HEALTH AND STRUCTURAL ADJUSTMENT IN RURAL AND URBAN ZIMBABWE

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Introduction

Reports and studies from a number of sources including government health ministries, UNICEF, non-government agencies and even sections of the World Bank point to significant welfare reversals over the past decade in many countries implementing structural adjustment programmes (SAPs). These reports are contradicted by the World Bank's 1993 World Development Report which maintains that adjusting is more beneficial to health and welfare than non-adjusting, and that any negative impact is limited and temporary.

This paper outlines the process whereby SAPs are likely to affect health, and, using the case of Zimbabwe, provides empirical evidence for such effects. The implications for population health in countries including South Africa, adopting similar macro-economic measures, are raised.

Economic Change, Health Care and Health Outcomes

Any examination of the impact of the relationship between macro-economic change, including structural adjustment programs, and health should be informed by an understanding of the economic, social and technical factors influencing health outcomes. The disease burden and pattern experienced by the peoples of underdeveloped countries are strikingly similar to those of nineteenth century Europe, i.e. they are primarily diseases of underdevelopment and poverty, not a feature of warm climates in the tropics. Industrialised and urbanised sections of underdeveloped countries experience disease patterns more akin to those dominant in the industrialised countries.

Historical and contemporary experiences have shown that there is a definite but complex relationship between economic growth on the one hand and health status on the other. In general, sustained economic growth over the long run does lead to improved health and nutritional status: in the now-industrialised countries the large and sustained decline in mortality has been accompanied by reductions in morbidity (disease) and malnutrition, and largely preceded any effective medical interventions. There is not, however, a direct correlation between health and nutrition indicators and GDP per capita levels, because improved income distribution - even at low income levels - can accelerate improvements in health, e.g. in China and Sri Lanka. In the short term, the inter-relationship is even more complex. There are examples of countries in which high growth has been associated with a decline in health status as reflected by the normal indicators (Brazil), but equally there are cases where severe economic decline has been associated with significant improvements in health status (Chile, Tanzania). An understanding of the relationship requires a fairly detailed study of the particular circumstances in which economic changes take place and within the context of which health status is determined. In particular, issues of access and equity are of primary importance.

Factors influencing health outcomes include economic and environmental influences as well as direct health sector interventions. Thus, it is useful to categorise these factors into two broad groups: those originating outside and those originating inside the health sector. Evidence from many countries shows that income is probably the most important of the outside factors. For example, a Zimbabwean study found that variation in children's nutritional status was explained principally by the socio-economic status of parents (education, economic activities, income and housing status). Since education and housing status are themselves strongly correlated with income, this suggests that income is a primary determinant of nutritional status. Other factors originating outside the health sector include social inputs, such as education; environmental inputs, such as access to clean water; and general economic measures, such as food rationing, subsidies and so forth. Factors originating inside the health sector are the usual range of health care provision, for example, hospitals, health services, health personnel, and immunisations.

Although health sector inputs may be the most obvious determinants, the effects of non-health sector inputs are probably more important. Whilst it is relatively easy to achieve rapid improvements in health measured by standard quantitative indicators (which are in reality disease indicators), sustained improvements in the quality of life are more difficult to produce and measure. For instance, certain indicators, such as infant and young child mortality rates, may be rapidly improved by selective primary health care interventions (e.g. immunisations) targeted at these high risk groups. There is, however, little evidence to suggest that improved nutrition levels, for example, can be maintained by the application of such technical packages in the absence of more general improvements in access to resources.

It must also be noted that different time frames apply to the appearance of changes in both sets of indicators. For example, whilst changes in food prices and health service take-up rates may occur quite quickly and be readily assessed and documented, changes in mortality and morbidity rates, and in nutritional status, are both more problematic to monitor, and become evident only in the medium- to long-term: short-term changes may thus reflect processes operating before the implementation of SAPs.

Finally, another major problem in assessing the impact of SAPs is the poor quality and often the unavailability of data on mortality, morbidity and nutritional status, especially in the poorest countries where economic decline has often been most severe.

Given the foregoing, it is clear that in assessing the impact of structural adjustment on health services and health status, it is necessary to analyse the impact of factors operating both inside and outside the health sector, and that a range of health indicators must be examined. These indicators must be monitored over both the short- and long-term.

The Components of Structural Adjustment Programs and their likely effects

Economic Structural Adjustment is the process of responding to (often severe) imbalances in the economy, particularly deficits in a country's balance of payment, usually by adopting measures which expand exports, reduce imports, or otherwise attract foreign exchange to a country. Often, measures to curb a government deficit by increasing government revenue or reducing expenditure are also involved. These actions involve changes in the structure of the economy. Structural Adjustment Policies are a set of policies towards the goal of structural adjustment. The implementation of such policies has become a condition for the receipt of significant financial assistance (usually in the form of loans) from the International Financial Institutions (World Bank and International Monetary Fund). These loans are used primarily to offset balance of payments deficits i.e. foreign debts.

In general, structural adjustment programmes consist of three sets of components. The first group of structural adjustment policy components are those things which influence the balance of payments. These include:

- Devaluation of the local currency, both formal and informal:
  - Formal devaluation is carried out by allowing the local currency's value to slide against international currencies such as the dollar or pound.
  - Informal devaluation is implemented by lifting price controls and freezing wages which results in people not being able to buy as much with their money. In effect, wages are lowered.
- Restrictions on borrowing from the IMF.
- Balance of payments controls. Some governments have imposed stringent restrictions on dividends and foreign exchange.

The resulting wage cuts and price increases affect a number of factors outside the health sector which influence health, such as how much food a family can buy – the single most important factor – and people's ability to pay for housing and other services.

The second group of components are government budget policies, primarily consisting of reductions in public spending on health, education, social services and food subsidies. Reduction in social sector spending means not only reduction in budget allocations to the health sector; it also is accompanied by 'cost recovery', the introduction of user charges. Essentially, cost recovery means that health care that used to be free in many countries is now charged for.

The last component of structural adjustment is called 'trade liberalisation'. Previous restrictions on trade are removed (for example, tariffs are reduced). This together with the devaluation of local currency, is aimed at increasing exports from poor countries to rich. Trade liberalisation also includes incentives for foreign investment, such as rolling back government regulations that restrict the freedom of action of foreign business. At the same time, loans are made available (often through the World Bank) so that poor countries can import goods from the West. The liberalisation of trade opens up markets in the South, and allows the middle class in the South to enter the market.

The Zimbabwe Study

The Economic Structural Adjustment Programme (ESAP) was formally introduced in Zimbabwe in October 1990, but started in earnest in March 1991 after a meeting with foreign aid agencies and the World Bank in Paris. The framework of ESAP was spelt out in the January 1991 document: Zimbabwe: A Framework for Economic Reform (1991-95). The ESAP package, as outlined in this document, contains the standard features of IMF/World Bank economic reform strategies, including, inter alia (GOZ, 1991 a): a reduction of the budget deficit through a combination of cuts in public enterprise deficits and rationalisation of public sector employment; trade liberalisation, including price decontrol, and deregulation of foreign trade, investment and production; phased removal of subsidies; devaluation of the local currency; enforcement of cost recovery in the health sector and introduction of cost recovery for education.

Economic, Health Service and Health Changes

a) Economic changes

Between independence in 1980 and 1991, the performance of the national economy fluctuated considerably. In the immediate post-independence period, Zimbabwe's real income as measured by

the gross domestic product (GDP) per capita rose to a peak of ZWD 484 in 1981, then slightly fell to ZWD 477 in 1982 and then declined further to fluctuate around ZWD 453 until 1990. Average real earnings in the formal sector (excluding agriculture) rose from ZWD 2213 per annum in 1979 to a peak of ZWD 2758 in 1982. After that, they declined to ZWD 2091 in 1987. The boom in the first two to three years after independence was clearly followed by a stabilisation period that lasted until 1990, when the real per capita income was about the same as that in 1980. Some of the economic indicators for Zimbabwe for the period 1988 to 1993 are summarised in Table 1.

In accordance with the aims of the ESAP, the Zimbabwe dollar was devaluated against all major foreign currencies. The biggest devaluation came in early 1993, when the local currency was allowed to depreciate by 35 per cent over less than three months. In August 1992, subsidies on super-refined maize meal were completely removed while those on roller meal and bread were reduced. In June 1993, maize marketing regulations were liberalised and the last subsidies on maize meal and bread were removed, after which bread riots broke out in some urban areas. Table 1 also shows that the official inflation rate had mounted to 46.3 per cent in 1992, whereas the inflation rate for food was estimated at 72.6 per cent. For 1993 the figures were estimated at 20.0 per cent and 24.5 per cent respectively.

This is further illustrated Figure 1 and Figure 2.

Table 1: Economic indicators for Zimbabwe (1988-93) [1]

	1988	1989	1990	1991	1992	1993
Domestic product:						
Real GDP (1990, in million ZWD)	4143	4332	4426	4641	4284	4357
Real GDP per capita (in ZWD)	453	459	455	462	413	407
Prices (1980=100):						
CPI (December) [2]	281.8	321.9	377.8	489.6	716.4	834.2
Inflation rate		14.2%	17.3%	29.0%	46.3%	20.0%
Food CPI	302.0	364.7	435.4	572.2	984.5	1182
Food inflation rate		17.3%	19.4%	31.4%	72.6%	24.5%

[1] *adapted from GOZ, 1993b*
[2] *Consumer Price Index*

b) Health service changes

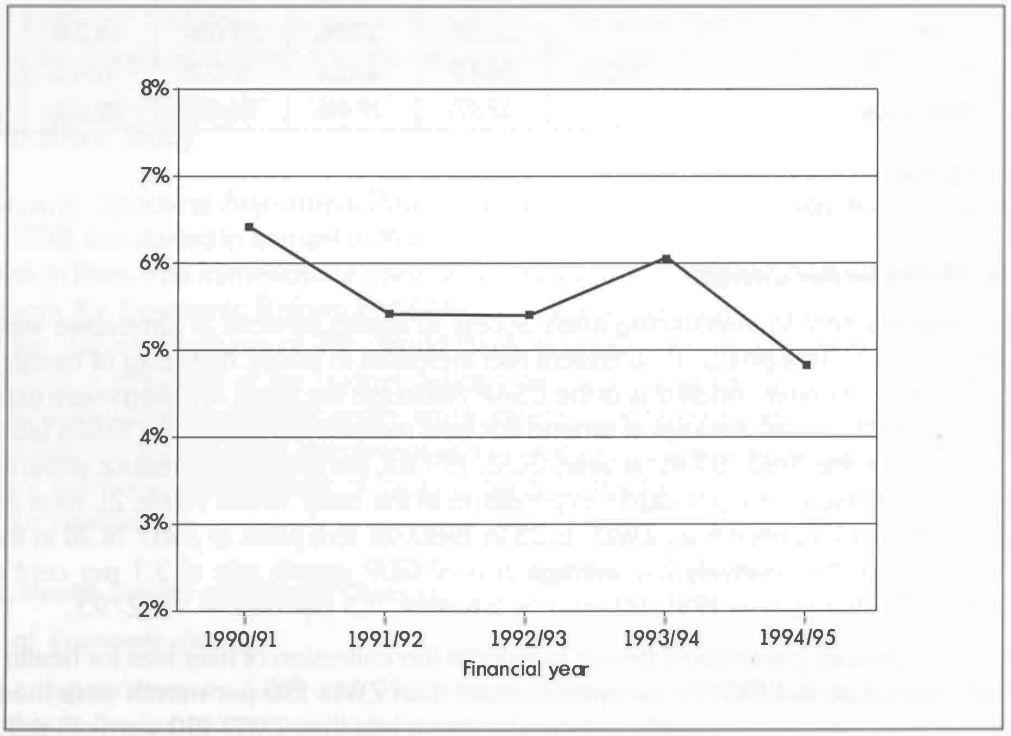
Government commitment to maintaining mass access to health services in Zimbabwe was beyond question in the 1980s. This policy of consistent real increases in public financing of health services could not be sustained under conditions of the ESAP. Although the share of government expenditure allocated to the health sector was kept at around the level maintained during the 1980s (about 6 per cent; 5.9 per cent for the 1993/94 fiscal year; GOZ, 1993b), the pressure to reduce expenditure led to a significant decrease in real per capita expenditure in the early 1990s (Table 2). Real per capita expenditure on health had risen from ZWD 10.25 in 1980/81 to a peak of ZWD 14.78 in the 1990/91 fiscal year, despite the relatively low average annual GDP growth rate of 3.1 per cent over that period. It fell by 17.9 per cent in 1991/92, and by a further 11.5 per cent in 1992/93.

In 1991, the Zimbabwean government began to enforce the collection of user fees for health services which it had introduced in 1985. Those earning more than ZWD 150 per month were made to pay for health services. Unemployed people and those earning less than ZWD 150 were officially entitled

Figure 1: Real per capita recurrent expenditure Ministry of Health

source: Chisvo and Munro (from CSO)

Figure 2: Health budget as a percentage of the total government budget by year



to free treatment. A letter from the local councillor or from a social welfare officer could serve as proof of eligibility for free treatment. A new regulation, announced in November 1992, raised the income level for free treatment from ZWD 150 to ZWD 400 per month. Shortly afterwards, in January 1993, the government abolished fees at rural health centres and most rural hospitals, in order to alleviate the effects of the 1991/92 drought on rural populations. It should be noted, though, that most council and mission clinics continued charging fees. In June 1993, user fees were reintroduced at rural government health facilities.

Several other policy changes with regard to user fees were introduced in the course of 1994 and 1995. The most dramatic changes occurred in January 1994 when a huge increase in charges for all services was effected, and in March 1995 when fees at rural health centres were abolished.

Table 2: Government expenditure on health (1988/89-1992/93) [1]

	1988/89	1989/90	1990/91	1991/92	1992/93
GOZ Health Budget					
Nominal expenditure (million ZWD)	329.0	421.4	566.8	631.4	802.5
Share of total budget	6.0%	6.5%	6.8%	5.7%	6.0%
Real expenditure (1990, million ZWD)	403.1	453.0	513.4	433.9	396.3
Real per capita expenditure (ZWD)	12.39	13.50	14.78	12.14	10.74
Change(%)	+1.9%	+9.0%	+9.5%	-17.9%	-11.5%

[1] *adapted from GOZ (1993b) and Chisvo and Munro (1994)*

c) Health status changes

During the 1980s, infant mortality (children under one year of age) in Zimbabwe declined from pre-independence levels of 120 to 150 per thousand live-births, to 61 by 1990. Child mortality (children one to four years) declined from 40 per thousand in 1980, to 22 in 1990 (UNICEF, 1994). However, mortality figures started to rise in the late 1980s and on into the 1990s, reversing the gains made in the previous decade. This trend is attributed to several factors that reinforce each other: the declining per capita expenditure on health and the declining quality of health services, the drought, the HIV/AIDS epidemic and the general deterioration in living conditions for large segments of the population.

No negative trend has been observed with respect to child nutritional status. UNICEF (1994) reports that several sources indicate that overall malnutrition levels remained remarkably consistent during the period 1989-92. The proportion of children who have a low weight for their age remained relatively high at 15 to 20 per cent in all age groups. The proportion of *stunted* children in a national random sample survey conducted in 1992 was nearly 30 per cent during the first and second years of life and between 20 and 25 per cent during the third and fourth years of life. Malnutrition is not evenly distributed throughout the country, though. It is more prevalent in the drought-prone provinces of Matabeleland North and South and Masvingo. Also, a rural child is almost twice as likely to be malnourished (as measured by mid-upper arm circumference) as a child from an urban high density area.

Government's response to alleviate adverse effects of ESAP

The government of Zimbabwe recognised that "... during the period of transition, certain population groups would be adversely affected by the changes in the economic environment ..." and it therefore "... resolved to protect and support the vulnerable, particularly during the hardships associated with

the initial phase of the ESAP ...". In this spirit, a Social Dimensions of Adjustment programme was designed. The objectives of SDA were (GOZ, 1991 b) to effectively target and design programmes for disadvantaged groups over the economic reform period, while minimising costs to the treasury, by maximising participation and support from third parties, notably NGOs, employee organisations, employer organisations and local authorities.

The major areas targeted for action were employment and training; targeting of food subsidies; cost recovery and social services; and monitoring and evaluation. To co-ordinate the first three activities, a Social Development Fund (SDF) was established to operate two main programmes, namely the Employment and Training Programme (ETP) and the Social Welfare Programme (SWP). Both programmes were to be coordinated by the Social Welfare Department of the Ministry of Labour, Public Service and Social Welfare. The SWP mainly involved the targeting of subsidies in the areas of food, health and education.

While the SDF measures were intended to work as a safety net to protect the vulnerable, their implementation was hampered by a number of factors. Recognising that the impact of the SDF was minimal, especially in non-urban areas, the government launched a new *Poverty Alleviation Action Plan*, in October 1993.

Methodological Considerations

The current project was designed with a view to monitoring and documenting the changes taking place during the structural adjustment process in Zimbabwe. Through the project, started in 1993, about two years after inception of the ESAP, an attempt has been made to collect as much data as possible that reflect the changes that have occurred since 1990/91.

The serious drought that hit Zimbabwe, as well as most other parts of Southern Africa, in 1991/92, has definitely had its impact on the government's ability to implement ESAP. It has also complicated attempts at pin-pointing the specific impact which structural adjustment has had so far on the population's health status and people's ability to cope with ESAP. These developments pose some methodological questions. Some of the issues which must be taken into consideration in conducting research related to structural adjustment and its impact have been highlighted in an earlier publication (Bijlmakers et al., 1996). While the economic reform programme in Zimbabwe was expected to have a major impact on almost every economic and social sector, it is extremely difficult to isolate out and attribute causality to the effects of such a programme. Therefore, the focus of research has, more feasibly, been directed at monitoring the extent and nature of change in the health sector during the period of economic reform, as well as at monitoring change at the household level. The selection of indicators to be used for monitoring purposes has been based on the understanding that the economic reforms are likely to have an influence on both factors *inside* the health sector (health budget, staffing levels, accessibility of services, availability of drugs, quality of services, etc.) as well as on factors *outside* the health sector (education, environment, government subsidies, food prices, etc.). In addition, changes in health services and health status were to be assessed by both *process* and *outcome* indicators. Indicators have ultimately been chosen on the basis of the criteria that they were likely to be easy to measure meaningfully, and that they were likely to be indicative of immediate (although not necessarily immutable) change, particularly at the household level.

Objectives

The general objective of the research was to measure the changes occurring in health and health services during the implementation of the structural adjustment programme, through the monitoring of selected indicators.

The specific objectives of the research were:

a. To determine whether any changes occurred in employment status, sources of income, total household income, households' ability to save and indebtedness.

b. To determine whether any changes occurred in people's health-seeking behaviour in terms of utilisation of health services and other forms of care in case of illness; and to assess the role of factors such as cost and perceived quality of services in making choices.

c. To determine households' food production, purchasing and consumption patterns.

d. To identify and describe the strategies used by people to cover major expenses, specifically for health care.

e. To determine the extent to which households benefited from external assistance, specifically free health services and other social welfare assistance under the Social Development Fund.

f. To monitor the nutritional status of under-five year old children and, if any change is observed, to identify the possible causes.

g. At health facility level, to determine whether any changes occurred in utilisation of specific health services and to explore the possible reasons for these changes.

h. To determine whether any changes occurred in the pattern of illnesses with which patients presented at health institutions, and whether any changes could be detected in mortality rates.

i. To uncover perceptions of both the general public and professional health workers to issues related to professionalism of health workers and quality of care.

j. To promote the utilisation of the findings of the study in policy making at national level, as well as in planning and management of health services at provincial and district levels.

Study sites

To address the objectives, time series comparisons needed to be made between equivalent seasons in successive years. The research period was initially limited to two years (1993 and 1994), but was later extended into a third year (1995). The research was conducted in one urban and one rural area. Chitungwiza was chosen as the urban site, while Murehwa district was selected as the rural area.

Chitungwiza is a large conurbation situated about 30 km south of central Harare, the capital city of Zimbabwe. The city was established in the mid-1970s to accommodate the rapid urbanisation resulting from the changing nature of the economy and the escalating war of national liberation. Few economic opportunities exist in Chitungwiza and many of the employed people commute to and from Harare on a daily basis. The official population of Chitungwiza, according to the 1992 census, was 274,912, of which 49.8 per cent were females (CSO, 1994). Thirty-nine per cent of the population was below 15 years of age, while only two per cent was 60 years or older.

Murehwa district is located in Mashonaland East province, with Murehwa growth point situated at about 70 km to the north of the provincial capital Marondera, and at about 80 km to the east of Harare. The district comprises mainly communal farming areas and a small commercial farming area (Chitowa), that are administered by a rural district council. According to the 1992 census, the population of Murehwa district was 152,505, of which 52.2 per cent were females (CSO, 1993). Forty-eight per cent of the population was below 15 years of age and seven per cent was 60 years or older.

Chitungwiza is served by one hospital, which is administered directly by the MOHCW, and four municipal clinics, administered by the Chitungwiza Town Council. Murehwa District has two hospitals, one of which is owned by the Catholic mission (St Paul's hospital at Musami mission), and 12 rural health centres, of which five are owned by the Government, six by the rural district council and one by the mission. The district receives long-term technical and financial health sector support from Medicus Mundi Belgium (MMB), a non-governmental organisation.

Methods

In terms of data sources, the research project relied on households, as well as the hospitals and clinics in each of the two study areas. A baseline household survey was conducted in May-June 1993 through interviews in more than 300 households in Chitungwiza and another 300 households in Murehwa district. The study was restricted to households with one or more children aged 12 to 59 months whose weights and heights were measured annually. The survey was repeated in May-June 1994, and in May-June-July 1995 among the same households. Information was collected on household composition and housing situation; employment status and sources of income; rural holdings; household expenditure; ability to save and indebtedness; illness episodes and health seeking behaviour; expenses incurred in seeking treatment; satisfaction with treatment; deliveries and antenatal clinic attendance; and nutritional status of children. From the hospitals and clinics data were collected on a variety of indicators covering the period January 1991 to June 1995. Focus group discussions with community members in both Chitungwiza and Murehwa district were held in 1993-94, to discover their perceptions of standards of health services, observations of any recent changes in these, ideas about the possible causes of these changes, and suggestions about what might be done at the local level in response to the situation. In addition, another series of focus group discussions was held with nursing staff of the clinics and hospitals in the two areas, to investigate their experiences with service delivery to patients and raise ideas about strategies that might be adopted in response to any negative influences on clinic and hospital functioning.

Results

A selection of the most pertinent findings from this research are presented below:

a) Changes in Household Economic Situation

Table 3 shows a frequency distribution of the sources of income reported by each household in 1994 and 1995 as "the major source of income". Wages form the major source of income for about two-thirds of the Chitungwiza households. For Murehwa district the decrease in sale of crops as the major source of household income is striking: from more than half of the households to less than a

Table 3: Major sources of income for Chitungwiza and Murehwa district households in 1994 and 1995

	1994	1995
Chitungwiza	(N=281)	(N=266)
Wages	67.6%	65.8%
Vending and trading	17.1%	9.0%
Remittances	6.0%	4.9%
Other sources [1]	9.3%	20.3%
Murehwa district	(N=278)	(N=289)
Sale of crops or garden produce	51.1%	23.2%
Remittances	27.0%	38.8%
Wages	6.8%	14.5%
Other sources [1]	15.1%	23.5%

[1] *Other sources of income include: small-scale manufacturing, crocheting and knitting, maintenance work, brick moulding and construction work, motor mechanics, shop keeping, house rents, pensions, etc.*

quarter. This was due to the poor harvests in 1995, which were caused by poor rainfall. As a result, remittances became the most frequently cited major source of income. The share of "other income sources" and wages was also higher than in 1994. Not less than 15 per cent of the households in Murehwa district cited brick moulding or building as their major source of income in 1995. This activity appeared to have become even more important than wages.

There has, in addition, been a steady diversification in reported sources of income in Chitungwiza households since 1991. The proportion of households that rely on one source of income has fallen from about two-thirds in 1991 to about a quarter in 1995. In Murehwa district, the number of sources of income were highest in 1994. This is illustrated in the figures shown below:

Figure 3: No. of sources of income in Chitungwiza households by year

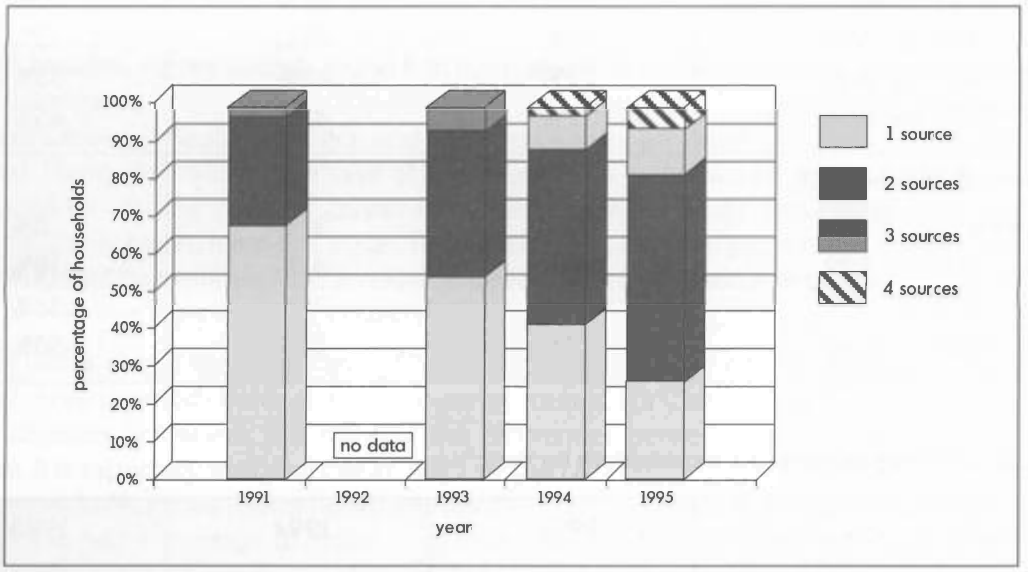
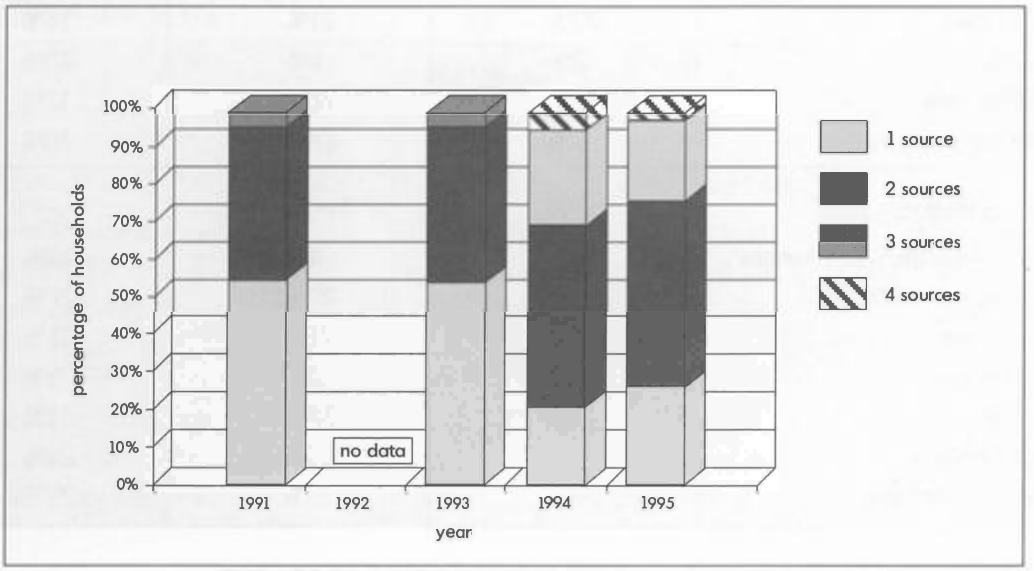


Figure 4: No. of sources of income in Murehwa district households by year



In the 1995 survey efforts were made to estimate total monthly household income from the cash income reported by the interviewees. In terms of the reported change in 1995 household income compared to 1994, a decrease in income was reported relatively more frequently among the low income categories, whereas increase in income was reported more among the high-income categories. This strongly suggests that the income gap has grown during the period of structural adjustment.

Table 4: Reported change in household income by income category in Chitungwiza and Murehwa district (1995)

	Decrease	No change	Increase
Chitungwiza (N=251)			
less than ZWD 400	48%	32%	20%
ZWD 400 to 999	45%	42%	13%
ZWD 1000 to 1999	26%	42%	33%
ZWD 2000 or more	12%	43%	45%
Murehwa district (N=252)			
less than ZWD 400	54%	39%	8%
ZWD 400 to 999	40%	41%	18%
ZWD 1000 to 1999	31%	34%	34%
ZWD 2000 or more	13%	38%	50%

Table 5: Types of reported major expenditure by year [1]

	1993	1994	1995
Chitungwiza	(n=141)	(n=119)	(n=104)
furniture/electrical appliances	58%	25%	24%
building materials	17%	12%	17%
school fees	30%	21%	16%
funerals	2%	8%	13%
medical care	-	26%	17%
other expenditure	3%	24%	30%
Murehwa district	(n=77)	(n=107)	(n=93)
furniture/electrical appliances	27%	4%	10%
building materials	47%	21%	27%
school fees	25%	21%	11%
medical care	2%	6%	6%
funerals	-	28%	11%
seeds/fertiliser	-	20%	24%
other expenditure	-	16%	28%

[1] *Totals exceed 100% as some households reported more than one item*

As far as expenditure was concerned, major expenditures were reported by around 40 per cent of the Chitungwiza households in each of the three survey years. In Murehwa district almost the same percentage reported major expenditures in 1994 when harvests were good, but in 1993 and 1995 it was significantly less.

The major reported expenditures are shown in Table 5.

Expenditure on funerals was not reported at all in 1993, which was probably due to the way the question was phrased in the Shona language. In 1994 more than a quarter of the households in each of the two study areas said they had incurred major expenditures on funerals. The amount of money spent on funerals varied hugely: between 15 dollars and four thousand dollars in Chitungwiza, and between five dollars and three thousand dollars in Murehwa district. The respective median amounts were 400 dollars and 150 dollars. These are considerable sums given the levels of household income. It is estimated that the annual expenditure on funerals forms 36 to 38 per cent of a month's income.

The 1993 baseline survey already found that the majority of households in both study areas (79 per cent in Chitungwiza and 73 per cent in Murehwa district) were no longer buying certain food items because of expense. Meat, bread, rice and cooking oil were the most frequently mentioned items in this regard. Ninety-one and 73 per cent of the households in the two respective areas reported they had reduced the consumption of certain food items. Here the main items mentioned were bread, cooking oil, meat, maize meal and sugar. Remarkable was the high proportion of urban households (31 per cent) that had reduced the amount of **sadza**[1] that they consumed. In Murehwa district, this was the case in five per cent of all households.

The table below shows the proportion of households that claimed not to have had enough food in the two 12 months periods between the three survey rounds. For Chitungwiza there is a slight indication that the situation got worse, but none of the differences between the two periods is statistically significant. It is especially worrying that in 1995 six per cent claimed they had experienced a shortage of maize meal. In Murehwa district both the proportion of households that experienced food shortages and those that had a shortage of maize meal more than doubled between 1994 and 1995. Not less than 13 per cent of the households claimed they did not have enough maize meal for some time in the course of the year. This again can be attributed to the poor harvests because of drought.

Table 6: Households claiming food shortage during the 12 months period prior to survey (1994 and 1995)

	1994	1995	Significance of difference
Chitungwiza	(N=281)	(N=266)	
Periodic food shortage	23%	25%	Not significant
Food shortage during whole year	14%	16%	Not significant
Shortage of maize meal	3%	6%	Not significant
Murehwa district	(N=278)	(N=289)	
Periodic food shortage	8%	18%	$p<0.001$
Food shortage during whole year	2%	1%	Not significant
Shortage of maize meal	6%	13%	$p<0.01$

Information about the number of daily meals, the frequency of meat consumption and the availability of basic grocery items was obtained for Murehwa district households only in the 1995 round of interviews. Twenty-seven per cent reported they did not always have three meals per day. This includes three per cent of the households who usually had two meals. Forty per cent of households said they had meat less than once a week; 30 per cent had meat once a week; 14 per cent had it twice a week; and 16 per cent had it three times a week or more often. Of a list of six basic commodities, which included cooking oil, body soap and soap for washing clothes, five per cent of the households had none of these items available at the time of interview, and 25 per cent had only one or two items available. This further illustrates the precarious financial situation of a large proportion of the households in the rural area.

b) Changes in Health Service Utilisation

Among those who went to a public health facility in Chitungwiza, the proportion of patients who paid for the services received declined over the years, although not significantly in statistical terms. In 1995 still more than half of the patients were paying. In Murehwa district there was a huge decline in paying patients between 1994 and 1995. This is attributed to the abolition of fees at rural health centre level in early 1995. The 19 per cent who still paid a fee in 1995 did so at one of the hospitals.

The table (below) shows the actual amount of money that was paid on average by patients visiting a public health facility. The average cost of treatment in Chitungwiza almost doubled between 1993 and 1994. Whereas the fees at the Chitungwiza municipal clinics in 1993 were 1.50 and 3.60 dollars for children and adults respectively, the actual cost of treatment that was incurred was more than six dollars on average. There are three reasons for this: firstly, some patients incurred higher costs as they went to the hospital rather than one of the clinics; secondly, drugs were usually not included in the consultation fee, so they were charged for separately; and thirdly, some patients were referred from the clinic to a private pharmacy, and incurred extra costs for drugs.

Table 7: Consultation fees[1] and actual average cost of treatment incurred by those going to public health facilities, by year (in ZWD)

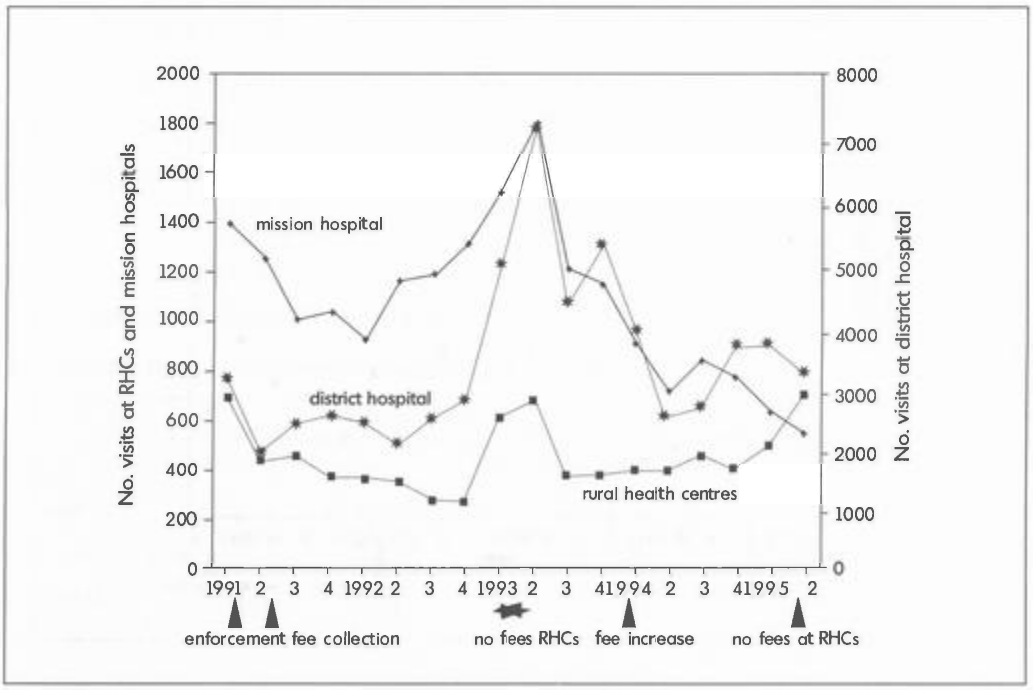
	1993	1994	1995
Chitungwiza			
Children's consultation fee	$ 1.50	$ 8.00	$ 8.00
Adults' consultation fee	$ 3.60	$ 16.00	$ 16.00
Average cost of treatment	$ 6.20	$ 12.00	$ 10.59
Murehwa district			
Children's consultation fee	$ 1.00	$ 3.00	nil
Adults' consultation fee	$ 1.50	$ 6.50	nil
Average cost of treatment	$ 6.67	$ 8.2	$ 12.68

[1] *Consultation fees are those charged at municipal clinics (Chitungwiza) and rural health centres (Murehwa district)*

In Murehwa district, the average cost of treatment also increased considerably over the three years, rising to almost thirteen dollars in 1995, or almost twice the fee charged at rural health centres. This is mainly because most of those who paid went to one of the two hospitals in the district, which charge consultation fees of 17 dollars for adults and 8.50 dollars for children.

The figure shown below illustrates the trends in the number of new patients who visited the outpatient departments (OPD) of Murehwa district hospital, the mission hospital and the average rural health centre, respectively, over the four and a half year period.

Figure 5: First OPD visits in Murehwa district by quarter (1991-1995)



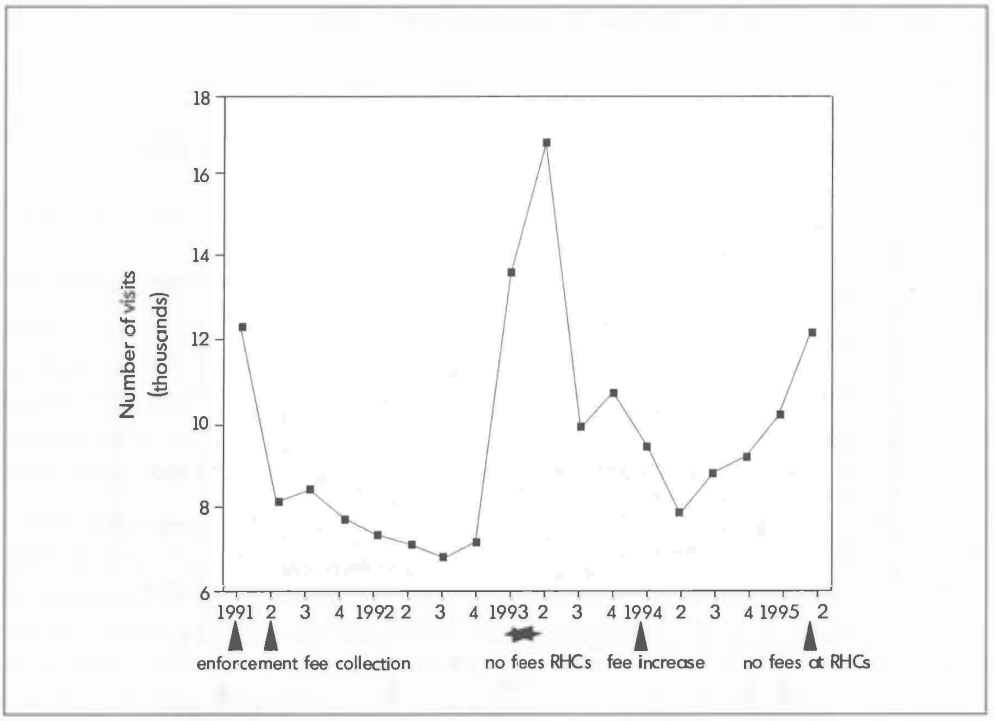
It clearly shows that attendance levels at rural health centres (RHCs) increased in the first half of 1993, when no fees were charged. There were actually more than twice as many patients seen as in late 1992. It is likely that the drought and the free distribution of food and meals for children under five years of age also attracted more patients, but those events covered longer periods than the six months during which there were no fees. The higher level of OPD attendance was exactly during this period. Between mid-1993 and early 1995, attendance levels were slightly higher than in 1992. In the second half of 1995 outpatient visits to RHCs rose by more than a third. This again can be attributed to the abolition of fees in March 1995.

At the district hospital attendance levels were very high in early 1993, which must be attributed to the combined effects of drought and the free health services at rural health facilities. During that time, the waiting times for patients at the hospital OPD were excessively long. Attendance levels started to fall in late 1993, before the huge fee increase of January 1994. The second half of 1994 showed a slight recovery. At the mission hospital, attendance levels fell during the whole of 1991 and into 1992, when user fees were increased twice. They increased during the 1992 drought year, with a peak in early 1993, similar to what happened at the district hospital. After mid-1993 attendance has been falling almost continuously to reach a level below that of the average RHC. This is remarkable, because the mission hospital used to receive two to three times more patients than the average RHC.

With the fee increase in January 1994, the Ministry of Health and Child Welfare (MOHCW) planned to strengthen the referral system. Figure 6 shows that OPD attendance at the hospitals, which had started falling already, dropped even further. However, the expected corresponding increase in RHC attendance did not happen until March 1995, when fees at RHCs were abolished.

The total O.P.D. attendance for the whole district is shown in the figure below:

Figure 6: Total of first OPD visits for Murehwa district as a whole by quarter



It is clear that there is a strong association with changes in user fee policies: the enforcement of fee collection in 1991, the temporary abolition of fees at RHCs in 1993, the January 1994 fee increase and the abolition of fees in March 1995.

Table 8 gives an overview of the maternity fees that were reported as having been paid in four different time periods. In Chitungwiza the proportion of women paying maternity fees has decreased over the years, to about two-third in 1995. In the rural area, this has not been the case and in the 1995 survey 97 per cent of the women who delivered at health facilities reported to have paid maternity fees.

Those who paid in Chitungwiza saw the fees almost double between 1993 and 1994 to 120 dollars. Compared to what most women paid five years earlier, the increase was as much as eight-fold. The fee increase in Murehwa district was much more modest: most women paid ten or 12 dollars, but those who delivered in one of the hospitals paid 60 dollars.

The majority of women who had a baby between mid-1994 and mid-1995 claimed they booked for delivery (and paid the maternity fee) when going for ante-natal care (93 per cent in Chitungwiza, 90 per cent in Murehwa district). However, there is strong evidence that home deliveries in Murehwa district are on the increase. Table 9 shows that the proportion of home deliveries has increased steadily from an estimated 18 per cent in the period 1988-91, to 38 per cent in 1995. In Chitungwiza there is no such trend, although a record ten per cent of the reported deliveries in 1994 did not take place at a health institution.

Of the 14 home deliveries reported by interviewees in 1994, three were from families who were members of the Apostolic Faith who generally refuse modern medical care. In 1995, five out of 16

women who had home deliveries were Apostolic Faith members. This suggests that the majority of women who have home deliveries (70 to 80 per cent) have reasons other than religious ones for not having their babies at a health institution. Distance from home to the clinic (especially in rural areas) and financial constraints seem the most plausible reasons.

The evidence from this research, therefore, is that in Chitungwiza the huge increase in maternity fees has *not* led to a corresponding increase in home deliveries. But in Murehwa district home deliveries have increased *despite* a much more modest increase in maternity fees.

Data gathered at health facilities in Murehwa reveal that the total number of deliveries reported by all health institutions combined has not changed significantly over the years, as shown in the figure.

Home deliveries were not reported previously, but since mid-1994 most health facilities have been reporting the home deliveries that they had knowledge of. The data suggest that 15 to 20 percent of all deliveries do not take place in health institutions, but this is an under-estimate as surely not all home deliveries are reported. In 1993, the number of home deliveries reported by RHCs was more than half the number of deliveries conducted at the RHCs themselves (56 per cent). For the period

Table 8: Maternity fees paid at health facilities by period [1,2]

	1988 - 1991	1992 - mid 93	mid 93 - mid 94	mid 94 - mid 95
Chitungwiza	(n=243)	(n=69)	(n=39)	(n=33)
women paying fees	87%	87%	74%	66%
mean fee paid	$ 51	$ 64	$ 126	$ 119
mode	$ 15	$ 65	$ 120	$ 120
Murehwa district	(n=202)	(n=98)	(n=39)	(n=39)
women paying fees	89%	91%	82%	97%
mean fee paid	$ 22	$ 21	$ 28	$ 42
mode	$ 7	$ 7	$ 12	$ 10

[1] *n = number of women who booked and/or delivered at health institutions*
[2] *Fees do not include ward fees which are due when staying overnight in the hospital or clinic*

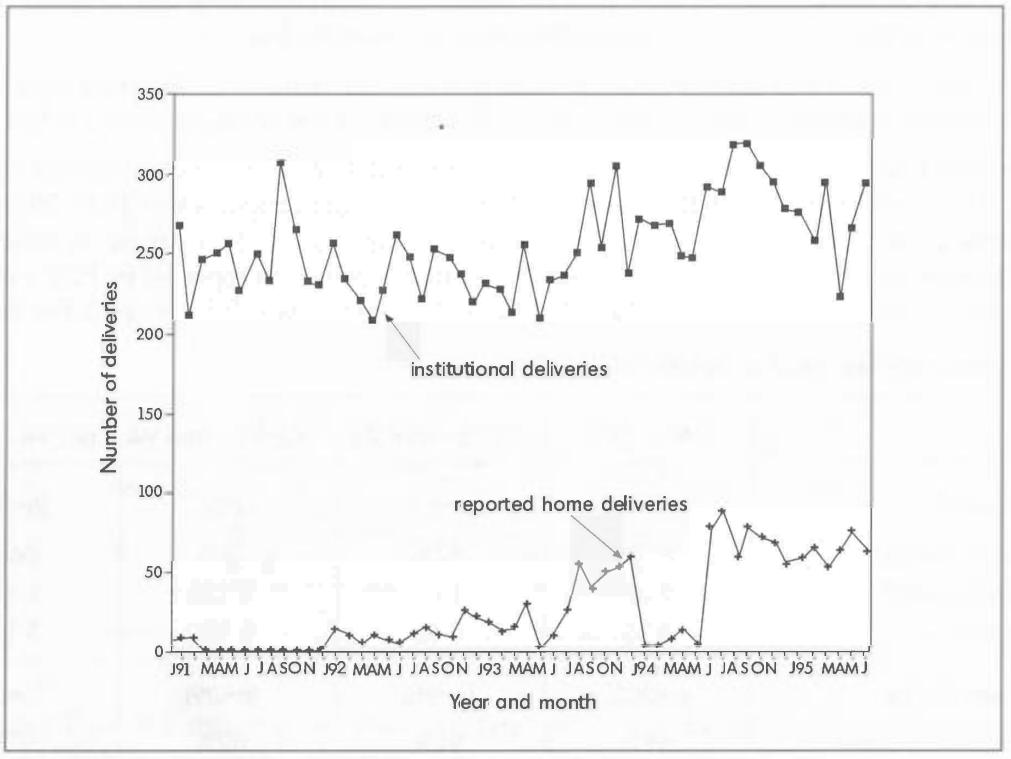
Table 9: Home deliveries as a proportion of total reported deliveries in Chitungwiza and Murehwa district, by period

	1988- 1991[1]	1992- mid 93	mid 93- mid 94	mid 94- mid 95[2]	Significance of difference
Chitungwiza	(n=259) 4%	(n=72) 4%	(n=42) 10%	(n=34) 3%	Not significant
Murehwa district	(n=217) 18%	(n=100) 21%	(n=42) 24%	(n=43) 38%	p=0.06

[1] *Data for 1998-91 were obtained in the 1993 base-line survey*
[2] *Place of delivery was not reported in 1995 for four Chitungwiza households and three Murehwa district households*

July 1994 to June 1995, this was no less than 82 per cent. Although it is hard to speak of a trend, because of incomplete reports, this suggests that the number of home deliveries may be as high as, or even higher than the number of deliveries that take place at RHCs.

Figure 7: Institutional and reported home deliveries in Murehwa district



c) Changes in Child Nutritional Status

The total number of children with valid and complete measurements in all three survey years is 190 for Chitungwiza and 216 for Murehwa district. This corresponds to 52% and 59% of the original samples at baseline in the two respective areas.

A paired analysis of growth data was done. This implied that for each child with at least two sets of anthropometric measurements, the differences in Z-scores were calculated for both the height-for-age and the weight-for-height indicators. Thus, the mean change in Z-scores was calculated between 1993 and 1994, as well as that between 1994 and 1995. In addition, the mean change over the entire two year period (1993 to 1995) was calculated.

Table 10 shows that in Chitungwiza height-for-age improved significantly between 1993 and 1994 ($p<0.01$), but remained almost unchanged in the year thereafter. Overall, the improvement between 1993 and 1995 is statistically significant ($p<0.01$). Weight-for-height, on the other hand, deteriorated in the first year ($p< 0.05$), but partly recovered in the second year. A slight improvement was detected over the two years, but this was not statistically significant. In Murehwa district, height-for-age improved significantly in both years, with an overall gain in Z-score of almost half a point over the two year period ($p<0.0001$). The improvement between 1994 and 1995, however, should be attributed in part to the high loss to follow-up of stunted children. The mean weight-for-height severely deteriorated in the first year ($p<0.0001$). Despite a small recovery in the second year, the overall change over two years is still significantly negative ($p<0.01$).

Table 10: Absolute change in nutritional status in Chitungwiza and Murehwa district, by indicator and by age category (paired data) [1]

	Mean change in Z-scores		
	1994 versus 1993	1995 versus 1994	1995 versus 1993
Chitungwiza	(n=241)	(n=215)	(n=224)
Height-for-age			
24-35 months	+ 0.362	+ 0.155	
36-47 months	+ 0.090	- 0.186	+ 0.164
48-59 months	+ 0.226	+ 0.018	+ 0.124
60-71 months	+ 0.275	- 0.086	+ 0.117
72-83 months		+ 0.215	+ 0.530
Overall	+ 0.236 (p<0.01)	- 0.002 (not significant)	+ 0.219 (p<0.01)
Weight-for-height			
24-35 months	- 0.261	- 0.080	
36-47 months	+ 0.149	+ 0.133	- 0.122
48-59 months	- 0.151	- 0.036	+ 0.147
60-71 months	- 0.348	+ 0.060	- 0.063
72-83 months		+ 0.420§	+ 0.152
Overall	- 0.143 (p<0.05)	+ 0.111 (not significant)	+ 0.018 (not significant)
Murehwa district:	(n=256)	(n=247)	(n=277)
Height-for-age			
24-35 months	+ 0.239	+ 0.455	
36-47 months	+ 0.078	+ 0.335	+ 0.550
48-59 months	+ 0.191	+ 0.194	+ 0.356
60-71 months	+ 0.409	+ 0.139	+ 0.287
72-83 months		+ 0.250	+ 0.694
Overall	+ 0.211 (p<0.01)	+ 0.254 (p<0.001)	+ 0.459 (p<0.0001)
Weight-for-height			
24-35 months	- 0.279	- 0.040	
36-47 months	- 0.456	- 0.079	- 0.300
48-59 months	- 0.415	+ 0.143	- 0.432
60-71 months	- 0.335	+ 0.191	- 0.157
72-83 months		+ 0.206	- 0.209
Overall	- 0.372 (p<0.0001)	+ 0.089 (not significant)	- 0.283 (p<0.001)

[1] *Ages are as calculated for the year first mentioned in the heading of each column*

Discussion of Main Findings

The findings can be summarised in three main categories: changes in household economy, changes in health service utilisation and changes in health outcomes, as evidenced by changes in nutritional status.

a) Changes in household economy

Compared to the previous year (1994) a decrease in household income was reported by about a third of the urban households and 42 per cent of the rural households, but these figures were much higher in the lowest income categories, as well as among the de jure female headed households in the rural area. Comparison of the data from the three survey rounds showed that household income sources had been diversified in Chitungwiza between 1991 and 1995. In Murehwa district the reported number of household income sources had increased strongly between 1993 and 1994, but showed a slight decrease between 1994 and 1995. Diversification of income sources was done primarily by taking on a wider range of informal activities. Growing maize had become significantly more popular in Chitungwiza, where new food growers were found to produce mainly for their own consumption. Self-sufficiency in maize, however, fell significantly between 1994 and 1995. In Murehwa district it fell to just 30 per cent of all households, compared to 76 to 80 per cent in the previous two years. The pattern of household expenditure in both rural and urban settings had also changed. Funerals accounted for an increasing proportion of expenditure in Chitungwiza, which accompanied a decline in expenditure on medical care, school fees and household furniture and electrical appliances. In both areas people also reported reduced expenditure on clothing, use of transportation and consumption of food.

With regard to food consumption, a decline was found in both the quality and the quantity of food. Spells of food shortages within the household in Chitungwiza appeared to be more common and of longer duration than in Murehwa district, although in the rural area the situation in 1995 had become much worse compared to the previous year. About three-quarters of households in both areas reported they no longer bought certain food items because of expense. Particularly meat, bread, rice and cooking oil had become luxury items. More than a quarter of the households in Murehwa district in 1995 reported they did not always have three meals a day, while 40 per cent said they had meat less than once a week. The high proportion of urban households which in 1993 had reduced the amount of *sadza* (the main staple food) that they consumed was alarming: 31 per cent.

While significant proportions of households in Murehwa district benefited from food aid in 1993 through the Child Supplementary Feeding Programme and the Food-for-Work Programme, this was no longer the case in 1994 as these programmes were stopped in between the first two survey rounds. Very few households reported having received assistance from social welfare organisations in the urban setting: less than five percent in each of the three survey years received assistance with school fees , food money or blankets. In the rural setting four to six per cent received assistance in 1994 or 1995, mostly in the form of fertiliser and/or seeds. It is clear that, five years into the ESAP era in Zimbabwe, the "targeted assistance" is still very far from finding its target. There is no evidence that the new Poverty Alleviation Action Programme, which was designed on the same basis as the SDF, has had a significant impact on the living conditions of those hardest hit by the economic decline, as the proposed measures hardly involve any structural changes that may improve the plight of the poor.

b) Changes in health service utilisation

Clinic-based monthly statistics confirmed that out-patient attendance responded strongly to changes in user fee policies, with total outpatient attendance in both the urban and the rural area falling dramatically after the January 1994 fee increases.

There is also strong evidence that home deliveries in the rural area are on the increase. In 1995, a record 38 per cent of the women who gave birth did not deliver at one of the health institutions. While Chitungwiza residents experienced a two-fold increase in fees between 1993 and 1994 to ZWD 120, those in Murehwa district saw a much more modest increase. The combined effects of the increase and the strict collection of maternity fees has obviously contributed to the increase in home deliveries in the rural area, which has also been confirmed by the clinic-based statistics.

c) Changes in child nutritional status

Some highly significant changes were found with regard to child nutritional status. The overall prevalence of stunted growth, which reflects long-term adverse influences, seemed not to have changed much in Chitungwiza, while in Murehwa district it seemed to have declined. It is concluded that the negative influence stemmed from the period 1991 to mid-93, and that the drought of 1990-92 could have caused nutritional stress which by 1993 was being reflected as stunting. Children in the rural area had to some extent been able to recover from stunting between 1994 and 1995. The prevalence of acute food deprivation, as indicated by higher levels of nutritional wasting, increased between 1993 and 1994 in the rural area, and declined between 1994 and 1995 in the urban area. The analysis of paired observations indicated that the levels of wasting between 1993 and 1994 deteriorated both in Murehwa district and in Chitungwiza. The deterioration in the rural area was very severe in all age categories. This indicates short-term deficiencies, or significant nutritional stress. Unlike in the urban area, the deterioration in the rural area was hardly reversed between 1994 and 1995. In other words, the children in the rural area had become more skinny between 1993 and 1994 and they remained skinny between 1994 and 1995. This is attributed to the combined effects of poor harvests due to drought, economic depression and possibly HIV-associated disease.

Conclusions and policy implications

The issue of the social impact of structural adjustment has attracted a lot of attention since the mid-1980s, notably after the publication of the much cited work *Adjustment with a Human Face* by Comia et al. (1987). Some have claimed that there is little evidence of the existence of any general rule with respect to "winners" and "losers" in the adjustment process (for example, Azam, 1994). Others are more outspoken, not least the World Bank itself, the most powerful advocate of structural adjustment.

The 1994 World Bank policy research report *Adjustment in Africa - Reforms, results and the road ahead* investigated 29 countries in Sub-Saharan Africa that were undergoing structural adjustment some time between 1987 and 1991 (World Bank, 1994). The report asserts that (page 7):

> *In African countries that have undertaken some reforms and achieved some increase in growth, the majority of the poor are probably better off and almost certainly no worse off. The poor are mostly rural (sic!), and as producers, they tend to benefit from agricultural, trade and exchange rate reforms and from the demonopolisation of important commercial activities. As consumers, both the urban and the rural poor tend to be hurt by rising food prices. But adjustment measures have seldom had a major impact on food prices in either the open market or the parallel market, which supplies most of the poor.*

This view is clearly much too optimistic, and it is not supported at all by the findings of the current research, neither by work done by others. In a very comprehensive, and probably the best review so far of studies on the impact of structural adjustment on the health of mothers and children, Costello et al. (1994), in their report *Human Face or Human Facade*, convincingly conclude that

> *.... there is indicative evidence that adjustment has had a negative effect on welfare...*

and

> *... at the same time there is little evidence for the proposition that adjustment promotes sustainable economic growth (at least in low-income countries), which is central to the view that the social costs of adjustment are temporary and off-set by long-term benefits.*

The authors find it

> *... equally questionable that 'safety net' programmes have had more than a marginal effect in limiting the impact (of adjustment).*

They state that very few studies have attempted to document the changes undergone by households in Sub-Saharan Africa over any length of time during structural adjustment periods. This is because, on the one hand, it is difficult to measure the social impact of structural adjustment, and on the other hand, the possibilities to do research were limited as few countries had not yet implemented structural adjustment programmes when social change became a topic of interest. With regard to the latter, Zimbabwe was an exception and therefore it offered the almost ideal setting to study the social and health dimensions of change at the household level.

The changes that are documented in this report concern the period when Zimbabwe went through its early and intermediate phases of economic structural adjustment (up to mid-1995). There is strong evidence that there has been a serious economic degradation of the poor in both urban and rural areas in Zimbabwe, and there is no sign that this process has come to a halt. It has also been demonstrated that very few households receive assistance from the SDF.

The traditional gap between the rich and the poor appears to have widened and a substantial part of the population is no longer able to cope with the adverse effects of economic decline. This calls for a revision of the targets and strategies of the economic structural adjustment programme that is being implemented in Zimbabwe. Secondly, the government's failure to protect the health sector from budgetary cut-backs and to guarantee high quality and affordable services at the primary level of care since ESAP was introduced in 1991, appears to have had a negative impact on households' welfare. It is therefore suggested that more resources be made available for primary health care facilities. Maternal services (antenatal and delivery care) should be provided free of charge, as well as all other outpatient services at primary care centres in poor urban areas and not just rural, where they are now free.

The results of this research, which is ongoing, are disturbing and confirm the fundamental importance of socio-economic influences on health. The policy implications for countries implementing structural adjustment programmes are clear. Although South Africa is not (yet) a recipient of World Bank or International Monetary Fund assistance and, therefore, not required to implement a S.A.P., the recent macro economic reforms introduced as part of the Growth, Employment and Redistribution Programme (GEAR) are strikingly similar to the components of structural adjustment. Consequently close monitoring of social and economic changes as well as changes in health service utilisation and health status would seem appropriate.

End note

1 Sadza is the staple food in Zimbabwe, which is made of maize meal