/AIDS Treatment Scale-up—Papua New Guinea* (Geneva: WHO, December 2005), [www.who.int/hiv/HIVCP\\_PNG.pdf](http://www.who.int/hiv/HIVCP_PNG.pdf).
- <sup>85</sup> Vicki Luker, 'Civil society, social capital and the churches: HIV/AIDS in Papua New Guinea', *State, Society and Governance in Melanesia Project, Working Paper 2004/1* (Canberra: SSGM, 2004), see for example Gerawa 2003.
- <sup>86</sup> Calculated from OECD Development Assistance Committee Reports.
- <sup>87</sup> AusAID, *HIV/AIDS Activities by Country*, (Canberra: AusAID, May 2006), [www.ausaid.gov.au/hottopics/hiv aids/countries.cfm](http://www.ausaid.gov.au/hottopics/hiv aids/countries.cfm).
- <sup>88</sup> 'China to give K2m to fight AIDS', *Post-Courier Online*, 29 March 2005, <http://www.postcourier.com.pg/20050329/news05.htm>.
- <sup>89</sup> AusAID, *HIV/AIDS Activities by Country* (Canberra: AusAID, May 2006), [www.ausaid.gov.au/hottopics/hiv aids/countries.cfm](http://www.ausaid.gov.au/hottopics/hiv aids/countries.cfm).
- <sup>90</sup> Torres Strait regional authority submission to senate Foreign Affairs, Defence and Trade References committee inquiry into Australia's relationship with Papua New Guinea and other pacific island countries, [www.aph.gov.au/senate/committee/fadt\\_ctte/completed\\_inquiries/2002-04/png/submissions/sub65.doc](http://www.aph.gov.au/senate/committee/fadt_ctte/completed_inquiries/2002-04/png/submissions/sub65.doc).



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