Third World Quarterly, Vol 23, No 2, pp 313–332, 2002

Carfax Publishing
Taylor & Francis Group

Poverty and HIV/AIDS in Africa

ALAN WHITESIDE

ABSTRACT *HIV/AIDS is the major threat to development, economic growth and poverty alleviation in much of Africa. And yet the full extent of the catastrophe facing the continent is only just being recognised, and still not by all. The international development targets set by the great and the good of the global community—or at least by those members of the community who attend the international summits that set these goals—do not consider what HIV/AIDS means and are unachievable. This paper begins by setting the scene, describing the epidemic, explaining why it is so important and what makes HIV/AIDS different. It then explores how the poverty/epidemic cycle works, whereby poverty increases the spread of HIV and AIDS increases poverty. It suggests we need to look beyond monetary poverty to understand these relationships. Finally the paper assesses what can and should be done to break the HIV/AIDS poverty cycle.*

The HIV/AIDS epidemic is the most devastating epidemic in recent history. The influenza epidemic of 1918–19 is estimated to have killed 100 million people (Kolata, 2000); by 2000 nearly 58 million people had been infected by HIV and 22 million had already died. And the epidemic continues to spread. HIV/AIDS is a long-wave event compared with other epidemics. The true death toll cannot be estimated until the full wave form of the epidemic has been seen. It may be as long as 20 years before we can say that the world epidemic has peaked and/or begun to decline. If we take into account the social and economic impacts of the epidemic, in particular HIV/AIDS-related poverty, it is clear that this will get very much worse over the coming years and decades unless there is a concerted effort to address it.

The long-wave nature of the epidemic can be simply understood by making reference to Figure 1, which shows HIV prevalence and cumulative AIDS cases. The key concept is the epidemic curve. HIV, indeed any disease, will move through a susceptible population infecting some, missing others. Epidemics follow an 'S' curve as shown in the Figure. They start slowly and gradually. If a critical mass of infected people is reached, the growth of new infections accelerates thereafter. The epidemic then spreads through the population until those who are susceptible and exposed have been infected.

In the final phase of an epidemic—where the 'S' flattens off at the top, and turns down—people are either getting better or deaths outnumber new cases so that the total number alive and infected passes its peak and begins to decline. With most diseases the curve will decline rapidly. HIV and AIDS are different.

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ISSN 0143-6597 print/ISSN 1360-2241 online/02/020313-20 © 2002 *Third World Quarterly*
DOI: 10.1080/0143659022012666 7

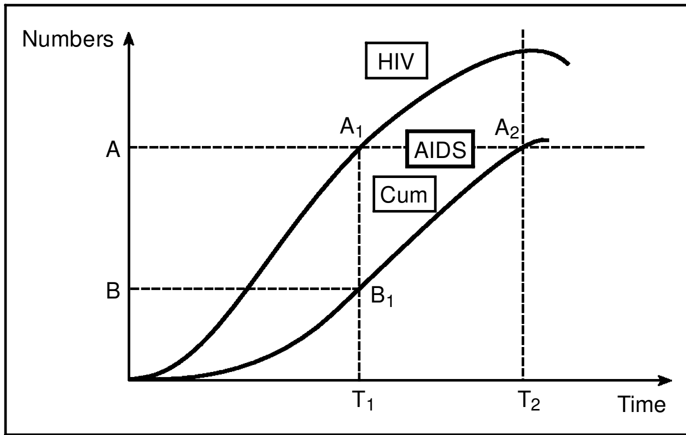


FIGURE 1
The two epidemic curves.

What sets HIV/AIDS apart from other epidemics is that, as shown, there are two curves. With other diseases, infection is followed by illness within a few days or weeks. In the case of HIV the infection curve precedes the AIDS curve by between five to eight years. This reflects the long incubation period. This is why HIV/AIDS is in some ways such a lethal epidemic compared with, say, Ebola Fever. In the latter case people fall ill quickly and visibly, putting the general population and public health professionals on their guard. The community takes precautions to halt spread.

HIV infection moves through a population giving little sign of its presence. It is only later—when substantial numbers are infected—that AIDS deaths begin to rise. People do not leave the infected pool by getting better as there is no cure. They leave by dying (of AIDS or other causes). The effect of life-prolonging anti-retroviral drugs (ARVs) is, ironically, to increase the pool of infected people. In Figure 1 the vertical axis represents numbers of infections or cumulative illnesses and the horizontal axis time. At time T_1, when the level of HIV is at A_1, the number of AIDS cases will be very much lower, at B_1. AIDS cases will only reach A_2 (ie the same level as A_1) at time T_2. By then years will have passed and the numbers of people who are infected with HIV will have risen even higher.

This also shows that, while prevention efforts may aim to lower the number of new infections, the reality is that without affordable and effective treatment AIDS cases and deaths will continue to increase after the HIV tide has been turned. Beyond the point T_2 predictions are hard to make; we do not know how either the HIV or the AIDS S curves will proceed. In only two developing countries, Uganda and Thailand, does national HIV prevalence (and incidence) appear to have peaked and turned down. The Figure shows *an* epidemic curve. But a national epidemic is made up of many sub-epidemics, with different gradients and peaks. These sub-epidemics vary geographically and in terms of their distribution among social or economic groups. One common feature in both the rich and poor world is that HIV spreads among people at the margins of society, the poor and dispossessed. In Africa many are poor.

TABLE 1
Countries worst affected by HIV/AIDS (prevalence rates >4% of adult population at end 1999)

Country	Adult rates (%)	Adults and Children	Adults (15–49)	Orphans cumulative
1 Botswana	35.80	290 000	280 000	66 000
2 Swaziland	25.25	130 000	120 000	12 000
3 Zimbabwe	25.06	1 500 000	1 400 000	900 000
4 Lesotho	23.57	240 000	240 000	35 000
5 Zambia	19.95	870 000	830 000	650 000
6 South Africa	19.94	4 200 000	4 100 000	420 000
7 Namibia	19.54	4 200 000	4 100 000	420 000
8 Malawi	15.96	800 000	760 000	390 000
9 Kenya	13.95	2 100 000	2 000 000	730 000
10 Central African Republic	13.84	240 000	230 000	99 000
11 Mozambique	13.22	1 200 000	1 100 000	310 000
12 Djibouti	11.75	37 000	35 000	7 200
13 Burundi	11.32	360 000	340 000	230 000
14 Rwanda	11.21	400 000	370 000	270 000
15 Cote d'Ivoire	10.76	760 000	730 000	420 0000
16 Ethiopia	10.63	3 000 000	2 900 000	1 200 000
17 Uganda	8.30	820 000	770 000	1 700 000
18 United Rep of Tanzania	8.09	1 300 000	1 200 000	1 100 000
19 Cameroon	7.73	540 000	520 000	270 000
20 Burkina Faso	6.44	350 000	330 000	320 000
21 Congo	6.43	86 000	82 000	53 000
22 Togo	5.98	130 000	120 000	95 000
23 Haiti	5.17	210 000	200 000	74 000
24 Democratic Rep of Congo	5.07	1 100 000	1 100 000	680 000
25 Nigeria	5.06	2 700 000	2 600 000	1 400 000
26 Gabon	4.16	23 000	22 000	8 600
27 Bahamas	4.13	6 900	6 800	970
28 Cambodia	4.04	220 000	210 000	13 000

HIV/AIDS in Africa

Globally the worst epidemic is in Africa. UNAIDS estimates that 24.5 million of the 34.3 million global infections are here. In 2000 it was calculated that 8.57% of African adults (defined as those aged 15–49 years) were infected. In numbers, the next highest total is that of South and Southeast Asia, with 5.6 million infected people. There are smaller epidemics in a number of Central American and Caribbean countries (UNAIDS, 2000). In Eastern Europe there is concern that HIV may spread beyond the drug-using populations, creating a generalised epidemic. However, 20 years into the epidemic, Africa is the epicentre, with 26 of the 28 worst affected countries (see Table 1).

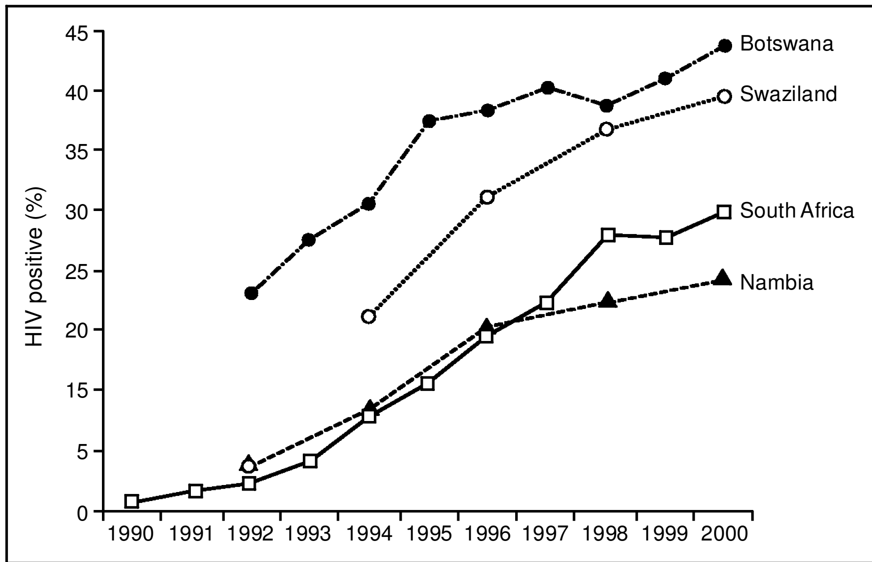


FIGURE 2

HIV prevalence among women attending public ante-natal clinics in various southern African states.

Figure 2 shows HIV prevalence rates as measured by annual survey of pregnant women in selected Southern African countries.[1] These surveys are done using anonymous samples of blood taken from women attending public ante-natal clinics at a given time. It can be seen that apparent downturns (in Botswana from 1997 to 1998 and South Africa from 1998 to 1999) were not sustained and prevalence continues to rise.

Even if the HIV epidemic were brought under control the number of AIDS cases and its impact will continue for years to come. This is shown in Figure 3, which illustrates 'normal' and AIDS deaths in South Africa up to 2010.

The relationship between poverty and aids

Poverty causes HIV spread

There is a distinct relationship between poverty and communicable disease epidemics. At the same time epidemic disease—like any illness—has the potential to increase poverty. Stillwagon has shown 'that HIV prevalence is highly correlated with falling calorie consumption, falling protein consumption, unequal distribution of income and other variables conventionally associated with susceptibility to infectious disease, however transmitted' (Stillwagon, 2000: 985–1011). The causal chain runs from macro-factors, which result in poverty through the community, household and individual, into the capacity of the individual's immune system. Thus, work in cell biology has shown that the mechanisms which connect malnutrition and parasite infestation depress both specific and non-specific immune responses by weakening epithelial integrity

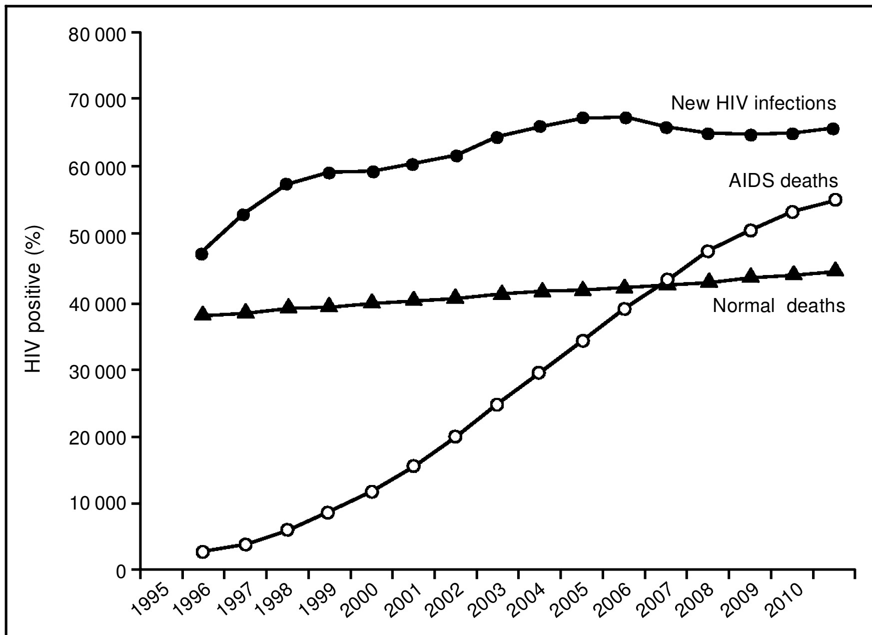
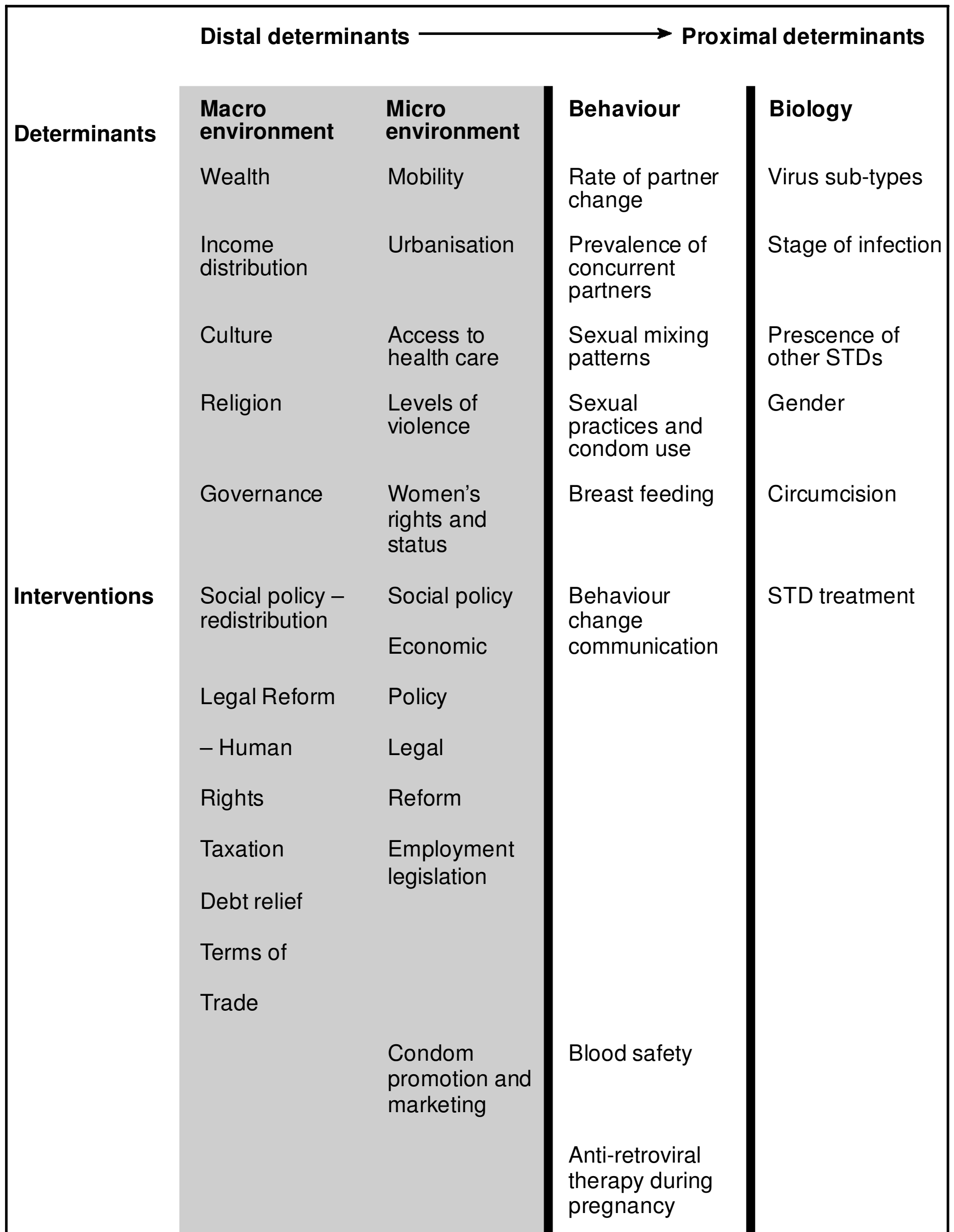


FIGURE 3
Projected 'normal' and AIDS deaths in South Africa to 2010.

and the effectiveness of cells in the immune system. Protein-energy malnutrition, iron-deficiency anaemia, vitamin-A deficiency, all poverty related conditions, decrease resistance to disease.

Figure 4 shows some of the relationships between poverty and HIV. The figure indicates that, although the most proximate causes of being infected are biological, a person's sexual behaviour is next in line as it determines the number and type of sexual encounters he or she will have. However, sexual behaviour is in turn determined by economic, social and cultural factors. For example, a truck driver on any of the major routes in Africa may be away from home for long periods. He might have sex with a commercial sex worker because he is bored, he feels his job is dangerous and he deserves some compensation, he is frequently away from his wife and family, he experiences peer pressure from his fellow drivers to engage in this activity and he has the necessary money. The commercial sex worker, on the other hand, is driven by poverty and the need to feed her family. Each column also has an area where policy interventions can be imagined or actualised. The shaded columns are those where poverty-based interventions are appropriate.

Figure 5 shows that there is not a simple causal relation between the epidemic and poverty. Botswana, with the highest per capita income in Africa, has the highest levels of infection. Part of the answer may lie in the success of economic growth. Rapid economic growth brings its own problems—disruption, deprivation, disease and death.[2] Youde (2001) argues that quick growth disrupts traditional norms as cultures and people can not adapt to the changes. In addition,



Distal determinants → Proximal determinants

	Macro environment	Micro environment	Behaviour	Biology
Determinants	Wealth	Mobility	Rate of partner change	Virus sub-types
	Income distribution	Urbanisation	Prevalence of concurrent partners	Stage of infection
	Culture	Access to health care	Sexual mixing patterns	Prescence of other STDs
	Religion	Levels of violence	Sexual practices and condom use	Gender
	Governance	Women's rights and status	Breast feeding	Circumcision
Interventions	Social policy – redistribution	Social policy	Behaviour change communication	STD treatment
		Economic		
	Legal Reform	Policy		
	– Human	Legal		
	Rights	Reform		
	Taxation	Employment legislation		
	Debt relief			
	Terms of			
	Trade			
		Condom promotion and marketing	Blood safety	
			Anti-retroviral therapy during pregnancy	

FIGURE 4
Proximal and 'distal' causes of HIV/AIDS.

growth skews income distribution and changes distribution patterns.

The concept of growth alone is not sufficient to explain the spread of the epidemic. There has been little real per capita growth in South Africa since 1994. In that year per capita income stood at R13 786; in 1997 it was R14 249 but fell to R14 013 in 1999 (Nicholson, 2001). Yet the epidemic here has spread rapidly.

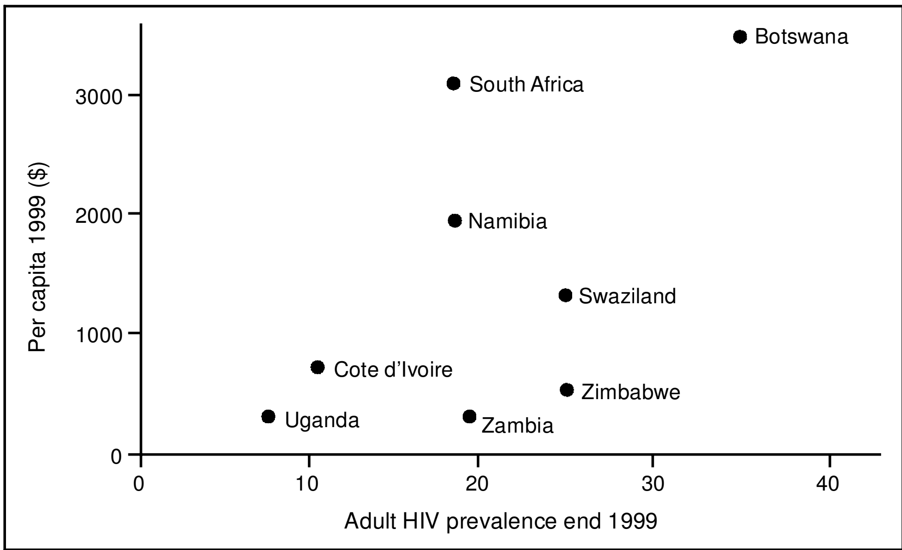


FIGURE 5
Wealth and HIV.

The issue of income distribution is probably as important as economic growth. Although there has been a great deal of work in this area, it has tended not to look at the relation between inequality and communicable disease, specifically HIV/AIDS in the developing world (see, for example, Wilkinson, 1996, and subsequent work).

There is an additional wrinkle to the discussion. Economies may change without affecting the macro-indicators. Again we can look at the example of South Africa. Here the economy has been relatively stagnant in terms of per capita output, although in real terms output has grown. However, this disguises fundamental changes in the structure of the economy. The primary (agriculture, forestry and mining) and secondary (manufacturing, electricity, gas, water and construction) sectors are shrinking as contributors to GDP, while the tertiary sector (all services—banking, insurance, trade and tourism) is growing. This new structure of production has resulted in a real decline in the numbers in formal employment, from 5 576 000 in 1991 to 4 864 000 in 1999 (Nicholson, 2001: 17). The unskilled have been worst affected. This is happening at a time when the economically active population is growing. The result—and similar pictures are seen in most African countries—is that formal employment is declining, informal employment increasing (and the tax base changing).

I would suggest that this has direct implications for the spread of HIV. Economic growth may cause change that encourages HIV spread, but so does economic decline and stagnation. With growth at least there is the potential that people will become better off and there will be more resources to combat the disease. It is crucial though that the growth be equitable. It is also clear that this is an area that merits further research. That the HIV/AIDS epidemic impoverishes

people, their households, communities and enterprises is by now widely accepted. What is not well understood is how it acts on different social and economic units, how these interact with each other, and how we can better understand these effects and processes. There has been surprisingly little work on this problem.

AIDS causes poverty

HIV/AIDS leads to many kinds of poverty. Until recently the main emphasis was on financial and income impoverishment. Households and nations were assumed to become poorer as a result of the illness and death of members and citizens. The pathways of impact are illustrated by Figure 6. The first and greatest impact is at the level of individuals and households. Macroeconomic impacts take longer to evolve and the scale and magnitude of macro-impacts will depend on the scale and location of micro-level impacts.

Household-level and community-level impacts are most serious but there are few data about this. From the limited household studies, it can be concluded that the effect of illness and death on poverty in households depends on the number of cases the household experiences; the characteristics of deceased individuals; the household's composition and asset array; community attitudes towards helping needy households and the general availability of resources—the level of life—in that community; and the broader resources available for assistance to households. In simple terms the poorer the households and communities, the worse the impact.

Illness also affects household resources and income. No matter who is ill they need care, medicines, treatment and possibly a special diet. All this costs extra money. When the person dies, the funeral will be a further drain on resources. A second impact is felt if the person is an adult. Their illness and eventual death will deprive the household of labour. This may be income earning; unpaid labour on the farm; or caring for the family. The impact on households is long term. It

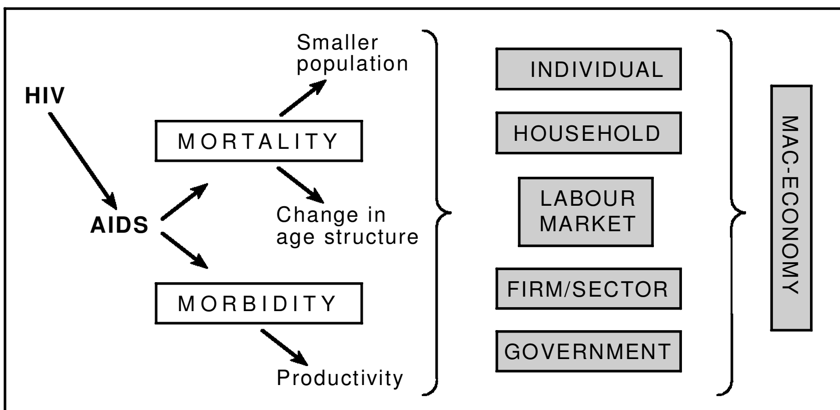


FIGURE 6
Pathways to economic impact.

begins with illness, as additional resources are required for care and household labour may be reduced. Differently from many (if not most) illnesses, the person affected will not recover but periods of illness will increase in frequency, duration and severity, requiring more care and, if the person is a labour provider, resulting in a labour deficit in the household. Usually there will be more than one case of HIV/AIDS in the household, thus the pattern of illness and impoverishment is repeated.

If the household dissolves, the dependants (usually children but sometimes the elderly) either have to fend for themselves or are taken in by other households. Where care is provided by others, this means in most instances that fewer resources will be available to their own household members.

There are limited studies of the effects of AIDS on households and most focus on economic impacts of death rather than illness. These paint a bleak picture. The classic survey-based study was in the Kagera region of Tanzania in the late 1980s and early 1990s by the World Bank with Tanzanian co-investigators.[3] With regard to adult death the Kagera study found that households experiencing an adult death spent less during the person's illness, but that a greater percentage of their expenditure was on medical care. They spent 33% less on non-food items such as clothing, soap and batteries and their food purchases decreased. Income was diverted but may also have been reduced as the number of hours worked was cut (World Bank, 1997: 213).

In the sophisticated South African economy the Bureau of Economic Research modelled the impact of the AIDS epidemic on final household consumption expenditure (FCE). This is shown in Table 2. These results suggest that total FCE is slightly higher in the AIDS scenario over the period 2002–10. This is explained by increased consumer spending on health care products and services (non-durable goods and services spending), use of personal savings and positive employment effects associated with the government and companies' efforts to combat the epidemic (BER, 2001: 33).

Evidence from both Kagera (World Bank, 1997) and Cote d'Ivoire (Bechu, 1998) indicates that households are resilient and there is a partial recovery in levels of consumption as time passes after the death. In other words households 'cope'. However, our experience and that of others has been that anecdotal evidence often shows they do not cope, or that 'coping' may turn out to be

TABLE 2

The impact of AIDS on final household consumption expenditure (FCE) (% difference in constant price levels of AIDS and non-AIDS scenarios)

	Durables	*Semi-durables*	*Non-durables*	*Services*	*FCE*	*Savings*
2002	–1.0	–0.7	0.3	1.5	0.5	–0.5
2005	–3.1	–2.4	–0.1	3	0.7	–0.8
2010	–5.7	–5.4	–1.6	6.3	0.8	–1.5
2015	–7.9	–9.8	–6.3	3.5	–2.8	–0.2

another way of saying 'desperate poverty, social exclusion and marginalisation'.

There is an unresolved problem: existing quantitative studies indicate effective coping, while anecdote makes us believe otherwise. And recent work from Zambia supports this view. A five-year retrospective study of 232 urban and 101 rural AIDS-affected families found that 'One of the striking features of the economic impact of AIDS in affected families in Zambia is the rapid transition from relative wealth to relative poverty' (Namposya-Serpell, 2000: 1).[4] This was particularly marked where a father died (70% of the recorded urban deaths). Monthly disposable income of more than two-thirds of the families in this study fell by more than 80%.

Household surveys underestimate the degree of household dissolution and failure. Mutangadura's (2000) study of 215 households in Manicaland, Zimbabwe examined how adult deaths may cause the dissolution of households. She found that about 40% of the sample households had taken in orphans who had lost both parents. More strikingly she states that: 'Sixty five percent of households where the deceased adult female used to live before her death were reported to be no longer in existence in both the urban and rural sites' (Mutangadura, 2000: 11). This lends weight to the supposition that often the worst impact is invisible because it is among those who are not counted.

Death is expensive. In Kagera households medical expenditures were higher when AIDS was the cause of death. But 'strikingly for all groups except men with AIDS, medical expenses were overshadowed by funeral expenses. On average, households spent nearly 50 percent more on funerals than they did for medical care … In Thailand … just as in Tanzania, the households spent much more on funerals than on medical care' (World Bank, 1997: 211). It should also be remembered that, while the state may make some contribution to health care and medical expenses, home care and funeral costs fall entirely on households.

One method by which households cope is through the sale of assets. Table 3 summarises data from Kagera, Tanzania and Rakai, Uganda on how adult death is linked to households' disposal of assets. In Zimbabwe 24% of households said

TABLE 3
Asset ownership in households with and without an adult death (% of total households)

Asset	*Rakai District, Uganda*		*Kagera District, Tanzania*	
	Households w/o adult death	*Households with adult death*	*Households w/o adult death*	*Households with adult death*
Bicycle				
First visit	34	39	27	26
Last visit	41	35	29	28
Radio				
First visit	30	40	31	36
Last visit	37	36	35	35

Source: World Bank (1997: 217).

they had sold assets to cope with the death of an adult woman, with 'the main assets being sold being cattle, goats, furniture, clothes, televisions, poultry and wardrobes' (Mutangadura, 2000: 15).

For rural and poor urban households to survive it is crucial that they do not dispose of productive assets which are necessary for recovery and reconstruction. The assets described in Table 3 are consumer goods: a household can sell a radio and survive. The question is what happens when productive assets—a plough, oxen or seed stock—are sold. The implications for the future of such households must be bleak if they can no longer maintain and reproduce themselves.

Macroeconomic impact has to be modelled. World Bank economist Rene Bonnel estimates that AIDS reduced Africa's economic growth by 0.8% in the 1990s (Bonnel, 2000). HIV/AIDS and malaria combined resulted in a 1.2 percentage point decrease in per capita growth between 1990 and 1995.[5] There are, however, only two countries where rigorous analysis has been carried out: South Africa (Quattek, 2000; Arndt & Lewis, 2000; Bureau for Economic Research, 2001) and Botswana (BIDPA, 2000). There is some debate about mechanisms. One of the South African studies suggests that the main effect is the shift in government spending towards health, which increases the budget deficit, reduces total investment and leads to slower growth in productivity (Arndt & Lewis, 2000).

In Botswana a report on the macroeconomic impacts of HIV/AIDS prepared for the Ministry of Finance and Development Planning (BIDPA, 2000) focused on GDP growth and per capita incomes from 1996 to 2021. It predicted GDP growth would fall from 3.9% a year without AIDS to between 2% and 3.1% a year with AIDS. After 25 years the economy will be 24% to 38% smaller.

It is increasingly recognised that conventional economics misses the complexity and full significance of the epidemic (MacPherson *et al*, 2000; BER, 2001). When the epidemic was in its early stages projections based on scenarios computed 'with AIDS' and 'without AIDS' were reasonable, but such comparisons are no longer valid.

> The impact of the disease cannot be treated as an 'exogenous' influence that can be 'tacked on' to models derived on the presumption that the work force is HIV-free. HIV/AIDS has become an 'endogenous' influence on most African countries that has adversely affected their potential for growth and development. In some cases, such as Zambia, Zimbabwe, and the region covering the former Zaire, the spread of HIV/AIDS may have already undermined their ability to recover economically. (MacPherson *et al*, 2000: 3)

AIDS has the potential to push economies into decline and then keep them there. 'The reduction in savings and loss of efficiency associated with the spread of the disease is akin to "running Adam Smith in reverse"'. (MacPherson *et al*, 2000: 11)

There are additional consequences of the macroeconomic impact not addressed in the literature. There will be fewer resources for government to spend on poverty alleviation and social services at the very point when demand is likely to increase. In Botswana the increased demand for resources and the likely reduction in revenue have been calculated. Here the government will have to

spend between 7% and 18% more by 2010 because of AIDS, assuming current levels of service are maintained. The greatest share of spending will go to health care, followed by poverty alleviation. Revenue in Botswana is predicted to fall by 9.6%—and this is a protected economy because it is so dependent on diamonds. South African government revenue will be 0.7% lower in 2000 than in the absence of AIDS. By 2011 it will be 4.1% lower (Quattek, 2000).

Finally the consequences for those not directly affected by AIDS will be considerable. They will have to bear the consequences of the general slowdown in economy activity, erosion of government revenue and capacity, and associated effects of the epidemic. This is an area that merits further research and which will have policy implications.

The unmeasured impact on poverty

Economic studies of impact have understandably tended to focus on 'economic' variables. But the impact of HIV/AIDS on poverty goes beyond these relatively easily measured and familiar variables. In particular it engages with what may be called relational good, public goods and issues of social reproduction (Barnett *et al*, 2000). Social relations contribute to wellbeing. They may be:

- relational goods;
- goods which have characteristics of being 'public' or 'common' (like, for example, transport infrastructure).

It may not be possible to supply the former category through markets. For example, a foster parent provides care and support and parents provide love as well. Can money buy love? How is a cuddle costed? The latter is not supplied or is under-supplied by markets because individuals and corporations have little incentive to supply such goods. Relational goods can be final consumption goods (ie valued for themselves) and/or intermediate goods (eg certain social relations may facilitate co-operation and trust). Social relations can be a source of value in themselves.[6]

The effects of loss of such goods are apparent at the household and community levels. The study of households and their interaction has long been an area of research for sociologists and anthropologists. There is information on how households cope with shocks and respond to disease. However, AIDS is new and different. AIDS-affected households often have to cope with more than one death, because the disease clusters. They also have to deal with a long and debilitating illness that is costly in its use of resources—both financial and temporal, and which ends in death. In addition, the epidemic has a wider effect that weakens the ability of the community to lend support.

An in-depth study of the impact of the disease in Bukoba district of Tanzania (Rugalema, 1999) illustrates the stark impact on households. In the study community 32% of households were AIDS-afflicted—they had experienced direct illness or death of one or more of their family members in the previous 10 years. A further 29% were affected 'in the sense that although they have not experienced direct death or illness of a household member from AIDS, they have experienced *ripple effects* … include[ing] fostering orphans, providing labour or

cash to help care for the sick person, and providing for survivors in an afflicted household' (p 73).

HIV/AIDS and development

There is a cycle between HIV/AIDS and poverty. AIDS deepens poverty and increases inequalities at every level, from household to global. The epidemic undermines efforts at poverty reduction, income and asset distribution, productivity and economic growth. AIDS has reversed progress towards international development goals. It is one of the most profound development challenges faced in modern human history, not because of its direct impact, but for the influence it has on other development policies and goals. How do countries deliver on policies aimed at equity in access to economic opportunities or services when AIDS widens economic differentials and undermines service delivery? How do countries deliver on promises to improve quality of life between generations when we know that already 40 million children will grow up orphaned by AIDS? And why do world leaders set unachievable development goals?

The HIV/AIDS epidemic means development goals and the way development is carried out need to be rethought. The consequences of HIV/AIDS have not been properly considered by anyone. Development organisations—NGO, bilateral and multilateral—have come late to this problem and then only paid it lip service. Worse, existing development indicators do not reflect the impact of AIDS nor can they measure its complex adverse consequences.

Responses to the epidemic chase rather than lead it. Apart from persistent fear, denial and stigma, there is still a lack of clarity on biological, social, economic and development relationships and HIV, and what *is* known may be poorly implemented. While prevention must remain a priority, the impact of the disease must be mitigated.

The overarching international development goal is poverty reduction. In 1990 the UNDP introduced the Human Development Index (HDI) which looked beyond financial measures to include life expectancy and educational attainment. This has been widely accepted as a good measure of 'development'. The Human Poverty Index (HPI) developed by UNDP tries to provide a measure of poverty. This combines the following components:[7]

- percentage of people expected to die before 40 years of age;
- illiteracy;
- percentage of people without access to health services and safe water and percentage of children moderately or severely underweight for their age. (UNDP, 1990–2000)

One of the most measurable impacts of AIDS is on mortality rates. Adults and many infants and children are dying prematurely. This impact is measured in both the HDI and the HPR though the life expectancy component. Table 4 shows how AIDS mortality has affected both life expectancy and HDI scores and rankings.

Also badly affected are mortality rates for infants and children under five. In the absence of interventions an infected mother has about a 30% chance of

TABLE 4
Life expectancy and place in the HDI (selected countries)

	1996 Report (1993 data)		*1997 Report (1994 data)*		*2001 Report (1999 data)*	
	Life expectancy	*HDI (rank)*	*Life expectancy*	*HDI (rank)*	*Life expectancy*	*HDI (rank)*
Botswana	65.0	0.741 (71)	52.3	0.673 (97)	41.9	0.577 (114)
Cote d'Ivoire	50.9	0.357 (147)	52.1	0.368 (145)	47.8	0.427 (144)
Kenya	55.5	0.473 (128)	53.6	0.463 (134)	51.3	0.514 (123)
Malawi	45.4	0.321 (157)	41.1	0.320 (161)	40.3	0.397 (151)
South Africa	63.2	0.649 (100)	63.7	0.716 (90)	53.9	0.702 (94)
Zimbabwe	53.4	0.534 (124)	49.0	0.513 (129)	42.9	0.554 (117)
Zambia	48.6	0.411 (136)	42.6	0.369 (143)	41	0.427 (143)

Sources: UNDP (1996, 1997, 1998, 1999, 2000).

transmitting HIV to her infant. Most infected children will not reach their fifth birthday. In addition, some mothers of uninfected children will die of AIDS and evidence shows that orphans have higher mortality rates. The economic and social stress associated with having AIDS in a household further reduces the life chances of infants and young children. Table 5 shows projected child mortality

TABLE 5
Child mortality 2000 and 2010, rate per 1000 (selected countries)

	2000 child mortality		*2010 child mortality*	
	With AIDS	*Without AIDS*	*With AIDS*	*Without AIDS*
Botswana	136	38.9	169.5	27.1
Cote d'Ivoire	155.6	125.8	129.1	83.5
Kenya	110.1	70.1	107.4	50.9
Malawi	219.6	175.4	202.6	137.3
South Africa	119.6	65.6	146.6	47.6
Zimbabwe	132.8	41.3	153	28.8
Zambia	168.8	106.5	145.7	79.9

Source: US Bureau of the Census (2000).

with and without AIDS. The effect of AIDS on this indicator is horrifyingly apparent.

In the absence of life all other indicators are irrelevant. AIDS causes premature death and means that international, national and personal development goals and aspirations are not achievable. These deaths appear at the aggregate level as decreased life expectancy and increased infant and child mortality. Although we are in the third decade of the epidemic, the international development community has not taken AIDS on board. There is little appreciation of what HIV/AIDS means for development targets. This is shown in Table 6. Furthermore, those charged with measuring development have failed to respond. Their indicators do not pick up the impact of the disease, because they are based on historical data and take no account of current and future impacts. Even with existing data it is not clear what is and is not included, and with and without AIDS scenarios are not presented.

The Millennium Declaration goals and global stability and security are fundamentally undermined by the HIV/AIDS epidemic. Mobilising capacities, mechanisms and resources for response demand international co-operation. Yet official development assistance flows have declined over the past 10 years (see Figure 7). Of even greater concern is the fact that the UK Overseas Development Assistance (ODA) flows to countries worst affected by AIDS (defined as having more than a 4% adult prevalence in December 1999) have fallen by a third. To reach the estimated $7–10 billion needed per year to finance responses to HIV/AIDS implies redirecting nearly 20% of existing aid or providing a quarter as much again in new money.

While existing ODA inputs are inadequate, even those that do come in are often poorly co-ordinated and tied and poorly placed. Few donors understand that AIDS is as much a multi-sectoral issue for *them* as for the countries they support. Agencies and sections of agencies need to be aware of the impact of AIDS and to put policies and strategies in place to deal with these. For example, education portfolios need to consider impact of AIDS on teacher numbers, enrolment rates and quality of education. It is pointless to plan and build new schools that will not be staffed, where there are not sufficient children and where a square meal is the overarching need.

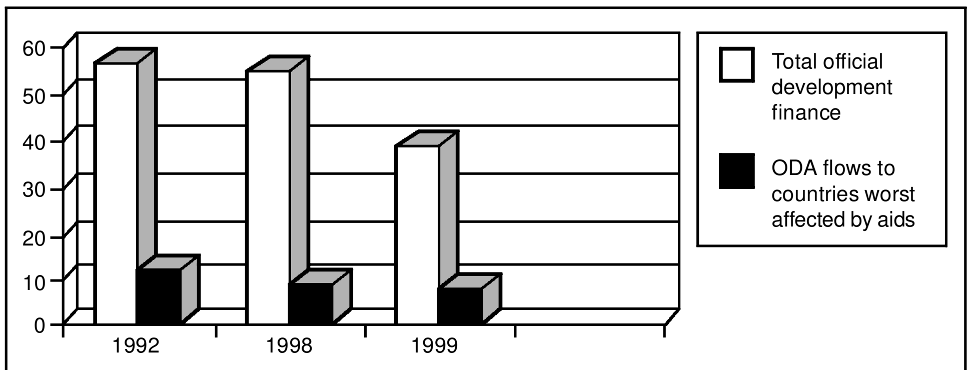


FIGURE 7
Changing aid flows, 1992–99.

TABLE 6
Selected UN Millennium Development goals and the effect of HIV/AIDS

Millennium Development goals	*Effect of HIV/AIDS*	*Impact on progress towards the development goal and steps to protect the goal*
Reduce income poverty: Halve by 2015 the proportion of the world's people whose income is less than one dollar a day.	AIDS increases consumption needs and depletes household assets; labour losses reduce income. *AIDS losses can push household incomes down by up to 80%* and increase household poverty. AIDS weakens public infrastructures needed to reduce poverty. The poverty impacts may be intergenerational.	The epidemic will slow or reverse progress towards this goal, least visibly at global and national level, most evidently at community and household level. *Protecting the goal demands investment in essential services to reduce household consumption, support household production and also protect social development and employment opportunities for orphans.*
Reduce hunger: Reduce the proportion of people who suffer from hunger.	Illness, reduced incomes, lower productivity of subsistence agriculture and crop shifts increase food insecurity, especially for women and children. *Food consumption in affected households falls by 15%–30%.* Quality of diet in HIV is important for improved survival, but more difficult to secure because of illness.	Survival with HIV makes this a critical goal, while AIDS makes it more difficult to achieve because of reduced food availability, access, intake and absorption. *Protecting the goal demands household inputs to ensure food production and access, and measures to meet the dietary needs of affected people, especially women and children.*
Increase access to safe water: By 2015 halve the proportion of people who are unable to reach or afford safe drinking water.	Illness, increased labour demands for caring and lost labour reduces time for collecting water, especially for women. Human resource losses and costs in water supply services affect delivery and increase the cost of services to households.	Loss in household resources and labour time make easy access to safer water critical. The epidemic will slow or reverse progress towards this goal unless *investments are made to secure and expand delivery systems, protect household access despite cost increases, and ensure less time-consuming access to safe water.*
Universal primary education: By 2015 children—boys and girls—able to complete a full course of primary	The supply of education threatened by teacher absenteeism and deaths. Children from households facing lost income and	AIDS has already, in the worst affected countries, reduced quality of education and of enrolment, especially among the most vulnerable groups. *Progress*

Table 6 continued

TABLE 6 (*continued*)

Millennium Development goals	*Effect of HIV/AIDS*	*Impact on progress towards the development goal and steps to protect the goal*
schooling.	demands for caring fall out of school. Households and schools face increased stress. *AIDS can lead to 20%–40% reductions in primary school enrolment.* Education, especially for girls, is a critical factor in preventing infection and delaying onset of sex.	*towards the goal demands investments and mechanisms to secure the teacher and resource inputs to education, and to ensure that children, especially female children, access and attend school.*
Improve child health: Reduce under-five child mortality by two thirds of current rates by 2015.	Infant and child mortality will continue to increase for the next decade and possibly longer.	The target will not be met and in some countries there will be a deterioration over the period. *Increased access to ARV prevention of maternal to child transmission reduces child infection and AIDS-related mortality.*
Achieve gender equality: Girls and boys to have equal access to all levels of education.	Girl children are more likely to be kept out of school to provide care or when resources are limited. Women take on greater burdens of caring and face greater economic insecurity when wage earners fall ill. Hence, while gender equity (social and economic) is a critical factor in reducing risk, AIDS exacerbates burdens on women and inequities.	Gender inequalities will not be reduced without targeted interventions that also take account of the effects of AIDS. AIDS can increase society's and women's motivations for dealing with inequities. *For progress towards the goal interventions need to confront social pressures on inequity, provide access to prevention services, deal with the burdens shifted to women by the epidemic and protect female access* **to** *services, assets and incomes.*
Improve lives of slum dwellers: By 2020 achieve a significant improvement in the lives of at least 100 million slum dwellers as per 'Cities Without Slums' initiative.	Achieving this goal will reduce the risk environment for HIV and provide housing (and income) security for affected households. But human resource and income losses because of AIDS can reduce capacity in support services, reduce household savings and divert household and	*Progress towards the goal depends on measures to stimulate long-term savings, make housing, finance and resources accessible to poor communities, and secure housing tenure in households that have lost wage earners, particularly women.*

Table 6 continued

TABLE 6 (*continued*)

Millennium Development goals	*Effect of HIV/AIDS*	*Impact on progress towards the development goal and steps to protect the goal*
	sectoral assets away from long-term investments (like housing) into short-term needs.	

Source: Loewenson & Whiteside (2001).

Debt is a drain on the ability of poor countries to direct resources to health and development needs. African external debt totals US$227 billion. Debt servicing in Africa is estimated at 5% of GDP, 15% of export earnings on the continent and more than the total public sector health expenditure. If 50% of debt were cancelled, it would potentially double the resources for preventing, managing and mitigating the impact of AIDS. If all debt were forgiven then an additional $15.98 per capita could be freed up in Ghana, $16.18 in Zambia and $6.46 in Nigeria. By comparison the existing spending on HIV/AIDS per capita is $0.12 in Ghana, $0.73 in Zambia and $0.03 in Nigeria. Debt relief offers an opportunity to rehabilitate social infrastructures and systems that have been eroded under macroeconomic decline, structural adjustment and spiralling debt. This infrastructure must be provided for delivery of both HIV prevention and AIDS mitigation.

Directly tackling poverty remains the primary goal. Successful poverty alleviation will address the impact of AIDS since one of the main consequences of the disease is that it impoverishes individuals, households and communities. Poverty alleviation will feed into prevention of further infections: for example, improving women's incomes increases their power in all aspects of life, including control over their sexual activity. Education reduces the risk of infection and has long-term beneficial development consequences. It should be noted that no developed country has an AIDS epidemic even approaching those of the poor world. This says something glaringly obvious about the links between AIDS and development.

The first two decades of AIDS have seen the burden of the epidemic shifted to household and community level. Here devastating impacts and innovative action have combined, often with little coherent international, state or private sector support. Two things signal the need for a vastly more intense, consistent and systematic response: First, in only very few situations has the risk of infection or the mitigation of impact been managed in a decisive manner (whether at community, enterprise or national level). Second, impact is increasing and it is urgent that resources be mobilised and directed to ensure that the responses reduce as far as possible the wave of debilitation, particularly for young people, women and poor households.

This paper has shown that HIV/AIDS is extremely complex. Poverty assists HIV

spread, AIDS causes poverty. This epidemic is a development crisis. While a global effort is needed to advance technical inputs, like vaccines or treatment, to help to control the epidemic, there are no easy answers or simple technical and scientific solutions to dealing with its spread and impact. The most effective response, or the best international 'vaccine' against this disease, is sustained, equitable development. And yet we are neither promoting this nor recognising the seriousness of the epidemic.

Acknowledgements

This paper was prepared soon after I had written (with Rene Loewenson) a Background Paper for the UN General Assembly Special Session on HIV/AIDS, 25–27 June 2001 (Loewenson & Whiteside, 2001) and (with Tony Barnett) a paper for the UNICEF Innocenti Research Centre on 'The impact of HIV/AIDS on poverty: and the policy response to mitigate it'. There are only so many ways to say things and the paper draws on both these sources. In addition, the work was supported in part by the HIV/AIDS & STI Knowledge Programme: Knowledge for Action in HIV/STI, funded by the Department for International Development (DFID), UK. The views expressed are not necessarily those of DFID. All errors, interpretations and omissions are my responsibility.

Notes

1. These data are assembled from the country's reported National Surveillance Surveys. The surveys are held in HEARD in Durban
2. This discussion is influenced by a paper by Jeremy Youde (2001), Charles and Kathleen Manatt Democracy Studies Fellow, University of Iowa, USA. He in turn quotes Simon Szreter (2001).
3. The study was done as a four-round panel survey between 1990 and 1994. The survey looked at the impact of adult mortality and a total of 913 households were interviewed at least once, with 759 household completing all four waves. The study was funded by USAID, Danida and the World Bank Research Committee. The findings have unfortunately neither been fully analysed nor published, although some have been presented in various fora, including international conferences. The most accessible account can be found in World Bank (1997). Some further findings were discussed in Lundberg and Over (2000).
4. 'AIDS-affected' was defined as a family in which one or both parents and/or major breadwinner died because of AIDS in the five year period from January 1991 to December 1995.
5. Recent work by the Liverpool School of Tropical Medicine suggests that the interactions between malaria and AIDS may be marked. The rates of malaria fever rose sharply with falling CD4 cell counts. The data suggest that, with worsening immunosuppression caused by HIV/AIDS, protective immune responses to malaria in adults are progressively lost (personal communication).
6. This is discussed at greater length in a book, provisionally entitled 'AIDS: The First Epidemic of Globalisation', by Tony Barnett and Alan Whiteside, to be published by Palgrave in 2002.
7. In industrialised countries the HPI includes a measure of social exclusion—the long-term unemployment rate (UNDP, 2000: 147).

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