Development Challenges of HIV/AIDS in Small States

Experiences from the Pacific, Southern Africa and the Caribbean

Karl Theodore, Mahendra Reddy and Happy Siphambe

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Contributors

Mahendra Reddy is a renowned economist and academic in the Pacific region. He has established a reputation as one of the country's leading economists, and this reputation is widely acknowledged, in government circles and in higher education sector. Dr Reddy has researched and authored or co-authored a wide array of papers and articles that have had, and continue to have, an effect on economic policy and practice in Fiji Islands and the greater South Pacific region. In 2005, his qualities of management and leadership were recognised by his appointment as the President of the Association of the University of the South Pacific Staff, and in 2008 as Head of the School of Economics in the Faculty of Business and Economics. In October 2008, Dr Reddy joined the Fiji Institute of Technology to take up the position of the Dean of the Faculty of Commerce, Hospitality and Tourism Studies. In March 2009, recognising his capability, the Government of Fiji appointed Dr Reddy as the Chair of Fiji's Commerce Commission. Dr Reddy continues to serve in both the roles.

Happy Siphambe is an Associate Professor of Economics and former Head of Department of Economics at the University of Botswana. Professor Siphambe is now serving as Dean of the Faculty of Social Sciences in the University of Botswana. He specialises in labour economics and general development economics issues. His research interests are in the areas of economics of education, human resources development issues, economics of HIV/AIDS and poverty in developing countries.

Karl Theodore is the Director of the Health Economics Unit (HEU), Centre for Health Economics, at the University of the West Indies. He is Professor of Economics in the Department of Economics on the St Augustine Campus where he has taught health economics and supervised research in this area for many years. He has led a multidisciplinary team of professionals in producing a number of research studies, as well as technical reports for governments and for international agencies.

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Karl Theodore
HEU, Centre of Health Economics
The University of the West Indies
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Contents

List of tables

List of figures

Abbreviations and acronyms

AIDS	acquired immune deficiency syndrome
ANC	antenatal care
ART	antiretroviral therapy (treatment)
ARVs	antiretroviral drugs
BIAS	Botswana AIDS Impact Survey
CAREC	Caribbean Epidemiology Centre
CARICOM	Caribbean Community
CGE	computable general equilibrium
CRN+	Caribbean Regional Network of People Living with HIV/AIDS
CSH	child survival and health
GDP	gross domestic product
GFATM	Global Fund to Fight AIDS, TB and Malaria
HEU	Health Economics Unit
HIV	human immunodeficiency virus
HRD	human resources development
ILO	International Labour Organization
LAPCA	Lesotho AIDS Programme Coordinating Authority
LFPR	labour force participation rate
NAC	National AIDS Commission (Lesotho)
NACA	National AIDS Coordinating Agency (Botswana)
MDGs	Millennium Development Goals
MoH	Ministry of Health (Botswana)
NCPI	National Commitment and Policy Index
NGO	non-governmental organisation
NIH	National Institute of Health
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States
P	pula (Botswana currency)
PAHO	Pan American Health Organization
PANCAP	Pan Caribbean Partnership against HIV/AIDS
PEPFAR	President's Emergency Plan for AIDS Relief
PICs	Pacific island countries
PLWHA	people living with HIV/AIDs
PNG	Papua New Guinea

PMTCT	prevention of mother-to-child transmission
PSPP	private sector partnership programme
RHT	routine HIV testing
RMI	Republic of Marshall Islands
SPC	Secretariat of the Caribbean community
STI	sexually transmitted infection
TFP	total factor productivity
TRIPS	trade-related aspects of intellectual property rights
UNAIDS	Joint United Nation Programme on HIV/AIDS
UNDP	UN Development Programme
UNGASS	United Nations General Assembly Special Session
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
UWI	University of West Indies
UWI HARP	University of West Indies HIV/AIDS Response Programme
VCT	voluntary counselling and testing
WEFA	Wharton Econometric Forecasting Associates
WHO	World Health Organization
WHP	workplace HIV programme

Preface

This is a text about the human immunodeficiency virus and acquired immune deficiency syndrome (HIV/AIDS) and about the experience of the epidemic in small countries. The intention has been to provide a reasonably detailed picture of the impact of the epidemic and the response to it in circumstances where the countries, because of their small size, cannot afford to play host to this crippling pandemic. While it is obvious that in a small country environment the impact of an epidemic of this variety will not be insignificant, it is important to know what the scale and the nature of the impact is if the policy response is to be appropriate. Recent literature on vulnerability has highlighted the special circumstances of small states, and has pointed to the importance of building resilience as a countervailing force. The rationale for this text is that in small countries, HIV/AIDS adds another dimension to economic and social vulnerability as a result of the way in which it can disproportionately affect output and productivity, and also because of the real threat of extinction. Specifically with resilience in mind, the depiction of the impact of the epidemic in the small countries of Southern Africa, Fiji Islands and the Caribbean is policy focused. The analysis presented presumes that there have been specific responses to the epidemic, but recognises the need to strengthen the calibre of these responses by proffering a more in-depth understanding of the character and the course of the epidemic.

Between the start of the research for this book and the completion of the manuscript, there have been two updated Joint United Nation Programme on HIV and AIDS (UNAIDS) World reports on HIV/AIDS. The latest information suggests that the epidemic may have peaked in the late-1990s, and is on an (admittedly slight) downward trend in terms of new infections.[1] However, the total number of PLWHA has continued to rise (and will do so as treatment programmes continue to be rolled out). Given the enormity of the human effort and the vastness of the financial resources expended in the fight against the epidemic, the implication is that success against HIV/AIDS will depend on the degree of commitment, the ingenuity and the willingness to adopt new behaviours on the part of the leadership and the populations of the countries of the world. For the small countries, the challenge is to exploit the reality of size in a way that promotes efficiency and sustainability in the fight against the epidemic.

Note

1. UNAIDS/WHO (2009).

Chapter 1

Introduction

Developing countries in the African, Caribbean and Pacific regions have been struggling for decades to meet the traditional developmental challenges they faced alongside a rapidly increasing population. In more recent decades a new challenge has arrived on the scene which at first was not fully recognised for the threat that it was. This challenge was the human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS). HIV causes AIDS, a disease that causes a slow and progressive collapse of the immune system. The focus of this book will be on the impact of the HIV/AIDS epidemic on the small countries of the three regions. While there is no universally accepted definition of a small country, since the work of Jalan (ed., 1982) it is customary to measure size by population or land area. The Commonwealth Secretariat uses a population of 1.5 million.

In the regions under review, there are countries with populations of less than 100,000 people; some in the Caribbean have populations below 30,000. There is an emerging literature that addresses the vulnerability of these small states, the focus normally being the threat of exogenous shocks – usually problems in export markets.[1] However, in the Caribbean, for example, the Grenada experience of hurricane Ivan in 2004 was a stark demonstration of what can happen to a small country in the face of natural hazards. In many parts of the country most of the homes were completely demolished, and country's economy virtually came to a halt. It can be argued that, in many ways, similar small-country vulnerability prevails in the presence of a widespread epidemic.

These small states face challenges that include the struggle to raise per capita incomes, increase employment, reduce poverty and increase the overall standard of living of the general population. For small countries, such issues are usually examined within the context of a limited and narrow range of natural resources, poor governance practices, inefficient and under-developed institutions, sometimes inappropriate involvement of the public sector in the market economy and improper macroeconomic policies. Since the 1970s, the governments of these countries have been working with the International Monetary Fund (IMF) and the World Bank in order to deal with these issues.

The decades of the 1980s and the 1990s were therefore, for many small countries, decades of structural adjustment. However, the scale of the new challenges presented by HIV/AIDS is now becoming apparent. Table 1.1 presents a snapshot of the dimension of the HIV/AIDS epidemic worldwide.

Table 1.1 HIV/AIDS statistics worldwide, 2008

HIV/AIDS statistics	*Estimate (millions)*	*Range (millions)*
People living with HIV/AIDS	33.4	31.1–35.8
Adults living with HIV/AIDS	31.3	29.2–33.7
Women living with HIV/AIDS	15.7	14.2–17.2
Children living with HIV/AIDS	2.1	1.2–2.9
People newly infected with HIV	2.7	2.2–3.2

Source: UNAIDS/WHO, 2009

As Table 1.1 shows, by the end of 2008 the estimated number of people living with HIV and AIDS worldwide was 33.4 million (UNAIDS/WHO, 2009). Every day almost 7,400 people become infected with HIV and more than 5,400 people die from AIDS, mostly because of inadequate access to HIV prevention and treatment services. It is known that since the early 1980s when AIDS was first identified, more than 25 million people have died from this disease (UNAIDS/WHO, 2009).

Moreover, whereas the epidemic claimed the lives of 1.5 million people in the 1980s, in the subsequent decade it claimed 15 million more lives, and it is estimated to have claimed a further 22 million lives as at the end of 2008 (UNAIDS, 2009). On a global scale, therefore, the rate of increase in deaths between the first and the second decade was 900 per cent and the projected rate of increase for the present decade is at least an additional 134 per cent.

Table 1.2 presents the data in more detail, with information on specific regions of the world. The data from 2008 is compared with data from 2001, the latter shown in parentheses.

Initially HIV/AIDS was seen as mainly a health issue, and the focus of government was on its ability to channel resources to deal with those infected by the disease and its ability to finance the health and medical expenditure related to the epidemic. However, as our understanding of the epidemic

Table 1.2 Global HIV/AIDS – the regional picture

Region	*Adults and children living with HIV/AIDS 2008 (2001)*	*Adults 15+ living with HIV/AIDS 2008 (2001)*	*Adults 15–49 prevalence rate 2008 (2001)*	*Women 15+ living with HIV/AIDS 2008 (2001)*	*HIV/AIDS deaths 2008 (2001)*
Global	33.4M (29.5M)	30.8M (27.9M)	0.8 (0.8)	15.5M (14.1 M)	2M (1.7 M)
Sub-Saharan Africa	22M (20.4M)	20.3 (19.1M)	5.0 (5.7)	12M (11.2M)	1.5M (1.3M)
East Asia	740K (490K)	730K (490K)	0.1 (0.1)	200K (130K)	40K (15K)
Oceania	74K (25K)	73K (25K)	0.4 (0.2)	22K (NA)	1K (NA)
South and South East Asia	4.2M (4.2M)	4.1M (4.1M)	0.3 (0.4)	1.5M (1.5M)	340K (250K)
Eastern Europe and Central Asia	1.5M (650K)	1.5M (650K)	0.8 (0.4)	460K (180K)	58K (NA)
Western and Central Europe	730K (610K)	730K (610K)	0.3 (0.2)	200K (160K)	8K (9.6K)
North Africa and East Asia	380K (300K)	350K (280K)	0.3 (0.3)	190K (150K)	27K (22K)
North America	1.2M (1.1M)	1.2M (1.1M)	0.6 (0.6)	250K (190K)	23K (18K)
Caribbean	230K (210K)	220K (200K)	1.1 (1.1)	110K (92K)	14K (15K)
Latin America	1.7M (1.4M)	1.7M (1.4M)	0.5 (0.5)	550K (450K)	65K (47K)

Note: M – millions; K – thousands; and NA – not available
Source: UNAIDS (2009)

improved, it became clear that HIV/AIDS is more than a health problem. There is now widespread acknowledgment that HIV/AIDS is one of the single most important development problems facing the countries of the world. In other words, it is now agreed that early responses to the epidemic were medical in nature and it was treated primarily as a health crisis. The national response was thus one largely focused on providing health services for persons living with HIV/AIDS (PLWHA) and on seeking to prevent new infections. As knowledge about the impact of HIV and AIDS grew, the concept of the nature of the crisis posed by the disease shifted from its being a medical to a multisectoral crisis.

In this sense, HIV/AIDS came to be regarded as having a different kind of impact when compared with other diseases. The truth is that unlike most diseases, which target the very young and the very old, in the case of HIV/AIDS it is productive adults (that is, persons in the age group 15–49 years) who are most at risk of infection. This means that death and illness have a direct impact on production, with micro impacts at the household and firm or enterprise levels, as well as macro impacts at the national and regional levels.

Small developing countries generally tend to be serviced by a dual economy, where the traditional agricultural sector provides surplus labour and capital to the non-agricultural sector for its surplus creation and expansion. This was the duality first presented by Arthur Lewis (1954). In this context, HIV/AIDS can be seen as first attacking the very foundation of growth and development by the weakening of the labour force and the 'enforced' redirecting of financial resources to deal with the epidemic. For some countries, there is no question that with respect to labour, the HIV/AIDS attack is felt most in respect of these countries' qualified and skilled labour. It is well known that this is one area where scarcity is virtually the norm. It is also no doubt true that for other countries or regions, the labour impact would be on specific sectors. In sub-Saharan Africa, for example, HIV/AIDS has been having a significant impact on the agricultural sector. This is not surprising given the scale of the agricultural sector in the economies of this region. Moreover, as Alex de Waal and Alan Whiteside (2003) have shown, HIV and AIDS in the rural sector carries the risk of causing famine by significantly changing the pattern of vulnerability to famine.

What is clear is that any external or internal shock that further reduces a country's limited stock of human capital will have a far-reaching impact on both the agricultural and non-agricultural sectors of the economy. The non-agricultural sector will have a severe impact given the fact that its growth and development depend on its own labour and resources, as well as on the surplus transferred from the agricultural sector. However, faced with HIV/AIDS, the declining agricultural sector is likely to become the 'Achilles heel' of the non-agricultural sector, leading to stagnation of the entire economy and providing a recipe for social distress.

At the micro level, there is a different set of problems that households face. HIV/AIDS generally tends to affect the working-age population at the most productive period of its life. Thus, households become highly vulnerable given the loss of any of their breadwinners. In many cases, there is only one breadwinner. The epidemic can also lead to a diversion of financial resources, with children dropping out of school, thereby undermining the very social order that the development programme aims to promote. It should also be noted that the epidemic also has a profound gender impact. Women and girls are often forced to act as caregivers, reducing the income-generating activity they can undertake, as well as reducing their agricultural activity and their schooling. HIV and AIDS in the household also raises expenditure in areas such as healthcare costs and funeral costs. It also affects firms because of the cost of hiring labour to replace lost labour, both in instances of illness and death. Moreover, all of this will be taking place while income and sales are being lowered by the epidemic.

Taking a theoretical perspective

While the traditional neoclassical theory of production has examined the contribution of land, labour and capital in the growth process of a country, more recent studies of the economic growth and development process have emphasised the critical role of human development (Haq, 1995; Sen, 1996). For developing countries, the existence of limited natural resources means that emphasis must be placed on human resources development (HRD) in national development strategy formulation. Through education and training (and health and nutrition), HRD can overcome imbalances in the labour market. However, even with these recent findings, economic theory has not considered the impact diseases could have on economic growth and development via their impact on all the variable factors of production. We will now present a preliminary exploration of the link between ill health and economic growth.

Consider the Cobb-Douglas production function of an economy, revised to take human capital into account. Such a function can be stated as follows:

$$Y(\theta) = (K(y, \theta))^{\alpha} \times (H(y, \theta))^{\beta} \times (G(y, \theta))^{\mu}$$

where:
Y = national output
G = government expenditure
H = nations' human capital
K = physical capital
θ = physical capital IDS prevalence rates
y = output per capita

Assuming constant returns to scale, we will have $\alpha + \beta + \mu = 1$

Using this modified production function, one might examine how the scaling down of the variable factors of production by the prevalence rates impacts on the final output. The challenge in most cases will be data. An earlier study by Theodore (2001) provides a narrative of the mechanisms and transmission channels in which HIV/AIDS affects the economy. In this study, Theodore describes four channels, namely the production channel, the allocation channel, the distribution channel and the regeneration channel. Through the **production** channel, the disease affects the factors of production, namely, labour and financial capital. Through the **allocation** channel, the disease distorts optimal resource allocation in an economy as it results in deploying of resources to deal with the epidemic. Through the **distribution** channel, the epidemic further widens the gap between the poor and non-poor. Lastly, by means of the **regeneration** channel, investments in human capital, physical capital and new technology are needed to keep the economy growing. Since it is quite likely that the HIV/AIDS epidemic will compromise the savings capacity and the human capital of the economy, the desired economic regeneration will not take place.

Figure 1.1 portrays the relationship between HIV/AIDS and the economic system. As the diagram shows, the epidemic has the potential to destabilise the economic system because it impacts on the foundation pillars on which the production of the society is built – the labour force and the accumulation of savings. What is more, the epidemic has the potential to keep the health financing system in a permanent state of disequilibrium. In short, it erodes productivity, consumes savings, increases expenditure and reduces income. The devastation does not end here, however, for with every increase in the rate of prevalence, the negative impact worsens.

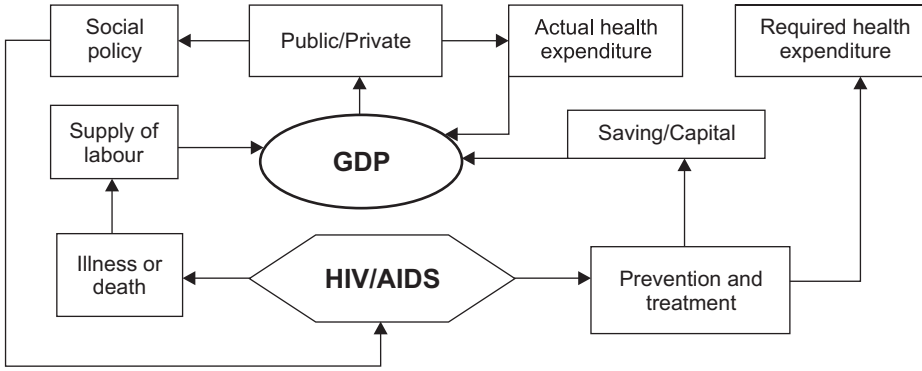

Figure 1.1 HIV/AIDS and the economic system
Source: Theodore (2001)

Figure 1.1 highlights the vulnerability of small economies to an epidemic like HIV/AIDS. The reality of the situation is that we would normally be dealing with a fledgling savings base, dominated by public savings. In countries where reliance is mainly on the public sector, the diversion of resources to prevention and treatment, as portrayed in the diagram, can be crippling. A similar point can be made in respect of the labour supply pillar on which the national income rests. It must be kept in mind that for some countries in the Caribbean, population levels are below 30,000 persons. One of the features of these small economies is that some thriving businesses are directly dependent on the passion and the drive of specific **individuals**. In these circumstances, indispensability and size become entwined. The illness or death of key individuals can have a woeful impact on the productivity of individual businesses and a ripple effect on related businesses.

There exist a number of studies that examine the impact of HIV/AIDS on the economy (Dixon et al., 2002; Cornia and Zagonari, 2002; Bonnel, 2000; Theodore et al., 2000). However, there is a dearth of studies that examine in detail the impact on particular sectors and which reflect the peculiar features of these countries. Countries in all three regions in the present study have both commonalities, as well as differences. The countries are all in the early stages of growth, with many problems of differing severity. For example, migration rates are high in the Pacific, Caribbean and Southern African regions. Together with weak government fiscal positions in the study countries of the three regions, the economic growth rates also tend to be low in these regions. At the same time, the Pacific and the Caribbean regions experience high tourist inflows, which although good for the economies presents an added dimension to HIV/AIDS in these regions.

Another issue that has taken centre stage in the fight against HIV/AIDS in these small countries is the issue of intellectual property rights (TRIPS) and its association with the cost and availability of generic and antiretroviral drugs (ARVs). AVERT (2009) notes that, although there is still much work to be done in this area, there has been a significant drop in the price of certain drugs that treat HIV/AIDS in developing countries through activist campaigns, the emergence of competition from generic manufacturers and direct negotiations with pharmaceutical companies. The sheer scale of the devastating impact of HIV/AIDS in small states presents a strong case for governments, the private sector and the international community as a whole to devise ways and means of making both ARVs and generic drugs available to the general public at affordable prices.

In this book, we explore specific features of the three regions that contribute towards the spread of HIV/AIDS and identify the responses by various local and external stakeholders, taking into

account specific country scenarios. Specifically, the intention is to highlight the main economic issues associated with HIV/AIDS in small states, including specific determinants of transmission in particular regions. Furthermore, we examine the best practices in the region for coping with HIV/AIDS, including economic policies and government responses. Some attention will also be given to policies to prevent and treat HIV/AIDS, and to the cost effectiveness of these policies. Finally, we examine the financial support provided both via government budgets and by external funding made available to the small states under consideration.

In chapter 2, Happy Siphambe provides an in-depth discussion of the issues in the Southern Africa region and explicitly identifies key strategies to combat the spread of HIV/AIDS, including institutional responses, financial responses, and education and prevention methods. Using the Botswana data, Siphambe's paper shows the impact on macroeconomic variables such as growth, investment and poverty. The model results show that all economic variables are negatively impacted by HIV/AIDS to a significant degree. Botswana offers a good example of best practice, as exemplified by its commitment in terms of resources and leadership. The challenge for the region is still dealing with issues like stigma and behaviour change. There is also immense concern regarding how to obtain the financial and human resources to cope with the disease and its effects. There clearly remains a need for donor funding, even for relatively better-off countries like Botswana and Namibia. Without donor assistance, HIV/AIDS will remain a major development issue for these small African countries since they run the risk of losing large sections of their populations. This loss is of course compounded by the fact that it usually includes a loss of skilled labour. These countries will also find it to be an immense challenge to meet the Millennium Development Goals (MDGs) if they are not beneficiaries of external assistance in form of financial and human resources.

In chapter 3, Mahendra Reddy explains the intricacies of the Pacific region and demonstrates the region-specific features which, if not dealt with at the micro level, will neutralise national and international efforts. Dr Reddy identifies the salient features of Pacific society, factors that exacerbate HIV/AIDS transmission, as well as factors that make national efforts to contain the spread ineffective. He notes that a major cultural factor that inhibits HIV carriers from talking freely about their infection is that their families and social contacts tend to react with hostility and blame the people who have AIDS for exposing them to the disease. Thus, PLWHA fear ostracism by families and friends. There is also the issue of cultural barriers surrounding discussion about sexual behaviour. Pacific traditions and culture do not allow such discussions between specific kinship relations, and this is also supported by religious teachings. The fact that Pacific societies are small and connected means that maintaining the confidentiality of any discussion whatsoever becomes even more difficult. This social reaction gives rise to the familiar problem of unwillingness to seek formal medical treatment, thereby increasing the likelihood of many cases of infection remaining undetected for extended periods.

There are also many channels for the spread of HIV in the Pacific region. The three most common are the tourism industry, the seafarer community and police and military personnel serving in the Middle East. The reality is that all these channels are important sources of foreign exchange for the Pacific region, and it is possible that this might be the reason why little attention has been given to the HIV/AIDS dimension of these activities.

The region has experienced an increased interest from donor agencies to examine the various dimensions of HIV/AIDS infection, but there are two key problems in this respect. First, the various donor agencies have failed to co-ordinate efforts among themselves, leading to wastage of a significant proportion of donor resources. Second, it has become evident that only a small proportion of the total funds are being spent at the ground level to prevent any further spread of the virus. More strategies and resources in the future must be geared towards activities at the field level.

In chapter 4, Karl Theodore examines the peculiar features of the Caribbean region and how the tourism industry and migration make for an epidemic exposure similar to the Pacific region. The threat to the region's development agenda is fully explored in this chapter.

Chapter 5 attempts to distil the specific issues and challenges faced by the different regions. The point is made that a useful stance for these regions would be to see the epidemic as an opportunity to do things better than before. Ways have to be found to make better use of the resources made available, and explicit strategies are suggested for more effective control of HIV/AIDS.

The aim of the text is to provide an up-to-date and comprehensive analysis of the HIV/AIDS situation in these regions in a manner that will be of value to policy-makers in the three regions.

Note

1. See, for example, Kisanga and Briguglio, 2004.

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Chapter 2

Happy Siphambe

The Economics of HIV/AIDS in the Southern Africa Region

2.1 Introduction

Since the 1990s and into the beginning of the new millennium, dealing with HIV/AIDS and its effects has become a major public policy issue in most African countries, especially in Southern Africa. While the epidemic was previously interpreted as fundamentally a health issue, the impact of HIV/AIDS goes far beyond health because of its widespread human, social and economic effects. The hardest hit geographical region is Africa. According to statistics, of the 33.4 million people who were living with HIV/AIDS at the end of 2008, 24 million or 66 per cent were residents of Africa (UNAIDS, 2009). UNAIDS (2008) notes that sub-Saharan Africa disproportionately leads the share of global HIV: 35 per cent of HIV infections and 38 per cent of AIDS deaths in 2007 occurred in the sub-region. Altogether, 67 per cent of all the people living with HIV/AIDS live in sub-Saharan Africa. The trend in HIV infection shows that median HIV/AIDS prevalence increased from 20.3 per cent in 1997–1998 to 25.7 per cent in 2001–2002. During the same period, prevalence rates declined slightly for East Africa, from 13.7 to 11.4 per cent, and remained stable in West Africa at 4.35 per cent (Shisana and Letlapa, 2004).

Several countries in the region have HIV prevalence rates of more than 20 per cent of the adult population, with the highest reported adult HIV prevalence rates of more than 30 per cent (see Table 2.1). UNAIDS (2009) states that 'Sub-Saharan Africa remains the region most heavily affected by HIV. In 2008, sub-Saharan Africa accounted for 67 per cent of HIV infections worldwide, 68 per cent of new HIV infections among adults and 91 per cent of new HIV infections among children. The region also accounted for 72 per cent of the world's AIDS-related deaths in 2008'. As a result, it is estimated that nearly two-thirds of all HIV-positive people in the world live in sub-Saharan Africa. The number stands at a staggering 22.5 million. In South Africa where there is the highest number of HIV-positive people of any country in the world, there were 5.6 million PLWHA in 2009. This compares with India where, in the same year, there were 2.4 million PLWHA.

It is noteworthy that within Southern Africa, HIV/AIDS prevalence ratios differ substantially. As Table 2.1 shows, Swaziland, Botswana, Lesotho and Zimbabwe have rates higher than 20 per cent, with Swaziland having the highest percentage at 32.4 per cent followed by Botswana at 24 per cent. It is worth noting that these statistics are based on sentinel surveys of pregnant women attending antenatal clinics for care (ANC), which may bias the results upwards given that this is already a risk group. In Botswana for instance, the Botswana AIDS Impact Survey of 2006 estimates the prevalence rate to be 17.1 per cent of the total population, which is significantly lower than the 24 per cent recorded from ANC for the same period. Preliminary results from the 2008 Botswana AIDS Impact Survey estimate the national prevalence rate at 17.6 per cent (CSO/NACA, 2009).

Table 2.1 Country-specific HIV/AIDS estimates, Southern Africa, 2008

	Estimated number of people living with HIV				*AIDS deaths*	*Orphans due to AIDS*
Country	*HIV+ adults and children, 2008*	*HIV+ adults (15+), 2008*	*Adult (15–49) HIV rate (%), 2008*	*Adult (15– 49) HIV rate (%), 2003*	*Deaths in adults and children, 2008*	*Orphans (0–17) currently living, 2008*
Sub-Saharan Africa	**24,500,000**	**22 400,000**	**6.1**	**6.2**	**2,000,000**	**12,000,000**
Angola	190,000	180,000	2.1	3.7	11,000	50,000
Botswana	300,000	280,000	23.9	24.0	11,000	95,000
Congo DR	(1,000,000)	(890,000)	(3.2)	3.2	(90,000)	(680,000)
Lesotho	270,000	260,000	23.2	23.7	18,000	110,000
Madagascar	14,000	13,000	0.1	0.5	770	34,000
Malawi	930,000	840,000	11.9	14.2	68,000	560,000
Mauritius	13,000	13,000	1.7	0.2	<500	<500…
Mozambique	1,500,000	1,400,000	12.5	16.0	81,000	400,000
Namibia	200,000	210,000	15.3	19.5	5,100	665,000
South Africa	5,700,000	5,400,000	18.1	18.6	350,000	1,400,000
Swaziland	190,000	210,000	26.1	32.4	10,000	56000
Tanzania	(1,400,000)	(1,300,000)	(6.5)	6.6	(140,000)	(1,100,000)
Zambia	1,100,000	980,000	15.2	16.9	56,000	600,000
Zimbabwe	1,300,000	1,200,000	15.3	22.1	140,000	1,000,000
Global	**38,600,000**	**36,300,000**	**1.0**	**1.0**	**2,800,000**	**15,200,000**

Source: UNAIDS (2009)

Until very recently, HIV prevalence seemed to have been following a steady upward trend, although there is now some evidence of stabilisation – and even reversal – of prevalence rates. In Botswana, for instance, the Ministry of Health (MoH, 2006) recorded that the percentage of 20–24-year-old attendees to ANC who were HIV infected declined from 38.7 per cent in 2001 to 27.9 per cent in 2007. A decline of about 10.5 per cent between 2001 and 2006 has been observed among pregnant women (MoH, 2006). In particular, the prevalence among the age group 15 to 19 years has declined from 24.7 per cent in 2001 to 17.5 in 2006 (MoH, 2006).

This chapter analyses the economic issues associated with HIV/AIDS in small states of Southern Africa that have high HIV/AIDS prevalence rates. In particular, we examine the economic impact of the epidemic, consider the different responses to it and finally make recommendations for the future. The countries covered are Botswana, Lesotho, Namibia and Swaziland. These countries all have HIV/AIDS prevalence rates of more than 15 per cent. We analyse the economic determinants of transmission and the effects of the pandemic on key macroeconomic indicators. We then take Botswana as a case study to carry out an analysis using a growth model to measure the impact of HIV/AIDS on the economy in terms of its macroeconomic aggregates, including economic growth and poverty. The response section deals with best practices from the region in terms of policies and programmes for coping with the pandemic. In looking to the future, we consider the issue of financing of the HIV/AIDS pandemic and the effectiveness of donor institutions in addressing HIV/

AIDS in the region. We then conclude the chapter with a few specific recommendations for action by the small states of sub-Saharan Africa and by donors.

2.2 The HIV/AIDS status of small Commonwealth states in sub-Saharan Africa

The Southern African region is currently the region most affected by HIV/AIDS, accounting for almost 32 per cent of all new infections and AIDS-related deaths globally. Eight countries of the region have prevalence rates exceeding 15 per cent: Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. Of these countries, four are small Commonwealth states – Botswana, Lesotho, Namibia and Swaziland – and are the countries that this chapter will specifically analyse in terms of the impact of the epidemic and the coping mechanisms they have developed. For most of these small states, however, the epidemic seems to have reached a plateau as prevalence rates are either stabilising or declining (UNAIDS, 2009). This partly reflects the effect of policies and programmes that these countries have put in place and the natural tendencies for epidemics to peak as they mature over time.

For Botswana, the infection rates among pregnant women declined from 36 per cent in 2001 to 32 per cent in 2006. There is also evidence that prevalence rates among young pregnant women are decreasing, suggesting a possible decrease in new infections. There is evidence that condom use among teenagers has increased (UNAIDS, 2007). From the 2006 population-based survey, Botswana AIDS Impact Survey (BIAS II), the national average prevalence was estimated at 17.1 per cent, while for those aged 15–49 years, it was estimated that 24 per cent was HIV-positive (CSO/NACA, 2005). A third population-based survey was completed and preliminary results have just been released indicating some slight increase in prevalence to 17.6 per cent (CSO/NACA, 2009).

Lesotho's HIV prevalence rates remain high, with 23.2 per cent of adults aged 15–49 years being HIV-positive in 2007. Women account for a majority – about 57 per cent – of people living with HIV/AIDS. Just like Botswana, Lesotho has been experiencing declines in infection levels among young pregnant women, falling from 25 per cent in 2003 to 21 per cent in 2005. According to UNAIDS (2007), prevention efforts have not been very effective given the poor knowledge of HIV and general reluctance to use condoms among sexually active youths.

Namibia is reported to have stabilised at 20 per cent HIV prevalence rate in 2006 (UNAIDS, 2007).

Swaziland has the highest HIV prevalence rate in the world. Current data from a population-based survey estimate the prevalence rate at 26 per cent of the population aged 15–49 years. The prevalence rates are higher for women, at 31 per cent, than for men, at 20 per cent. Even though HIV/AIDS knowledge is good in Swaziland, this does not correlate with use of condoms. More than 50 per cent of adult men and women who reported having more than two sexual partners in the previous year used a condom the last time they had sex (UNAIDS, 2007).

2.3 Economic determinants of HIV/AIDS transmission

Sub-Saharan Africa in general has high HIV prevalence rates. One of the major differences identified in the spread in these countries is probably due to different types of HIV. HIV-1 is the dominant type of infection found in the sub-Saharan region, accounting for more than 98 per cent of all infections. HIV-2 is more common in West Africa. It is argued that HIV-1 is more easily transmittable sexually and from mother to child than HIV-2. HIV-2 is also more stable, and victims do not

progress as quickly from HIV to AIDS as with HIV-1. This could be one possible way to explain the high prevalence rates in sub-Saharan Africa, given the dominance of the HIV-1 type (Shisana and Letlapa, 2004).

Apart from behavioural determinants of HIV/AIDS that include multiple partners, dry sex[1] etc., there are other circumstances in sub-Saharan Africa that could help explain the high infection rates. Some of these issues are the migratory labour system, socio-cultural environment, poor housing and poverty. The migratory labour system requires men to be separated from their wives and families for long periods of time. For example, it used to be common for men to migrate to South African mines for 12-month contract periods, with their families not allowed to accompany them. Migration to South African mines was a typical practice for men from a number of Southern African countries that included Botswana, Lesotho, Malawi, Mozambique, Namibia, Swaziland, Zambia and Zimbabwe. Because these men came without their spouses, they became the major clients of female prostitutes, which increased the risk of both the miners and the prostitutes of contracting the virus and the risk to partners left at home when the men returned. The women who were left at home might also seek male partners elsewhere. This migratory system, although reduced in magnitude, continued during the HIV/AIDS era, which increased the risk of infection.

Upon attaining independence, these countries continued the practice of migrant labour in a different way, whereby men left rural areas to look for jobs in the towns. Because there was seldom proper housing, men had to leave their wives and families behind when seeking better opportunities. Women also started to migrate to urban areas as they started joining the labour force, sometimes facing high unemployment in the towns and cities. Migrant men provide the major market for sex from women with no work or inadequate income, who may become sex workers to generate or supplement their income. Such behaviour has also increased the risk of HIV/AIDS in the region.

Another major driving force to increased transmission of HIV/AIDS in sub-Saharan Africa is development itself, especially infrastructural development that allowed for the smooth movement of people between regions and between urban and rural sectors. In the transport industry, for instance, it is quite common for men to travel for weeks collecting and delivering goods between places away from their homes. On the way, these men rest at truck stops where women who are either unemployed or have little money turn to prostitution, often having unprotected sex. The men often become infected and pass the virus to their wives and other partners. The sex workers also face the risk of HIV infection from the truck drivers. Another example is that of major projects, for instance the building of a road or major dam. Such projects are usually carried out by contractors who have left their families elsewhere. This normally increases the temptation of having other sexual partners, thus increasing the risk of contracting HIV and transmitting the virus to wives and husbands at home.

Studies carried out in the past (for example, Greener et al., 2000) indicate a causality between HIV/AIDS and poverty. Poor people may be at greater risk of HIV infections since they are possibly more likely to engage in risky sexual behaviour. Because of low income or a low level of education, there is the tendency for poor people to engage in commercial sex to supplement their meagre income. Moreover, because of their low level of education they are more likely to have unprotected sex and correspondingly less likely to insist on condom use by partners. Evidence from Bloom and Sevilla (2001) suggests that the non-poor tend to be more vulnerable during the early part of the epidemic, as they are more mobile and have more income to engage in risky behaviour. However, as the epidemic develops, the non-poor learn to reduce their risk-taking behaviour while the poor remain vulnerable. As HIV/AIDS develops, it therefore becomes increasingly concentrated

among the poor. Nonetheless, the relationships between poverty and HIV/AIDS and education and HIV/AIDS are not simple, since HIV/AIDS is also influenced by behavioural issues. Countries like Botswana, for instance, that have high literacy rates and high income per capita, albeit with high income inequality, have tended to still have high prevalence rates.

Studies carried out in many countries suggest that globally there is a negative relationship between gross domestic product (GDP) and HIV prevalence. This means that countries that are wealthier as measured by the GDP are likely to have low HIV prevalence rates. However, that relationship does not hold for Africa, as shown in Bloom and Sevilla (2001); for Africa, the relationship is positive suggesting that it is the wealthier countries that tend to have higher HIV prevalence rates. As Bloom and Sevilla (2001) argue, this is a result of two outliers in Botswana and South Africa that have high GDP per capita and, at the same time, high HIV prevalence rates. This, as argued in Bloom and Sevilla (2001), may reflect the role of good infrastructure, which allows for population mobility. The Botswana case may in addition be a reflection of cultural and settlement patterns that allow for high mobility. Batswana normally have four settlements: one in the main village, another at the cattle post, one on the land and one other settlement at the place of work, usually in an urban area. It is not unusual for men to have multiple partners in each of these settlements, normally called 'small houses'.[2] Given the frequent movement between these settlements, facilitated by good infrastructure, the spread of HIV becomes faster.

There are also cultural issues relating to the inferior status of women in general, which has contributed to the higher prevalence rates among women and girls. Statistics show that in the sub-Saharan region, HIV prevalence is higher for women than for men, with 13 infected women for every 10 infected men (Shisana and Letlapa, 2004). Apart from the biological aspect of the disease, some African norms give women less negotiating power when it comes to sex. These norms include the payment of 'bride price' and polygamy. There are also barriers to accessing preventive methods. Such measures, for example condoms, are more accessible to men than to women, which allows men more control in sexual decision-making. At the same time, because of poverty and unemployment, women may also agree to have sex for financial support, which increases their risk of contracting HIV.

2.4 The economic impact of HIV/AIDS

Since the epidemic reached crisis level a number of studies have been carried out to model and predict the impact of the disease on the economy. Some studies have employed micro-level analysis, while some have modelled the macroeconomic implications of the disease. It is obvious that the direct impact of HIV/AIDS is demographic in nature, as the disease – unlike other epidemics – tends to affect people in their most productive years. As a result of the disease, we have witnessed reversals in development gains on the health front, and these reversals are now difficult to arrest. Life expectancy has dropped to levels below what it was in 1960, and infant mortality and tuberculosis (TB) are on the increase. For example, in many of the countries in the region, life expectancy estimates have fallen to under 40 years (this from the over 60-year level recorded in the early 1980s). Botswana, for instance, currently has a UN estimated life expectancy of 41 years as compared with 65 years recorded in the 1980s.

The two major macroeconomic effects of HIV/AIDS are a reduction in the labour supply, especially the skilled labour supply, and increased costs. In terms of labour supply, HIV/AIDS leads to a loss of young adults in their most productive years (15–49 years), which affects overall economic growth. Economic growth itself is affected through various channels that include low productivity,

loss of skilled labour and replacement by less skilled labour, low savings rates which lead to low investment etc. As far as the increased costs are concerned, these include the direct costs of AIDS such as the costs for medical care, drugs and funeral expenses. There are also indirect costs relating to lost time due to illness, as well as the cost of recruitment and training to replace workers. Finally, there is also the productive time lost in taking care of many new orphans.

Generally, the impact of HIV/AIDS is felt at both the micro and macro levels. At the micro-economic level, the impact is at the level of the individual, the household and the enterprise or firm. At the individual level, the impact of being HIV-positive may be felt when banks or insurance companies decline loans or when an insurance company charges higher premiums for life coverage. At the macroeconomic level, the impact is in terms of the lower growth from reduced savings and lower productivity. This is compounded by increased spending on HIV/AIDS and therefore less money available for other economic activities, including the development of physical and human capital.

It is also true that individuals with fewer financial resources may only discover their status when they start to develop symptoms of the disease. Since most of them do not have insurance to secure their healthcare, they might have to deplete their resources to access medical attention, including that of traditional doctors. Ultimately, individuals become poorer as they deplete their resources and may end up destitute at the time of their death. Moreover, because of the stigma associated with HIV/AIDS, the individual may also be isolated and excluded from economic activity. It is possible that in the small states of Southern Africa many people fall into such circumstances. This is the source of the economic decline of families, communities, districts and countries.

At the household level, HIV/AIDS affects spouses, children and other relatives. The family has to face up to the direct costs of healthcare and funeral expenditure when the AIDS patient dies.[3] In respect of health, families have to pay for consultations, drugs and hospitalisation. In many cases, the PLWHA is likely to be the breadwinner of the family. Ultimately, due to the loss of income from the breadwinner and the loss of output/income from the caregivers, who are usually women, the income of the household declines and the household may become poor. Expenditures may also be diverted to cover medical costs, thereby reducing spending on food, housing and other necessities. Children may be forced to drop out of school to take care of sick parents or provide for the household, and when parents die, orphaned children either have to head the families (children-headed households) or are absorbed into extended households. These children may then be subjected to abuse by their new families. In Botswana, for instance, where there is government assistance provided to orphan children in the form of food and money, it is not unusual for people to take in orphans mainly because of the economic benefit that comes with them. Sometimes the main beneficiaries are deprived of care, with the resources diverted to the children of the householder. There have even been instances of people fighting over orphaned children, because of the benefits that come through the government's orphan care programme.

HIV/AIDS could have negative effects on business enterprise in the form of reduced productivity levels. The loss of skilled workers and their replacement with workers of less experience is likely to lead to a decline in the productivity of the enterprise. Lower productivity may also arise from the increase in sick leave and absenteeism on the part of HIV-positive workers who develop opportunistic diseases like pneumonia because of their impaired immunity. As family members become sick and later die, the active members spend a considerable amount of time caring for their loved ones at home and ultimately attending funerals. As less time is spent in production, firms have to rely on less skilled and experienced workers, and may overwork the remaining workers. This could lower their morale and reduce overall productivity again. When workers die and have to

be replaced, the business also has to face additional transactional costs related to the recruitment and training of new workers. The resultant high costs and low productivity are likely to reduce the competitiveness of firms nationally and regionally. In addition, firms and workers are likely to face greater costs as they are called upon to increase their contributions to pension funds and to life and medical insurance because of HIV/AIDS. As a result of the diversion of resources to deal with the HIV/AIDS epidemic, firms will have less money available to cater for the non-health benefits of workers.

Health systems, both public and private, have become overwhelmed by the needs of HIV/AIDS patients, and there has been a consequent squeeze on resources for treating other illnesses. Socially, the impact is devastating, given the human cost of illness and deaths, while the rise in the number of orphans and the breakdown of family structures pose challenges for both the state and social support systems. There will almost certainly be an increase in poverty as households with HIV/AIDS-infected persons face a reduction in income (as breadwinners become sick and die) and an increase in expenditure on medical and related costs. Some resort to traditional medicine, which may also be very costly, especially as the activities of most traditional medicine practitioners are not regulated.

A considerable macroeconomic impact is also to be expected, with HIV/AIDS affecting the size of the labour force, the availability of skills and productivity. Outside of its effects on the labour force and loss of human capital, HIV/AIDS causes resources to be diverted that would otherwise be used to finance investment. Hence, the impact of HIV/AIDS on macroeconomic variables such as economic growth, per capita incomes, savings, investment and employment is likely to be significant. When households are faced with unexpected expenditure on HIV/AIDS-related treatment and care along with corresponding reduced income, members may cash in their savings and sell their assets. Investment will also fall due to lower savings and therefore lead to lower economic growth. Economic growth is likely to be reduced significantly, especially in countries with high infection rates, such as the small Commonwealth states of Southern Africa. For governments, HIV/AIDS has an adverse fiscal impact as expenditures rise with higher spending on healthcare and social support and revenues are affected by slower economic growth. As a result of lower public sector investment and growth, tax receipts are also reduced and result in lower government revenue to meet development challenges.

A number of studies have been carried out to investigate the macroeconomic and microeconomic impact of HIV/AIDS in Africa. As summarised in Table 2.2, most of these studies show an insignificant impact of HIV/AIDS on GDP growth. The studies tend to show inconsistent impact, but most of them show zero or minimal macroeconomic impact. The differences seen may be due to variations in periods, methodologies and data sets. Table 2.2 shows the aggregate growth model approach, computable general equilibrium (CGE) approach and the macro-econometric approach to be the most common methodologies.

- The aggregate growth model looks at growth as a function of inputs, which include labour and capital. This approach then models the impact of HIV/AIDS on output, assuming a scenario with and one without HIV/AIDS.
- The CGE approach generally simulates the impact of HIV/AIDS on the economy, comparing the results 'with HIV/AIDS' and 'without HIV/AIDS'. The results are based on a consistent and balanced set of economy-wide accounts called the social accounting matrix (SAM), which links inputs to outputs by sector.
- The macro-econometric model links output to inputs over time, measuring the significance of relationships between inputs and outputs.

Most of the studies shown in Table 2.2 have produced results that show HIV/AIDS to have a small impact on the macro economies of Southern Africa. An exception is presented by List (2002). Even with methodological problems, List estimated the impact of the epidemic on African economies to be severe. Between 1992 and 2002, it is estimated that without HIV/AIDS the economies of 33 African countries would have grown by 1.1 per cent more. With HIV/AIDS, therefore, this represents 18 per cent less growth by 2020. An independent estimate put the size of the aggregate GDP loss at US$144 billion (Shisana and Letlapa, 2004). Some researchers were dissatisfied with the macroeconomic results and began to do more work at the microeconomic level, producing some interesting results. Examples of such studies are Greener et al. (2000) and Jefferis et al. (2008).

Table 2.2 Summary of results – the economic impact of HIV/AIDS

Authors	*Country*	*Method*	*Period covered*	*Impact on growth rates*	
				GDP	*GDP per cap.*
Over (1992)	30 sub-Saharan African countries	Econometric estimation and simulation	1990–2025	-0.56% to -1.08%	0.17% to -0.35%
	10 most advanced epidemics			-0.73% to -1.47%	0.13% to -0.60%
Kambou, Devarajan and Over (1992)	Cameroun	CGE	1987–1991	-1.9%	N/A
Bloom and Mahal (1995)	51 countries	Econometric estimation	1980–1992	-ve, but small	
Cuddington (1993 a,b)	Tanzania	Aggregate growth model	1985–2010	-0.6% to -1.1%	0.0% to -0.5%
Cuddington and Hancock (1994a,b)	Malawi	Aggregate growth model	1985–2010	-0.1% to -1.5%	-0.1% to -0.3%
BIDPA (2000)	Botswana	Aggregate growth model	1996–2021	-0.8% to -1.9%	+0.4% to -0.5%
Quatteck/Ing Barings (2000)	South Africa	Macro-econometric model	2001–2015	-0.3%	+ve
Arndt and Lewis (2000)	South Africa	CGE	2001–2010	-1.6%	-0.8%
Macfarlan and Sgherri (2001)	Botswana	Aggregate growth model	1999–2010	-3.5% to -4.5%	0% to -1%
Laubscher et al./BER (2001)	South Africa	Macro-econometric model	2001–2015	-0.33% to -0.63%	+0.7% to +1.0%
Bell, Devarajan and Gersbach (2003)	South Africa	Overlapping-generations model	1990–2080	N/A	-0.2% to -2.5% (†)
Lofgren, Thurlow and Robinson (2004)	Zambia	CGE	2001–2015	-0.4% to -0.9%	+0.2%
Masha, (2004)	Botswana	Aggregate growth model	1991–2016	-0.8% to 2%	N/A
BER (2006)	South Africa	Macro-econometric model	2000–2020	-0.4% to -0.6%	+0.3% to +0.4%

Source: updated from Table 4 in BER (2006)
Notes: † real income per family, derived from figures in paper

The economic effects of HIV/AIDS are felt unevenly across sectors, with some being affected more than others. One of the sectors that is highly affected is the informal sector. With low growth and rising unemployment, the informal sector has become an employer of a large section of the labour force. In most countries in the region, including the small states in the sub-Saharan part of Africa, the highest percentage of new jobs is in the informal sector. There is, however, a dearth of empirical research on the impact of HIV/AIDS on this sector. Because there are no healthcare facilities or social protection arrangements in the informal sector workplace, savings and investment are threatened by the demand to meet increased health expenditure when informal workers (or family members) become infected. As Shisana and Letlapa (2004) clearly puts it, their activities depend heavily on their labour, and because of the temporary nature of their workplace they are likely to lose that place as soon as they are away due to illness or the need to take care of a sick relative. HIV/AIDS can also destroy the enterprise when a key employee, owner or manager dies, as such knowledge and technical skills are hard to replace. The negative performance of the small enterprise may also come from time being diverted to caring for the sick and orphaned children. Savings and investment are therefore threatened by the demands on revenues for survival or healthcare expenditure. The enterprises may also become vulnerable to declining consumer demand as customers become sick and divert their income into healthcare of the sick, funerals and orphan care.

In terms of the private sector, HIV/AIDS generally reduces productivity and increases labour costs. Apart from the impact due to death, there is also loss in terms of increases in absenteeism, labour turnover and in costs of recruitment, training and staff welfare. The costs combine and reinforce each other to reduce the revenues and profits of the enterprise. Estimates documented in List (2002) estimate that productivity levels in the sub-region could decline by up to 50 per cent in the next five to ten years, with devastating consequences for profits.

In terms of industries in the private sector, evidence points to greater effects on the mining and metal processing sectors than on others, mainly because of the migratory system that forces men to leave their families in rural areas. Botswana, for instance, has a higher HIV prevalence rate among miners, at 24.6 per cent. The same is true in South Africa, Zambia, Lesotho and Swaziland.

In a study carried out by ECONSULT (2006) for Botswana, there was a general conclusion that HIV/AIDS has a greater impact on mining and manufacturing, especially textiles, construction and some service industries. There has generally been a larger loss of unskilled workers due to death and sickness in the last five years than of skilled workers. The financial sector, by comparison, was the least affected. This could be because the sector uses few unskilled workers. In terms of workers who are sick or working at sub-optimal levels, firms in manufacturing and mining have the highest averages, while those in retail has the lowest average. One reason why the incidence among unskilled workers may be greater stems from the tendency for these people to be less consistent with treatment once enrolled in antiretroviral (ARV) therapy programmes. Interviews with some managers revealed that where HIV has a non-significant impact, this does not necessarily mean there are few workers that are HIV-positive. Rather, such workers have taken care of themselves through a ARV programme which enables them to live and work almost as normal. Correspondingly, the interviews suggest that unskilled labour has a tendency not to adhere to treatment, hence a major impact of HIV/AIDS is felt in firms that use mainly unskilled workers. This includes firms in the textiles, construction and mining sectors. The low impact of HIV/AIDS on retail companies is mainly because they hire school leavers, who usually leave the company after two to three years. There is generally a high turnover for this group, since the search for other careers begins after a few years of work. By the time the youngsters leave, the negative impact of the disease may not have become serious enough to lead to sickness or high levels of absenteeism.

It is expected that there would be a reduced impact of the disease due to the availability of ARVs since 2001/02. Such availability would have reversed the effect of HIV/AIDS quite significantly for most firms. Firms have also been proactive in dealing with output and productivity losses through increased hiring, multi-skilling, overtraining etc. They have been actively involved in HIV/AIDS issues at the policy level and by providing training at work, while there have been instances of firms contributing generously to mitigating the effects of the disease by subsidising medical aid schemes, giving out free ARVs to their employees and participating in special aid schemes. However, the level of stigmatisation faced by HIV-positive staff within the firms and companies remains a major problem, and this inhibits open discussion of the impact of the disease and possible responses.

In terms of responses to impact on productivity levels by sector, firms in manufacturing argued that the disease has a marginal to significant impact on output. Textile firms, in particular, reported that they are regularly unable to meet deadlines for their orders due to sickness or death of workers. It has not been easy for them to quickly replace workers, even though training is seldom long term. This result may be an indication of the fact that most firms in manufacturing, especially textiles, are able to easily measure their output, given that they have targets for their markets and can discern if gaps exist between the supply of and demand for their goods. They also face a high turnover of workers, which further complicates their situation. In the mining sector, all firms reported being significantly impacted in terms of output. Firms in the financial, services and retail sectors reported smaller (nil or marginal) output losses, reflecting that these firms may have experienced few deaths or sick workers as a result of HIV/AIDS (ECONSULT, 2006).

It should be noted that these results are largely consistent with the results of surveys of larger companies on the impact of HIV/AIDS carried out in South Africa. The ordering of sectors by degree of impact is similar in Botswana and South Africa, with the retail/trade sector least affected and mining and manufacturing more seriously affected. The main contrast between the two countries relates to construction, which in the case of Botswana is the most seriously affected sector. However, compared with a sector like agriculture, construction is probably only mildly affected in South Africa.

Another sector that is significantly affected and is of major importance to the small economies of Southern Africa is agriculture. For some of these countries, agriculture is an important source of employment and export revenue. For instance, in Swaziland export farming generates 10 per cent of GDP and subsistence agriculture employs 80 per cent of the population. For Lesotho, more than 50 per cent of the working population and close to 60 per cent of working males are engaged in subsistence agriculture. For the Namibian economy, agriculture has been and still is the dominant sector in terms of employment, with 29 per cent of workers engaged in this sector in 2000. Similarly in Botswana, agriculture, especially subsistence agriculture, is the largest single employer of labour, employing about 30 per cent of the total labour force in 2005/06 (Siphambe, 2008).

As a result of the impact of HIV/AIDS, the agricultural sector is losing experienced labour, which in turn leads to a decline in production. According to Shisana and Letlapa (2004), the agricultural sector lost from 2.3 per cent to 12.8 per cent of its labour force in 2000 and this is expected to increase. This loss of labour, especially women, becomes a threat to food security as families may be forced to sell food grain, livestock and capital to cover AIDS-related expenses. The loss of knowledge and skills also has a negative effect on productivity. Moreover, the loss of adults may cause a switch from cash crops to subsistence farming with poor yields and less income. HIV and AIDS-affected households may also switch to less labour-intensive crops, which also tend to have lower nutritional value. This may worsen the economic situation of the already poor rural households and those living with HIV/AIDS.

Turning to the public sector, the epidemic undermines the sector's human capital and limits revenue available to finance development, which then lowers the quality and timely delivery of services by the public sector. Even though this affects public services generally, the most affected services are in the education and health sectors. With respect to the education sector, the effect is seen in the dropping out of children from school because of HIV/AIDS. This, of course, lowers demand for education. Some of the reasons for dropping out of school are that children need to support themselves and provide labour for the family. School enrolment is therefore on the decline for most of these countries due to the disease. For Swaziland, primary school enrolment is projected to decline until 2011 (Shisana and Letlapa, 2004). There is also a reduction in the supply of teachers and school managers, as they themselves become sick and die from the disease, leading to high student–teacher ratios. Finally, there is the loss of experience, which ultimately lowers the quality of the education.

Another component of the public sector that is adversely affected by HIV/AIDS is the health sector. The health sector is stretched to the limit because of the need to cater for HIV-related illnesses. Non-HIV patients are crowded out of the healthcare system, with other diseases receiving less attention. The disease is also reducing the number of health workers, and this contributes to a poorer quality of service.

BOTSWANA CASE

2.5 Using a growth model approach to assess the impact of HIV/AIDS on the small state of Botswana

Most macroeconomic studies assess the impact of HIV/AIDS on the economy using a growth model. The aim is normally to show the path of growth with and without the disease. We normally simulate the growth path of an economy over a 20-year period of time. Given that Botswana has since 2002 adopted a policy of providing antiretroviral therapy (ART) free through the public health system, it is appropriate that the growth model take into account this development. We therefore model the impact of the disease on the Botswana economy using three scenarios: 'without AIDS', 'AIDS with ART' and 'AIDS without ART', and make projections for key economic variables under each scenario, enabling comparisons between them. This modelling was carried out by a team under ECONSULT of which the author was a member, and the results are reproduced here rather than performing fresh modelling given that not much has changed since then (see ECONSULT, 2006, for further reading on these results).

2.5.1 The macroeconomic simulation model

Model structure

At the centre of the model is a production function, which enables output (GDP) to be calculated as a function of inputs (labour and capital) and productivity changes. If the inputs of the different factors of production can be projected (projections which will differ under the 'AIDS' and 'without AIDS' scenarios), then GDP can also be projected. The model goes beyond a simple, single production function by introducing the following innovations:

- The economy is divided into formal and informal sectors, with each modelled separately, and
- Labour is divided into skilled and unskilled categories.

The model therefore has three labour markets: skilled formal sector, unskilled formal sector and unskilled informal (it is assumed that all skilled workers are employed in the formal sector).[4] These labour markets behave differently:

- In the skilled formal sector, it is assumed that market forces work, and that wages adjust to equate demand and supply.
- In the unskilled formal sector, it is assumed that there is a minimum wage, which does not adjust in response to demand and supply; instead, it is assumed that the minimum wage continued to increase at its average rate over the past decade, which is around 1 per cent a year in real terms. As a result, the formal sector market for unskilled labour does not clear, and there is (formal sector) unemployment.
- Unskilled workers who are unemployed in the formal sector make up the supply of labour in the informal sector, where wages adjust to clear the market and equate demand and supply. In a sense, the economy ends up with full employment, even though some underemployment may be experienced in the informal sector.

The model therefore incorporates skilled and unskilled labour separately, along with unemployment and dual labour markets. Furthermore, labour is modelled in terms of effective (productivity-adjusted) labour supply, rather than simply providing numbers of workers. The advantages of this approach and the reasons for choosing it are as follows:

- The production function approach allows forecasts of output to be made according to the factor inputs (capital and labour) available, and hence forecasts of economic growth rates with different amounts of inputs,
- It permits modelling of labour markets, and consequently determination of the quantity of labour employed and its wage rate,
- The division into formal and informal sectors reflects the structure of sub-Saharan African economies in general, and the Botswana economy in particular,
- Labour and capital inputs can be changed to reflect the impact of AIDS, as can various other parameters,
- The incorporation of a sticky (unchanging) wage for unskilled labour in the formal sector, and market determination of wages in the informal sector, reflects the institutional structure of wage determination,
- The use of effective labour supply incorporates the productivity gains that come from workers' experience, as well as the impact of AIDS through the changing age structure of the workforce and the lower productivity of AIDS-infected workers, and
- The model is appropriate to the particular economic structure of Botswana (in particular the persistent shortage of skilled labour).

The production function takes the Cobb-Douglas form (this relates to the manner in which inputs are combined to produce output). In the formal sector, this is as follows:

$$Yf_t = \alpha f \gamma f^t \; Efs_t^{\beta s} \; Efu_t^{\beta u} \; Kf^{(1-\rho f)}$$

where Yf represents output, *Efs* and *Efu* represent effective labour supplies of skilled and unskilled labour respectively (measured in efficiency units), and *Kf* is the capital stock. The shares of output attributable to each factor are β_s, β_f and $\rho f = 1-\beta_s-\beta_u$. γf^t represents an exogenous technological trend, while the constant αf is a scale factor, which is used to calibrate the model in the base year (2000/01), so that it fits the actual data from that year.

The definition of output (GDP) used in the model is slightly different to the conventional definition in the national accounts, in that mineral rents – which comprise a significant proportion of GDP – are excluded. These rents are not directly attributable to capital or labour, but result from the monopoly status inherent in mineral deposits. The inclusion of the value of mineral rents in output would obscure the impact of HIV/AIDS on the economy, hence the exclusion. The value of mineral rents is proxied by government's income from mineral revenues.[5] It should be noted that all projections are in real terms (in constant 2000/01 prices).

2.5.2 Impact of HIV/AIDS on the labour force

(i) Size of the labour force

It is important to incorporate the impact of HIV/AIDS on the labour force, as this is one of the main channels through which the economic impact of HIV/AIDS occurs. The demographic projections have been used to project the growth of the total labour force over the period to 2021. If we assume (for simplicity) that the labour force participation rate remains unchanged, then the growth of the labour force will be as shown in Figure 2.1. This shows that under both of the 'with AIDS' scenarios, the labour force will be significantly smaller in 20 years than it would have been without AIDS. In the 'without-AIDS' scenario, the labour force in 2021 would total 1,109,622 (an increase of 89 per cent over the 2001 level), whereas in the 'AIDS with ART' scenario it would only total 888,838 (an increase of 61 per cent) and in the 'AIDS without ART' scenario it would increase by only 48 per cent. There is also a slight change in the age structure of the labour force. Without AIDS, the average age of the labour force increases from 33 years in 2001 to 35 in 2021; with AIDS it remains at 33 years. Hence AIDS has the effect of shifting the labour force to a slightly younger age structure giving us a 'chimney' kind of population pyramid structure.

(ii) Labour efficiency units

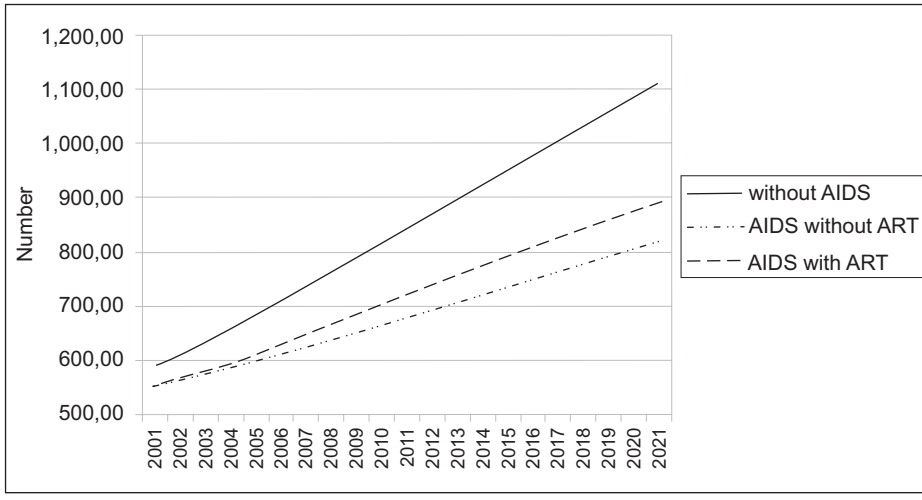

Figure 2.1 Labour force projections
Source: own calculations based on emographic impact study projections

Our approach models the labour force in terms of 'labour efficiency units', which incorporates the impact of work experience on productivity and efficiency. Because work experience is more important to skilled than unskilled labour, the shifting of the labour force to a younger age structure has a more dramatic effect on skilled workers.

The effective labour supply is measured in terms of labour efficiency units as follows:

$$E_t = \sum_{i=15}^{64} (1 - z a_{it}) \rho_{it} L_{it}$$

Where L_{it} is the number of workers of age i at time t, and z is the fraction of the work-year lost per HIV-infected worker as a result of absence from work or reduced productivity due to sickness. This parameter can also take account of the impact of HIV and AIDS on the labour contribution of others, for instance if an uninfected spouse also has to stop working to provide care for an infected partner. a_{it} denotes the proportion of the labour force of age i that is HIV-positive at time t. Finally, the parameter ρ_{it} denotes the work experience of workers of age i at time t. This captures the productivity gains that come with experience on the job.

This formulation in terms of labour efficiency units captures the impact of AIDS on labour supply in two ways. First, AIDS has a demographic impact and alters the age composition of the population and the labour force. These changes in the numbers of workers of different ages are captured in the L_{it} term. A change in the age composition of the labour force alters the productivity of the labour force because of its impact on accumulated work experience, and this is captured in the ρ_i term. AIDS will affect effective labour supply both by reducing the absolute number of workers and by shifting the age structure in favour of younger, less experienced workers.

As the productivity gains from work experience cannot be measured directly, an indirect approach has to be used. Cuddington (1993a, b) notes that various studies suggest a positive, non-linear relationship between earnings (and, by inference, productivity) and experience, and hence measures the labour efficiency ρ_i of a worker of age i as follows:

$$\rho_i = \delta_1 + \delta_2 (i - 15) + \delta_3 (i - 15)^2$$

Here the parameters δ_1, δ_2 and δ_3 are estimated from an earnings function from 1995/96 Labour Force Survey data separately for skilled and unskilled labour.

2.5.3 Model results

(i) Base case

'Without AIDS'

Output: GDP (excluding mineral rents) grows at an average annual rate of 4.5 per cent between 2001 and 2021. With population growth averaging 1.9 per cent a year, however, GDP per capita grows more slowly than GDP, at 2.6 per cent a year. Economic growth in the formal sector (4.6 per cent p.a.) is faster than in the informal sector, which grows on average by 2.6 per cent a year.

Labour market: Relatively fast economic growth and increasing demand for labour in the formal sector pushes up real skilled wages slightly (0.4 per cent a year). Increased availability of skilled labour causes overall employment in the formal sector to increase faster (3.8 per cent a year) than the growth of the labour force (3.2 per cent a year), and hence employment in the informal sector declines as a proportion of the labour force (indicating falling un-/underemployment). Average wages rise by 1.1 per cent a year.

'AIDS without ART'

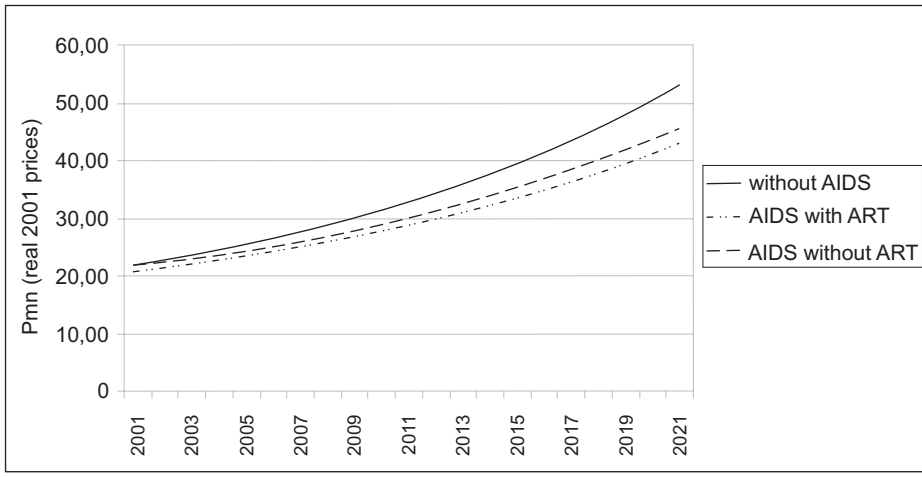

Figure 2.2 Base case – real GDP
Source: ECONSULT, 2006

Output: Average GDP growth is lower with AIDS, at 3.7 per cent – this is entirely to be expected, given the lower growth rate of the labour force. Average GDP per capita growth is slightly higher, at 2.8 per cent a year. The lower rate of GDP growth means that in 2021 GDP is 17.7 per cent smaller with AIDS than it would have been without AIDS, while the population is 23.0 per cent smaller, and as a result GDP per capita is 7.0 per cent higher.

(ii) Alternative case

The base case identifies the fundamental impact of HIV/AIDS on the economy through changes in the size and composition of the labour force. However, it does not include a number of likely effects that will change, and perhaps exacerbate, the negative economic impact of HIV/AIDS. These are considered in the alternative case scenario below.

Labour force participation rate (LFPR): As the results do not indicate a significant fall in un-underemployment in this case, we assume that the LFPR remains unchanged.

Variations in HIV/AIDS prevalence across skill categories: Sentinel survey results suggest that HIV prevalence rates vary across skill categories, with lower prevalence for skilled workers. Based on these results, it is assumed that skilled workers have a prevalence rate that is two-thirds of the rate of unskilled workers.

Investment rates: The base case assumes that gross investment rates are unaffected by HIV/AIDS. As discussed earlier, however, this is unlikely. The costs associated with HIV/AIDS are likely to reduce investment by causing diversion of expenditure. This is most obvious in the case of ART provision. The majority of these costs in Botswana's case are met by government, and given fiscal budget constraints the consequence of financing an extensive ART programme is likely to reduce spending elsewhere. It is assumed that the eventual costs of ART and other expenditure associated with HIV/AIDS (such as orphan welfare payments) could amount to 3.5 per cent of GDP at its peak, falling to just under 3 per cent by 2021. Initially, however, some of the costs are being met by donors, and hence the fiscal impact is reduced. The additional spending on HIV/AIDS can be met by reduced investment spending, reduced consumption spending, or through a budget deficit. It is assumed that the government will attempt to maintain fiscal discipline, and that there will not be

significant deficit budgeting, and therefore that HIV/AIDS costs are met by reducing expenditure in other areas. Under the 'AIDS with ART' scenario, it is assumed that the impact on investment climbs gradually to 2 per cent of GDP (by 2021) as donor support drops off.

The impact on private sector investment is likely to be greater in the 'AIDS without ART' scenario, as here the burden of HIV/AIDS-related costs falls on private firms, through greater healthcare costs, retraining costs etc., as a larger proportion of the workforce is negatively affected by HIV/AIDS. In addition, the greater uncertainties resulting from the 'AIDS without ART' scenario, and reduced profitability, are likely to negatively affect investment. If ART is widely available, these uncertainties are reduced, and hence private sector investment is likely to be higher under the 'with ART' scenario. The impact on the public sector will be slightly less, as costs in the 'AIDS without ART' scenario are lower. Hence the fiscal impact, measured by HIV/AIDS spending as a percentage of GDP, is similar in the two scenarios. In the 'AIDS without ART' scenario, therefore, there is both a significant fiscal impact, as well as a larger negative impact on the private sector. It is assumed that in the 'AIDS without ART' scenario, the reduction in investment is greater, and that formal sector investment falls to 22 per cent of GDP by 2021. In the informal sector, it is assumed that investment will fall from 10 per cent to 9 per cent of income with ART, and to 8 per cent without ART.

The results of this scenario are as follows:

'Without AIDS'
Output and labour market: The results are the same as in the base case.

'AIDS without ART'
Output: Average GDP growth is significantly lower with AIDS, at 2.3 per cent. This is due to the lower growth rate of the labour force, reduced investment and reduced productivity growth. Average GDP per capita growth is also lower, at 1.4 per cent a year. The lower rate of GDP growth means that in 2021, GDP is 37 per cent smaller with AIDS and without ART than it would have been without AIDS, while the population is 23 per cent smaller and GDP per capita is 19 per cent lower as a result.

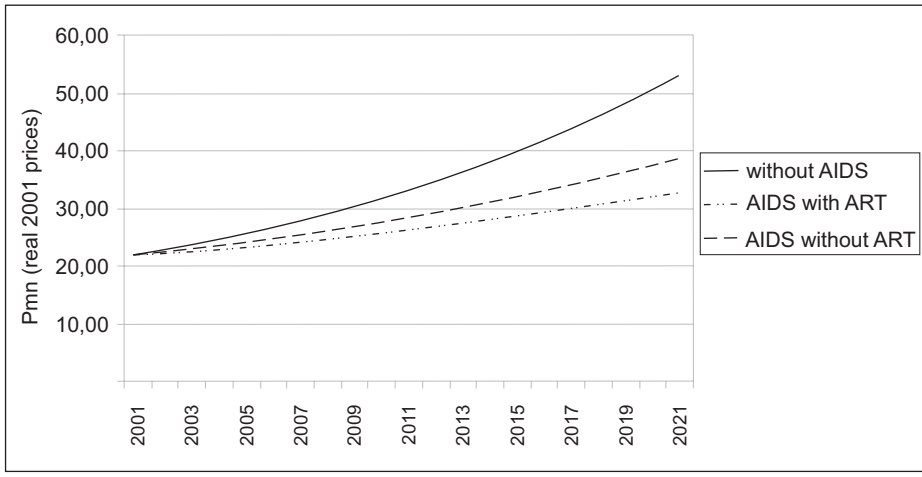

Figure 2.3 Alternative case – real GDP
Source: ECONSULT, 2006

Labour market: Given the lower rate of labour force growth with AIDS, formal sector employment only grows at 1.7 per cent a year. This is, however, marginally slower than labour force growth, and hence the informal sector grows in size (in relative terms), indicating rising un-/underemployment. Reduced investment and productivity growth cause wages to stagnate.

This scenario indicates that HIV/AIDS, through its impact on investment and productivity, as well as on population and the labour force, will reduce economic growth significantly, and will also reduce per capita incomes relative to the 'no AIDS' scenario. Both real wages and employment would be lower with AIDS. ART raises the economic growth rate and per capita incomes somewhat compared with the 'AIDS without ART' scenario.

(iii) Summary of macroeconomic results

We can summarise these results as follows:

- AIDS will have a negative impact on the rate of economic growth in Botswana. If investment is strongly negatively affected, the rate of GDP growth will fall from a projected 4.5 per cent a year without AIDS to an estimated 3.2 per cent a year under the 'AIDS with ART' scenario, and after 20 years the economy will be 25 per cent smaller than it would have been without AIDS.
- The impact on the growth of average real incomes (per capita GDP) is also negative, if investment is strongly affected, averaging 2.0 per cent a year under the 'AIDS with ART' scenario, compared with 2.6 per cent a year without AIDS. Per capita GDP would be 9 per cent lower after 20 years (this contrasts with the results of some other studies, which found that GDP per capita could plausibly rise as a result of HIV/AIDS, on the basis that the reduction in GDP growth could be smaller than the reduction in population growth).
- Due to the sharp drop in investment (and hence weak demand for labour), wages stagnate.
- Without AIDS, underemployment falls from 32 per cent to 24 per cent of the labour force. With AIDS, the trend is much less favourable, and underemployment falls more slowly to 28 per cent in the 'AIDS with ART' scenario and rises to 34 per cent without ART, as the slower growth of the labour force is offset by the effect of lower investment and slower economic growth.

It is important to note that although both GDP and average income growth rates may fall as a result of AIDS, **they both remain positive**. In other words, in the scenarios chosen here, neither GDP nor average incomes will be lower in 20 years than they are now – they may simply be lower than they would have been without AIDS.

The reduction in growth as a result of HIV/AIDS can be distilled into its various components. The greatest impact is from reduced capital stock, which contributes 45 per cent of the fall in growth, with reduced total factor productivity (TFP) growth contributing 28 per cent, reduced supply of skilled labour 19 per cent and reduced supply of unskilled labour 8 per cent.

2.6 Impact of HIV/AIDS on poverty

As part of the exercise to assess the economic impact of HIV/AIDS on the economy, a simulation analysis was carried out on poverty to period 2016.[6] The analysis makes use of person-level data from the 2002/03 Household Income and Expenditure Survey (HIES). Each person was assigned a probability of being infected with HIV in accordance to the prevalence rates recorded by the Botswana AIDS Impact Survey II (BIAS II), which averaged 17.1 per cent nationally, but varied across the population according to demographic and other factors.[7] A random number between 0 and 1 was then assigned to each person. All people for whom the random number was less than or equal to the probability of being HIV-positive were deemed to be infected. This resulted in a

pattern of infection that resembled very closely that observed in the BIAS II survey. The person-level information was then aggregated back to household level in order to simulate the household impacts. Using certain assumptions about costs of HIV/AIDS to the affected households, the income effects, and the existence of orphan support programmes, we simulate the impact of HIV/AIDS on poverty, income per capita and income dependency ratios.

(i) Expenditure effects

Table 2.3 presents a base case scenario in which HIV-related expenditure increases by 5 per cent for HIV/AIDS-affected households. We do not allow for all the other effects to take place. As a result of expenditures increasing by 5 per cent due to HIV/AIDS, poverty increases to 34 per cent, an increase of 1 percentage point. What these results indicate is not that poverty will be higher in 2016, but rather that it will be 1 percentage point higher than it would have been because of this effect. In other words, if poverty would have decreased to 15 per cent by 2016, it will be 16 per cent instead due to the 5 per cent increase in expenditure.

Table 2.3 Changes in poverty rates – health expenditure effect

Region	*Poverty rate*		
	Without HIV/AIDS	*With HIV/AIDS exp.*	*Change (% points)*
Gaborone	0.07	0.07	0.00
Francistown	0.15	0.15	0.00
Other cities and towns	0.15	0.15	0.00
Rural south-east	0.33	0.33	0.00
Rural north-east	0.42	0.42	0.00
Rural north-west	0.46	0.46	0.00
Rural south-west	0.53	0.54	0.01
National	**0.33**	**0.34**	**0.01**

Source: ECONSULT, 2006

(ii) Income effects

The income effects come into play when the HIV-infected person dies and household income begins to decline. Assuming no worker replacement, household income is assumed to fall by 45 per cent. The results are shown in Table 2.4. As a result, overall poverty rises by three percentage points.

Table 2.4 Changes in poverty rates – income loss due to death

Region	*Poverty rate*		
	Without HIV/AIDS	*With 45 per cent decline in income*	*Change (% points)*
Gaborone	0.07	0.10	0.03
Francistown	0.15	0.19	0.04
Other cities and towns	0.15	0.16	0.01
Rural south-east	0.33	0.35	0.02
Rural north-east	0.42	0.46	0.04
Rural north-west	0.46	0.49	0.03
Rural south-west	0.53	0.56	0.03
National	**0.33**	**0.36**	**0.03**

Source: ECONSULT, 2006

If we allow for worker replacement, so that the household income only falls by 15 per cent, the poverty rate only changes slightly, with poverty at 34 per cent. There is still some slight increase in poverty due to the fact that the replacement worker does not have the same experience as the worker lost and therefore there is still some reduction in income.

(iii) Combined expenditure and income effects

In Table 2.5 we have allowed the income of the worker in the household who is HIV-infected to fall by 45 per cent in two years, as well as having expenditure increase by 5 per cent for HIV/AIDS health-related costs. The income of the affected household is therefore declining by an effective total of 50 per cent. Overall, the poverty rate increases by 3 percentage points as a result of these changes. Over time, if we assume no ART, HIV/AIDS will have an influence of up to three percentage points in terms of increasing poverty of households.

Table 2.5 Changes in poverty rates – expenditure and income effects combined

Region	*Poverty rate*		
	Without HIV/AIDS	*With HIV/AIDS exp. and income effects*	*Change (% points)*
Gaborone	0.07	0.10	0.03
Francistown	0.15	0.19	0.04
Other cities and towns	0.15	0.16	0.01
Rural south-east	0.33	0.35	0.02
Rural north-east	0.42	0.46	0.04
Rural north-west	0.46	0.49	0.03
Rural south-west	0.53	0.56	0.03
National	**0.33**	**0.36**	**0.03**

Source: ECONSULT, 2006

(iv) Adding the impact of ART

Our earlier analysis assumed that HIV-positive household members die at the end of a 10-year period. In Table 2.6, we allow for some 38 per cent of the HIV-positive household members to still be alive after 10 years, as a result of successful ART, while 62 per cent of HIV-positive household members will die (in line with the 'with ART' demographic projections). In other words, we include a 62 per cent probability of dying, based on the demographic figures. What that means is that 62

Table 2.6 Changes in poverty rates – adding the effect of ART

Region	*Poverty rate*		
	Without HIV/AIDS	*With HIV/AIDS and ART*	*Change (% points)*
Gaborone	0.07	0.08	0.01
Francistown	0.15	0.16	0.01
Other cities and towns	0.15	0.18	0.03
Rural south-east	0.33	0.34	0.01
Rural north-east	0.42	0.43	0.01
Rural north-west	0.46	0.48	0.02
Rural south-west	0.53	0.54	0.01
National	**0.33**	**0.35**	**0.02**

Source: ECONSULT, 2006

per cent of the HIV-positive households will experience income falls of up to 50 per cent, while the other 38 per cent only have a 5 per cent increase in their expenditure for medical costs. With ART, poverty would be 2 percentage points higher than without AIDS by 2016. The simulation results show that ART mitigates the impact of HIV/AIDS on poverty by about one percentage point.

2.7 Response to HIV/AIDS in the region

HIV prevalence rates have been declining or stabilising, which may be a positive response to the policies and programmes set up by the countries under consideration in this chapter. All the countries have declared HIV/AIDS to be national disaster, and the epidemic has been positioned at a high level on their national agendas. In Namibia, a multisectoral National AIDS Executive Committee, consisting of ministers and prominent leaders, drives the country's fight against HIV/AIDS. In Swaziland, the government established an HIV/AIDS Cabinet Committee and a multisectoral HIV/AIDS Crisis Management and Technical Committee under the Office of the Deputy Prime Minister. This was later upgraded to a council and was expanded to include more stakeholders. In Lesotho, the government set up the Lesotho AIDS Programme Coordinating Authority (LAPCA) in 2001, which was later replaced by a semi-autonomous National AIDS Commission (NAC) to make it more effective. In Botswana, a National AIDS Council was set up in 2000 under the chairmanship of the president, with the National AIDS Coordinating Agency (NACA) as the Secretariat. Not only is HIV/AIDS prioritised in terms of budget and policies, but Botswana also provides one of those few cases where the president of the country personally leads the national effort against the disease.

For all these countries, there are different types of HIV/AIDS prevention and mitigation for those already infected. Among the prevention methods are public education and awareness, educating the youth, condom distribution and education, targeting highly mobile populations, improved blood safety, prevention of mother-to-child transmission of HIV (PMTCT) and behavioural change campaigns. Additional activities include HIV testing and counselling as key programmes towards HIV-related prevention and care. Botswana, Lesotho and Swaziland, for instance, have introduced voluntary HIV counselling and testing (VCT), which has been led by campaigns such as 'Know Your Status' and 'Show You Care'. In some of these countries, these messages have been the subject of high-profile marketing through billboards, bus stops and sometimes using local languages. With the assistance of donors, the countries have established several counselling centres nationwide.

HIV testing is also provided as a routine part of check-ups in public and private clinics in Botswana. Botswana's Routine HIV Testing (RHT) was started in 2004 when it was assumed that this would reduce the stigma associated with the 'exclusivity' of HIV testing, enable early testing and allow more timely access to treatment. Even though RHT has provided an increase in the accessibility of HIV testing, there is some concern about its design since healthcare practitioners seemed to be inadequately trained. For example, there was still confusion in 2008 around key issues such as who should be offered RHT, what information or counselling should precede testing and what constitutes 'informed consent'. There was also concern prior to the announcement of RHT that the concepts of compulsory, routine and mandatory testing have been used interchangeably, leading to questions on human rights issues. For Lesotho, RHT was also introduced in 2004 with the aim of overcoming stigma and discrimination. However, by October 2006, the scheme had tested only 720 community volunteers, which was 0.06 per cent of the 1.3 million targeted. This was probably due to a lack of healthcare workers and failure to safeguard human rights issues. For Swaziland, RHT started in 2003, but had a limited coverage due to the centres being mainly located in urban areas. The major limitation to public testing of HIV in all these countries is the stigma associated with being HIV-positive, which is linked to sexual promiscuity. For some of the countries, efforts to break the silence were provided by public testing of public figures, even though very few would divulge their status, especially if they happened to be HIV-positive.

In terms of treatment, all the four countries provided free nationwide ARVs. Most started by providing ARVs at one centre and over time expanded to provide them at most public health centres. While success was achieved in terms of rolling out the ARV programmes to a larger population, these small states immediately found themselves facing serious problems in trying to expand the rollout. Among the major constraints was the shortage of human resources in the health system. This was due to some skilled personnel having been lost to HIV/AIDS, and some having left the country for better remuneration packages and working conditions, especially in highly industrialised countries. Botswana, for instance, responded by importing medical personnel from poorer parts of Africa, India and Cuba. Unfortunately, these medical personnel were limited in terms of their ability to communicate with patients, as they did not understand the local language, Setswana, let alone the culture. Policies also dictated who could initiate ART. Where nurses were allowed to initiate treatment, it was found that the programme rolled out more quickly.

Another result of HIV/AIDS in these countries has been an increase in the number of orphans. The countries have again come up with innovative responses, ranging from the setting up of charity projects in Lesotho to orphan care programmes in Botswana.

The private sector and NGOs have been proactive in terms of responding to the disease. Some firms, for instance, have trained and sensitised more workers on the dangers of HIV/AIDS, have provided free testing and subsidised ARVs, and have put HIV/AIDS policies in place at the workplace. The diamond mining company in Botswana, Debswana, is a typical example of a firm that has responded positively to the threat. After providing free testing for its workers in 1999, the company approved ARVs for all employees living with HIV/AIDS and subsidised the costs of monitoring viral loads and CD4[8] counts by paying 90 per cent of the costs, including those for the ARVs.

The responses from the countries in dealing with HIV/AIDS have shown some forward and dynamic thinking. However, plans have been limited in terms of implementation by financial and human resources constraints and, for some countries, by lack of proper infrastructure to allow health facilities to reach all areas. In the Southern African region, Botswana is among the countries that stand out as providing a 'best case' in terms of response to the HIV/AIDS epidemic. First, as regards priority, the country came up with a co-ordinating body chaired by the president of the country, who also took an active role in the HIV/AIDS campaign within the country and worldwide. Tackling HIV/AIDS therefore received much greater support than in other countries, both in terms of publicity and resources assignment. Botswana's institutional response to the epidemic has also been one of the more progressive and active among Southern African countries. The need for a multisectoral response was recognised early on as part of the response to international policy and advice, given the cross-cutting nature of HIV/AIDS and its widespread impact on society and the economy, as well as the obvious health issues. The second area in which Botswana provides a best case is in terms of its response to HIV/AIDS via its ambitious plan to roll-out treatment to its entire population, a strategy that was only later adopted by other countries in the region. This was of course facilitated by the availability of financial resources from the mining sector, even though donor funding was also important.

In the earlier phase of the epidemic, ART provision in other countries was largely limited to private medical facilities, charities and NGOs, and sporadic provision through the public health system. This was mainly because financing was almost entirely dependent upon donor support. One of Botswana's success stories is that the country has been able to provide universal access to ARV therapy for a while now. All people of Botswana who are eligible for ART can now access the treatment without payment. However, not all HIV-infected individuals are accessing treatment, as some roll-out is still needed before the ARV programme can be said to have reached all corners of

the country. The major constraining factors are the lack of human resources, stigma and intransigent sexual behaviour. The backlog of persons enrolled for ARV treatment has been whittled away, however, with some people gaining access via the private sector. On average, people are enrolled less than three weeks from the time a decision is made to put them on ARVs. The challenge that still exists is to get people to seek medical help in the first place, before they become weak and in spite of the stigma they might face. To sum up, although there are still some problems and challenges ahead, Botswana's response to the HIV/AIDS pandemic has been remarkable, with lessons that other countries may wish to emulate.

2.8 Financing HIV/AIDS in the region

HIV/AIDS has had a huge effect on the fiscal operations of these small African countries. Before the epidemic, most countries had a small budget allocated to healthcare provision. It was on recognition of the need to curb the spread of the disease, as well as the need to deal with those affected, that African governments committed themselves to spending 15 per cent or more of their budgets on public health. Yet few countries have reached that target. By 2003, only Zimbabwe and South Africa had met the target, while Botswana had assigned 10.4 per cent of expenditure to health and Swaziland and Lesotho had each assigned 7.4 per cent (Shisana and Letlapa, 2004).

Data on expenditure on HIV are usually scarce or not available, making time series analysis difficult. In Botswana, based on some limited data and on interviews with key informants, it was found that the largest costs incurred by the government in the area of HIV and AIDS were those linked to ART, orphan support and home-based care. These costs amounted to an estimated 26 per cent (excluding donated ARV drugs), 33 per cent and 15 per cent of NACA expenditure, respectively, in 2004/05. Prevention activities (13 per cent) and management (9 per cent) made up the other main components. In 2006, the cost of ART regimens was estimated as follows: First Line 5,130 pula (P); Second Line P8,055; Third Line P12,205.[9] The cost of first line provision is very close to the cost reported for ART provision in Thailand, which was reported at US$842 per patient per annum in 2004 (=P5,052 at an exchange rate of P6=US$1) (ECONSULT, 2006).

A major issue in terms of rolling-out ARV drugs to the target population is the price of the drugs and the restrictions due to trade-related aspects of intellectual property rights (TRIPS) imposed when it comes to acquiring cheaper ones. Botswana, for instance, currently uses ten patented drugs in its national ARV therapy programme. It will be impossible for Botswana to scale up the programme, and achieve the national treatment target, if the price of ARV drugs and other essential medicines is not reduced significantly. The use of generic drugs – that is, those that are equivalent and interchangeable with patented ones – would reduce the cost of ARV treatment per patient, thereby allowing the treatment of more people. Hence it is important that flexibilities be built into the trade in drugs to save as many human lives as possible in these countries. The TRIPS agreement contains various flexibilities, which aim to reduce the adverse effects of intellectual property rights on the cost of drugs, and countries should take advantage of these flexibilities. These in general allow the manufacture and supply of affordable generic versions of new generation ARVs under certain conditions. However, the capacity to supply a specified list of generics under such conditions is limited and the use of such flexibilities in their current form remains complex and unattractive. This is because the pharmaceutical companies of Western countries are quite powerful in seeking to protect their patents.

In terms of total expenditure on HIV/AIDS, Botswana has the highest expenditure in the region at US$143 million in 2006. The second largest expenditure is for Namibia, with US$79 million in the same period, and the least is Lesotho with US$24 million. These expenditures are summarised in Figure 2.4.

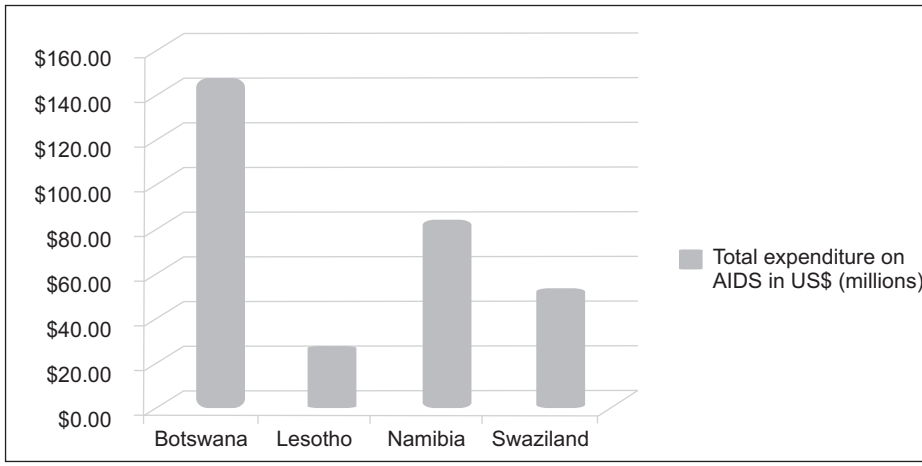

Figure 2.4 Total expenditure on HIV/AIDS for small countries in the African region (US$ millions)
Source: Various statistical bulletins

However, as a percentage of GDP, Swaziland has the largest share with 0.7 per cent of GDP being spent on HIV/AIDS. The second largest is Namibia with 0.6 per cent, with Lesotho the smallest in terms of share at 0.2 per cent of GDP. At an absolute level, with the highest prevalence rate, Swaziland's expenditure on health is too low. In 2007, for instance, only 0.25 per cent of the national budget was allocated to the HIV/AIDS epidemic, even though HIV/AIDS was declared a national disaster.

In terms of expenditure by source, with the exception of Botswana, international donors dominate the other countries' sources of funding for HIV/AIDS. In 2006, Botswana was funding 91 per cent of its HIV/AIDS expenditure and sourcing 9 per cent from international organisations. The country with the second largest HIV/AIDS budget funded domestically was Namibia, with 49 per cent funded from domestic public expenditure. Lesotho and Swaziland are dominated by international

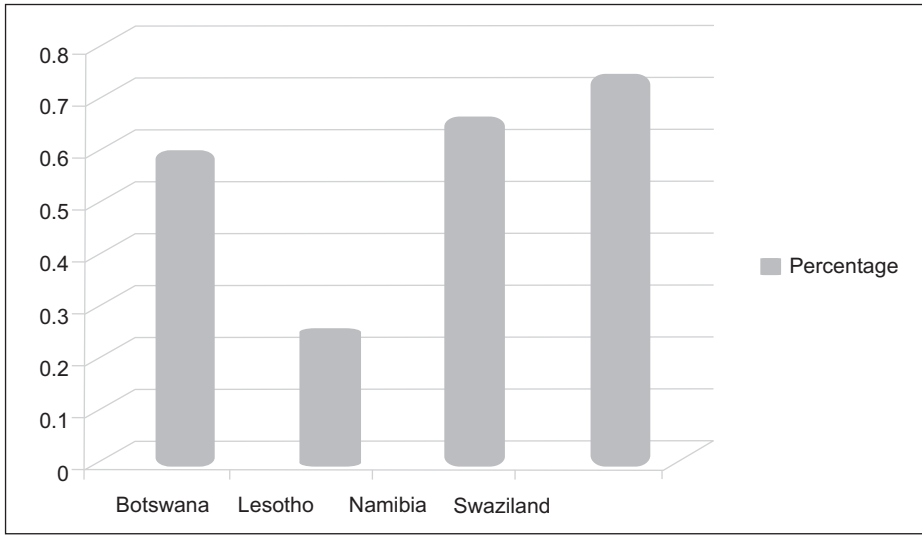

Figure 2.5 Total expenditure on HIV/AIDS as a percentage of GDP, 2006
Source: Various statistical bulletins

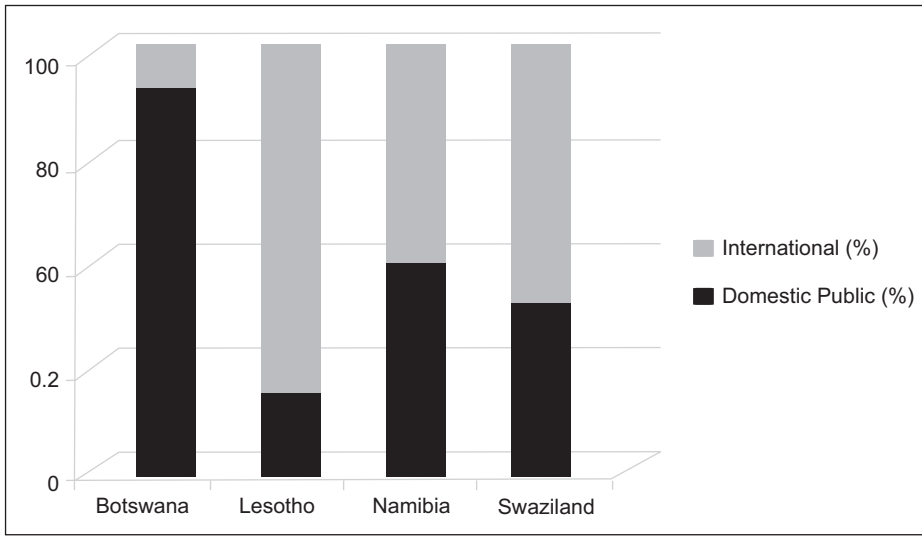

Figure 2.6 Sources of HIV/AIDS finance, 2006
Source: Various statistical bulletins

Table 2.7 Total expenditure on HIV/AIDS as a percentage of GDP, 2006

Country	*HDI rank*	*Public expenditure on health (% of GDP)*				*Health expenditure per capita (ppp US$)*	*GDP per capita (ppp US$)*	*Human Poverty Index*
		2003	*2004*	*2005*	*2006*	*2009*	*2009*	
Seychelles	57	5.8	6.2	6.8	6.8	602	16,771	–
Maldives	95	7.2	7.8	12.4	10.1	742	5,196	66
Swaziland	142	6.6	6.8	6.3	5.9	219	4,789	108
The Gambia	168	4.9	5.4	5.2	4.3	33	1,225	123
Botswana	125	6.4	7.7	8.3	7.2	487	13,604	81
Lesotho	156	6.6	6.4	5.5	6.7	88	1,541	106
Namibia	128	7.2	7.1	5.3	4.9	218	5,155	70
Mauritius	81	3.9	4.3	4.3	4.3	292	11,296	45

Source: UNDP (2009) Human Development Indicators (HDI) Statistics; World Health Organization (2009) Statistical-Information Systems (WHOSIS)

financing, with 81 per cent and 60 per cent of their funds originating from external sources respectively. These statistics are summarised in Figures 2.5 and 2.6.

A number of donor governments provide funding and other support for HIV/AIDS for the four small states of Southern Africa under review in this chapter. These include the United States of America, the United Kingdom, Ireland, France, Germany, Sweden, Japan, Finland, Belgium and the Netherlands. For Botswana, the largest single component of donor funding is channelled through the African Comprehensive HIV/AIDS Partnership (ACHAP), which receives funds from Merck and Company. Support is also obtained from the Bill and Melinda Gates Foundation. At the

time of writing, funding amounted to US$96 million (approximately P600 million) – or around P80 million a year. Of this, around 30 per cent is devoted to each component of prevention of infection, treatment (ART) and programme management. Apart from being wealthier than other African countries and therefore better able to afford to spend more on HIV/AIDS-related activities, Botswana's commitments provide a best case example for the region. The amount of national resources and prioritisation in terms of campaigns by the country's leaders is in itself an effective way of attracting donor funding. Donors are always willing to participate where they can see credible commitment, as the Botswana case demonstrates.

From Table 2.7 it is apparent that Botswana's public expenditure on health as a percentage of GDP has generally been on the increase. The country has one of the highest health expenditures per capita in the region – US$487 as of 2009. This is in contrast to some other countries in the region, where expenditures on health as a percentage of GDP declined from 2003 to 2006 except in The Gambia. For instance, figures for Namibia and Swaziland were 7.2 and 6.6 in 2003 and 4.9 and 5.9 in 2006 respectively (UNDP, 2009; WHO, 2009). There is therefore a greater need for an increase in public expenditure on health, more so with the rapid spread of HIV/AIDS in the region.

2.9 Policy recommendations: looking to the future

The four small states of Southern Africa under consideration here – Botswana, Lesotho, Namibia and Swaziland – all face high HIV prevalence rates, although these are reaching a plateau or declining. There are still many challenges, which will require more effort from themselves and donor countries. Some of the challenges are:

- Lack of response in terms of behavioural change,
- Lack of human and financial resources to tackle the epidemic effectively, and
- The stigma attached to the disease, which has limited the effectiveness of past efforts.

A number of policy options follow from the analysis presented in this chapter. The macroeconomic model carried out with Botswana's data has shown that HIV/AIDS is not only a health issue, but a development issue as well. Growth is shown to be lower than without HIV/AIDS, poverty levels are likely to increase, as are the other social and economic problems associated with poverty: low labour productivity, high unemployment and low incomes. What the analysis shows generally is that more needs to be done in terms of scaling up prevention and making it appropriate for the individual, education and treatment. All these efforts will require a lot of capacity-building assistance and resource mobilisation, which some of the countries cannot provide without donor assistance. Even the wealthier countries cannot effectively reduce the HIV prevalence without receiving more donor assistance. For example, in its costing of the MDGs, Botswana had to concede that it will need more assistance to deal effectively with the disease. It is estimated that a large proportion of its MDGs expenditure will be needed to deal with HIV/AIDS if the country is to meet the goal of reducing new infections and treating those who are already infected.

It is also necessary to deal effectively with the issue of stigma attached to the disease, if the war against HIV/AIDS is to be won. Partly as a result of the stigma, it is still difficult to get everyone tested and to access treatment, even where it is publicly available. Too many people seek testing and treatment late, making treatment less successful and people more likely to die despite being on ART. Early testing and establishment of treatment regimes is critical.

Routine HIV testing (RHT) has also had limited success due to lack of training of healthcare personnel and inaccessibility issues in some of the countries of the African region. There is therefore need for

a broad-based public campaign, which should ideally precede the introduction of RHT, especially given the human rights issues arising from misuse of such concepts as compulsory or mandatory testing (which were used interchangeably with routine testing). Dealing with individual behaviour change and stigma, for example, is important, as is addressing wider socio-economic factors behind increased susceptibility: the insecurities of migrant labour, gender and generational imbalances, and poverty.

Given that the per unit cost of drugs may be expensive because of the generally small numbers required, countries should also take advantage of the flexibilities built into trade related intellectual property rights, so that they can access cheaper drugs from the market.

In addition, there are major challenges with regard to dealing with HIV/AIDS at the workplace. It is important that HIV/AIDS is dealt with not only by government, but also by firms in terms of their developing HIV/AIDS policies at the workplace. There is also the challenge of dealing with the cultural and religious aspects that hinder the effectiveness of addressing the pandemic. It is quite common for religious organisations in some of the countries to encourage people who are already HIV-positive not to enrol in ART because their religious beliefs bar them from taking any medication. A number of people have died because they were persuaded to withdraw from the therapy. In such cases, efforts were made to have these individuals re-enter the ART programme; however, they had by that time developed opportunistic diseases that could not be treated.

International assistance will be necessary to be able to fund research that enables countries to understand the impact of the disease. It is critical for governments, supported by the international community, to increase the human, financial and medical care available to treat those already infected and affected. Some of the countries under review, such as Swaziland and Lesotho, do not have sufficient resources to be able to face the challenges without donor support. However, they need to demonstrate their resolve in terms of prioritising the health sector response and their level of commitment, which would in turn encourage the donor community to assist them. This has been the channel through which Botswana has been able to attract donor support to tackle the epidemic in recent years.

Countries should also learn from one another with regard to how they have responded to the disease, sharing their experiences.

Notes

1. The sexual practice of having sexual intercourse with the woman not having vaginal lubrication.
2. 'Small house' is a word used in Botswana to describe an extra-marital relationship.
3. Funeral costs are known to be quite high in Africa, estimated at many times household monthly expenditure. See Sandra Freire, 'HIV/AIDS, Funeral Costs and wellbeing: Theory and Evidence from South Africa', p.15 where the point is made.
4. While there may be a few skilled workers employed in the informal sector, the numbers are considered small enough (in terms of the classification of skilled and unskilled workers used here) not to make any significant impact on the results, hence they are not included in the model.
5. The argument for excluding mineral rents from output, and the method of calculation, is taken from Bank of Botswana, 1993.
6. The simulation is made to 2016, the period marking the end of Vision 2016, which is Botswana's long-term vision. This, among other things, envisages zero absolute poverty in 2016.
7. Although there is a one to two year gap in the data sets, since BIAS II was done in 2004 while HIES was done in 2002/03, the relatively slow pace of change in HIV prevalence should result in little or no bias

being introduced in the results. Although contemporaneous HIV prevalence data for 2002/03 could have been obtained from the ANC sentinel surveillance surveys, as was done in the analysis for the BIDPA (2000) report, the much smaller sample size for the ANC sentinel surveillance, and the restriction of that survey to pregnant women, makes it much less suitable than the BIAS II data.

8. The CD4 count measures the number of CD4 cells in a sample of blood. Along with other tests, the CD4 count helps tell how strong a person's immune system is, indicates the stage of his/her HIV disease, guides treatment and predicts how the disease may progress.
9. Second and third line ARV treatment generally refers to subsequent ARV treatment provided when it has become clear that the first set of therapy is no longer effective in making the viral load undetectable to a patient. The second and third lines of therapy are usually much more expensive.

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Chapter 3

Mahendra Reddy

The Economics of HIV/AIDS in Small States: Evidence from Pacific Island Countries

3.1 Introduction

The Pacific island economies are made vulnerable by a number of geographical and economic factors. Although we acknowledge the importance of geographical factors, this chapter will focus on the economic factors, arguing that the surge of HIV/AIDS has added a new dimension to the vulnerability of these fragile states.

HIV/AIDS was first detected in the Pacific in the mid-1980s. It has spread steadily in the Pacific since then, given the prevalence of a number of aggravating factors required for an epidemic. A 2004 estimate by the Asian Development Bank (ADB) for its Pacific member countries revealed a total of 10,500 HIV/AIDS cases (SPC, 2004). This number has increased rapidly and a 2009 report on the Pacific revealed a total of 29,629 reported cases of people living with HIV with 5,162 new HIV diagnoses in 2008. Of these, 99 per cent are in Papua New Guinea (UNAIDS Pacific Region, 2009). However, this figure is obviously underestimated because of people's unwillingness to report to health authorities and also due to the lack of surveillance systems. In a 2005 report, ADB expressed concern about HIV/AIDS' potential destructive effects on the economic and social development of the Pacific economies and societies (ADB, 2005b). The bank resolved to:

- Help countries in the region to understand the nature of the epidemic by generating information through improved surveillance and other studies,
- Enhance the decision making skills of programme managers through improved use of information,
- Build the skills of local government and civil society organisations to implement prevention and care programmes, and
- Develop useful and practical monitoring and evaluation systems (ADB, 2005b).

Among the Pacific island countries, Papua New Guinea and Fiji have the highest number of reported cases of HIV. At a sub-regional level, Melanesian countries report almost all HIV-related cases (see Table 3.2). The risks to the Pacific are great, given the current state of its socio-economic development. One of the first formal reports prepared by the United Nations stated the following with respect to vulnerability of the Pacific population:

> *The principal reasons that the Pacific region is vulnerable to the AIDS epidemic stem from these social, economic and cultural dynamics: the movement of people out of, into and within the region; mobility that assists the introduction and spread of HIV; the youthful age structure of Pacific island populations and their high dependency ratios; the very slow growing, even stagnant, economies of the region and consequently, very limited opportunities for employment and the growing impoverishment*

of some people; and socio-cultural factors that pattern the status of women and the behaviour of men. (UN, 1996: 23)

Therefore, the objectives of this study are to identify the main economic issues associated with HIV/AIDS in small states, including the region's specific determinants of transmission. Furthermore, we examine the micro and macro level impacts of HIV/AIDS and the best practices in the region for coping with HIV/AIDS, the inclusion of economic policies and government spending, as well as policies to prevent and treat it, and the cost effectiveness of these policies. We also examine the financial support from the government budget and external funding accessible to small states, including the trend in public sector resource allocation towards combating HIV/AIDS, the costs and its effectiveness.

To fulfil the objectives of this study, we examined the existing literature and undertook in-depth interviews to answer the research questions embedded in the objectives. The second section of this chapter examines the social and economic impact of HIV/AIDS on Pacific economies and societies. Section 3 examines the region's specific risk factors associated with the spread of HIV/AIDS. Section 4 provides an overview of the local, regional and international support for HIV/AIDS programmes in the Pacific region and its effectiveness. The last section provides the summary and conclusion.

The Pacific Regional Strategy on HIV/AIDS 2004–08 was developed through an extensive consultative process, taking into consideration the uniqueness of the Pacific region and issues related to HIV/AIDS, including lessons learnt from countries that have successfully halted and reversed the spread of HIV/AIDS. Following the regional HIV/AIDS co-ordinating meeting in October 2003 in Nadi, Fiji, a Regional Strategic Reference Group (RSRG) was established. The group comprised representatives from the main sub-regions of the Pacific, including the American-affiliated Pacific island countries and the French territories, people living with HIV/AIDS, non-governmental organisations, the Joint United Nations Programme on HIV/AIDS (UNAIDS) and technical agencies.

The goal of the strategy is to reduce the spread and impact of HIV/AIDS, while embracing people infected and affected by the virus.
Greg Urwin, Secretary General of the Pacific Islands Forum Secretariat

The Pacific Regional Strategy on HIV/AIDS (2004–08) was built on a vision for the Pacific, where the spread and impact of HIV/AIDS is halted and reversed; where leaders were committed to leading the fight against HIV/AIDS; where people living with and affected by HIV were respected, cared for and had affordable access to treatment; and where all partners committed themselves to these collective aims with the spirit of compassion inherent in Pacific cultural and religious values. The goal of the strategy was to reduce the spread and impact of HIV/AIDS, while embracing people infected and affected by the virus. The Pacific Regional Strategy came up with the Pacific Regional Strategy Implementation Plan, which is a framework for national and regional activities in the Pacific to co-ordinate a collective response to HIV and AIDS. It was formed under the following themes:

- Leadership,
- A safe and healthy Pacific islands community,
- Access to quality services,
- Human rights and greater involvement of people living with and affected by HIV/AIDS,
- Co-ordination, collaboration and partnership,
- Funding and access to resources,
- Planning, monitoring and evaluation, surveillance and research, and
- Addressing vulnerability.

The Pacific Regional Strategy on HIV/AIDS 2004–08 was implemented over a five-year period by all governments, non-governmental organisations and regional stakeholders. Countries were encouraged to meet the commitments made by their leaders to actively play their part in implementing the strategy.

This year, the United Nations Regional Task Force on Injecting Drug Use and HIV/AIDS for Asia and the Pacific, the World Health Organization (WHO), the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Office on Drugs and Crime (UNODC), The Global Fund (TGF) and the Asian Network of People who Use Drugs (ANPUD) launched 'A strategy to halt and reverse the HIV epidemic among people who inject drugs in Asia and the Pacific 2010–2015' during the XVIII International AIDS Conference which was held in Vienna, Austria (18–23 July 2010). Counting on the commitment of member states and civil society, the expertise of the UN agencies, the meaningful involvement of people who use drugs and the political and financial engagement of development partners, the Strategy is designed to be implemented country by country with a strong regional component. This new strategy is an additional tool that can be used by the Pacific member states in their efforts to achieve the Millennium Development Goal number 6 and advance interventions for the prevention and control of the HIV epidemic by 2015.

3.2 The economic and social impact of HIV/AIDS in the Pacific

Economic and social hardship in Pacific populations could become severe in the next two decades if effective strategies are not pursued. The impact can be classified into two levels: the macro and the micro levels. Economic analysis of the impact of the HIV/AIDS epidemic on an economy and its households can help bring a number of issues to the forefront. It will help demonstrate that the destruction of labour can starve the business sector of a productive and qualified labour force. It can demonstrate how the government sector can be deprived of significant revenue as a result of declining economic activity. It can also demonstrate how a government's health expenditure can rise in its bid to tackle the epidemic. It can demonstrate how, at the national level, outputs, and thus income, will be lost as a result of a decline in the working-age population. It will demonstrate how households losing the wage earner can face an economic and social crisis. The economic impact can be due to a diversion in the micro and macro budget towards healthcare, in particular the cost of payment for antiretroviral (ARV) drugs, and the loss of household and national income.

With a third of the world's surface and just 0.14 per cent of the world's population, HIV/AIDS prevalence in the Pacific is generally considered low compared with the other regions, but the unique demographic dynamics of the region entails that even a small number of people living with HIV can translate into high incidence and prevalence rates that can have devastating impacts on individuals, families, communities and economies (UNAIDS, 2009).

The Pacific region comprises 22 independent countries and territories spreading across 30 million square kilometres of the Pacific Ocean. It is in many ways unique and one of the world's most diverse regions – a vast range of different cultures, traditions, languages, political systems, lifestyles and living conditions. This makes the cost of implementing and co-ordinating HIV programmes higher in the region.

In the Pacific, more than 90 per cent of HIV infections reported in 2004 were recorded in Papua New Guinea, prompting the World Health Organization to predict that one in five Papua New Guinean men, women and children will be infected with HIV within the next decade unless urgent action is taken (Oxfam, 2009).

Latest UNAIDS estimates suggest that there are currently 54,000 people living with HIV in Papua New Guinea and fewer than 500 in Fiji. By the end of 2008, only 11 people in Tuvalu had been diagnosed with HIV but with a population of only 9,700, the known incidence of infection is similar to those of Guam and French Polynesia. Kiribati is only slightly behind. The 36 known cases in Federated States of Micronesia (FSM), 290 in Fiji, 19 in Marshall Islands and two in Nauru produce similar incidence rates. However, the low levels of confirmed cases and lack of surveillance in other countries preclude estimations in the Pacific region.

Table 3.1 Per capita ODA, total external expenditure on health and on HIV, 2005

Country	*ODA (US$) received per capita 2005*	*External expenditure on health (US$) per capita 2005*	*External expenditure on HIV per capita – as % of external expenditure on health*
Cook Islands	554.2	103.9	3.3
Fiji Islands	76.8	9.6	4.2
Kiribati	302.2	29.8	3.7
Marshall Islands	996.1	143	2.6
Nauru	889.1	7.7	2.6
Palau	1,164.1	146.4	11.2
PNG	43.9	5.1	172.5
Samoa	238.4	14.1	2
Solomon Islands	419.5	22.7	1.3
Tonga	319	36.2	1.4
Tuvalu	856.2	37	17.8
Vanuatu	183.1	15.6	6.4

Source: UNSW Global (2009): 51–52

For some small countries such as Tuvalu and Kiribati, whose sources of income are pegged to a very narrow range of economic activity, any negative effect on this activity will have a devastating effect both on the households and the national economy. The largest source of income for Kiribati is remittances from Kiribati nationals working as seafarers. Seafaring remittances to Kiribati total approximately US$6 million to US$10 million (10 to 17 per cent of GDP) per year (Connell and Brown, 2005; Dennis, 2003). If this financial flow was reduced, as a result of commercial shipping companies turning to other countries to source labour due to high HIV prevalence, the cost would be considerable. A drop of 10 per cent in seafarers' remittances would be equivalent to US$1 million to US$2 million per year.

A decline in national income also would have a significant local and household impact. In 2003, the Secretariat of the Pacific Community (SPC) reported that each seafarer supported an average of seven people in Tuvalu, eight in Kiribati and six in Fiji. Some seafarers reportedly supported as many as 30 people at home (Dennis, 2003). These families would be deprived of their principal source of income taking into account that the Pacific island:

- Economies have low levels of per capita income,
- Countries have a narrow range of income sources,
- Populations have a large subsistence agricultural base,
- Production systems are labour intensive, and
- Countries have relatively high poverty levels and high income inequality.

Table 3.2 Cumulative reported HIV, AIDS and AIDS deaths: incidence rates and gender distribution, all Pacific island countries and territories (to December 2008)

Country	*Mid-year population 2008 HIV*	*New cases 2008*	*Cumulative cases*			*HIV cumulative incidence per 100,000*	*HIV M*	*HIV F*	*HIV gender unknown*
			HIV including AIDS	*AIDS including deaths*	*AIDS related deaths*				
MELANESIA	8,312,416	5,132	28,932	2,932	429	348.1	12,846	14,820	1,266
MELANESIA excl Papua New Guinea	1,884,011	48	638	162	76	33.9	414	222	2
Fiji Islands	843,888	31	290	34	11	34.4	162	128	0
New Caledonia	246,598	15	331	118	59	134.2	246	83	2
Papua New Guinea	6,468,405	5,084	28,294	2,770	353	37.4	12,432	14,598	1,264
Solomon Islands	520,617	2	12	5	4	2.3	4	8	0
Vanuatu	232,908	0	5	5	2	2.1	2	3	0
MICRONESIA	471,803	15	343	187	151	72.7	248	78	15
Federated States of Micronesia	110,445	1	36	28	28	32.6	24	12	0
Guam	117,290	5	192	109	82	163.7	164	28	0
Kiribati	97,201	2	52	28	23	53.5	30	16	10
Marshall Islands	53,889	5	19	5	4	35.3	4	5	4
Nauru	9,570	0	2	1	1	20.9	2	0	0
Northern Marianas	63,130	1	33	12	10	52.3	19	14	0
Palau	20,278	1	9	4	3	44.4	5	3	1
POLYNESIA	655,016	22	356	131	95.8	54.3	250	105	1
American Samoa	64,337	0	3	1	0	4.7	2	1	0
Cook Islands	15,564	0	2	0	12.8	12.9	1	1	0
French Polynesia	262,497	16	302	107	63	115.0	215	87	0
Niue	1,550	0	0	0	0	0.0	0	0	0
Pitcairn	66	0	0	0	0	0.0	0	0	0
Samoa	181,964	3	19	8	8	10.4	13	6	0
Tokelau Islands	1,168	0	0	0	0	0.0	0	0	0
Tonga	102,652	2	17	10	9	16.6	9	8	0
Tuvalu	11,035	1	11	4	3	99.7	9	1	1
Wallis and Futuna	14,183	0	2	1	0	14.1	1	1	0
ALL COUNTRIES	9,439,235	5,169	29,631	3,250	675.8	313.9	13,344	15,003	1,282
ALL excl Papua New Guinea	2,970,830	85	1,337	480	310	45.0	912	405	18

Source: UNAIDS Pacific Region (2009:20)

Figure 3.1 and Table 3.3 explain the transmission mechanism of HIV/AIDS and aggravating factors at various levels of Pacific island economies.

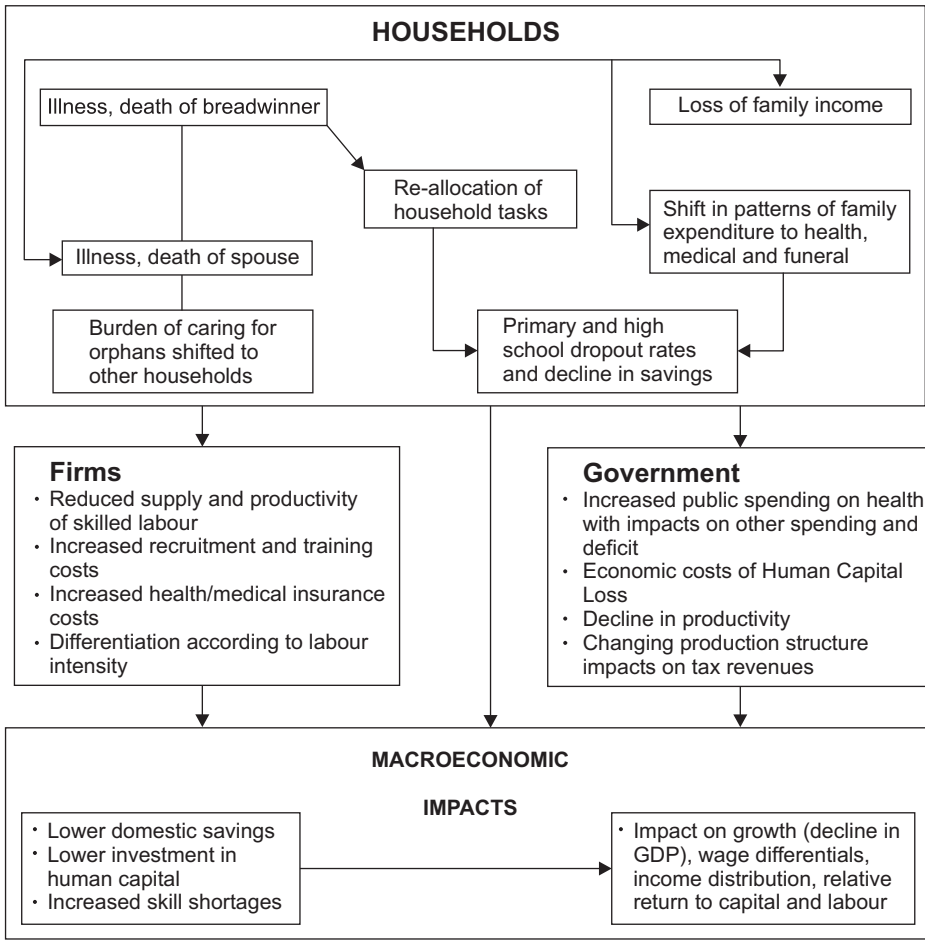

Figure 3.1 Channels for economic impact of HIV/AIDS on Pacific economies

Table 3.3 Summary of economic impact of HIV/AIDS on Pacific economies and societies

Key parameters	*Factors influencing the impact*	*Possible impact*
Households		
Reallocation of household resources towards: • Healthcare for HIV/AIDS • Funeral and mourning expenses • Caring for traditional family members/ orphans	• Share of household income spent on healthcare • Size of funeral and mourning expenses • Responsibilities to care for extended family or others due to obligations • Share of household income on non-essential expenditure • Household savings • Extent to which public resources are provided	• Very low share of household income is spent on healthcare • Most families have few resources to reallocate • Public provision likely to be limited to tertiary services in urban areas • Increase in school dropout rate • Low levels of education and case for intergenerational household poverty
Loss of income from illness: • Those with HIV/AIDS • Carriers • Household members	• Share of household income lost • Ability to maintain household production – diversion of other resources such as children, extent of underemployment	• Urban areas – what proportion of households rely on a single income source? • Rural areas – area depend – reliance on remittances and underemployment in agriculture (is land or labour the constraining factor?)
Loss of future income: • From labour, due to reduced skill levels • From lower investment in fertiliser, implements, seed, land, micro-enterprises etc.	• Current education and response to household income and expenditure impacts • Return to education – what are the opportunities (initiatives) provided by better education? • Current investment and response to household income and expenditure impacts – what are the investment opportunities?	• Current education levels are low. What is the response in terms of withdrawal from education likely to be? • Current investment mainly in cash crops, little opportunity in micro-enterprises. How will these be affected?
Sectoral		
Loss of labour leading to higher labour costs	• Share of labour force affected by HIV/AIDS • Skill level of labour affected • Supply constraints on labour by skill level	• Shortage of skilled labour means skilled wages likely to increase constantly • Transport sector likely to be one of the most affected, and this will in turn impact on other sectors – particularly cash cropping
Additional costs of employment: • Medical benefits • Pensions • HIV/AIDS awareness programmes	• Share of labour force with healthcare benefits and coverage of benefits • Share of labour force with pension benefits and size of benefits • Response of companies to the problem – likely effectiveness of such efforts	• Likely to impact most on the government as an employer • Mining may be very effective in education efforts – but national impact is limited due to small workforce

Table 3.3 Summary of economic impact of HIV/AIDS on Pacific economies and societies (continued)

Sectoral (continued)		
Additional cost of labour turnover: • Recruitment costs • Training costs	• Skill needs of sector • Access to skilled labour supply • Level of training required • Firm size and ability to provide on-the-job training	• Impact on education and health sectors likely to be high due to shortage of trained workers and training required • Mining and finance industries able to access off-shore skilled labour markets
Productivity losses: • Absenteeism • Higher sick leave use • Loss of interest and effort	• Customs regarding caring for family, mourning and funerals determining absenteeism • Availability of HIV treatment programmes to maintain productive employment • Culture in terms of impact on attitude to work and the future	• Not likely to be major issue for the mining sector (except during construction phase) but all other sectors are vulnerable
Reduced investment, changes in investment decisions: • Shifts to more capital intensive production • Reluctance to invest	• Sector potential to replace labour with capital • Source of comparative advantage – if low-cost labour reduces potential • Extent to which production is for the domestic market	• Most investment financed by foreign capital • Mining will be governed by prospective and political stability • Investment in agribusiness may be negatively impacted • Limited scope to replace labour with capital in major employment sectors (service sectors)
Government Impact on government capacity: • To deliver services due to loss of skilled labour • To develop and deliver policies and improve governance Impact on government revenue is anticipated to decline due to lower labour supply, and lower firm profitability (higher costs) Impact on government expenditure anticipated to increase as: • Costs rise as for other employers • Demand for government services rises	• Extent to which government workforce is affected • Flow-on effect to attitude for future • Share of government revenue for income taxes • Progressive nature of tax system, indexation of tax brackets • Government expenditure response to increase demand	• Reduction in government revenue. • Health and primary education are currently very scant and under resourced. Additional government funding in response to HIV is not likely given budgetary problems in almost all Pacific island countries. • Rising costs will further reduce service levels for services

Source: Centre for International Economics (2002: 73–77)

3.3 Country case studies and social and economic risk factors

The Pacific island communities have a number of factors peculiar to the region, which increases the risk of HIV/AIDS infection. These factors, when identified, can be the basis of policy formulation for mitigating risk. The following risk factors encourage the rapid spread of HIV/AIDS in the Pacific:

- Existence of seafarers in the Pacific region,
- Peacekeepers from the Pacific region to missions abroad,
- Substance abuse,
- Geographical factors,
- Sexually transmitted infections,
- Sexual minorities,
- Commercial sex,
- Youth behaviour,
- Demographic factors, and
- Refusal of medical tests.

The following section provides an exposition of these factors.

3.3.1 Seafarers in the Pacific region

An increasing number of the Pacific islands' population is entering the seafaring business. In 1997, an estimated 6,000 Pacific islanders were registered seafarers on fishing, chemical and cargo ships (Peteru, 2002). The majority of the seafaring community has attained little education and originates from poor households. Given that they spend a considerable period of time away from home, they do tend to engage in high-risk sexual activities. Compounding this problem is the fact that they are not tested upon their return.

Oriente (2005) suggested that seafarers probably were the primary mode of HIV transmission to the Pacific region. A study in Kiribati pointed out that 9 per cent of seafarers had chlamydia; 3 per cent had syphilis; and HIV/AIDS prevalence was 0.3 per cent (UNAIDS, 2004). It is widely believed that among seafarers from Fiji, Tuvalu and Kiribati unsafe sex is often practised. The three major reasons given for this behaviour include loneliness, consumption of too much alcohol and peer pressure (see Table 3.4).

Table 3.4 Reasons given by seafarers for practising unsafe sex (%)

Reasons	*Tuvalu*	*Kiribati*	*Fiji Islands*
Loneliness when away from home	82	79	70
Drinking too much alcohol	79	79	81
Influence of friends and peers	62	62	80
Uncomfortable using condoms	76	69	69
Believe will not catch STIs	71	52	57
Hearing bad news from home when at sea	68	80	–

Source: Dennis (2003)

3.3.2 Increasing number of Pacific people serving in peacekeeping missions abroad

In October 1970, Fiji became the 127th member of the UN. As a result, it has maintained a significant number of its police and military personnel (600 per year on an average) in the UN peacekeeping missions, primarily in Iraq, and with MFO Sinai in the Middle East. Fiji also has a number of private citizens working in Iraq and Kuwait, mostly in security services. Officers serve in these countries for periods ranging from 3 to 12 months. Although pinning down the level of risk attached to being away from home for long periods would be difficult, it is reasonable to expect that the probability of engaging in high-risk sexual behaviours would be high. This, in turn, will mean that when peacekeepers return to Fiji, they expose their family members and others to diseases that they may have contracted while abroad. Moreover, given the culture of the country, family members would normally not question the returning member on his sexual activities while on the mission.

3.3.3 Economic and demographic factors

Any attempt to explain the distribution of HIV needs to include both the economic and social factors. In the early stage of the epidemic, the literature on HIV/AIDS attempted to show a positive relationship between HIV infection rates and the sexual behaviours of persons who earned high incomes. Over time, it was observed that HIV incidence rose among those with lower educational and income levels. The reason put forward for this is that the 'poor' tends to engage in commercial sex as a business for livelihood. However, what has been found is that HIV contraction had led to more financial trouble for poor families as their incomes and wealth are depleted on medical care (Greener et al., 2000).

A study by Over (1997), using 1997 data from 50 countries in Africa, Latin America, Asia and the Middle East, showed that HIV prevalence levels increase as income per capita declines and inequality – as measured by the inequality indicator, the Gini coefficient – increases. The primary reason for this is that poor persons are not able to afford HIV prevention services, including treatment for sexually transmitted infections (STI). They also generally tend to be less educated and thus have less knowledge about the risks of HIV and its prevention methods.

Existing empirical literature on the Pacific also demonstrates that HIV/AIDS tends to have a much higher impact on women than on men. Over (1997) also demonstrated the correlation of HIV prevalence level with several proxy indicators of women's equality in society, such as low female participation in the non-agricultural workforce (less than 30 per cent is associated with high HIV levels); and the gap between male and female literacy rates, or less education among women. Recent UNAIDS data on some islands in Oceania suggest men and women now have a relatively equal risk of infection (although the risk faced by women is growing, UNAIDS, 2009). It is nevertheless true that in Pacific societies women tend to be less vocal and thus tend to have less access to social services. Women tend not to actively seek medical assistance for several reasons. Female unemployment rates are relatively high in the Pacific islands, ranging from 27 per cent in Tonga to 84 per cent in Tokelau, with a regional average of nearly 43 per cent (Pacific Operations Centre, 2007. This means that many women do not have any earning capacity and thus do not control funds. Second, females are required by cultural convention to spend more time looking after the extended family members at home, thus neglecting their own health and medical requirements.

Lack of opportunities has resulted in high levels of outward migration from the small Pacific island countries. Internal migration is also evident from the increases in movement of people from rural to urban areas. Returning migrants create avenues for HIV transmission. Rapid rural to urban

migration has been unmatched by the job opportunities in the urban sector, thus some people are pushed to engage in commercial sex.

3.3.4 Sexual behaviour patterns

One of the main impediments to campaigning against HIV/AIDS is the cultural barrier surrounding discussion about sexual behaviour. Pacific traditions and culture do not allow such discussions between specific kinship relations and this is also supported by religious teachings. This restriction is proving a major obstacle to the limited efforts by Ministry of Health officials to educate the general public. In one survey of Samoans, only 4–5 per cent of people considered that informing others about HIV could be preventive (Seniloli, 2003). Education programmes must be targeted first at the leaders, as the Pacific communities are leader-driven societies. Leaders include policy-makers, church elders and village chiefs. Once they are convinced of the benefits of the required change, the rank and file can be convinced. These education programmes must be supported by scientific research. An audit of research on sex and sexuality conducted in 1999 found 7,240 studies that have, at least tangentially, dealt with aspects of sex in the Pacific (Chung, 1999). However, of these, none was directly on HIV/AIDS.

3.3.5 Sexual behaviour of youth

Since sexual activity is by far the main transmission mechanism propelling the HIV/AIDS epidemic it will be useful to briefly review the evidence on the sexual behaviour of young people in the Pacific. United Nations Children's Fund (UNICEF) research, conducted in Tonga in 2000, reveals a number of interesting dimensions of youth sex. First, the study found that among the 15 to 19 year olds, 13 per cent of girls and 42 per cent of boys said they had had sex. Second, of those who had had sex, 58.5 per cent of the boys had three or more different partners, while 33.3 per cent of girls had done the same. Thirdly, most of them revealed that they never or rarely used condoms or any other means of contraception (UNICEF, 2001a). Another study sponsored by UNICEF on Pohnpei targeted a large representative sample of school students with ages ranging from 15 to 17 years. The study concluded from the sample that 81 per cent of boys and 42 per cent of girls had begun having sex and that 69 per cent of boys and 29 per cent of girls had three or more sexual partners. The sample also revealed that the majority of the students never or rarely used condoms. The study also explicitly surveyed youths out of school, mostly among the 17 to 20 years age group. The survey revealed that 86 per cent of boys and 60 per cent of girls had had sex. Furthermore, the study revealed that 61 per cent of boys and 24 per cent of girls had had sex with three or more partners and 73 per cent of them never or rarely used condoms (UNICEF, 2001b).

Jenkins (1996) undertook a similar, but rather smaller, study in Fiji, RMI and Samoa for youths in the 18 to 20 years age group. The study found that, among males, 72 per cent of Fijians, 64 per cent of Fijian Indians, 66 per cent of Marshallese and 64 per cent of Samoans had begun having sex. Furthermore, 15.6 per cent of Fijians, 9.6 per cent of Marshallese and 2.3 per cent of Samoans had paid for sex in cash. The study also revealed that 12.2 per cent of Fijian females and 2.4 per cent of the Marshallese females had paid men for sex. The study noted sex trade statistics for Fiji, RMI and Samoa. For Fiji, it was reported that 4.9 per cent of Fijian males and 13.3 per cent of Fijian females sold sex. In RMI, it was reported that 6 per cent of males sold sex, while for Samoa the figure was 6 per cent each of males and females.

PhD research by Kaitani (2003) on young Fijian men revealed quite interesting results. The research, using qualitative methods and a cluster survey of 822 men under the age of 25 years, mostly in educational institutions, demonstrated the poor quality of sexual and reproductive

health education available in schools. The study found a strong influence of Christian religious and moral beliefs on attitudes; however, it noted a lack of evidence of these being practised. The study revealed that by the age of 19 years, 61 per cent of these young men had had premarital sex (vaginal or anal intercourse). First sexual experiences were with other men (10 per cent); female casual friends (39 per cent); girlfriends (34 per cent); sex workers (16 per cent); and new acquaintances (2 per cent). In the prior six months, about 31 per cent had had three or more partners and 11 per cent had visited sex workers for sex. Furthermore, the study showed that those who appeared to show greater religious commitment were significantly more likely to have had sexual intercourse and to have multiple partners in the prior six months. The author interpreted this finding by noting that such young men had greater access to sexual partners through church socials than those who did not attend. Another revelation of the study was that more than 70 per cent of these sexually active men had never used condoms and only about 24 per cent claimed to be consistent users. The study also revealed that 'convoy' or group sex, in which many men line up for one woman, was being practised. While this study did not measure the frequency, another study conducted in 1996 among youths in Fiji found that 41 per cent of males and 15 per cent of females had participated in convoys (Jenkins, 1996). Similar sexual behaviour has also been documented for Solomon Islands, where convoys are called 'longline'. Buchanan-Aruwafu (2002) reveals that 21 per cent of males and less than 1 per cent of females from a sample of 300 admitted taking part in longline.

3.3.6 Commercial sex trade

Risky sexual behaviour is acknowledged to be one of the main drivers of the HIV/AIDS epidemic. The commercial sex trade provides ample opportunity for this risky behaviour. In spite of this, if we exclude transactional sex, the area of commercial sex in the Pacific has yet to be subjected to rigorous research. Two studies that have been conducted are those by Plange (1990) and Sainath (1994). Both studies reveal that in Fiji commercial sex is growing and an increasing number of young females are pushed to the streets as a result of rising unemployment and poverty. Another study by Mageo (1998) demonstrated that sale of sex for cash and /or other commodities or services is widespread in the Pacific, particularly by females. The study argues that there exists a definitional problem with the term 'sex worker' or 'prostitute', partly because the exchange of sex for commodities (fish, other food items, shell jewellery and trade goods) is an old pattern in many Pacific islands and has been observed and documented many times (Mageo, 1998; Snow and Waine, 1979; Wallace, 2003).

A more recent study by WHO (2006) on Fiji and Kiribati revealed that commercial sex is widespread in the country. The WHO survey found that in Kiribati, 22.5 per cent of the sampled males engaged in commercial sex while females involved in this activity were only 0.5 per cent. For Fiji, the study found that 5.8 per cent of males engaged in commercial sex while no females engaged in commercial sex.

Fiji has recently witnessed a surge of Chinese sex workers brought in to service Asian sailors and fishermen (Jenkins, 2005). This activity is often shielded from the public and is held in brothels with Chinese managers. In contrast, Fijian sex workers can be found in suburban residences, on the streets, in parks and clubs, and increasingly on-call through an organised cell phone network or via massage parlours advertised in the daily newspapers. A study by Peteru (2002) reported that seafarers note easy availability of sex workers in Fiji, French Polynesia, Guam, Nauru, New Caledonia, PNG, Samoa and Tonga. In the Solomon Islands, the term *dugongs* (Buchanan-Arawafu et al., 2003), and in Kiribati the term *korekoreas* refer to young women who meet tuna fisherman and sailors at the docks as they take shore leave (Vunisea, 2005). Previously, women could board the ships, but a new policy in 2004 attempted to halt this practice. The ingenuity of all concerned can probably be

counted on to make enforcement problematic. Buchanan-Aruwafu's (2002) research done in Auki, Solomon Islands in 2000 showed that 13 per cent of 262 sexually active youth (both male and female) had exchanged sex for money or resources. The study noted that of all the sexually active males, 18 per cent reported buying sex in the previous year and only one has ever used a condom. A rather dated study by Jenkins (1996) found that selling sex for cash was reported by 4.9 per cent of Fijian males and 13.3 per cent of Fijian females, as well as 6 per cent of males in RMI and 6 per cent of both males and females in Samoa. The study further noted that 12.2 per cent of Fijian and 2.4 per cent of Marshallese females, with no Samoan females, had paid men cash for sex.

3.3.7 Sexual abuse and violence

It is sometimes argued that sexual abuse and violence among children do exist in the Pacific (Christian Care et al., 2005; Wan Smolbag Theatre et al., 2004). The point made is that a strategy is needed to manage the differences between prosecuting abusers and providing HIV harm reduction methods to older girls or boys at risk of exposure. While the literature has not been able to provide a direct link between child sexual abuse and HIV infection, there is ample evidence from outside the region that serves to demonstrate that women who are physically and sexually abused by their partners, whether married or not, are at additional risk of acquiring HIV and other STIs (Dunkle et al., 2004; Johnson and Hellerstedt, 2002; Martin et al., 1999; Raj et al., 2004). The task of preventing the spread of HIV between partners is certainly more difficult than preventing the spread to clients of sex workers. However, once abuse is part of the scenario we should be aware of the higher risk of infection, and children or spouses who are abused and report it to women's and children's centres should be subjected to screening and blood testing. It would also make sense for these centres to provide training on how to protect abused spouses and children from possible infection in the future.

3.3.8 Sexual minorities

Pacific island societies are also endowed with a significant 'traditional gender-variant role' for males. There are various terms given for these gender-variant roles, for example, the *fa'afafine* for the Samoans, *fakaleiti* for the Tongans, *laelae* for the Cook Islanders and *mahu* for the Tahitians and Hawaiians (Jenkins, 2005). Jenkins noted that although it is generally understood that young males often had their first sexual experience with *fa'afafine* it was not their femininity which was crucial. These gender variants are also seen as very helpful and valuable to the community. Most Pacific islanders who live gender-variant roles resist the use of terms such as transgender, gay, transsexual, homosexual and so on, because they feel these terms are centred on sexuality and sexual preference (Jenkins, 2005). Traditionally, the indigenous terms were centred on aspects of the person, who was appreciated within the family and community. Sexuality was more private and not central to the identity of an individual. In a manner similar to native Americans, in some places such as Hawaii and Samoa, transgendered people have begun activities intended to rebuild their respectable place in society (Schmidt, 2001). Nonetheless, under the constant influence of Western models of sexuality, economic pressures, tourism and, to some extent, the models that grow in HIV/AIDS programmes, these Pacific formulations are being altered. These groups were the first to have become infected with HIV in the Pacific (Spiegel, 1991).

With increasing international influence and linkages, these groups with gender variant roles have formed their own identity groups and associations. While they may be able to assert influence as a group, they still have difficulty being accepted as individuals in the extended family, community and society. There are studies which have also demonstrated that these groups have high risk levels. A study of HIV/AIDS cases on French Polynesia before 1990 (n=90) revealed that 42 per cent were homo/heterosexual transmissions. This proportion dropped to 34 per cent with the inclusion

of 2002 data (Clark, 2005). A study done on Fiji by Hecklinger (2001) states that in Fiji 71 per cent of 400 males who have had sex with other males reported their male partners' self-identity as heterosexual when interviewed by a non-governmental organisation. There is need for further research in this area, carrying out in-depth interviews with these men who have had sex with other men. This should shed light on the profile of the men who have sex with men (MSM) since it is known that for some young men their first sexual experience is with another man. Although this behaviour is not coterminous with homosexuality, it tells us about the possible role of a bridging group and the particular risks that might result.

3.3.9 Sexually transmitted infections

It is commonly acknowledged that there is a link between the pattern of STIs and the spread of HIV/AIDS infections. A study on Samoa based on a survey of 427 pregnant women found high levels of chlamydia (30.9 per cent) and trichomoniasis (20.8 per cent), although the gonorrhoea and syphilis levels were much lower and no HIV infections were detected. The study also noted that those under 25 years old were three times more likely to have an STI than older women (Sullivan et al., 2003). Another study on Vanuatu, surveying 547 pregnant women, revealed that 39 per cent had one or more STIs. The most common infection was trichomoniasis (27.4 per cent), followed by chlamydia (21.4 per cent), gonorrhoea (5.9 per cent) and syphilis (2.4 per cent). None of the women were found to have HIV/AIDS (Sullivan et al., 2003). Similarly, a case study of patients in one clinic in Fiji revealed that more than 70 per cent of all STIs were among young people between the ages of 15 and 25 years. A more recent study on Kiribati women revealed similar results (Oriente, 2006). The survey of antenatal women and seafarers, undertaken by the Ministry of Women and WHO, revealed that among the seafarers 20.2 per cent had HSV–2, 9.3 per cent had chlamydia, 2.7 per cent had syphilis and 0.3 per cent had HIV. Among the antenatal women, none had HIV and 1.4 per cent had syphilis (WHO-WPRO and Ministry of Health, Kiribati, 2005). Collectively, the STIs prevalence data indicated widespread unprotected sex and the likelihood that men also had high levels of untreated STIs, heightening the risk of HIV transmission in the community.

3.3.10 Substance abuse and other risk

HIV/AIDS infection via injecting drug use has only been noted in a few countries in the Pacific. These countries are notably French Polynesia, Guam and Palau (Jenkins, 2005). Reports of heroin, methamphetamines and crack cocaine in the RMI, especially Ebeye, as well as sporadic reports from the Solomon Islands and elsewhere, are cause for concern and monitoring (Jenkins, 2005). The Jenkins (2005) study also noted that excessive alcohol consumption may be the most common substance misuse associated with high-risk behaviour.

There are other practices that could potentially raise the spread of HIV/AIDS, including body piercing and tattooing, as well as the use of penis inserts (Hull, 2002). These risks have often been noted in prison populations and among sailors and fishermen.

3.3.11 Geographical factors

The Pacific island countries present a different context to HIV/AIDS compared with the rest of the world given the region's geographical features. The region consists of approximately 25,000 islands with close to 10,000 being inhabited. The numerous small islands with small populations spread over vast expanses of ocean create particular problems of resource distribution, communication and integration. For countries like PNG, the distribution of antiretroviral therapy is even an issue within the main island due to a lack of proper roads and transport infrastructure.

Security of health workers and the general travelling population is also an issue in PNG, thus making health visits and drug distribution very difficult.

The issue of stigma

The smallness of the Pacific islands poses a number of challenges, not the least of which is the challenge that households and individuals face in keeping private information confidential. Given that the societies are small and closely connected, it gets very difficult to keep private information to oneself. Once information about HIV/AIDS infection reaches others in the community, people react with hostility and blame those who have AIDS, for exposing them to the disease. Thus, people living with HIV/AIDS fear ostracism by family and friends. This kind of behaviour tends to give rise to another problem: the unwillingness to seek formal medical treatment, with the increasing possibility of many cases of infections going undetected.

3.4 Local, regional and international donor financial assistance and its effectiveness

3.4.1 Government health sector financing

There is a general trend in the Pacific with respect to health sector financing, whereby countries with larger populations tend to spend more funds on health than smaller countries. Table 3.5 presents

Table 3.5 Health expenditure in the Pacific, 2002

Country	*Central government expenditure (US$ million)*	*Private health expenditure (US$ million)*	*Assistance by development partners (US$ million)*	*Total health expenditure (US$ million)*	*Hospital beds*
Melanesia	46.1	27.7	4.4	78.1	2097
Fiji islands	66.7	14.0	42.2	122.9	12,900
Papua New Guinea	7.0	0.9	5.5	13.4	881
Solomon Islands	4.9	2.4	1.8	9.1	397
Vanuatu					
Micronesia	10.6	1.8	3.0	15.4	658
FSM	4.1	0.1	0.1	4.3	140
Kiribati	4.9	3.6	2.5	10.9	105
Marshall Islands	7.6	1.0	–	8.5	60
Nauru	7.0	0.8	1.0	8.8	90
Palau					
Polynesia	4.0	0.3	0.2	4.6	80
Cook Islands	0.7	0.0	–	0.7	–
Niue	10.4	3.7	1.3	15.5	661
Samoa	4.6	2.5	2.2	9.4	296
Tonga	0.1	0.4	0.2	0.8	56
Tuvalu					
Total	**178.7178.8**	**59.259.1**	**64.464.6**	**302.4302.5**	**18,42117,521**

FSM = Federation States of Micronesia.
Source: WHO (2005)

health expenditures broken down by private and public expenditures. Typically, such expenditures increase with higher per capita national incomes. Countries with the largest population spend the most on health. For example, PNG spent US$123 million on health in 2002, while Fiji had the next largest expenditure at US$78 million (WHO, 2005).

In terms of per capita expenditure, Nauru (US$656); Palau (US$439), RMI (US$210) and FSM (US$143) had the largest health expenditure per person. Assistance by development partners supports a great deal in health spending, particularly for Solomon Islands, PNG, RMI and FSM. However, health spending (as a percentage of GDP) is low in Pacific countries where HIV prevalence is increasing, although some governments in the region, such as Fiji, have allocated budgets for HIV prevention and care. Overall, however, health expenditure is lower than in Africa and the world average. For example, health spending in PNG was 4.3 per cent of the GDP in 2002, compared with 6.1 per cent on average in sub-Saharan Africa and 10 per cent worldwide (World Bank, 2006).

Table 3.6 Health expenditure and sector performance in the South Pacific, 2002

Country	*Health expenditure (US$ per capita)*	*Health expenditure (% GDP)*
Melanesia	94	4.2
Fiji Islands	22	4.3
Papua New Guinea	29	4.8
Solomon Islands	44	3.8
Vanuatu		
Micronesia	143	6.5
FSM	49	8.0
Kiribati	210	10.6
Marshall islands		
Polynesia	88	6.2
Samoa	91	6.9
Tonga		

FSM = Federation States of Micronesia
Source: WHO (2005)

Low health spending is seen as one of the major impediments to governments' efforts to control health problems, as per the Millennium Development Goals. The WHO has estimated that health expenditure of about US$31 to US$34 per person each year is required for basic healthcare (WHO, 2003). Surprisingly, except for PNG, per capita spending is above this threshold in all Pacific island countries, though spending on national HIV/AIDS programmes is limited.

3.4.2 External assistance to the health sector

International support for health and population in the Pacific region is quite substantial. Regional analysis on a per capita basis reveals that donor assistance is far greater in this region than any other part of the world. In 2003, for example, official aid totalled US$183 per person in Oceania, compared with US$27 per person in Africa and US$6 per person in Asia (OECD, 2006). Of this total, health represented 9 per cent of all aid flows, which is a smaller percentage of total aid in Africa, but higher than in Asia, the Americas and Europe.

Table 3.7 Official aid and health aid in the Pacific

Country	*Official aid (US$ per capita)*	*Health and population aid (US$ per capita)*	*HNP external assistance (%)*
Africa	27	2.7	10
Asia	6	0.3	5
Oceania	183	16.5	9
Europe	55	0.6	1
Latin America	10	0.7	7

HNP = health, nutrition and population.
Source: Organisation for Economic Co-operation and Development (2006)

There are also a number of cases of HIV/AIDS-specific assistance provided by donor agencies and governments of developed nations. ADB (2005a:20) summarises the total external assistance to the Pacific region as follows.

3.4.3 Asian Development Bank

An HIV/AIDS grant of US$8 million from the Asian Development Fund has been approved for Cook Islands, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, Samoa, Solomon Islands, Tonga, Tuvalu and Vanuatu. Key components of the project are (i) surveillance; (ii) community-based interventions, such as STI services; and (iii) targeted HIV prevention in vulnerable groups. In addition, the HIV/AIDS prevention and control in Rural Development Enclaves Project for PNG has been approved. The project will support behaviour change, social marketing of condoms with the Australian Agency for International Development (AUSAID) and New Zealand's International Aid and Development Agency (NZAID) and improved surveillance.

3.4.4 International support for HIV/AIDS

Eleven small Pacific island countries were awarded an HIV/AIDS grant of US$6 million over five years to (i) strengthen STI, HIV and behavioural surveillance and laboratory capacity (e.g. blood safety) in five countries; (ii) improve STI and HIV services by 2007; and (iii) reduce the risk of HIV and other STIs through targeted interventions. PNG was also awarded a five-year grant of US$8.4 million to (i) reduce transmission among young people; (ii) scale up testing for HIV and STIs; and (iii) increase the availability of antiretroviral drugs.

Australia: Australia has two regional HIV/AIDS related projects in the Pacific, as well as a large HIV prevention investment in PNG, where US$30 million is being invested over five years in 20 provinces to strengthen government response, STI treatment and social marketing of condoms. The Pacific's regional HIV project began in 2004 with A$12.5 million funding from the government of Australia and a smaller sum from the government of France. It has been designed to help strengthen the capacity of Pacific island governments, NGOs and communities to develop, implement and evaluate multi-sector responses to HIV/AIDS. Australia and New Zealand have also been funding the Joint United Nations Programme on HIV/AIDS (UNAIDS) co-ordination in Suva for three years.

France: The Franco–Australian Pacific Regional HIV/AIDS and STI initiative aims to reduce the vulnerability to, and impact of, HIV/AIDS. The key purpose is to strengthen the capacity of governments, NGOs, and communities to respond effectively to the epidemic.

New Zealand: New Zealand has committed NZ$730,000 to support the Pacific Islands AIDS Foundation for three years. The organisation promotes positive living, positive health, positive partnerships and positive action and prevention. Furthermore, New Zealand contributes NZ$175,000 annually to a direct mail project.

United Nations (ADB, 2005a): The UN agencies present in the Pacific are working with UNAIDS across a wide range of fields, such as (i) surveillance of sexual abuse and exploitation of children, and the development of school curricula (United Nations Children's Fund); (ii) condom social marketing (United Nations Population Fund); (iii) reviews of HIV related legal issues (United Nations Development Programme); (iv) laboratory support, training in the treatment and care of HIV infected patients and a workshop on second-generation surveillance (WHO); and (v) meetings with police, military and other occupational groups regarding workplace policies (International Labour Organization, UNAIDS).

The HIV/AIDS funding supports numerous programmes that are part of the Pacific Regional Strategy on HIV/AIDS, which was developed to deal with the epidemic. This strategy was first developed in 1997, and then further refined and reformulated in 2004. The 1997 version was developed by several UN agencies and SPC. However, due to a lack of funds, it was never implemented. The revision of this strategy was prompted by the Pacific Islands Forum Secretariat at its meeting in 2002. ADB (2005) noted that the review exercise was quite challenging, given a variety of views arising out of the diverse cultures and religious backgrounds which exist in the region.

3.5 Summary and conclusion

The vulnerability of Pacific island economies stems from a number of factors. The stylised facts on vulnerability point out smallness, remoteness, narrow resource base and proneness to natural disasters. However, the Pacific community has also awakened to the fact that its economies face a real threat from HIV/AIDS infection. Formal statistics reveal that apart from Tokelau, Niue and Pitcairn Islands, all the other countries have varying degrees of HIV/AIDS infection. However, this figure is obviously underestimated because of the unwillingness to report to the relevant health authorities, and due to various social problems and a lack of surveillance systems. The Pacific policy-makers and various regional and international agencies have all voiced their concerns on the potential destructive effects of HIV/AIDS on the economic and social development of the Pacific economies and societies.

To provide an early response, these local, regional and international agencies have grouped together and are undertaking numerous measures to prevent any further spread of the deadly virus. The regional and international agencies have resolved to (i) help countries in the Pacific region understand the nature of the epidemic by generating information through improved surveillance and other studies; (ii) enhance the decision-making skills of programme managers through the improved use of information; (iii) build the skills of local government and civil society organisations to implement prevention and care programmes; and (iv) develop useful and practical monitoring and evaluation systems. Furthermore, a regional approach to research and development must be undertaken. Research on HIV/AIDS can be quite costly and thus not practical. The Forum Secretariat of the Pacific, in a joint venture with the SPC, has developed a 'Pacific Regional Strategy', and this strategy is now being funded by a number of regional and international organisations. Research and development on HIV/AIDS can be undertaken within the ambit of the Forum Secretariat of the Pacific to have the required economies of scale.

At the country level, national policy-making can go a long way to ensure that state resources are fully used. Enacting legislation for intellectual property rights on health issues will greatly assist in mobilising support to tackle the disease. The ability to effectively implement these strategies will depend a lot on the effective co-ordination among the execution agencies, co-operation of the local officials from the ministries of health, and understanding of the Pacific cultural and traditional factors. The implementation agencies must therefore work with rural village leaders to be effective and sustainable.

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Chapter 4

Karl Theodore

HIV/AIDS in the Caribbean: Economic Issues, Economic Impact and Financing the Response

4.1 Introduction

The HIV/AIDS epidemic is now well into its third decade of existence and it remains the most serious of infectious disease challenges to public health systems (UNAIDS, 2009). The disease is still spreading at an alarming rate, killing exponentially and threatening to frustrate the process of economic development in many countries and regions, the Caribbean being no exception. This is despite efforts to contain the spread of the disease through regional and national response programmes. However, today much more is understood about the HIV/AIDS than when it first surfaced and as such there are many lessons to be learnt from various country experiences.

When we turn to the Caribbean we find that while just about 1,100 deaths were recorded in the first decade, by the end of the second decade another 7,000 deaths had occurred – an increase of more than 500 per cent. Even if we make allowances for the better recording of deaths in the second decade, the corresponding rates of increases are mind-boggling. Table 1.1 in chapter 1 shows the global prevalence rates of HIV/AIDS and Table 4.1 shows the prevalence rates in the Caribbean, which is second only to sub-Saharan Africa.

At the end of 2008 the HIV/AIDS prevalence in many Caribbean countries was under 1 per cent. Prevalence rates ranged from a low of 1 per cent to just over 4 per cent across the English-speaking Caribbean countries. Taken at face value these rates may not seem to be a large cause for concern. A closer look at the epidemiology of the disease, however, paints a very different picture.

According to La Foucade et al. (2006), there are three aspects of the data that offer a cause for concern: (i) the epidemic is generalised; (ii) new cases are increasing exponentially; and (iii) the existing estimates are very likely to be understated.

UNAIDS defines a generalised epidemic as one with a prevalence rate above 1 per cent, with certain subgroups having rates above 5 per cent. Most of the countries presented in Table 4.1 have prevalence rates above 1 per cent and the latest available data suggests prevalence rates in the vicinity of 30, 40 and 18 per cent respectively among men who have sex with men in Jamaica, Trinidad and Tobago and Suriname.

In Guyana, the prevalence rate among female commercial sex workers was estimated at 31 per cent in 2000, while the corresponding rate for male miners was 6 per cent in 2001 (CAREC, 2002). For pregnant women the rates were 1.4, 3 and 5 per cent in Jamaica, Trinidad and Tobago and

Table 4.1 HIV statistics (selected Caribbean countries)

Country	*Population 2007*	*Adults and children living with HIV/AIDS 2007 (2001)*	*Adults 15+ living with HIV/AIDS 2007 (2001)*	*Adults 15–49 prevalence rate 2007 (2001)*	*Women 15+ living with HIV/AIDS 2007 (2001)*	*HIV/AIDS deaths 2007 (2001)*
The Bahamas	334,000	6,200 (5,700)	6,100 (5,600)	3.0 (3.1)	1,600 (1,300)	<200 (<1,000)
Barbados	255,000	2,200 (2,100)	2,200 (2,100)	1.2 (1.2)	<1,000 (<1,000)	<100 (<200)
Cuba	11,202,000	6,200 (2,400)	6,200 (2,300)	0.1 (<0.1)	1,800 (<1,000)	<100 (<100)
Dominican Republic	9,638,000	62,000 (65,000)	59,000 (63,000)	1.1 (1.3)	30,000 (34,000)	4,100 (4,800)
Haiti	9,605,000	120,000 (98,000)	110,000 (94,000)	2.2 (2.2)	58,000 (43,000)	7,200 (7,500)
Jamaica	2,696,000	27,000 (23,000)	26,000 (22,000)	1.6 (1.4)	7,600 (5,800)	1,500 (1,200)
Trinidad and Tobago	1,328,000	14,000 (12,000)	13,000 (12,000)	1.5 (1.4)	7,700 (6,900)	<1,000 (<1,000)

Source: ECLAC (2010); UNAIDS (2009)

The Bahamas respectively, so some Caribbean territories are already facing a generalised epidemic (CAREC, 2002).

The Caribbean data also indicate that the trend in the total number of HIV+ cases as well as the trend in new cases has been increasing exponentially. The same is true for AIDS cases. An increase in the total number of HIV cases, all other things being equal, could be attributed to a decrease in the mortality rate due to AIDS on account of better access to anti-retroviral treatment. But this is not the case. Both the prevalence rates and the new infection rates are increasing exponentially. This means that although the prevalence rates are not as extreme as in some other places there is still great cause for concern.

The gender distribution of HIV cases is also changing with an acceleration of new cases among females, indicating that females are contracting the virus faster than males. The age distribution of the disease also indicates that the 15 to 44 age group is the one that is most affected, including as it does those individuals who should be at the peak of their life span in terms of productivity. In the Caribbean, HIV/AIDS is still the leading cause of death in this age group and HIV/AIDS cases are observed at every point along the age spectrum. This implies a great negative impact on the present and future productive capacity of these countries.

And finally, to make matters even worse, there is the strong possibility of under-reporting of cases due to stigma and discrimination. There is reason to believe that there are many cases of HIV in developing countries that go unreported and that the surveillance system in many developing countries might not be capturing the majority of HIV/AIDS cases.

In the context of the HIV/AIDS epidemic described above, broadly speaking, the objective of this study is four-fold:

- To identify the main economic issues associated with HIV/AIDS in small states with specific reference to the Caribbean,
- To explore the impact of HIV/AIDS at both the micro and macro levels,
- To identify any regional best practices which would assist other countries in coping with the epidemic, and
- To review the sources and the extent of financial support directed toward the response to HIV/AIDS in the Caribbean.

An important component of this chapter will be an attempt to outline the impact of the HIV/AIDS pandemic on the economies of the English-speaking Caribbean. Quite a bit of work has already been done in this area. Previous studies largely analyse the impact of the disease on the macroeconomic variables. One aim of this study would be to synthesise the evidence on the macroeconomic impact and to comment on the effectiveness of the response to the epidemic by the region.

In the Caribbean there has not been much work done on the microeconomic implications of the epidemic. There is macroeconomic research on a few countries which has yielded estimates of the impact of the epidemic at this level. However, there is growing concern that more needs to be known about how individuals who are affected and infected can still enjoy comparable life expectancies and contribute to overall output. The research agenda for the future will need focus on the microeconomic conditions under which these individuals live and the impact on the choices they make.

4.2 Economic issues raised by HIV/AIDS: impact and response

A vicious cycle of high prevalence rates and economic depression is evident in the bi-directional relationship between HIV/AIDS and the economy. HIV/AIDS impacts on the economic system and the economy in turn affects the epidemic. A depressed economy could provide ideal breeding conditions for the spread of the disease which in turn would further depress the economy. The epidemic surfaced in the Caribbean in the early 1980s. At this time many economies of the region were already in a state of depression and health systems far-stretched for lack of capacity. The emergence of HIV/AIDS threatened to worsen the economic and social conditions of these already fragile economies.

According to Theodore (2000), there are essentially four channels through which the HIV/AIDS epidemic could potentially exert economic impacts in the Caribbean. These are the **production**, **allocation**, **distribution** and **regeneration** channels.

4.2.1 The production channel

This channel describes the mechanisms by which the disease impacts on the main factors of production – labour and capital – causing the production process to be less fruitful than it would otherwise have been. The epidemic impacts on labour when individuals are infected at the most productive stage of their lives. The labour supply of the economy is reduced due to sickness and death. The negative impact on the capital stock is also evident. Increases in the cost of healthcare deplete savings both individual and national, the pool of potential investible funds. Foreigners are less likely to invest in economies with high HIV/AIDS prevalence rates since the return on their investment may be less certain. In extreme cases there would be a potential for the epidemic to impoverish countries with one possibility being the dismantling of the production process itself.

There are three development-related issues which arise in this context. The first relates to the **scale of production** in many of the countries, the second to desired **factor intensity of production** and the third relates to the **industrial policy framework**. In each case the HIV/AIDS epidemic seems to be pointing the economy in the wrong direction. In respect of production scale the prognosis is that production volumes across the region will decline making it more difficult to fulfil export orders and raising unit costs. In respect of factor intensity, the argument is that with the absolute decline in the labour supply in a number of sectors, the economies will become more and more capital intensive, making it harder to satisfy employment objectives when the epidemic is brought under control. Finally, in the light of the expected dislocation of existing strategic sectors – tourism, for example – the instinct to survive the crisis will lead to policy support for sectors which may not in the longer term be in the best interest of particular countries, for example ones that may be bad for the environment.

4.2.2 The allocation channel

One of the important functions of the economic system is to ensure that resources are allocated to the different lines of production in such a way as to minimise the cost of production to the society. Any epidemic which has the potential to cause shortages of critical resources, and/or to skew the use of resources away from crucial lines of production, also holds the potential to impose heavy economic costs on the society under threat. In the case of HIV/AIDS, the issue raised here concerns the volume of the region's foreign exchange which will need to be dedicated to dealing with the disease. To the extent that the therapeutic component of the response to the epidemic will require a reallocation of the region's foreign exchange away from alternative productive uses, there is a likelihood of production shortages and increasing costs in the now foreign-exchange-short sectors. In fact, the exchange rate itself may be under pressure to adjust.

On another level, in the case of HIV/AIDS the very fact that the 15 to 44 age group is the most affected suggests that there is the potential for the region's skilled labour force to be negatively affected. What is more, this negative impact may well deplete the labour force such that the countries may be taken below resource threshold levels, thereby making for an upsetting of factor combinations to the point of inefficiency as well as insufficiency.

4.2.3 The distribution channel

The development planners of the Caribbean are in general agreement that one of the main aims of development in the region has been to engender an environment wherein the output of goods and services in the society are equitably distributed. The historical legacy of uneven distributions of income and wealth has remained one of the challenges to policy-makers in the region. The emphasis on improving the education system as well as the attempts to reform the health system have all been predicated on the need to ensure that the weaker, more vulnerable members of our society are not left behind as the economies move forward (Trinidad and Tobago, 2000; UNESCO, 1999).

The existence of the epidemic in other words could lead to income distributions that are even more negatively skewed. In the face of an epidemic like HIV/AIDS which has the potential to weaken the income-base while spurring higher expenditure requirements, it is eminently possible that the lowest income groups will find themselves even worse off once the disease takes root. Not only will their most promising income earners be plucked away, but the young ones who should be replacing them will not live to become earners of income. Although the upper income groups will not be immune to the epidemic, their capacity to protect themselves will have the

indirect result of widening the gap between the upper and lower income groups as the epidemic gains momentum.

One of the relevant issues here is the access to healthcare for HIV/AIDS patients themselves. The relatively expensive nature of required interventions raises this access question both at the level of the individual and at the level of the broader society. In a context where poverty levels are known to be significant, and where governments are generally under severe fiscal constraints, the care of patients from the lower income brackets has become an important social concern.

4.2.4 The regeneration channel

In the face of normally expected increases in population and the usual rise in the expectations of the existing population, the economic system is expected to combine its saving propensity with its technological development to ensure that the system keeps on a path of expansion and increasing sophistication. If the savings capacity and the human capital of the economy are compromised by the HIV/AIDS epidemic, the ability of the economy to regenerate itself at a higher level will also be compromised. This is an important concern for the Caribbean given recent theoretical work coming out of the University of West Indies (UWI) which suggests that, in its interdependence with the economic system, the health system has the potential for converting a downturn into downward spiral (Thomas, 2000). What this means is that the economic managers of the region now have a vested interest in affording preferential treatment to the health system, taking all necessary steps to ensure that no health condition is allowed to reach the point of exerting a negative impact on the economy. The reality, however, is that the HIV/AIDS epidemic threatens to be such a health condition.

It is quite clear therefore that HIV/AIDS is not just a public health crisis but that it is in fact a broader economic crisis. The increasing incidence of this disease threatens to unravel all the development strides made by the economies of the Caribbean during the past three decades. The potential of these already fragile economies to produce, allocate, distribute and regenerate is significantly compromised in the presence of HIV/AIDS. The literature and the experience of other countries which have previously walked this path paint a very grim picture for the Caribbean.

4.3 Economic impact of HIV/AIDS

The literature has recognised the bi-causal relationship between HIV/AIDS and economic development. Not only do high prevalence rates hurt the economy but economic stagnation provides an ideal breeding ground for the spread of the disease. Research into the effects of HIV/AIDS reveals that its impact in terms of its social, human and economic costs is perhaps much more significant than previously thought (Bell et al., 2003). Barnett et al. (2001) capture the many channels of the impact.

HIV/AIDS impacts on economies by creating bottlenecks in the channels of growth and development. It does so by creating distortions in the various markets and sectors of the economic system, particularly the labour market. While economists differ in both philosophical and methodological approaches to economic growth and development, they generally agree on the critical role of accumulation of human and physical capital stock.

In the early works of Harrod (1939), Domar (1946) and Solow (1957), growth is determined by investments in physical capital stock, which result in the accumulation of capital and increases in technology. In this model, total factor productivity (TFP)[1] is an exogenous factor. In fact, Solow

(1957) originally attributed more than 90 per cent of the United States per capita growth to exogenous technical progress. Mankiw et al. (1992) extended this framework to include human capital acquired through investments in education which was considered to increase factor productivity. Similar reference can be made to the work of Bernanke and Gürkaynak (2001).

More recently, endogenous growth theorists (Romer 1994) have put forward the idea that there is a direct relationship between productivity gains and investments in research and development through improvements in technology and knowledge creation. Alternatively, there are those who believe that the relationship is not a direct one, but rather that a large proportion of technological advancement comes from 'learning-by-doing'. In the words of one author,

> *…increases in productivity have to come with the increases in workers' 'human capital' from on-the-job training: the best way to become skilled and productive at handling modern machine technologies is to work at applying them, and improvements in workers' skills and capabilities are social benefits to the economy's productivity that are usually not included in businesses' calculations of their returns on investment.'* (De Long, 1997).

The increasing incidences of morbidity and mortality from HIV/AIDS and their related complications affect the labour force both quantitatively and qualitatively. It is a well-documented fact that HIV/AIDS is highly concentrated in the 15 to 44 years age group, which represents the most productive working age population and, as a result, impacts most severely on this group. It is reasonable to expect that productivity will fall as infected persons work fewer hours and with decreased effort.

Several aggregate models project significant reductions in economic growth rates for African economies. These modelling exercises typically follow a pattern of reporting 'with AIDS' and 'without AIDS' scenarios. An example is the widely cited ING Barings model produced for the July 2000 HIV/AIDS conference in Durban, which showed that long-term economic growth in South Africa would decline by 0.4 per cent per year due to HIV/AIDS. Recent research, however, suggests that these studies may be too optimistic. What they fail to consider is that by undermining human capacity, HIV/AIDS reduces productivity, disrupts organisations and unravels institutions.

The implication is that the epidemic's effects are more likely to be non-linear. Both theory and practice indicate this is the case. At the aggregate level, the impact of HIV/AIDS has elements consistent with endogenous growth theory. The spread of HIV/AIDS reduces labour productivity, raises private and public consumption, and thereby reduces income and savings. With lower savings, the rate of investment falls, reinforcing the decline in economic growth. The loss of labour productivity occurs because a larger share of the workforce becomes debilitated or dies, causing organisations to lose workers with critical skills. The phenomenon can be likened to 'running Adam Smith in reverse.' Adam Smith argued that the expansion of the market – typically identified as economic growth – creates opportunities for specialisation and the division of labour. The spread of HIV/AIDS reverses that process as organisations experience disruption, and declining income undercuts the earlier gains achieved through specialisation and the division of labour.

Not only does HIV/AIDS affect the macroeconomy negatively but there are also microeconomic implications of high prevalence rates. The potential fall in income for the individual arising from HIV/AIDS-related expenditure can result in a decrease in savings and a reorganisation of consumption patterns. Often it is the case that households are forced to redirect funds away from education, general healthcare for uninfected family members and even from food, into treatment and care for the people living with HIV/AIDS (PLWHA). Government spending is also affected as funds are directed into HIV/AIDS programmes, the opportunity cost being investments in the provision of social services.

The effect described is felt by the economy in the long run as the quality of human capital diminishes and the accumulation of physical capital is hindered by the fall in investments by firms and by the government. This can translate into negative economic growth as GDP begins to fall.

The methodology used to determine the potential impact of HIV/AIDS falls into two groups. One group uses the indicative approach and infers the impact based on certain facts of the disease, namely the concentration of PLWHAs in the productive adult years, the high cost of treatment, and the impending effects of the disease on individuals (UNDP, 1992; 1993). The second group bases their conclusions on the use of empirical information and results generated by economic models adapted to calculate the impact of HIV/AIDS on the economy. Some of these models include Wharton Econometric Forecasting Associates (WEFA) time series as used by ING Barings (2000), computable general equilibrium (CGE) used in studies done by Arndt and Lewis (2000) and cross-country regressions used by Bonnel (2000).

One of the earliest pieces of work on the economic impact of HIV/AIDS on the economies in the Caribbean was due to Henry and Newton (1994). They estimated that the loss in GDP that would result if the epidemic continued in the manner, in which it was growing, was between 1 per cent and 3 per cent. The more recent study by Camara et al. (1997) for CAREC/UWI estimates the GDP impact of HIV/AIDS based on a number of key assumptions, specifically relating to the derivation of the number of people at risk, the treatment coverage of people infected with HIV/AIDS, and the unit cost of treatment of infected people. This study covered two countries – Jamaica and Trinidad and Tobago – and found that the estimated loss to GDP would reach a level of 4.2 per cent by the year 2005 in those countries.

Inherent in both studies is the recognition that the estimated GDP loss is driven by two key variables: the estimated number of cases in any given year and the average loss of income and output associated with the cases of HIV/AIDS. The Henry and Newton (1994) study used the indicative approach, while the Camara (1997) study was based on the results of sexual surveys and econometric models.

The main results of the Camara (1997) study are summarised in Table 4.2.

Table 4.2 Macroeconomic impact of HIV/AIDS on key variables for Trinidad and Tobago and Jamaica

Impact variables	*Trinidad and Tobago*	*Jamaica*	*Average*
Gross domestic product	-4.2%	-6.4%	-5.3%
Savings	-10.3%	-23.5%	-16.9%
Investment	-15.6%	-17.4%	-16.5%
Employment in agriculture	-3.5%	-5.2%	-4.4%
Employment in manufacturing	-4.6%	-4.1%	-4.4%
Employment in services	-6.7%	-8.2%	-7.5%
Labour supply	-5.2%	-7.3%	-6.3%
HIV/AIDS expenditure	+25.2%	+35.4%	+30.3%

Source: Camara et al. (1997)

Theodore (2000) updated the Camara study using new estimates of treatment costs and extended the analysis to cover St Lucia, one of the countries of the Organisation of Eastern Caribbean States (OECS). Table 4.3 presents the new estimates on the GDP impact of HIV/AIDS updated and extended to include St Lucia.

Table 4.3 GDP impact estimates – alternative scenarios

Country	*Camara benchmark*	*Scenario 1*	*Scenario 2*
Jamaica	6.2%	4.9%	3.2%
St Lucia	4.7%	2.1%	1.6%
Trinidad and Tobago	4.2%	5.6%	4.9%
Average	5.0%	4.2%	3.2%

Source: Camara et al. (1997) and author's calculations

The average of the Camara estimates was 5.0 per cent, which is consistent with the assumption currently adopted by the Caribbean Task Force on HIV/AIDS. What is interesting is that on average the countries of the region are currently allocating between 5 and 6 per cent of their national income to health services. It is also noticeable that while for both Jamaica and St Lucia the dramatic fall in treatment costs caused the share of GDP lost to be reduced, in the case of Trinidad and Tobago the opposite happened. The downward effect of the fall in treatment costs was more than compensated for by the upward impact of the significant increase in the number of infected individuals.

McLean (2004) extended the Camara study to the case of Guyana and concluded that the HIV epidemic was poised to impact significantly on the socio-economic fabric of Guyana. The results of the study are summarised in Table 4.4, which shows HIV/AIDS negatively impacting on key macroeconomic variables.

Table 4.4 Economic impact summary – Guyana (2003–15)

	Baseline	*Model*	*Difference*
GDP	5.00%	2.27%	-2.73%
Savings	5.30%	2.48%	-2.82%
Investment	9.57%	5.83%	-3.74%
Employment	0.59%	0.57%	-0.02%
Labour supply	0.76%	0.75%	-0.01%

Source: McLean (2004) and Laptiste (2004)

It was estimated that growth rates of all the key macroeconomic indicators will be adversely affected by the continuing upward trend in the rates of infection. Moreover, the projected impact is roughly equivalent to central government's allocation to key social services as in the case of Trinidad and Tobago and Jamaica.

Laptiste (2004) examined the impact of HIV/AIDS on the economy of Suriname. The results of this study indicated that the loss in output approximates 1.18 per cent over the period while the negative impact in savings and investment are slightly higher at 1.34 and 1.47 per cent respectively.

It is quite clear from the literature that HIV/AIDS has the potential to reverse the macroeconomic progress of many countries in the Caribbean. While these results should be interpreted with some caution, they all seem to be pointing in the same direction. The negative impact of HIV/AIDS on the macroeconomy of Caribbean states is very real and it therefore cannot be ignored.

4.4 Responding to the epidemic: best practices

The Caribbean region has responded positively to the HIV/AIDS epidemic. Many of the programmes and efforts have been noted as international best practices. These best practices have been observed primarily in the following areas:

- Planning and co-ordination,
- Political commitment,
- Private sector involvement, and
- Institutional responses.

4.4.1 Planning and co-ordination

A pan-Caribbean partnership on HIV/AIDS that was established in 2001 has been identified by UNAIDS as a regional best practice in 2004. 'The Pan Caribbean Partnership Against HIV/AIDS (PANCAP) is a unique example of collective action towards the common goal of strengthening the regional response to AIDS in the Caribbean.' (UNAIDS, 2004a)

The Pan Caribbean Partnership Against HIV/AIDS (PANCAP) brings together more than 70 partners to collaborate in the regional response against HIV/AIDS. PANCAP is a multisectoral, multilevel partnership which includes the governments of all countries and territories of the Caribbean region and regional and international organisations from the health, social development, education, economic, culture, tourism and other sectors. Organisations of people living with and affected by HIV, multilateral and bilateral donors, the UN system, government and non-governmental organisations, business organisations, communities of faith and many other types of organisations are members.

Building on joint regional initiatives begun in the 1980s, PANCAP was formally established in 2001 under the umbrella of the Caribbean community (CARICOM). The overarching goal is to, 'curtail the spread of HIV/AIDS and to reduce sharply the impact of AIDS on human suffering and on the development of the human, social and economic capital of the region.' PANCAP functions as a network that encourages each partner to work within its own mandate and areas of comparative advantage, while fostering an environment for partners to pursue their respective programmes in a harmonised and co-ordinated fashion whenever appropriate.

Significant achievements have already resulted from the collaborative regional approach of PANCAP. Since the partnership was established, all 29 countries that comprise the region have joined. The formal structure for governance and operation of the partnership has been established. There is strong political commitment from heads of government of Caribbean member countries, especially the 15 CARICOM states, as well as solid support from leaders of regional and international organisations and institutions for the Partnership for the fight against HIV/AIDS. Caribbean leaders representing PANCAP comprised the largest delegation of any region at the 2001 United Nations General Assembly Special Session on HIV/AIDS (UNGASS), and the efforts of PANCAP leaders have brought the economic and social impact caused by AIDS in the Caribbean to the attention of world leaders and placed it on the global agenda.

Largely as a result of regional and international advocacy by PANCAP leaders, resources from multilateral and bilateral donors, as well as other international sources for the response to HIV/AIDS in the Caribbean have more than quadrupled in the three years since the partnership was formed. The focus of the Caribbean response to HIV/AIDS has shifted from being primarily a health-sector

responsibility to a truly inter-sectoral response which recognises HIV/AIDS as an economic and development challenge, as well as a health and social issue requiring a broad response from all parts of society. As a result, the HIV/AIDS issue has been dramatically highlighted in the region, and the response significantly accelerated.

The initial and primarily medical response to HIV/AIDS in the Caribbean was spearheaded by the Caribbean Epidemiology Centre (CAREC). CAREC itself began operating in January 1975, less than 10 years before the onset of HIV/AIDS in the region. The Centre has been under the administrative management of the Pan American Health Organization (PAHO) at the request of the Caribbean Health Ministers' Conference held in The Bahamas in 1974. CAREC's mission is to improve the health status of Caribbean people by advancing the capability of member countries in epidemiology, laboratory technology and related public health disciplines through technical co-operation, service, training, research and a well trained, motivated staff. The centre routinely tracks HIV/AIDS numbers and prevalence rates in the region. CAREC has also played a pivotal role in harmonising the reporting structure to bilateral and multilateral donor agencies.

At the national level, with encouragement and support from CAREC, most countries have instituted a national strategic planning process which involves the preparation of a National Strategic Plan (NSP) every five years and this acts as a tool to monitor and guide the response by highlighting the important areas of focus. As part of the planning process most countries in the region have also established a separate body with responsibility for the co-ordination of multisectoral activities and the various micro-level responses on a national level. This body is usually established under the Ministry of Health, as in the case of Jamaica, but is sometimes established as part of the Prime Minister's office, as in The Bahamas, Barbados, and Trinidad and Tobago.

At the international level the response to HIV/AIDS in the Caribbean has been mainly in terms of financial support. We will deal with this later.

4.4.2 Political commitment

Governments across the region have committed to funding a significant proportion of the response cost either from recurrent revenues or through international loan facilities. In so doing, governments have either committed significant proportions of already scarce health expenditure budgets or committed future revenues to fight the epidemic. Despite the observed insufficiency of domestic funding to fight the epidemic, this level of domestic expenditure, amounting to about 60 per cent of the cost of the response in some cases, demonstrates clearly the political commitment in the response to the disease.

4.4.3 Private sector participation

Efforts have been made in many Caribbean territories to bring the private sector on board in the fight against HIV/AIDS. In Guyana, for example, the private sector is being engaged through separate, but co-ordinated, efforts of two technical partners, the Private Sector Partnership Programme (PSPP) and the Workplace HIV Programme (WHP). The PSPP encourages private enterprises to create a partnership with the Ministry of Health as a means of protecting their human resources by investing in HIV awareness and prevention. By the end of 2007, through this programme, about 43 companies had subscribed to Memoranda of Commitment. Of these companies 23 have established workplace programmes and 15 have HIV workplace policies in place. This initiative can also be considered a best practice since staff from the implementing

partners has been recruited to help develop and assist with similar programmes elsewhere in the Caribbean and in South America.

Another candidate for best practice in this area is the Jamaican Workplace Education Programme which was initiated by the ILO. Some elements that make this programme a possible best practice are:

- Strong support at the ministerial level,
- Preparation of a consultative and Cabinet-approved national workplace policy on HIV/AIDS,
- Sensitisation and training of more than 75 per cent of ministry staff in voluntary counselling and testing (VCT) and the care and counselling workshops and as PEER facilitators, and
- Appointment of an HIV/AIDS steering committee whose mandate is to include the implementation of this policy.

As a result of this programme the tourism sector in Jamaica has developed a workplace HIV/AIDS policy that was approved by Cabinet in 2007.

4.4.4 The University of the West Indies response

The response of the University of the West Indies (UWI) to the epidemic has also been acknowledged as having some key best practice elements. The institution has established the University of West Indies HIV/AIDS Response Programme (UWI HARP) as an accelerated institutional response to the HIV/AIDS epidemic across the entire University – on the campuses in Barbados, Jamaica and Trinidad and Tobago as well as in the extramural centres scattered throughout the English-speaking Caribbean. UWI HARP is a multidisciplinary programme dedicated to using the expertise of the university to work with other committed partners in combating HIV/AIDS and mitigating its impact.

UWI HARP was established in August 2001 and consists of a cross-faculty team of staff and students, with invited membership from governments and non-governmental organisations. Task forces have been established on the three campuses to keep the university community, including the transient student population, sensitised about HIV/AIDS and to foster HIV/AIDS-related curriculum review in all faculties. The UWI HARP is also responsible for continuous updating of the university's HIV/AIDS policy and for facilitating research on the impact and control of the epidemic in the region.

4.5 International funding for HIV/AIDS

The 15 countries submitting UNGASS reports from the Caribbean region represent a mix of low, lower-middle, upper-middle and high-income countries, as defined by the World Bank. Haiti is low income, for example, and Guyana is lower-middle income. Barbados, Belize, Dominica, Grenada, St Kitts and Nevis, St Lucia and Trinidad and Tobago are all defined as upper-middle income and yet vary greatly in their ability to invest national resources in public health. Table 4.5 shows the public health expenditure as a percentage of GDP for selected Caribbean countries. It is clear from this table also that Caribbean countries vary in terms of their public allocations to healthcare and GDP per capita.

Table 4.5 Human development indicators for selected countries

Country	*HDI rank 2007*	*Public expenditure on health as % of GDP (at current prices)*	*Total health expenditure per capita (PPP int. US$, 2005)*	*GDP per capita (PPP US$, 2007)*	*Human poverty index (HPI-1 % 2007)*
Norway	1	8.3 (2004)	4,307	53,433	–
Barbados	37	4.5 (2004)	1,102	17,956	2.6
Antigua and Barbuda	47	3.4 (2004)	581	18,691	–
The Bahamas	52	2.0 (2008)	1,404	20,253	–
St Kitts and Nevis	62	3.3 (2004)	579	14,481	–
Trinidad and Tobago	64	2.4 (2008)	763	23,507	6.4
St Lucia	69	3.3 (2004)	397	9,786	6.3
Dominica	73	7.3 (2008)	437	7,893	–
Grenada	74	3.5 (2008)	561	7,344	–
Dominican Republic	90	2.3 (2008)	356	6,706	9.1
St Vincent and the Grenadines	91	4.0 (2007)	434	7,691	–
Belize	93	3.4 (2008)	377	6,734	17.5
Suriname	97	1.5 (2006)	325	7,813	10.1
Jamaica	100	2.8 (2004)	210	6,079	10.9
Guyana	114	2.7 (2006)	238	2,782	10.2
Haiti	149	2.9 (2004)	71	1,155	31.5
Niger	182	1.9 (2004)	25	627	55.8

Sources: HDR (2007/08; 2009); UN data (2010); ECLAC (2010)

Table 4.6 HIV/AIDS financing for selected Caribbean countries

Country	*Year*	*Total funds (US$ millions)*	*Domestic public (%)*	*Bilateral donors (%)*	*Global fund (%)*	*United Nations and all other multilaterals (%)*	*Other (%)*
Antigua and Barbuda	2007	0.160	100	NA/NR	NA/NR	NA/NR	NA/NR
The Bahamas	2006	2.145	71.6	NA/NR	NA/NR	NA/NR	28.4
Barbados	2006	7.073	98	NA/NR	NA/NR	NA/NR	2
Cuba	2007	41.927	80.9	0.0	19.1	0.0	0.0
Dominican Republic	2007	13.737	44	NA/NR	NA/NR	NA/NR	56
Grenada	2006	1.050	NA/NR	NA/NR	NA/NR	NA/NR	NA/NR
Haiti	2006	70.284	0.6	67.3	24	6.5	1.55
Jamaica	2007	14.749	62.5	2	35.5	NA/NR	NA/NR
St Lucia	2007	0.772	21.6	0.0	13.9	64.6	0.0
Trinidad and Tobago	2006	12.148	95.6	0.0	0.0	4.4	0.0
Turks and Caicos	2007	1.109	100	NA/NR	NA/NR	NA/NR	NA/NR

Source: UNAIDS (2008a)

The response to the HIV/AIDS epidemic in the Caribbean has involved a mix of support by governments in the region, bilateral donors (such as the United States, Canada and European nations), regional and multilateral organisations and non-governmental organisations. Many countries in the region have national AIDS programmes (NAPs) that are supported through these bilateral, regional and multilateral programmes. It is clear from Table 4.5 and Table 4.6 that in most territories the government's financial commitment to the health sector as a whole and in particular to HIV/AIDS spending has been maintained at reasonably high levels by international standards. Despite this, there has been dependence on the support of bilateral and multilateral donor agencies.

4.6 International donor financing

Table 4.6 contains some details of the sources of funds available to fight HIV/AIDS in the Caribbean. In most cases, public funds are the most significant source of financing. This raises important concerns related to the sustainability of the response, given the economic vulnerability of some of the Caribbean countries. The dependence on support from bilateral and multilateral international donors is also evident from the data presented in Table 4.6. The Global Fund and the World Bank are the major international investors in HIV/AIDS in the Caribbean, and along with the European Union, these loans and grants affect the relative significance of national expenditures reported under this indicator. Support is also received from the United States Agency for International Development (USAID) and the Inter-American Development Bank (IDB).

4.7 World Bank

The World Bank has provided significant support to combat HIV/AIDS in the Caribbean. In June 2001, the bank approved a US$155 million lending programme for the Caribbean to help countries finance their national HIV/AIDS prevention and control projects. Under this programme, the bank has approved loans to Barbados (2001), the Dominican Republic (2001), Jamaica (2002), Grenada (2002), St Kitts and Nevis (2003), Trinidad and Tobago (2003), the Caribbean Community's (CARICOM) Pan Caribbean Partnership Against HIV/AIDS (PANCAP) (2004), Guyana (2004), St Lucia (2004) and St Vincent (2004). As of December 2006, all countries reporting to UNGASS for the 2006 review receive assistance from the World Bank in support of national AIDS responses, except Antigua and Barbuda, The Bahamas, Cuba, Dominica and Suriname.

4.8 Inter-American Development Bank

The Inter-American Development Bank (IDB) has supported HIV/AIDS activities in such countries as The Bahamas, Belize, Guyana, Haiti, Jamaica, Suriname and a regional programme through CARICOM. Moreover, its assistance to support health infrastructure in the region has been important for HIV/AIDS treatment and care programmes.

4.9 Global Fund to Fight AIDS, Tuberculosis, and Malaria

The Global Fund to Fight AIDS, Tuberculosis, and Malaria (GFATM) has begun funding programmes throughout Latin America and the Caribbean, with about US$484 million or almost 10 per cent of disbursed funding worldwide going to this region as of early 2008. Beneficiaries in the Caribbean include Belize, Cuba, the Dominican Republic, Guyana, Haiti, Jamaica and Suriname as well as multi-country programmes for CARICOM, the Caribbean Regional Network of people living with HIV/AIDS

(CRN+) and the Organisation of Eastern Caribbean States (OECS). As at December 2006, all countries reporting to UNGASS except Barbados, The Bahamas and Trinidad and Tobago were receiving some form of Global Fund grant (country-specific or as co-recipient on a multi-country grant).

4.10 US Government and USAID

Within the federal government, overall US support to combat the HIV/AIDS epidemic in the Caribbean is provided though programmes administered by several US agencies, including the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), the Department of Labour, the Department of State and the US Agency for International Development (USAID), which has been the lead agency fighting the epidemic abroad since 1986.

US government funding to combat HIV/AIDS in the Caribbean and Latin America has increased in recent years. Foreign aid to the region rose from US$47 million in 2004 to an estimated US$139 million for 2008. For 2009, the administration requested US$139 million, with US$92 million for Haiti and US$20 million for Guyana. The balance of the request for other countries is through the child survival and health (CSH) foreign assistance funding account. In the Caribbean, USAID provides HIV/AIDS assistance through both bilateral and regional programmes, and is an active member of the Pan Caribbean Partnership Against HIV/AIDS. As part of its Caribbean regional programme, USAID has initiated a programme focusing on Caribbean countries that do not have a permanent USAID presence: Trinidad and Tobago, Suriname, St Kitts and Nevis, St Lucia, St Vincent and Grenadines, Grenada, Antigua and Barbuda, Dominica and Barbados.

A recent report from the World Bank (2005) noted the good fortune of a significant flow of external resources but expressed concern about their ability to manage such flows and deal with as many as eight donors and agencies working on HIV/AIDS. The potential inflow of US$460 million (shown in Table 4.8) represents a significant influx of financial resources, in a comparatively short period of time, to relatively small island-states. The three principal funders are the Global Fund, the

Table 4.7 US HIV/AIDS assistance: funding in Latin America and the Caribbean (US$ millions)

Country	*2004*	*2005*	*2006*	*2007*	*2008 (est)*	*2009 (request)*
Belize	–	–	0.2	0.5	–	–
Costa Rica	–	–	0.2	0.2	–	0.3
Dominican Republic	5.3	5.5	6.1	6.5	5.0	5.8
El Salvador	0.5	0.5	1.1	2.2	2.0	2.2
Guatemala	0.5	0.5	1.3	3.4	3.5	3.5
Guyana	6.8	14.8	18.0	25.3	20.0	20.0
Haiti	18.3	44.1	47.3	77.3	20.0	92.0
Honduras	4.2	5.2	5.2	5.8	5.0	5.0
Jamaica	1.3	1.3	1.5	1.3	1.2	1.2
Nicaragua	0.5	0.5	1.0	2.2	1.5	1.5
Panama	–	–	–	0.5	–	–
Central America Programme	5.0	5.4	5.5	1.7	3.4	1.0
Caribbean Regional Programme	4.7	4.7	5.9	6.6	5.7	5.8
Total	**47.1**	**82.5**	**93.3**	**125.5**	**67.3**	**138.3**

Sources: USAID (2008) and US Department of State (2010)

Table 4.8 Major donors to Caribbean countries in the fight against HIV/AIDS, 2002–05 (computed)

	Amount (US$)	*Countries*
World Bank	117.65 million (mix of loan and grant) over 5 years	Barbados, Dominican Republic, Grenada, Guyana, Jamaica, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, Trinidad and Tobago, PANCAP
US Government	120.9 million grant over 2 years (2004, 2005 only)	Dominican Republic, Guyana, Haiti, Jamaica, Regional
The Global Fund	225.176 million grant over 5 years	Belize, Cuba, Dominican Republic, Guyana, Haiti, Jamaica, Suriname, OECS, PANCAP, CRN+.

World Bank and the US President's Emergency Plan for AIDS Relief (PEPFAR). As indicated, the programmes are operating in several countries at the same time.

According to the report of the World Bank, a review team identified challenges of harmonisation and alignment in every country. On the financing side, donor financing – particularly the World Bank and Global Fund – is not aligned with country budget cycles and systems. Despite an explicit interest in harmonisation and alignment, they are still focused on financing projects rather than broader national programmes. The governance arrangements, on the other hand, tend to be fragmented due to the superimposition of the National AIDS Authorities and the country co-ordinating mechanism of the Global Fund. These duplicate mechanisms increase costs (and in smaller countries often involve the same people).

Financial reporting and audit reports, disbursement requests and regular reporting follow donor-defined timelines and procedures rather than national ones. Pre-execution assessments and appraisals for fiduciary and implementation arrangements are often duplicated. There are examples in the region of effective, country-driven harmonisation among donors, such as in Guyana where the World Bank, Global Fund and IDB's health programmes share a common implementation unit, common procurement guidelines, a single audit for all projects and a harmonised financial reporting system. Such a model should be replicated, but it takes local leadership and commitment.

The international commitment and support to stem the epidemic in the region has grown considerably over time, and the region has made progress in the treatment and care of people infected with HIV/AIDS. Nevertheless, the quality and scope of surveillance, prevention and treatment programmes in the region vary because of unequal socioeconomic conditions. Also, there is much room for improvement in the capacity to manage such funds effectively in the fight against HIV/AIDS.

4.11 Effectiveness of expenditure

The effectiveness of expenditure on HIV/AIDS could be determined by the outcome of expenditures in terms of reductions in the prevalence rates and changes in the sexual practices of the target populations. In July 2005, UNAIDS published and disseminated *Guidelines on Construction of Core Indicators* to aid in reporting on the progress made from intervention activities. The guidelines were also intended to ensure transparency of the process used by national governments to prepare

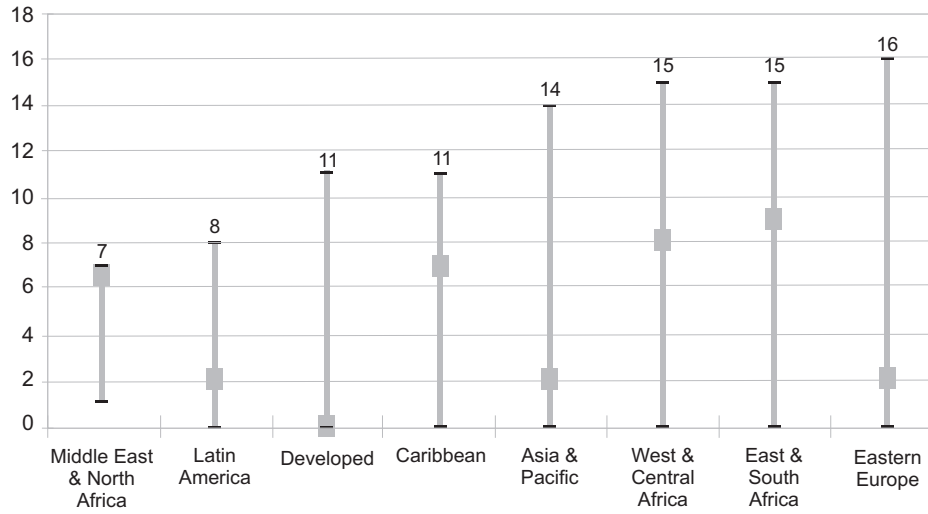

Figure 4.1 Range and median of indicators reported by countries within each region, 2006
Source: UNAIDS (2007b)

their progress reports. UNGASS reporting includes 17 indicators for generalised epidemics and 9 for concentrated/low-prevalence epidemics. The average range and number of indicators reported compared well with other world regions, as can be seen from Figure 4.1.

The graph shows that the Caribbean region holds a favourable position in terms of the number of indicators reported when compared with other regions. These indicators are widely recognised as the 'litmus test' for gauging national programme effectiveness, within a regional and global context. Baseline data are now increasingly available for key UNGASS indicators. A summary of UNGASS indicators for selected Caribbean countries for 2008 is included in the Appendix.

The latest round of national UNGASS reports reveal increasing political commitment compared with previous years, along with marked programme expansion, in part reflecting significant increases in external donor financing. Programme expansion is manifested in the broadening of sectors formally involved in national responses, reflected in the multi-sectoral nature of National AIDS Co-ordinating bodies, often appointed by Cabinet and located in the Office of the Prime Minister. In some cases, National HIV and AIDS Councils (or Commissions/Directorates) are chaired by the Prime Minister, or President. Results from the National Commitment and Policy Index (NCPI) show governments are committed to re-orienting expanded national responses along the guiding principle of the 'Three Ones' in a bid to harmonise external support efforts.

The Three Ones principle advocates:

1. One national co-ordinating authority,
2. One national strategic framework, and
3. One monitoring and evaluation system.

While the NCPI shows a high level of commitment among governments to the Three Ones, UNGASS reports in general indicate a low level of efficacy on the part of National AIDS Co-ordinating bodies to actually manage harmonisation on the ground. Countries in the region have yet to take pro-active steps to encourage harmonisation, such as announcing the date and agenda for

joint annual reviews of national strategies and M&E plans, while warding off numerous reviews organised separately by external stakeholders. As a result, external stakeholders continue with unilateral project review missions, often over-loading national staff.

Due, in part, to financial support from the Global Fund to fight AIDS, tuberculosis and malaria (GFATM), as well as technical and financial support from the Clinton Foundation and the World Bank, UNGASS reports show significant gains in the expansion of free ARV treatment services between 2006 and 2007, and renewed emphasis being placed on prevention during 2006–07. Prevention efforts have focused on the development of targeted behaviour change interventions among vulnerable populations, and public awareness campaigns for the reduction of stigma and discrimination.

By late 2005, many countries were better placed to report on national progress across a broader range of UNGASS goals and targets. As a result, the majority of 2006 reports from the Caribbean include data on a range of nine or more UNGASS indicators. Reporting is strongest for treatment, scale up and prevention of mother to child transmission (PMTCT). Data on prevention education programmes in general are weak. Both treatment and prevention service coverage data are reported largely in terms of counts, rather than population estimates; quality coverage data are weak throughout the region. In general, service delivery data indicate weak programming in the diagnosis, counselling and treatment of sexually transmitted infections (STI) and poor public education around the benefits of HIV and STI testing in general.

In addition, many countries are striving to learn from the experience of countries such as The Bahamas, where it was recognised early on that tackling the HIV epidemic, also meant tackling the issue of crack cocaine. Additional data sources beyond UNGASS indicate that advances are being made in scaling up prevention education and VCT promotion among vulnerable communities. However, UNGASS reports show weak data on prevention programme coverage. Community service organisations and NGOs have gained access to vulnerable communities in contexts where government agencies have failed to reach most-at-risk populations. As countries prepare to scale up towards universal access to key services, the involvement of community-based organisations (CBOs) in aggregating data on numbers reached, and in setting and reaching coverage targets, will be crucial to success.

Access to ARV drugs has improved significantly in a number of countries, although universal access to treatment in poorer resource-limited countries could take years to achieve. Brazil has been a model in the developing world in terms of offering antiretroviral (ARV) treatment to all people living with HIV, and the survival rate of AIDS patients in the country has risen significantly because of this. AIDS mortality has also declined in other countries providing universal coverage for ARV treatment, including Argentina, The Bahamas, Barbados, Costa Rica, Cuba and Panama.

According to a joint 2007 report issued by UNAIDS, UNICEF and the WHO, some 355,000 people were receiving ARV treatment in Latin America and the Caribbean in 2006, or 72 per cent of those needing it. The report also cautioned, however, that coverage declined slightly in the second half of 2006, and suggested that the increase in need is not being matched by an increase in the number of people being treated.

In a number of smaller poorer countries in the region, particularly in the Caribbean and Central America, the percentage of people receiving ARV treatment is much less than the regional average. In Haiti, almost 37 per cent of those needing ARV treatment were receiving in 2006, while in the neighbouring Dominican Republic, 36 per cent of those needing treatment were receiving it. Other countries where under 50 per cent of those in need of ARV treatment were

receiving it include El Salvador, Honduras and Trinidad and Tobago. While these numbers are low compared with the regional average, they still reflect a large increase in ARV treatment for these countries. It should also be pointed out that in the Caribbean only first line treatment is readily available. For although, relatively speaking, the Caribbean is not a poor region, the prevalence of fiscal deficits means that the option of moving to second line ARVs has not been available to the region. Concerns have been expressed in respect of drug resistance but there has been no policy development on this matter.

Bilateral and multilateral agencies in the Caribbean support a regional approach in dealing with the epidemic in part because governments are either too small or too poor to respond adequately. Minimal infrastructure, weak institutional capacity and poverty have hampered efforts to respond to the epidemic in several countries. In order to overcome these difficulties, the Caribbean Community (CARICOM) has co-ordinated a regional approach to combat AIDS. In 1998, the CARICOM Secretariat chaired a Caribbean task force on HIV/AIDS that developed a strategic plan for the region. In 2002 CARICOM and PANCAP, the partnership launched the previous year, developed a 2002–06 Strategic Framework and a Plan of Action to respond to the epidemic. The Pan American Health Organization and its Caribbean Epidemiology Center (CAREC) have provided technical assistance to help implement the Strategic Plan, and donors have included UNAIDS and the World Bank and bilateral donors such as the United States.

4.12 Conclusion

Despite the progress made during the last decade, the region still faces some challenges in the response to HIV/AIDS in the following areas:

1. Data and indigenous research,
2. Access to high risk populations,
3. Monitoring and Evaluation,
4. Surveillance, and
5. Financing.

As the most recent UNAIDS report has shown, significant strides have been made in the response to HIV/AIDS in the Caribbean in recent years (UNAIDS, 2009). This is due to a combination of efforts by the respective governments, by key regional agencies and by the international community. However, given the apparent levelling off in incidence, there is much room for future research, especially pertaining to the microeconomic impact of the disease. Much work also needs to be done at the national and regional levels on tracking the sources and uses of funds available in the fight against HIV/AIDS. We support the call for the preparation of Annual National Health Accounts for all countries. This has been done for a sample of countries under the initiative of UNAIDS (UNAIDS, 2004b). Included among these countries were Belize and Guyana.

Perhaps the most important requirement is for a concerted effort to tailor the HIV/AIDS response towards the most at-risk populations who are usually the sub-groups that are most in need of intervention activities, but which because of stigma and discrimination are often excluded from these response activities. Limited data on the impact of interventions on these high risk population groups are only recently emerging.

In many territories the data show that the epidemic is beginning to stabilise. AIDS deaths are on the decline (Table 4.1) and prevalence rates have started to decrease in some cases. International

financial support and governments' commitment are increasing. HIV/AIDS is no longer an automatic death sentence given the availability and increased access to ARV treatment. PLWHAs can now enjoy reasonably long life spans and so still contribute to productivity and national output. Given these trends the macroeconomic impacts previously estimated will have to be updated.

What this study has shown is that HIV/AIDS has become virtually endemic to the Caribbean and that the impact on the economies and the social fabric of the different countries is decidedly unwholesome. The ray of hope, however, is that a successful response to the epidemic remains within the capacity of the people of the region. As long as the region maintains the political commitment that has been shown, as long as the region comes to terms with the stigma and discrimination that has reared its head and as long as each country concentrates more on the most at risk groups there is no reason why, in spite of its small size and attendant vulnerability, the countries of the Caribbean cannot be among the first to be able to claim that they have begun to overcome the terrible scourge that is HIV/AIDS.

Note

1. Total factor productivity refers to efficiency improvements (or declines) which are not attributable solely to either one or the other of the two factor inputs (labour and capital), but rather to their combination in production.

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Chapter 5

HIV/AIDS: The Challenges and the Opportunity for Small Countries

The regional studies presented in the previous chapters clearly demonstrate that, despite the differences among countries from various regions of the world, the HIV/AIDS epidemic follows a pattern in which its impact is so similar that it can be discussed independent of any region or country.

In examining the three previous chapters, there are some clear similarities. Indeed, the framework and scope of all three focus on the impact HIV/AIDS has had on the economies of countries in each respective geographic location. It is interesting that the fight against the spread of the disease employs virtually similar tactics. What is more, the impact of the epidemic was shown to have similar implications for all regions although they are practically poles apart.

We can classify the impact of HIV/AIDS under three main areas, which were clear from the information presented, and outline the similarities that emerge from each region. These are discussed in the following sections.

5.1 The impact of HIV/AIDS on the demography of countries

The impact of HIV/AIDS on population size and growth is especially significant for small countries. Globally, we see from the information presented in Table 1.1, that the daily HIV/AIDS-related mortality rate can be computed as close to 5,500 persons in 2008. Given the fact that the sub-Saharan Africa and Caribbean regions rank first and second respectively, in terms of HIV prevalence, the prospective mortality implications for the countries concerned are clear. As we saw in chapter 1, in the Caribbean region the mortality rate in the second decade of HIV/AIDS, that is the 1990s, increased by more than 500 per cent! This follows the global trend in AIDS-related deaths, which also recorded a phenomenal increase during the same period. Although not explicitly outlined in the sub-Saharan Africa study, it can be readily deduced that the region must have had a similar experience given the rapid rate at which a low prevalence state was converted into one of high prevalence, as well as the fact that, as shown in Table 1.2, countries in this region account for approximately 66 per cent of all HIV/AIDS cases globally. While the transition in incidence of the epidemic moved from among core groups to being generalised in the population may not be unique to small countries, the impact on smaller countries is likely to be more significant.

A second point of similarity among the three regions is the fact that the epidemic has enveloped the 15 to 44 years age group, which in most countries accounts for the highest number of persons living with HIV/AIDS. This is a similarity which results from the character of the virus and its main transmission methods. This group represents not only the primary members of the labour force, but also the population cohort that is usually expected to carry on with the procreation needs of the society. In a situation where more and more women are falling prey to HIV/AIDS, there would be implications for the fertility rates of countries. This, when combined with the high rates of mortality, results in a decrease in both the size and growth rate of populations.

When one analyses the entire picture, it would be reasonable to expect a change in the structure of populations in which the working or productive age groups are decreasing relative to the non-working age groups. The traditional population pyramids would no longer apply since the top of the pyramid, which represents the 60 years and older age group, will expand, while the middle of the pyramid, which represents the 15 to 45 years age group, will contract. Figure 5.1 is a projection of the population for Trinidad and Tobago (a small country within the Caribbean region) for the year 2025 that was extracted from the US Census Bureau's population pyramids. It takes into account AIDS mortality although we have not portrayed the without-AIDS scenario.

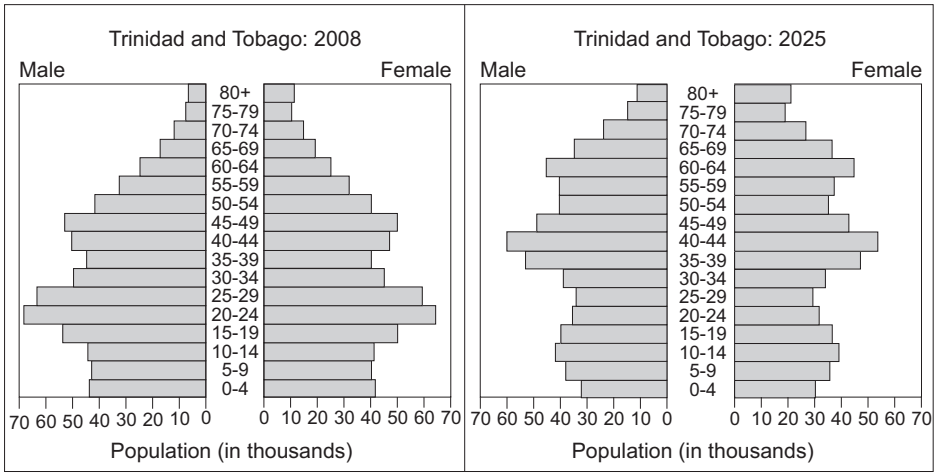

Figure 5.1 Projected size and structure of population with AIDS for Trinidad and Tobago, 2008–2025
Source: US Census Bureau, International Data Base. Available at http://www.census.gov/cgi-bin/ipc/idbpyrs.pl?Cty=TD&out=s&ymax=200&submit=Submit+Query

For comparative purposes and to demonstrate the impact of HIV on the structure of populations, the pyramids for Botswana (a country in sub-Saharan Africa) are shown in Figure 5.2.

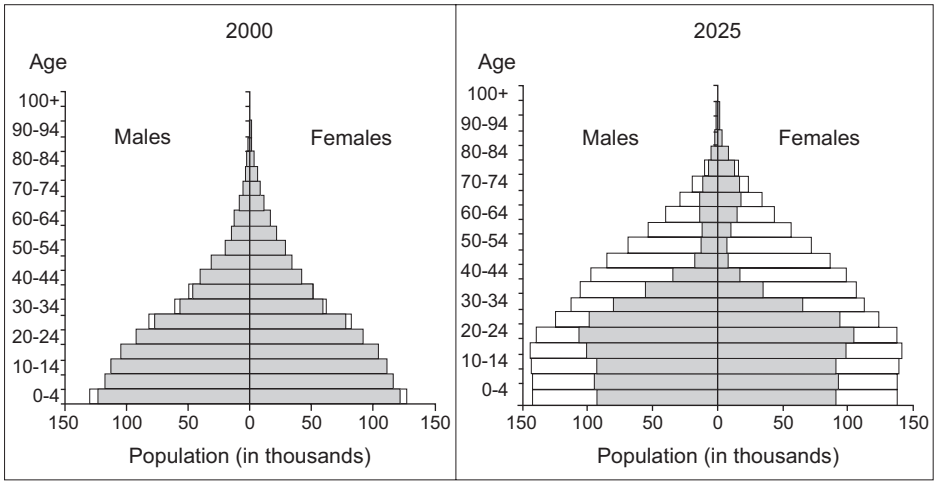

Figure 5.2 Population size and structure with and without AIDS for Botswana, 2002–2005
Note: Inclusion of the unshaded areas indicates the population size without AIDS.
Source: DESA (2005)

The projected population for Botswana with HIV/AIDS shows a middle-aged population (taken as people aged between 30 and 50 years) that is virtually disappearing, which signals a relatively small labour force. In the case of Trinidad and Tobago, the situation is not as severe, although a similar trend emerges especially when one looks at the younger age groups between 15 to 35 years.

5.2 The extinction concern

As mentioned earlier, the presence of the HIV/AIDS epidemic in small-population societies raises the very serious concern of population extinction. In the Caribbean, for example, the prevalence rates are now in the vicinity of only 2 per cent, but the reality is that countries in the sub-Saharan region converted from low single-digit prevalence rates to high double-digit rates in less than two decades. This is a scenario which the small countries of the Pacific and the Caribbean have to keep in mind. Compounding the damage to the development gains of these regions will be the real possibility of reduction in the populations in these regions to levels no longer viable. The prospect of a persistent non-decreasing HIV/AIDS incidence in a small population is one which makes a mockery of any development effort in these countries.

President Festus Mogae of Botswana has declared that his nation, after living with HIV/AIDS for many years, was actually facing obliteration due to AIDS. 'The impact of HIV/AIDS on the population, the economy, and the very fabric of our society not only undermines development, but poses a serious threat to our security and life as we know it. … We really are in a national crisis', Mogae told Reuters in an interview that year. 'We are threatened with extinction. People are dying in chillingly high numbers. We are losing the best of young people. It's a crisis of the first magnitude.'(Garrett, 2005)

5.3 The impact of HIV/AIDS on development

The ability of HIV/AIDS to reverse and erode the development gains realised by countries in the past is not in question. The book has shown that the epidemic has the potential to reduce economic growth, deepen poverty, reduce life expectancy, and increase infant mortality.

One of the singular features of HIV/AIDS is its concentration in the 15 to 45 age group in most countries and certainly for those in the Caribbean, Pacific islands and sub-Saharan Africa. Obviously, the ability of the regions to improve economic growth and development is likely to be weakened as productive members exit the labour force due to morbidity or death. Productivity will also be affected by decreased levels of morale in the surviving labour force and an increased number of new, inexperienced workers. A lowering of the growth potential is almost inevitable.

From the Caribbean study, we saw that for Guyana and Suriname, two countries of the Caribbean region, HIV/AIDS was projected to have a negative impact on GDP, savings, investments, employment and the labour supply. In Guyana, what was expected was a decrease in GDP by approximately 2.73 per cent due to HIV/AIDS, while in Suriname the expected decrease was 1.18 per cent (McLean, 2004). Similar negative trends are projected for the other countries of the region.

Life expectancy also has a distinct impact on a country's long term pool of human capital and on the overall morale and 'spirit' of its population. What this study has shown is that the countries in sub-Saharan Africa have recorded significant decreases in life expectancy values since the onset of HIV/AIDS in the 1980s. As Figure 5.3 illustrates, Botswana, one of the countries with the highest levels of HIV prevalence worldwide, in the first decade of the new century has a life expectancy of

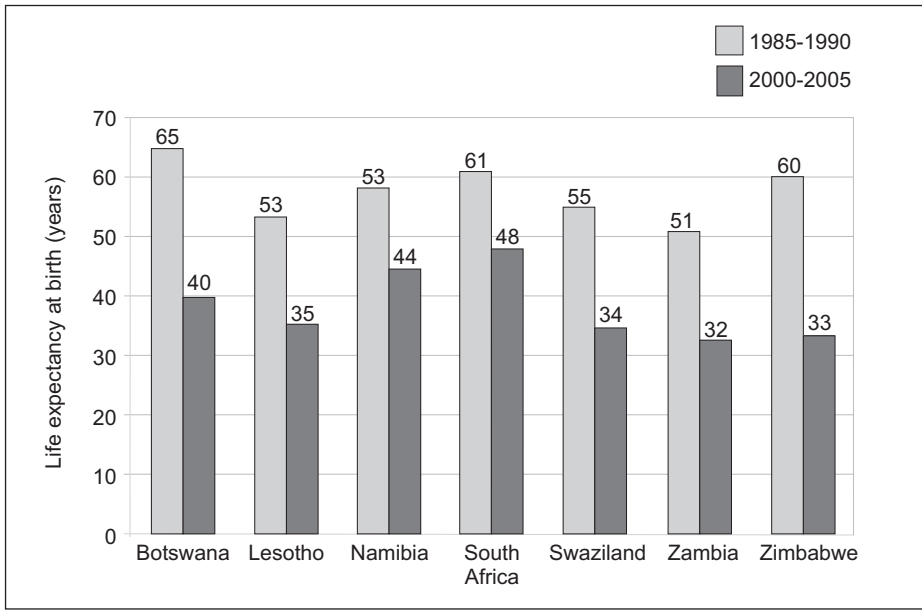

Figure 5.3 Life expectancy at birth in Botswana and other countries in the African region, 1985–1990 and 2000–2005
Source: DESA (2005)

40 years compared with a value of 65 years in the latter half of the 1980s. Figure 5.3 shows that other countries in the sub-Saharan region have also followed similar trends.

Taking a microeconomic perspective, we know that as economic growth decreases and HIV infected persons leave the labour force, household incomes will be affected. A fall in households' income will usually mean a redistribution of spending away from education and non-HIV related healthcare. Families and communities are therefore pushed further into poverty as often the sole provider or head of the household is the one who succumbs to HIV/AIDS. In the Pacific islands for example, where many seafarers support 6 to 8 people and in some cases up to 30 people, HIV/AIDS-induced mortality can be a source of immense grief and hardship.

One of the now well-known effects of the HIV epidemic is the increasing number of orphans who are left behind when their parents / primary caregivers succumb to the disease. A United Nations report (DESA, 2005) placed the number of orphans at 15 million, of which 12 million resided in sub-Saharan Africa. In the Caribbean, there are approximately 250,000 orphans due to HIV/AIDS (UNDP, 2002), which is a significant number when compared with a population size of less than eight million persons. The orphaned children are usually rejected by family members due to the stigma attached to HIV and therefore become the responsibility of the state. The psychological impact of HIV/AIDS and the incidence of broken homes are expected to have long-term implications for the life and behaviour of orphaned children.

The need for programmes to address the rise in orphanhood will mean that countries in the fight against HIV/AIDS will be forced to redirect resources away from development programmes seeking to provide infrastructure, education and training, poverty reduction and healthcare. Moreover, this will be happening even as their ability to generate new income is being negatively affected by the epidemic.

5.4 Out of evil….?

There is no question that the HIV/AIDS epidemic is an evil that has made an unwelcome visit to our civilisation. The issue is whether, out of this evil, some good can come. HIV/AIDS has no doubt become one of the greatest hurdles to countries as they aspire to economic and social development. However, the epidemic can also be seen as challenging countries and regions to survive and to strive even harder to succeed in achieving their economic and development goals. For one thing, the emergence of HIV/AIDS has resulted in the establishment of several agencies and organisations to provide assistance to developing countries in their efforts to eradicate this epidemic. This should be used as an opportunity by countries in these regions to broaden the base of their development support system and to strengthen the systematic weaknesses which have been highlighted by the HIV/AIDS epidemic. It will also be possible to learn from the experiences of countries that have had success in containing the impact of the epidemic on their development. Such interactions have made for the way for new and/or increased relations among countries of the world.

More important is the fact that what HIV/AIDS has done is to hold the mirror to the society, to reveal in stark relief features which cry out for self-examination and self-improvement. This holds true for the way in which some of our public institutions have operated, but it also holds true for the way in which we have responded to our fellow citizens affected by HIV/AIDS.

The epidemic has highlighted the need to balance the vulnerability of small countries with a resilience, which comes from better planning and from organising ourselves better. The vulnerability/resilience dichotomy is linked to the fact that every important social outcome reflects a combination of forces over which we have no control, as well as forces which reflect the choices and decisions we make. What HIV/AIDS has brought to the fore is the need to enhance the quality of our decision making.

The examination of the three regions has presented a number of best practices in the quest for successful response programmes:

- A policy to provide free, nationwide treatment and ARV drugs to all who require them has been in place in Botswana since 2001. Of course, free provision is not sufficient unless it is embedded within a broader range of policies and interventions.
- A comprehensive prevention programme that addresses the general population on one level and targets specific, vulnerable populations can be seen in the Caribbean.
- A commitment by leaders to HIV/AIDS response programmes, shown by a sustainable level of domestic budget funding, is the case in Botswana and Namibia.
- A regional approach to response initiatives, which pools financial and technical resources, an outstanding example of which is the Pan-Caribbean Partnership on HIV/AIDS (PANCAP) in the Caribbean.
- Involvement by the regional university to enhance the quality of collaboration in the response to HIV/AIDS, for example UWI HARP in the Caribbean, is certainly a model for other parts of the world.

The opportunities created by HIV/AIDS are mainly in areas where there is an immense need to improve the quality of policy design and implementation. Some of the areas mentioned in the studies include:

- The development and improvement of health information systems and national surveillance systems to track not only HIV/AIDS, but other health conditions,
- The development and enactment of policies and laws to deal with stigma and discrimination,

- The development of response initiatives to include poverty reduction strategies since HIV/AIDS has been linked to poverty,
- The development of programmes that increase the numbers of medical professionals trained and implement strategies to retain health sector workers, and
- The improvement of social services to respond more effectively to the needs of the socially displaced.

5.5 Conclusion

We have seen that the three regional experiences highlight a number of theme areas, study of which facilitates an improved understanding of the experience and impact of HIV/AIDS in small countries. These theme areas were shown to be:

Demography issues. We need to monitor the impact of the epidemic on the size and structure of populations. In the extreme case of very small countries with an uncontrolled epidemic, the possibility of extinction could not be ruled out.

Development impacts. The efforts by small countries to deal with problems of poverty and income distribution are severely hampered by the epidemic, suggesting that conscious efforts to protect gains in these areas need to be made. The epidemic has shown that the experience of possible stagnation or reversal of development cannot be ruled out.

Opportunities for modernisation. While the epidemic has posed a serious threat to the small countries surveyed, it also presented these countries with opportunities for improving their modus operandi. What is now clear is that it cannot be 'business as usual' in a period of HIV/AIDS. The epidemic has shown the weaknesses in the social systems of these countries, but with the external support available countries can put emphasis on institutional strengthening to improve policy design and implementation in key areas. Small countries can also learn how to better make their case for special treatment in a world that seems poised to take up a devil-take-the-hindmost posture.

In this light it would be important that governments of developing countries, together with the international community, press for a more balanced TRIPS resolution that would not only value the protection and enforcement of intellectual property rights, but also the advancement of social and moral rights of many people in the developing world who have been affected by HIV/AIDS in one way or the other. This calls for radical changes in the granting of licences to access medications as many of the countries that have high prevalence rates of HIV/AIDS do not have fundamental manufacturing capacities under the compulsory licence arrangements. The scale of the devastating developmental effects of HIV/AIDS cannot be underestimated, and similarly the remedial role that generic drugs play in the fight against the disease cannot be undervalued. This then calls policy-makers to bargain for a TRIPS agreement that is tailored to the country-specific needs.

In conclusion, while the studies have shown that small countries need to pay particular attention to the way HIV/AIDS impacts on their social and economic systems, and while they certainly cannot afford to simply hope for the epidemic to go away, it is important that small countries see in the epidemic the opportunity to upgrade the ways in which they carry out their normal affairs. They have to strive more than ever to make the very best use of the resources made available to fight off the epidemic, in particular, but also to find ways of using these resources to strengthen the development effort so urgently needed by their populations.

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Appendix

UNGASS CARIBBEAN INDICATORS

INDICATOR 1:
Domestic and international AIDS spending by categories and financing sources

INDICATOR 2:
National Composite Policy Index (NCPI)
This is a very important indicator which measures the degree of development and implementation of different strategies and polices to respond to the epidemic. It combines both quantitative and qualitative information which helps national authorities understand the impact of their HIV response.

INDICATOR 3:
Percentage of donated blood units screened for HIV in a quality assured manner

INDICATOR 4:
Percentage of adults and children with advanced HIV infection receiving antiretroviral therapy

INDICATOR 5:
Percentage of HIV-positive pregnant women who received antiretrovirals to reduce the risk of mother-to-child transmission of HIV

INDICATOR 6:
Percentage of estimated HIV-positive incident TB cases that received treatment for TB and HIV

INDICATOR 7:
Percentage of women and men aged 15–49 who received an HIV test in the last 12 months and who know their results

INDICATOR 8:
Percentage of men who have sex with men/female sex workers/male sex workers who received an HIV test in the last 12 months and who know their results

INDICATOR 9:
Percentage of men who have sex with men/female sex workers/male sex workers reached with HIV prevention programmes

INDICATOR 10:
Percentage of orphaned and vulnerable children aged 0–17 whose households received free basic external support in caring for the child

INDICATOR 11:
Percentage of schools that provided life skills-based HIV education in the last academic year

INDICATOR 12:
Current school attendance among orphans and non-orphans aged 10–14

INDICATOR 13:
Percentage of young women and men aged 15–24 who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission

INDICATOR 14:
Percentage of men who have sex with men/female sex workers/male sex workers who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission

INDICATOR 15:
Percentage of young women and men aged 15–24 who have had sexual intercourse before the age of 15

INDICATOR 16:
Percentage of women and men aged 15–49 who have had sexual intercourse with more than one partner in the last 12 months

INDICATOR 17:
Percentage of women and men aged 15–49 who had more than one sexual partner in the past 12 months reporting the use of a condom during their last sexual intercourse

INDICATOR 18:
Percentage of female and male sex workers reporting the use of a condom with their most recent client

INDICATOR 19:
Percentage of men reporting the use of a condom the last time they had anal sex with a male partner

INDICATOR 20:
Percentage of injecting drug users reporting the use of a condom the last time they had sexual intercourse

INDICATOR 21:
Percentage of injecting drug users reporting the use of sterile injecting equipment the last time they injected

INDICATOR 22:
Percentage of young women and men aged 15–24 who are HIV-infected

INDICATOR 23:
Percentage of men who have sex with men/sex workers/drug users who are HIV-infected

INDICATOR 24:
Percentage of adults and children with HIV known to be on treatment 12 months after initiation of antiretroviral therapy

Index

HIV/AIDS in Small States provides an up-to-date and comprehensive analysis of the economic impacts of the epidemic in the Pacific, Southern Africa and the Caribbean. The authors examine specific features of these three regions that contribute towards the spread of HIV/AIDS and identify the responses by various local and external stakeholders. What is clear from the research is that small states must see in the epidemic opportunities for modernisation and, with external support, put emphasis on strengthening policy design and implementation in key areas to strengthen the development effort so urgently needed by their populations.

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