



## Chapter 4

# ETHIOPIA: PLACING HEALTH AT THE CENTRE OF DEVELOPMENT

**Hailom Banteyerga<sup>1</sup>, Aklilu Kidanu<sup>1</sup>, Lesong Conteh<sup>2</sup> and  
Martin McKee<sup>3</sup>**

*1 Miz-Hasab Research Center, 2 Imperial College London, 3 LSHTM*



*Farmers from the remote and inaccessible areas walk many hours to receive bednets during the distribution of long-lasting insecticide nets to prevent malaria.*

*The Gorgo Kebele health post in Ankober Woreda, Ethiopia*

## ■ Key messages

- Ethiopia has demonstrated that low-income countries can achieve improvements in health and access to services if policies, programmes and strategies are underpinned by ingenuity, innovativeness, political will and sustained commitment at all levels. An example is the development and rapid implementation of the Ethiopian Health Extension Programme.
- Ethiopia demonstrates the role of good governance based on inclusiveness, participation, shared ownership and accountability. The Ethiopian Health Sector Development Programme includes civil society, the private for-profit sector, donors and the government at all levels of programme development, implementation, monitoring and evaluation.
- Ethiopia has been working within the spirit of the Paris Declaration on Aid Effectiveness and the International Health Partnership (IHP) to strengthen its health system. Ethiopia has created synergies where possible, so that global initiatives in HIV/AIDS, malaria and tuberculosis have created a favourable environment for developments in maternal and child health. This approach has made it possible to develop innovative modalities to make progress towards the Millennium Development Goals (MDGs), such as the expansion of disease prevention, the engagement of households in the Health Extension Programme, and the promotion of women as leaders in household-based health delivery.
- Ethiopia, once associated with poverty, ill health, ignorance and backwardness, has recognized that development is not achievable unless poor health is addressed in a timely manner. Health is a focal element of the poverty reduction strategy papers, the Programme for Accelerated and Sustainable Development to End Poverty and the Programme for Progress and Transformation in Ethiopia.
- Development partners have assisted Ethiopia in building the capacity to develop realistic plans, accountable and transparent procedures, and workable strategies that lend themselves to monitoring and evaluation. Donor funding has enabled Ethiopia to achieve a system of planning where districts generate data for their respective plans and the collective plans of districts create the national plan. It is no longer expert-driven or cut-and-paste planning – it is participatory and data driven. This is in the spirit of ‘good health at low cost’, and “less is more”.

## ■ Introduction

It was Ethiopia, in the 1980s, that brought home to many in richer countries (quite literally, on their television screens) the scale of suffering afflicting many African countries. Advances in the technology of newsgathering enabled reporters to transmit real-time images of children dying from starvation to viewers in countries where food was plentiful. Those images provoked a remarkable and quite unexpected response in the richer countries. Famines in poor countries were not new but they had never been so visible. Ordinary people told their political leaders that something must be done, but they also did a great deal themselves, with the Live Aid concert only the most visible manifestation. Never again would politicians be able to dismiss events in “a far-away country between people of whom we know nothing”<sup>1</sup>.

Yet there were also those who despaired that anything could really change. The post-colonial history of Africa offered few signs of encouragement<sup>2</sup>. Only a handful of countries were democratic and, even in those, the institutions of state were often weak. Colonial-era borders did not respect ethnic divisions, creating the ideal conditions for civil war. There were few opportunities for education and, anyway, most of those who could obtain qualifications soon left, creating severe shortages of trained workers that affected all sectors, but especially health where the rich world acted as a magnet for those with professional qualifications<sup>3</sup>. And in much of the continent, humans and animals alike were at risk of debilitating and often fatal diseases, such as malaria for humans.

Ethiopia exemplified these problems. One of only two countries in Africa to retain its independence in the 19th century colonial scramble for Africa, although briefly occupied by Italy in the 1930s, it had almost everything going against it. For much of its history it has been a land-locked state, with considerable but unrealized agricultural potential, and few easily exploited natural resources. It is exceptionally diverse, ethnically and linguistically. It was isolated from developments elsewhere, in part by its geography but also as a consequence of the expulsion of Jesuit missionaries in 1632. From the mid-18th century until 1855 (the *Zemene Mesafint* or Age of Princes), the country was effectively divided between warlords from the main ethnic groups. Slavery was abolished only in 1942, but Ethiopia’s feudal system, which persisted until the fall of the empire in 1974, continued to concentrate power in the hands of the aristocracy and impede development, especially in rural areas.

Health care was rudimentary. In 1896, the Russian Red Cross established a treatment facility in Addis Ababa to treat those injured in the battle of Adowa, in which Ethiopian forces defeated Italian invaders. In 1910, this was replaced by a hospital which formed the basis of a limited government health system, run by

**Box 4.1 Ethiopia at a glance**

<i>Population</i> <sup>4</sup>	74 million. Africa's second most populous country. 84% of population live in rural areas.	
<i>Geography</i>	Located in east Africa, varied topography and vegetation. High levels of food insecurity.	
<i>Ethnic composition</i>	Exceptionally diverse ethnically and linguistically. Four ethnic groups make up almost 75% of population (Oromo, 34.5%; Amhara 26.9%; Somali 6.2%; Tigrayan 6.1%). 30% of the population is nomadic <sup>5</sup> .	
<i>Government</i>	Federal republic. 1970s and 1980s were periods of military rule with high levels of internal and external conflict. The end of military rule in 1991 brought about relative political stability and economic liberalization.	
<i>Health system</i>	Health expenditure per capita (constant 2005 Int\$) <sup>6</sup> : 39.87 Density of physicians, nurses and midwives per 10 000 <sup>7</sup> : 2–3 Decentralized health system, and significant geographical barriers to access. Ambitious health worker extension programme has improved access to primary health care, but high levels of out-of-pocket payments. Coverage of key interventions is low but improving: estimates of deliveries with skilled attendance vary between 6% <sup>5</sup> and 24.9% <sup>8</sup> , 65.5% of infants fully immunized <sup>8</sup> .	
<i>Economic, demographic and social development</i>	GDP per capita (constant 2005 Int\$) <sup>9</sup>	330
	Economic growth per annum since 2004 <sup>9</sup>	9–14%
	Population living on less than \$1.25 a day (2005) <sup>9</sup>	39%
	Population below the national poverty line (2004) <sup>9</sup>	38.9%
	Gini index (2007) <sup>9</sup>	33
	Infant mortality rate (2009) <sup>9</sup>	67 <sup>a</sup>
	Maternal mortality ratio (2008) <sup>10</sup>	150 <sup>b</sup>
	Adult HIV prevalence (aged 15–49) <sup>11</sup>	2.3%
	Life expectancy (2009) <sup>9</sup>	54 (men) 57 (women)
	Adult literacy (2008) <sup>9</sup>	30%
	Ratio girls to boys in education <sup>c</sup> (2009) <sup>9</sup>	88%
	Access to improved water source (2007) <sup>8</sup>	60%
	Internet usage per (2009) <sup>9</sup>	0.5%

Note: <sup>a</sup>Per 1000 live births; <sup>b</sup>Per 100 000 live births; <sup>c</sup>primary and secondary education.

the Ministry of the Interior until 1948. Elsewhere, health care, where it existed at all, was provided in clinics and hospitals run by missionaries, while the American Government funded a malaria eradication programme. A large proportion of the population used traditional and spiritual healers.

This poor situation became even worse in the 1970s. Ethiopia's already vulnerable economy suffered in the 1973 oil crisis and, like its neighbour Somalia, it

became caught up in the Cold War, when the United States and the USSR fought their battles by proxy in Africa and Asia. In 1974, Emperor Haile Selassie was deposed in a Soviet-backed coup led by the hard-line Marxist Mengistu Haile Mariam, who established a one-party communist state which he renamed the People's Democratic Republic of Ethiopia. At first, the ruling junta, or *Derg*, invested in the health sector, expanding primary care by using community health workers and making immunization compulsory. Infant mortality fell by about 40%. However, initial optimism soon dissipated; civil war broke out, with the opposition led by the Tigrayan People's Liberation Front, as well as war with Somalia over the disputed Ogaden area. The regime soon unleashed a wave of terror (including the deliberate use of hunger as a weapon), backed by several thousand troops from Cuba, the German Democratic Republic and North Korea. Yet there was more to come. Always vulnerable to climatic events by virtue of its location, Ethiopia suffered a series of catastrophic droughts affecting up to eight million people, of whom about a million died, some, as noted above, in front of foreign television cameras.

The situation was, however, about to change. Popular discontent, coupled with the withdrawal of assistance from the USSR and its satellites, meant that the regime's days were numbered. In 1989, the Ethiopian Peoples' Revolutionary Democratic Front (EPRDF) was formed from a number of ethnically based opposition groups and, in 1991, a transitional government was established. A new constitution was agreed upon in 1994, establishing a bicameral legislature and an independent judiciary. In May 1995, Ethiopia's first democratic elections took place, with Meles Zenawi, a Tigrayan and leader of the EPRDF, elected as Prime Minister and Negasso Gidada, an Oromo, as President.

Ethiopia's fortunes have changed remarkably in the past two decades. Although still among the poorest countries in the world, it has experienced sustained economic growth. Its inclusion in this book is justified because the country has put in place the prerequisites for improved population health. Over 85% of the population now has access to primary health care, a figure that has increased particularly rapidly in the past few years following the implementation of an ambitious Health Extension Programme. Between 2004 and 2008, the percentage of births with a skilled attendant present doubled, and the percentage of women receiving antenatal care and of infants fully immunized increased by over 50% (Table 4.1). There is still a great deal to do, but compared with the situation two decades ago and despite its continuing lack of resources, Ethiopia has made considerable progress. In the remainder of this chapter we will examine what made this progress possible.

**Table 4.1 Selected indicators of health outcomes in maternal and child health, 2004 and 2008**

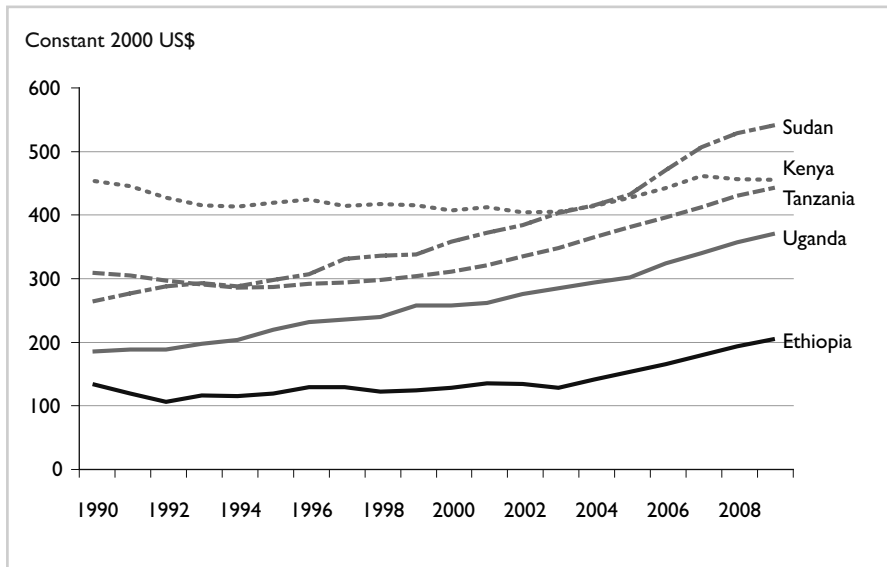
Indicator (%)	2004	2008
Deliveries attended by skilled birth attendant	12.4	24.9
Pregnant women receiving antenatal care	40.8	66.3
Women receiving postnatal care	13.6	34.4
Infants fully immunized	44.5	65.5

Source: Adapted from reference 8.

## ■ Ethiopia and its people

After Nigeria, Ethiopia is the second most populous country in Africa, with a population of 74 million, although it is only the tenth largest by area, at 1 100 000 km<sup>2</sup> (Box 4.1). It is bordered by Eritrea to the north, Sudan to the west, Djibouti and Somalia to the east, and Kenya to the south. Ethiopia sits astride the African Rift Valley. The north-western part of the country is mountainous, with many high plateaus, while the lowlands in the south-west are dominated by savannah and desert. This topography has created a great diversity of vegetation, from tropical jungles to deserts, with corresponding variations in settlement patterns and agriculture. Eighty-five per cent of the population live in rural areas.

Ethiopia is one of the poorest countries in Africa and although it has experienced a high rate of growth since 2004 (9–14% nominal GDP growth per annum), it remains behind its east African neighbours (Figure 4.1). Its economy has been dominated by agriculture, especially coffee production. Ethiopia is the ancestral home of coffee, which is now its largest export commodity, although it is also a major livestock producer. Among other things, Ethiopia's recent economic growth has been fuelled by vertical integration, so that its leather is now made into designer products in Ethiopia rather than in Europe, and by diversification, for example taking advantage of its good water supply to produce flowers for western markets. However, other initiatives have been less successful, including attempts to increase production of its gold reserves and arrangements to market coffee with a western coffee outlet, which involved registering as trademarks

**Figure 4.1** GDP per capita in selected east African countries

Source: Reference 9.

three of its specialist coffee brands. Its exports per capita still lag well behind those of some of its neighbours, such as Kenya.

It is impossible to understand Ethiopia without considering the diversity of its people. Although almost two thirds of its population is Christian (of whom about two thirds are Ethiopian Orthodox), all three Abrahamic religions are represented, with approximately a third Muslim and a small number of Jews (the remnants of a substantially larger population that was evacuated to Israel in the 1980s). Four ethnic groups make up almost 75% of the population (Oromo, 34.5%; Amhara 26.9%; Somali 6.2%; Tigrayan 6.1%), but there are many smaller ones, some numbering fewer than 10 000 people, and 84 different indigenous languages. About 30% of the population is nomadic, but there has also been large-scale urbanization in recent years. The authors of the 1994 Constitution recognized the challenges posed by this diversity, which had often been a cause of conflict in the past, and created a federal state in which the nine *kililoch* (singular *kilil*, or regions) and two chartered cities have a high degree of political autonomy. The regions are further subdivided into zones within which are 802 *woredas* (districts) and over 1700 *kebeles* (neighbourhoods). Since 2002, a number of functions, including aspects of health planning, have been transferred from the regional level to the *woredas*.



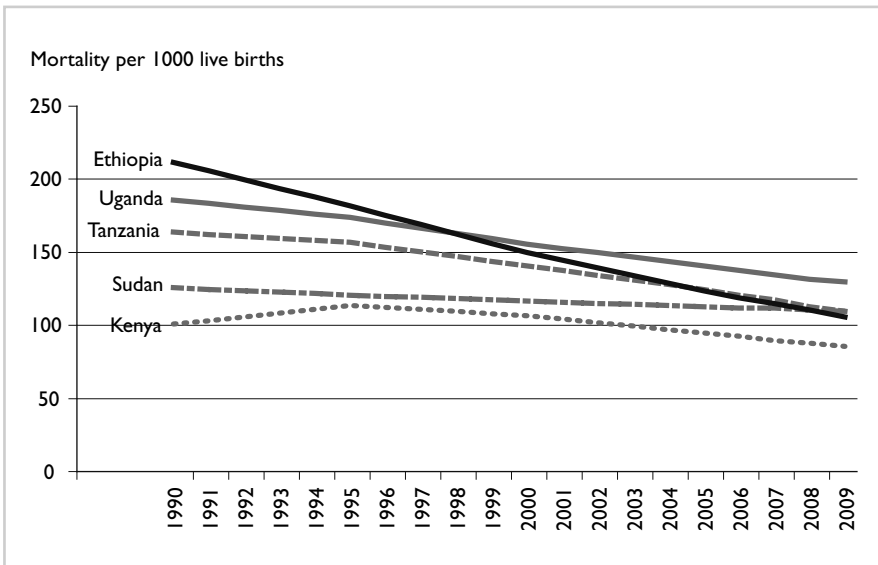
## ■ Better health?

Like virtually all of Africa, data on population health in Ethiopia are extremely limited and are derived primarily from the periodic demographic and health surveys that capture the health of mothers and children, supplemented by data on the incidence of and mortality from selected communicable diseases.

These data reveal that, from a very poor starting point in 1990, Ethiopia has made considerable progress. Thus, under-5 mortality, where Ethiopia was once among the worst performers in the region, has improved rapidly, overtaking Sudan, Tanzania and Uganda (Figure 4.2). Importantly, these gains have been seen in all parts of Ethiopia (Figure 4.3).

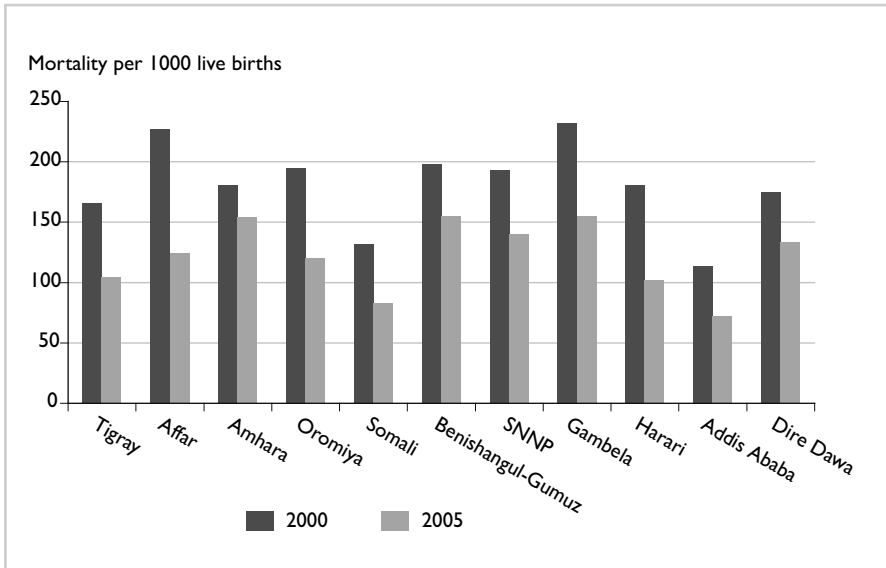
Some of this improvement reflects the success that Ethiopia has achieved in tackling a number of communicable diseases, in particular malaria. Over two thirds of the Ethiopian population live in malaria-prone areas. The United States government-funded malaria eradication effort achieved a degree of control in the 1970s, but was discontinued in 1985 as a consequence of political differences with the Ethiopian regime. This was followed by a rapid increase in transmission. However, since the late 1990s, major strides have been made. By 2007, deaths from malaria among children had fallen by 51% compared with the

Figure 4.2 Under-5 mortality in selected east African countries



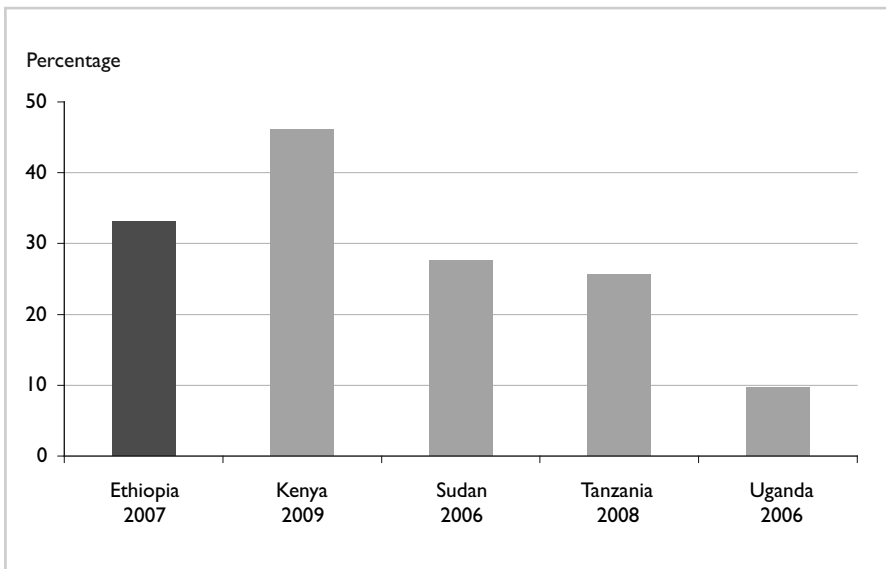
Source: Adapted from reference 9.

**Figure 4.3** Change in under-5 mortality in the regions of Ethiopia, 2000 and 2005



Sources: Adapted from references 5 and 12.

**Figure 4.4** Percentage of children under 5 years of age sleeping under insecticide-treated bednets, most recent year available



Source: Adapted from reference 9.

**Box 4.2 Priorities in the prevention and treatment of malaria in Ethiopia**

- Early diagnosis of fever cases and treatment of malaria cases within 24 hours of illness onset.
- Selective vector control to protect communities through provision of an average of two long-lasting insecticide-treated mosquito bednets per household in areas of malaria. Over 20 million bednets have already been distributed.
- Scaling up of artemisinin-based combination therapy.
- Training in the use of bednets by health workers.
- Increased indoor residual spraying in epidemic-prone areas; over 60% coverage has been achieved<sup>13</sup>.
- Provision of diagnostic equipment to health centres and hospitals, enabling rapid diagnosis and treatment by health extension workers.
- Educational interventions to raise awareness of the importance of rapid treatment when malaria symptoms arise, using electronic, print, and face-to-face methods, with a prominent role for health extension workers.
- Engagement with the private sector to ensure low cost treatment and with a nongovernmental organization (NGO) working on malaria prevention and control.

average during 2001–2004<sup>13</sup>, a much greater decline than was seen with non-malaria deaths (8%). A major factor in this decline has been the increased use of insecticide-treated bednets, from only 3% in 2005<sup>5</sup> to a current 33%, a rate that is among the highest in the region (Figure 4.4).

This is, however, only one factor in the reduction of malaria deaths, and the Global Fund has made a major investment in a comprehensive programme of prevention and treatment (Box 4.2)

Ethiopia, like the rest of sub-Saharan Africa, has been severely afflicted by the HIV/AIDS pandemic. In 2002, the Ethiopian Government declared AIDS to be a public health emergency. By 2009, the estimated HIV/AIDS prevalence among adults had reached 2.3%, when it was estimated that about 1.1 million Ethiopians were living with HIV/AIDS<sup>11</sup>. In 2000, services were essentially non-existent but, by 2008, there had been a major expansion to include 483 antiretroviral therapy (ART) centres, 1469 voluntary counselling and testing sites, and 877 sites that provided a short course of antiretroviral therapy to prevent mother-to-child transmission of HIV (PMTCT).

Ethiopia has been less successful in tackling tuberculosis. It ranks seventh on the

list of 22 high-burden countries, with an incidence of all forms of tuberculosis at 356 per 100 000, with smear-positive disease in 135 per 100 000. The prevalence of all forms of tuberculosis is 533 per 100 000 and the prevalence of HIV among tuberculosis patients is 21%<sup>14</sup>. Ethiopia's National Tuberculosis and Leprosy Control Programme began to implement DOTS (directly observed treatment, short-course) on a limited scale in 1991 and, by 2007, DOTS coverage had been integrated into routine practice, but it is estimated that only about 60–70% of the population has access to treatment because of the poor health infrastructure in many rural areas. Diagnostic services remain weak and it is estimated that only about 28% of cases are detected, compared with the WHO target of 70%. However, the treatment success rate is now estimated to have almost reached the WHO target, after a temporary decline around 2003. With assistance from the Global Fund, a major investment is currently under way.

Nevertheless, there has been considerable progress in tackling many of the underlying determinants of health and, especially, access to water and sanitation, with an increase in the use of improved drinking water sources from 23% in 1997 to 60% in 2007<sup>8</sup> and a rise in the use of improved sanitation facilities from 12.5% to 37% in the same period. Nutrition has also improved: the prevalence of stunting among children fell from 52% in 2000 to 27% in 2005, while the proportion underweight declined from 47% to 38%<sup>5</sup>. There has also been increased access to primary care, with one government-run primary health centre serving 5000 people, on average, in 2007, down from 17 000 in 1995. The number of outpatient department visits per 10 000 population per year has increased correspondingly, from 0.27% in 1999 to 0.305% in 2008, and, as noted previously, there has been a considerable increase in immunization rates<sup>15</sup>.

### ■ What has Ethiopia done to improve health?

The current Ethiopian Government has placed high priority on improved population health, seeing it as a key element of its policies to alleviate poverty (its Programme of Accelerated and Sustained Development and Ending Poverty (PASDEP)). This has facilitated considerable synergy among policies in the health and other sectors. It has also ensured that there is effective participation by a wide range of stakeholders, bringing together elected representatives, the private sector and development partners. This marks a major departure from the past.

The Ethiopian health care system is multitiered. The first tier, at village level, is the health post. It provides basic sanitation services and health education. Clinical services are provided at the next tier, the health centre, which typically

serves a population of about 100 000. Some health centres are able to provide interventional obstetric care, and this capacity is now being rolled out more widely. Staff at the health centre are usually responsible for five or more individual health posts. Patients requiring more than basic treatment are referred to district zonal or regional hospitals. A district hospital will typically serve a population of about 250 000 and will provide basic surgical care. More complex cases can be referred to the regional hospitals or, in a few cases, to the top tier, the federal facilities in the capital.

Innovations can be seen in all tiers. The *woredas* have assumed greater importance in planning the delivery of local services, facilitated by the Health Extension Programme, which has enabled a substantial scaling up of primary care provision while ensuring local engagement. These initiatives have, in turn, been supported by a number of regional national developments to strengthen the health infrastructure. For example, a programme has been initiated to upgrade health facilities at both primary and secondary level. In addition, a Pharmaceutical Fund and Supply Agency has been created as an autonomous agency operating a revolving drug fund, and the Ethiopian Health and Nutrition Research Institute has been strengthened and is now an autonomous agency responsible for developing laboratory services throughout the country. All of these activities have taken place within an overall framework that sees health improvement as a key element in alleviating poverty. We will now look at each of these in turn, beginning at the lowest level.

### **The Health Extension Programme**

Like many other countries in Africa, Ethiopia has suffered a severe shortage of trained health workers<sup>3</sup>. The Health Extension Programme was designed to address this problem. Launched in 2003, it involves the selection of women who have completed ten years of formal education and who are willing to work in their own communities. Training is provided in four modules: health, prevention of communicable diseases, hygiene and environmental sanitation, and health education. Each is tailored to local needs. For example, in addition to family planning, reproductive health, and prevention and treatment of sexually transmitted diseases, family health addresses traditions such as early marriage, abduction of brides and hazardous delivery practices.

The creation of a cadre of health extension workers has greatly expanded access to a range of basic, but potentially life-saving interventions, including vitamin A supplementation, distribution of insecticide-treated bednets, integrated management of childhood illness, basic obstetric and neonatal care (thereby increasing the availability of skilled birth attendants), and immunization and contraception.

*What we see from independent studies is that the Health Extension Programme is helping a lot in maternal and child health. Prevention of malaria, tuberculosis, HIV; environmental and personal hygiene: all these are there in the Programme. I remember assisted delivery was at 5%, and now we are reporting 24%. Information is important. Health extension workers are giving information to women so that they deliver in facilities. Family planning is increasing, which is good for child and maternal health, particularly spacing. Vaccination is being reported at 85%, which is critical to child survival. Malaria is being managed by health extension workers not only by distributing bednets, but also by conducting rapid tests for diagnosis of malaria. Community ownership of health is one of the major changes of attitude that is playing a role in achieving good health. People diagnosed for tuberculosis have increased as well. This is because of increased community awareness. Environmental and household hygiene is improving, which is essential for good health. Overall knowledge in health at community and individual level is increasing through the Health Extension Programme.*

*Veteran in health policy and planning*

The Health Extension Programme has scaled up rapidly. Although the first workers were trained in 2004, by 2009, their numbers had increased to over 30 000. One factor in this success has been the mobilization of widespread support in Ethiopian society. Health extension workers have been well received by users<sup>16</sup>. While the programme is led by health officials at *woreda* and *kebele* levels, they have been supported by elders and religious leaders in the community, by agricultural extension workers and by schools. Development partners have provided considerable assistance in the form of basic equipment, such as delivery beds, first aid kits, scales, essential medicines, bednets, and rapid testing kits. The United Nations Children's Fund (UNICEF) and the United States Agency for International Development (USAID) have also supported the training of health extension workers.

A 2009 evaluation concluded that the Health Extension Programme has been successful in expanding coverage at low cost, although other research has shown that many health posts were operating at less than optimal efficiency<sup>17</sup>. So far, the programme has been implemented mainly among settled agricultural communities. Consequently, it is now being extended to urban and nomadic settings. Both involve some modification to the basic model. Thus, in Addis Ababa, nurses will play a greater role, with responsibility for an average of 500 households, while workers recruited from nomadic communities will require only primary education and will be supported by mobile health teams.

*Let me start with what we have learned from the health extension workers, both during the field visit ... and at this meeting. They passionately described the vision they share for better health for the people of Ethiopia. We saw and they told us about the preventive and life-saving services they provide, especially for women and children. Their enthusiasm, dedication, capacity, desire to save and improve lives is impressive. They, in turn, need support, rewards, and reliable referral routes into the rest of the health service – especially for emergencies in pregnancy and childbirth.*

*Dr Jenny Amery, Head of Profession, Health – UK Department for International Development (DFID) ARM 2009*

The operation of the Health Extension Programme has been facilitated by a major investment in information systems. At district level, this involves the creation of a family folder. All households are given a folder in which their demographic data, health status and use of services is recorded. So far, 18 million family folders have been printed and distributed to health posts. The information collected is integrated within systems for management and evaluation. At the same time, several hospitals are introducing modern information systems, ranging from simple, locally produced software packages<sup>18</sup> to modern systems incorporating smart card technology, although there is still some way to go to ensure that health workers record high-quality data<sup>19</sup>.

*We have opened training of monitoring and evaluation (M&E) leaders at MSc level in cooperation with Jimma University. We are strengthening health management information systems (HMIS). At health posts, health extension workers are expected to use the family folders. They should know how to record the data in the family folders to show the health history of each family. There is also the smart card, which is being piloted in hospitals. We have also assisted in the identification of common indicators, about 108 of them to be used in HMIS. You see, there are two essential kinds of health information: surveillance data, which should be done daily, and routine HMIS. Health extension workers, woredas, regions and the Federal Ministry of Health have to work with both. We are strengthening both. If you want to have a good HMIS, you need experts and full time staff. We are training M&E leaders at MSc level. We have graduated so far 100 of them. Middle-level technicians in M&E who are full time are also needed. For this purpose, we are training over 1000 in health informatics in the regional colleges. In fact, we have enrolled 1030 students who will take the training for three years. We are also training biostatisticians in health at MSc level at Mekele University.*

*Development Partner*

An obvious problem with the Health Extension Programme model is that of career progression for its staff, which could threaten its long-term sustainability. This has been addressed by developing a career ladder which will allow the health extension workers to progress through three levels of increasing competencies, with the expectation that, in time, the programme will extend its activities to the management of other health problems and, in particular, chronic illnesses, while its staff will also assume greater managerial responsibilities. It also leaves open the possibility for health extension workers to retrain as health professionals and managers.

### **District-based planning**

Ethiopia has established a mechanism of *woreda*-based planning that seeks to meet local needs within a context of national targets that focus primarily on maternal and child health and the prevention of communicable diseases. There is a strong emphasis on integration of services within the territory of the *woreda*, recognizing the dangers of fragmentation created by vertical programmes in many other parts of Africa. The *woreda* structures have played an important role in capacity building and mobilizing grassroots engagement with the health system.

This model has benefitted from a number of related initiatives, including the development of a Marginal Budgeting for Bottlenecks tool. This uses tracer conditions to identify the obstacles to achieving health goals, which may lie within the health system itself, such as shortages of human resources, institutional weaknesses, poor geographical access or inadequate supplies, or which may reflect characteristics of the population, including health-seeking behaviour. Working with all the relevant individuals and organizations (including the private sector) within the *woreda* helps to identify where action is needed. This may be anywhere from the Federal Ministry of Health to local facilities. The *woreda* plans feed into the national core plan, in which the development partners participate through a Joint Steering Committee, and which identifies national priorities and indicators of success. Progress on these indicators is monitored and evaluated monthly at the level of the *woreda* using routine administrative data. The data are brought together to inform progressively more detailed quarterly, semi-annual and annual reviews at higher levels.

*The woreda planning combines top-down and bottom-up processes of planning. Direction comes from the Federal Ministry of Health. Indicators are selected from the Health Sector Development Programme and Millennium Development Goals. The Ministry discusses with the regions. The regions reflect on the selected indicators and targets to be*



*achieved, regions add and/or reprioritize indicators which, in turn, are discussed with zones and woredas. Zones and woredas do the same: add reprioritized indicators and targets. Finally, a comprehensive woreda plan is developed. The plan has activities under each indicator, target and cost. The resource gap is indicated as well. The woreda plan is a tool reflecting the needs of the receiving communities. It is a tool for harmonization and alignment in that it does not give space for alternative parallel plans. Stakeholders and development partners fully participate in assisting woredas to develop their core plans.*

*Planning and policy expert*

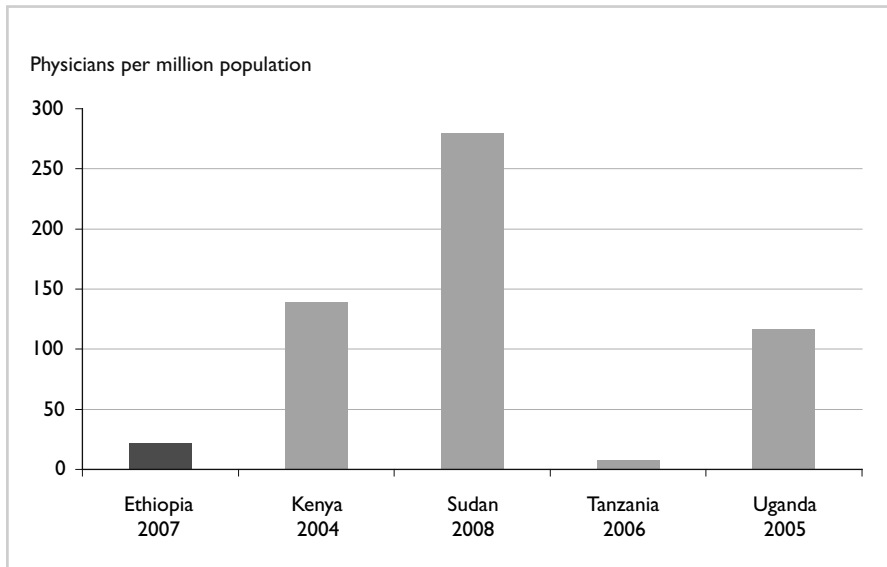
A geographical perspective is important, given the growing role of the private sector in the delivery of health care in Ethiopia. It includes both for-profit and not-for-profit operators, who have carved out distinctive niches at various levels. In the main cities, private hospitals provide a range of specialist services to those who can pay for accelerated treatment in better facilities; in some cases, such as for abortions, they are perceived as offering a greater degree of privacy.

The growth in international development assistance, and, in particular, that provided by the Global Fund and PEPFAR, has also played a part in encouraging the growth of private providers, especially those operating in the area of HIV/AIDS. This includes for-profit providers in the main cities and not-for-profit organizations throughout the country. Among the largest of the latter is the Christian Relief and Development Association, which runs approximately 350 facilities.

*There are private for-profit health facilities that are franchised and accessing donor funds. ART is being given in all private hospitals. Many private clinics offer VCT. The private sector is getting test kits. In the last two years, scale up of ART by involving private hospitals has increased, especially hospitals in Addis Ababa. Prevention of mother-to-child transmission of HIV has started in the last two months, and it is not yet satisfactory. We are also involved in training, such as management of hospitals. We are also subcontracted in the monitoring of health facilities with regards to identifying gaps in their health delivery services. The private sector is getting training free of charge. ... The private/public mix DOTS have started in 30 private facilities. Tuberculosis patients get drugs free of charge. The Minister of Health has been encouraging and is trying to strengthen the private sector through the association of private practitioners in health.*

*Informant from the private for-profit sector*

**Figure 4.5 Physician population in selected east African countries, most recent year available**



Source: Adapted from reference 9.

### Building a modern health workforce

Ethiopia has a severe shortage of health workers, with far fewer physicians than in some neighbouring countries (Figure 4.5), and health workers are often poorly distributed in relation to need. The creation of a cadre of health extension workers, described above, is one way of beginning to address this shortage, but the government has taken a number of other measures, drawing on assistance from its development partners and especially the US Centers for Disease Control and USAID, and technical support from WHO.

The higher education market has been liberalized and private high schools have been allowed to train nurses, laboratory technicians and pharmacists. This has produced a considerable expansion in middle-level health professionals. More recently, a few private schools have begun to train general practitioners. Major efforts have been made to provide enhanced training to health workers treating patients with AIDS, but there have been many problems in retaining trained staff at facilities<sup>20</sup>.

Task shifting is increasingly seen as a means of tackling the shortage of physicians. Health officers and nurses in the community are being trained to deliver services once performed by hospital doctors. This has been a major factor in the

ability to scale up ART and PMTCT programmes, delivering them in health centres that lack doctors<sup>21</sup>. In turn, health extension workers are providing health promotion and disease prevention activities once carried out by nurses. There are other examples of new ways of working, such as specialist outreach, in which surgeons travel from central to peripheral hospitals, a policy that has been shown to be cost-effective<sup>22</sup>.

Training of health officers, who provide intermediate care in health centres, has been accelerated. In 2009/2010, over 5000 were enrolled. They are required to staff the much-expanded number of health centres currently under construction. Each health centre is designed to be staffed by two health officers and two midwives, as well as nurses and support staff.

Physician training has been expanded, with an increase in medical schools from three to seven. The government is encouraging the remaining 16 universities to open medical schools. Training in evaluation and health informatics, from diplomas to MSc level, is also being expanded.

### **Expansion and upgrading of health care facilities**

Ethiopia entered the 1990s with a very limited health care infrastructure, with even fewer major facilities than in 1974. Since then, there has been a major programme of investment to bring services closer to the population they serve, primarily reflecting a concern about the adverse impact of distance on uptake of services. The government has adopted a standard that, in principle, would see most people having to travel at most 10 km to the nearest facility. The results are clear. The 72 hospitals in 1991 (down from 82 in 1974) have increased to 183. There has been an accompanying programme to improve the capacity and quality of hospitals (Box 4.3). The 153 health centres in 1991 were expected to increase to 3200 by the end of 2010. This process has been accompanied by a substantial reduction in older and poorly equipped clinics, some of which have been upgraded to health centres, while others have been turned into health posts for health extension workers, which now number 14 000. The overall result is that access to a local health facility has increased from 38% in 1991 to 89.6% in 2010 (Federal Ministry of Health Office of Public and External Relations, personal communication, 2010).

### **Availability of essential drugs**

Health workers can do little without adequate and reliable supplies of essential drugs. In the past, access to medicines in rural Ethiopia was extremely limited. This has been transformed by the creation of the Pharmaceutical Fund and

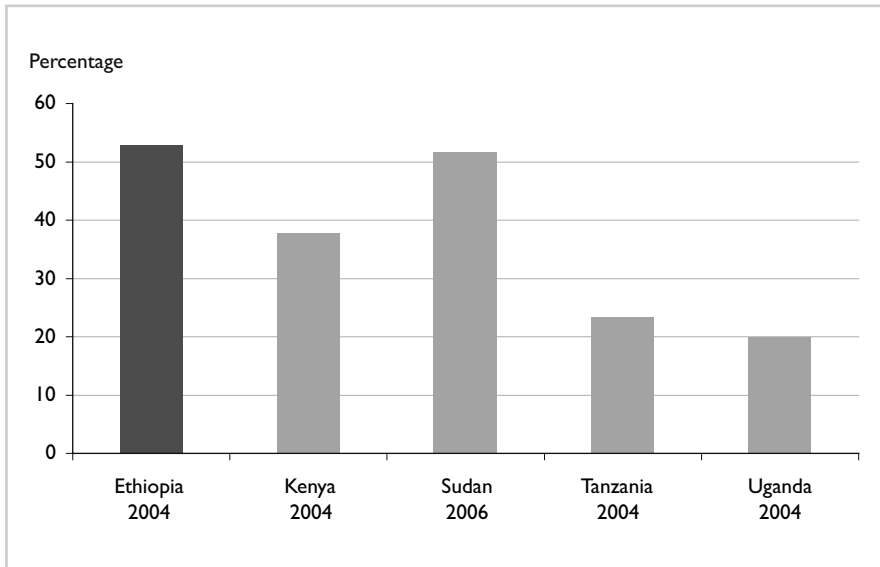
**Box 4.3 Measures to improve hospital capacity and quality**

1. Expansion of medical, nursing and midwifery training, enabling increased staffing of health facilities since the early 2000s.
2. Improvement in the geographical distribution of the health workforce. Incentives have been introduced to attract doctors to remotely located hospitals and to retain them there. These include salary top-ups, housing, overtime payments and scholarships for specialized training. The regions now compete to hire doctors. Our informants report that this is attracting substantial numbers of doctors to the public sector, especially in remote areas.
3. Better regulation of health and health-related services and products. The Drug Administration and Control Authority, which oversees the use of medicines, has become more active in monitoring locally and internationally produced drugs to ensure their safety.
4. Implementation of standard operating procedures for pharmaceutical supplies, including provisions to buy medicines from the private sector.

Supply Agency. The delay in the procurement of drugs has been reduced from 360 days to 60 days<sup>23</sup> and essential medicines are much more easily available than in some neighbouring countries (Figure 4.6). This reduces wastage of expired drugs and improves the sustainability of supply. The Agency has worked closely with the Global Fund and PEPFAR to ensure adequate supplies of medicines for AIDS, tuberculosis and malaria, as well as for treating opportunistic infections. It has also constructed distribution hubs within a maximum of 160 km from health facilities and has introduced standardized distribution systems with assistance from USAID<sup>23</sup>.

Clearly, there is very little point in making medicines available in pharmacies if the population cannot afford them. However, although availability of essential drugs has improved, about one in six patients still has to obtain drugs from the private sector, where they are about twice as expensive<sup>25</sup>. Consequently, the Ethiopian Government has put in place a number of measures designed to ensure that essential drugs are either free or heavily subsidized. Certain medicines should be provided free to everyone. These include vaccinations and treatment for acute watery diarrhoea, malaria, tuberculosis and HIV/AIDS. Those who are very poor are entitled to receive a range of other medications free on production of a certificate from the *kebele* administration where they live. Other essential medicines are provided at hospital and health centre pharmacies with heavy subsidies. These include antibiotics for acute infections. The cost is substantially less than that for the same preparations purchased in the private sector. However, patients still face considerable costs in obtaining diagnoses<sup>26</sup>.

**Figure 4.6 Median availability of selected generic medicines in public facilities in east African countries, various years, 2001–2009**



Source: Adapted from reference 24.

## ■ How has Ethiopia achieved this?

Ethiopia has come a long way in two decades. In the following section, we examine how it has done so. In particular, we look at how health fits within its broader vision for development and how it has raised money to expand its health care system.

### Developing a plan

From the early 1990s, the Ethiopian Government recognized the key role that must be played by health improvement in the country's economic development. Hence, it featured prominently in the first Sustainable Development and Poverty Reduction Programme, which evolved into the current strategy, PASDEP. Intersectoral action is at the heart of this strategy, which links health to progress in other sectors such as education, water, agriculture, rural development, gender equality, tourism, trade and industry development, urban development, governance and capacity building<sup>27</sup>. Thus, the Health Extension Programme was designed with input from key stakeholders in the environment, water and education<sup>28</sup>.

PASDEP is closely linked to the Health Sector Development Programme, initiated in 1997 and renewed every five years since then. The current programme places a high priority on maternal and child health, sanitation and expansion of services.

*The development is not only in health, but also in other sectors. There is fast development in education even more than health, infrastructure, road construction, water which are contributing to health. It is a multisectoral development in all areas. All the sectors have a five-year development strategy and plan... With the Health Sector Development Programme and the overall PASDEP, there were no negative consequences visible.*

*National health research informant*

### **Paying for health system development**

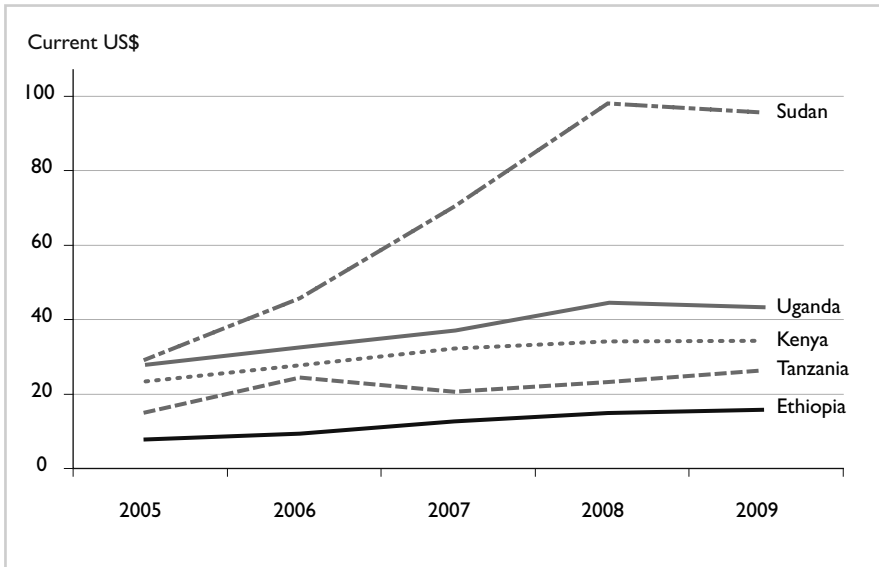
Ethiopia still spends much less per capita on health than other countries in east Africa, and although this figure has increased in recent years, it has done so at a slower pace than in some of its neighbours, so the gap has widened (Figure 4.7).

Ethiopia still has a long way to go before it can ensure universal free access to health care for its population. Over 80% of health expenditure is still out of pocket (Figure 4.8). Consequently, the developments described above should be viewed as work in progress and as an investment for the future.

Ethiopia's additional resources have come largely from the international community, so the share of overall health expenditure from external resources has grown rapidly (Figure 4.9). Indeed, a recent study using *National Health Accounts* data reported a decrease in government funding for health between 2002 and 2006 of an amount equivalent to 1.4% of GDP, while during this same period, Ethiopia benefited from a rise in international health aid of 1.2% of GDP<sup>29,30</sup>. It has been estimated that, between 2003 and 2009, Ethiopia received over US\$3.2 billion from the Global Fund, over US\$1 billion from PEPFAR, and over US\$70 million from the World Bank's Energy Sector Management Assistance Programme. Further substantial funding has come from United Nations organizations, the GAVI Alliance (formerly the Global Alliance for Vaccines and Immunisation) and bilateral development agencies, in particular those of Ireland, Spain, Italy, and the Netherlands. Most of these funds have been provided to the health and education sectors.

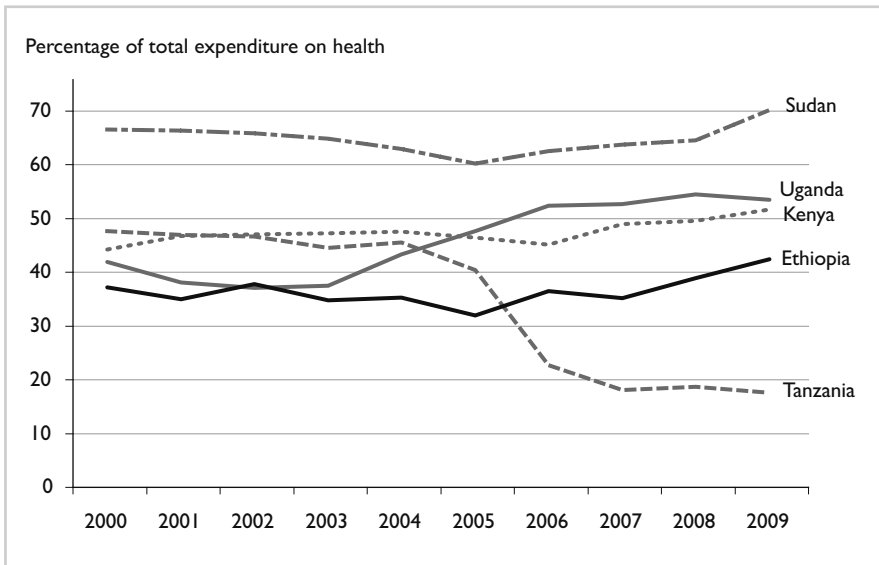
The importance of international donor agencies in funding the Ethiopian health care system has led to their much greater involvement in the governance of the Health System Development Programme.

Figure 4.7 Per capita expenditure on health in selected east African countries



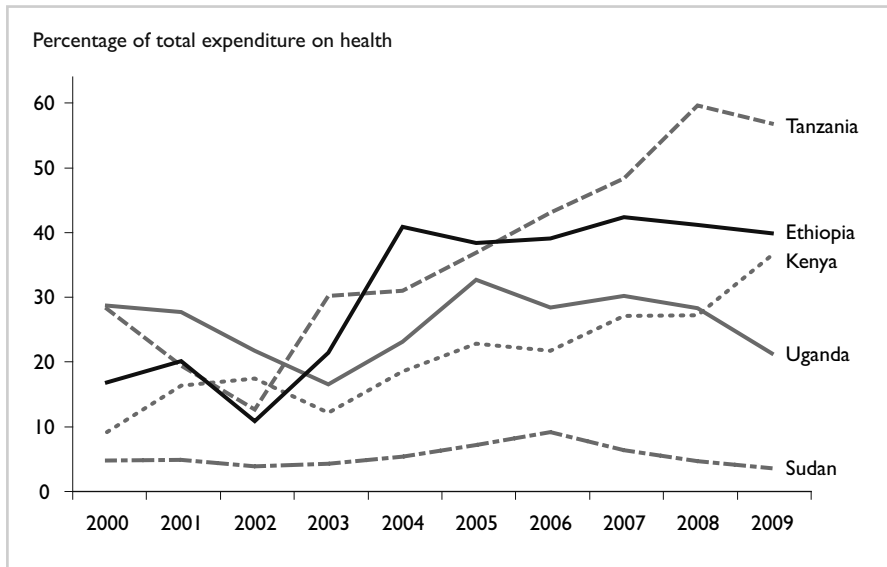
Source: Adapted from reference 9.

Figure 4.8 Share of health expenditure that is out of pocket in selected east African countries, 2000–2009



Source: Adapted from reference 9.

**Figure 4.9** Share of government health expenditure from external sources, selected east African countries, 2000–2009



Source: Adapted from reference 9.

*What development partners need is openness, accountability and results. I think this is being done to their satisfaction. This is the reason why support from development partners, whether bilateral or multilateral, is increasing. Although Ethiopia is receiving considerable amounts of external funding, no development partner has ever imposed policy or programme changes. They are all working with the policy and programme frameworks prepared by the government through broad consultations with stakeholders, especially the regions and districts. The role of development partners is to assist and speed up the implementation of sector programmes as we have for example in the implementation of the Health Sector Development Programme.*

*Government official*

There are several reasons why the Ethiopian Government has been able to benefit from substantial increases in development assistance, especially from the United States. One factor that cannot be ignored is its geopolitical position in the Horn of Africa, which has allowed it to support American foreign policy, most notably in 2006 when, with American backing, its armed forces moved



into Somalia in support of the Somali Transitional Federal Government, which was under attack from the Islamic Courts Union and affiliated militias. However, the Ethiopian Government has also developed a reputation as a reliable partner, establishing rigorous systems to account for the use of funds. The Ministry of Finance and Economic Development has well-established procedures that comply with internationally accepted standards of financial management and accounting. It is also seen as being able to get things done, employing new management techniques where necessary, such as the Business Process Re-engineering initiative being led by the Ministry for Capacity Building and now applied in the health sector.

*There is political commitment, innovative leadership and cultural change as a result of access to education and other services, and activities are grassroots-focused. The donor support to the country, especially to the health sector, is enabling the country to put its plans into practice, as we see it in health. Without the Global Fund, it would have been difficult to scale up activities in health. Although the country has not been blamed for corruption even during the past regimes, the democratization process and a participatory approach to decision-making and evaluation of outcomes and activities where development partners have a say is reducing incidences of deliberate misuse or poor use of resources. Development partners have confidence in national systems and programmes. For example, Ethiopia has the best financial system, which is very strict in accounting and fund utilization. Development partners are putting their monies in the National Treasury because they are confident in the financial systems. There are some funds off-budget which directly go to sectors or implementing agencies. We insist that the fund used in the sector should be known in order to avoid duplication of funding. This is being done. In the health sector, the partners work from one plan and they share their responsibilities for implementing activities. Therefore, there is harmonization and alignment of programme activities. This helps in the effective use of resources.*

*Informant, Ministry of Finance and Economic Development*

Ethiopia has also benefited from improvements in systems of governance. Data from the World Bank's Worldwide Governance Indicators reveal that, between 1996 and 2008, government effectiveness increased from 14% to 40%, regulatory quality from 5% to 20%, rule of law from 19% to 34%, and control of corruption from 9% to 30%. These quantitative improvements are consistent with the comments by many of those interviewed for this study. However, there are also some concerns, again identified by our interviewees, who described

over-centralized control by the government and an unwillingness to accept dissenting views<sup>31,32</sup>. This is apparent in the worsening of some governance indicators between 1996 and 2008, with voice and accountability declining from 24% to 10%, and stability and absence of violence from 17% to 6%.

### **The role of other sectors**

The health system is only one of many contributors to better population health. Another is basic sanitation. In 2002/2003, only 28.4% of the population had access to safe water. By 2007/2008, this had increased to 59.5%<sup>8</sup>. However, in the long run, a key role will be played by education, especially of girls. This is a priority for the government. Primary school enrolment has now reached 91%, with the ratio of girls to boys reaching 92%. Improved female education is going hand in hand with investment in female empowerment. Traditionally, the status of woman in Ethiopia has been very low and their health has suffered from the persistence of a number of unsafe practices, including female genital mutilation. There has been significant progress in removing legal barriers to women's rights and in placing gender equality within policies in all sectors, although it will take longer to address deep-seated cultural beliefs.

*The status ... of women in Ethiopia ... is low. The 1993 policy on women ... outlines a strategy for dealing with the problem. The women's office was formed in the office of the prime minister headed by a minister and reaching down to the lowest government administration. The constitution ... gave women equal status in terms of accessing resources, services, political and social participation and protection from harmful practices such as early marriage and genital cutting and mutilation. ... the criminal code was revised to protect women ... All sectors were required to mainstream gender... Parity has been achieved in primary education, and participation of women in secondary and tertiary education has improved. Women are beneficiaries of the micro-credit system. Employment of women has improved in the public sector. The Health Extension Programme is ... creating job opportunities for women. Small industries are benefiting women. ... The improvement in infrastructure such as roads, electricity and water is of great benefit to women. The development efforts that aim at poverty reduction very much benefit women as they suffer most from poverty.*

*Researcher*

## ■ The political context

### Peace and stability: a bedrock of progress

The 1970s and 1980s were not good times to live in Ethiopia. Military rule in the country was accompanied by widespread repression and conflict, both internally and with its neighbours and, as if this was not enough, Ethiopia was ravaged by drought and resulting famine. The country slipped ever further behind its neighbours, who were themselves beset by many problems. The defeat of the military government in 1991 heralded a new era in Ethiopian politics. The Transitional Government of Ethiopia was committed to healing the fractures in Ethiopian society and creating the peace and stability that were recognized by all Ethiopians as a prerequisite for development.

Almost at once it began the task of creating a government of national unity that brought all of the warring groups into the government. It also set about resolving the Eritrean issue. Eritrea had been colonized by Italy, as Italian Somaliland, in the 1890s. Italian forces were expelled in 1941 by troops from the British Commonwealth, which then ruled it under a United Nations mandate until 1951, when it was transferred to Ethiopian sovereignty. However, there had been a long standing and widely supported movement for independence. This had been opposed by the Emperor and the military government, but the new transitional government agreed to a referendum under international supervision. Eritrea became independent in 1993.

Recognizing the complexity of Ethiopian society, the drafters of the new constitution established a federation of nations, nationalities and peoples, which included the right of secession. The new country would be a democratic state, with elections every five years to a bicameral legislature, with clear separation of powers among the legislative, judiciary and executive branches of government. The constitution contains a number of checks and balances in response to the inevitable challenges that arise in a complex multi-ethnic country. Political parties are still linked to ethnicity. The EPRDF, for example, brings together four major ethnically based political groups: the Tigrayans, the Amhara, the Oromos, and the coalition of different ethnic groups of the south. The two largest opposition parties are also coalitions combining universal and ethnically defined parties, while other smaller parties are linked to single ethnic groups, such as Somalis, Oromos and Gambela. This is beginning to change with the emergence of political parties based on ideology rather than ethnicity, but it will take time.

Political changes have been accompanied by liberalization of the economy. The transitional government began a programme of economic reforms in 1992 that

laid the ground for a structural adjustment programme, implemented in 1996. This led to the privatization of major industries and devaluation of the currency. Compared with the experience of other countries undertaking structural adjustment programmes, Ethiopia fared relatively well. It has been able to attract a growing volume of inward investment, especially from India, China, Saudi Arabia and Turkey.

*The development we see in health started with the introduction of the policy of decentralization, devolution of power to regions and districts under the present government. During the military government, there was a socialist type of macroeconomic policy. I cannot say it was socialist but socialist-oriented. Under this orientation, the government at the centre believed that it could do everything on behalf of the people. It felt that it could deal with poverty and backwardness by centralizing power. It was a highly centralized system. The government controlled everything. It was government centred. As a result, there was no participation of the private sector and other civil societies. The international community did not believe in the policy, and development aid was not there, apart from humanitarian aid. The government was left alone and could not implement its development goals.*

*Informant, Ministry of Finance and Economic Development*

### **Vision and leadership**

Despite outward appearances, Ethiopia has a revolutionary government. The current generation of political leaders honed their skills in the revolutionary student movement or in the armed struggle against the military government. They achieved power by defeating a militarily powerful army supported by one of the world's superpowers, the USSR. Many of them had been elite students at Addis Ababa University, with a clear vision of what needed to be done to bring Ethiopia into the modern age. Yet they were also fully aware of the task that faced them, as many had lived for up to 17 years in rural areas, mobilizing local communities in the struggle for democracy. This gave them both the expertise and the mandate for an ambitious programme of reform. It also provided them with a clear understanding of the importance of intersectoral action and the ability to work with anyone, in the public or private sector, within Ethiopia and abroad, who could help them to bring about their country's development.

Those interviewed for this study identified the pivotal role that has been played by the Ethiopian Prime Minister, who is seen as someone who combines technical expertise in economics and development with political skills. He is credited

with the ability to take ideas from many sources and bring them together effectively. This has helped to ensure a sense of ownership of policies by those charged with implementing them. He is viewed as having taken a robust stance against corruption and expects high standards of performance from government officials. He is seen as understanding the geopolitical context in which Ethiopia finds itself, using this to benefit his country. Other interviewees highlighted the positive role played by the current Minister of Health, who is seen as a close ally of the Prime Minister and someone who has been able to mobilize support for health in other ministries.

*The programme is a government and party programme. It is an EPRDF agenda. The party has structure down to the lowest level of government. They speak the same language. The leader of the party is the Prime Minister of the country, for it is the ruling party that forms the government. It has been in power since it overthrew the military government in 1991. The current Minister of Health is an also a wonderful leader and manager. He has effectively succeeded in making the development partners fully engaged in the health sector development programme, and also the private sector. More than anything, the party is committed and evaluates its members by the performance they show if they are to stay in leadership positions. Outside the government, the Millennium Development Goals in health are also moving the government to meet them. Ethiopia enjoys the trust and support of the international community, particularly the west.*

*Team Leader, Policy and Programmes, Federal Ministry of Health*

## ■ Conclusions and lessons learned

Just over two decades ago, the situation in Ethiopia seemed hopeless. It was beset by war, famine and corruption. Yet out of that horror sprang hope that things could be different. This hope was seen in the actions of a new generation of Ethiopians who assumed political leadership. It was also seen in the actions of millions of people outside Ethiopia who found ever more imaginative ways to raise money to help their fellow humans and, as importantly, put pressure on their political leaders to help too.

This hope is well on the way to turning into a reality. Ethiopia is still desperately poor; many of its people still live a precarious existence, ever aware of their vulnerability to events beyond their control, in particular the extreme weather that has afflicted them so often in the past. Yet many things have improved. An

Ethiopian born today is twice as likely as one born 20 years ago to survive to his or her fifth birthday. There is a new generation of health extension workers who can help at a baby's birth and who can provide basic care if he or she later becomes ill. However, that child's risk of falling ill has also reduced, due to better nutrition and improved access to clean water.

What allowed Ethiopia to move along this trajectory? One factor to emerge clearly from this analysis is the importance of peace and stability. This has not been easy. Ethiopia is an incredibly diverse society and, as our research for this project shows, high levels of ethnic diversity make it more difficult to achieve good health outcomes<sup>33</sup>. However, although it is more difficult, it is not impossible, as illustrated by examples in this region of countries, such as Tanzania, that have overcome this challenge to create societies in which everyone, whatever language they speak or wherever they worship, can participate. Unfortunately, others, such as Kenya, have been less successful.

The 1994 Ethiopian Constitution enshrines the principle of self-determination for Ethiopia's different communities and establishes a strong federal system that combines national leadership with regional self-determination. Crucially, this has meant that the political system is broadly representative of the major groups and is not, as it might have been, controlled by the Tigrayan people, who led the revolution against the military regime.

Stable, participative government has provided a basis for policies that foster economic growth. However, unlike the situation in many other parts of Africa, Ethiopia has striven to ensure that as many of the gains as possible are retained for the benefit of its citizens. This has not always been successful; its experience with a well-known coffee company exemplified the unequal struggle between poor industries and multinational corporations. However, it is at least trying.

Like other countries in Africa, Ethiopia's health system has faced a workforce crisis. It was clear that an expansion of physicians to levels that were adequate would take decades, especially given the lure of higher salaries and better conditions abroad. Its system of health extension workers seeks to fill some of the gap, reaching out to provide basic care for the rural poor. Of course, challenges remain, such as widening coverage to urban areas and to nomadic populations, but others, such as career development, are being addressed.

Finally, it is impossible to ignore how Ethiopia has benefited from very large sums of development assistance, in large part a result of geostrategic considerations. This is, however, a mixed blessing, as the challenge now is to find sustainable sources of funding. Fortunately, with few exceptions, it seems that donations by rich countries are relatively resistant to the economic crises they

have faced in the past, and by extension, those they are facing now<sup>34</sup>. Yet there is no room for complacency.

What lessons can Ethiopia offer other countries with few resources? One is the importance of political commitment at all levels, to nation building, good governance, and to health and its determinants. Another is that policy and programme development strategies must be inclusive of all stakeholders and should target the people. The Ethiopian experience shows that taking the community as a potential producer of health, instead of as a potential consumer of medicines and curative services, is a way forward to achieve better outcomes in health. It is critical to ensure the participation of the private for-profit sector, non-profit NGOs and development partners as well as stakeholders from all relevant sectors in the design and implementation of reforms, ensuring effective intersectoral linkages and shared ownership. A third is the use of appropriately skilled workers and technology to achieve maximum coverage, even if this is still basic.

There are, inevitably, many remaining challenges. Many of these relate directly or indirectly to geography. One is food security. Although Ethiopia is especially vulnerable, given its location and climate, nowhere is now immune from a world where a substantial share of world food is traded globally, much controlled by a small number of multinational corporations and with prices influenced almost as much by speculators as by supply and demand.<sup>35</sup>

A second relates more precisely to topography. Ethiopia has a very poor transportation infrastructure, with inevitable consequences for the delivery of health care. Improved emergency obstetric care, necessary to make serious inroads into maternal mortality, will depend on an improved road network.

A third is access to clean water and sanitation. Although this has improved, it will be difficult to deliver effective sanitation to the 84% of the population living in scattered rural settlements.

A fourth relates to the wider region. Ethiopia's neighbour Somalia has effectively been divided into separate mini-states, with large parts under no effective government. Ethiopia's border with Eritrea, until recently the setting for conflict, remains disputed.

A fifth concern relates to the close relationship between the governing party and the government. While this has created considerable stability, it is incompatible with a pluralist democracy in the long term. Finally, perhaps the most important challenge, alluded to above, is how to establish a sustainable system of paying for effective health care for all.

**ACKNOWLEDGEMENTS**

I would like to acknowledge the immense technical support received from Professor Martin McKee. Without his support, the chapter would not have assumed its present shape. Special thanks go to Miss Katie Callaham who did her internship at Miz-Hasab Research Center and Dr Abraham Endeshaw from the Federal Ministry of Health. Miss Callaham helped in the processing of data obtained from WHO, World Bank, and Ministry of Health publications. Dr Abraham reviewed the work on behalf of the Ministry and validated the report. The Miz-Hasab Research Center is appreciative of the cooperation it received from all stakeholders in health, especially the leadership of the Federal Ministry of Health, and is grateful to the Rockefeller Foundation and the London School of Hygiene & Tropical Medicine for giving it the opportunity to work on this project. Finally, the commitment and skills in guidance demonstrated by Dr Dina Balabanova as lead researcher on the project have been admirable.

*Hailom Bangteyerga Amaha (lead researcher of the Ethiopia chapter)*

**REFERENCES**

1. Chamberlain N. Prime Minister on the issues. *The Times*, 28 September 1938; 10.
2. Meredith M. *The state of Africa: a history of fifty years of independence*. London: Free Press; 2006.
3. Chen L et al. Human resources for health: overcoming the crisis. *Lancet* 2004; 364(9449):1984–90.
4. Population Census Commission. *Summary and statistical report of the 2007 Population and Housing Census. Federal Democratic Republic of Ethiopia*. Addis Ababa: Population Census Commission; 2008.
5. Central Statistical Authority, MEASURE DHS and ORC Macro. *Ethiopia demographic and health survey 2005*. Addis Ababa: Central Statistical Authority, MEASURE DHS and ORC Macro; 2005.
6. WHO. *National health accounts, country health information*. Geneva: World Health Organization; 2011 (<http://www.who.int/nha/country/en/>, accessed 17 June 2011).
7. WHO. *World health statistics 2010*. Geneva: World Health Organization; 2010.
8. Planning and Programming Department. *Health and health related indicators*. Addis Ababa: Federal Ministry of Health; 2008.



9. World Bank. *World development indicators* [online database]. Washington, DC: World Bank; 2011 (<http://data.worldbank.org/indicator>, accessed 13 July 2011).
10. Hogan MC et al. Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards millennium development goal 5. *Lancet* 2010; 375(9726):1609–23.
11. Federal HIV/AIDS Prevention and Control Office. *Report on progress towards implementation of the UN Declaration of Commitment on HIV/AIDS 2010*. Addis Ababa: Federal HIV/AIDS Prevention and Control Office; 2010.
12. Central Statistical Authority and ORC Macro. *Ethiopia Demographic and Health Survey 2000*. Addis Ababa: Central Statistical Authority and ORC Macro; May 2001.
13. Federal Ministry of Health. *Annual performance report of HSDP-III*. Addis Ababa: Federal Ministry of Health; 2009.
14. Federal Ministry of Health. *Health sector strategic plan (HSDP-III)*. 2005/6–2009/10. Addis Ababa: Federal Ministry of Health; 2005.
15. Health Planning and Programming Department. *Health and health related indicators 2008/9*. Addis Ababa: Planning and Programming Department, Federal Ministry of Health; 2010.
16. Negusse H, McAuliffe E, MacLachlan M. Initial community perspectives on the Health Service Extension Programme in Welkait, Ethiopia. *Human Resources for Health* 2007; 5:21.
17. Sebastian MS, Lemma H. Efficiency of the health extension programme in Tigray, Ethiopia: a data envelopment analysis. *BMC International Health and Human Rights* 2010; 10:16.
18. Wong R, Bradley EH. Developing patient registration and medical records management system in Ethiopia. *International Journal for Quality in Health Care* 2009; 21(4):253–8.
19. Abate B, Enquesslassie F. Information use in patients' referral system at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia. *Ethiopian Medical Journal* 2010; 48(2):123–35.
20. McNabb ME et al. Tracking working status of HIV/AIDS-trained service providers by means of a training information monitoring system in Ethiopia. *Human Resources for Health* 2009; 7:29.
21. Assefa Y et al. Rapid scale-up of antiretroviral treatment in Ethiopia: successes and system-wide effects. *PLoS Medicine* 2009; 6(4):e1000056.

22. Kifle YA, Nigatu TH. Cost-effectiveness analysis of clinical specialist outreach as compared to referral system in Ethiopia: an economic evaluation. *Cost Effectiveness and Resource Allocation* 2010; 8(1):13.
23. Banteyerga H et al. *The system-wide effects of the scale-up of HIV/AIDS, tuberculosis, and malaria services in Ethiopia*. Bethesda, MD: Abt Associates; 2010 (Health Systems 20/20 project).
24. WHO. *Statistical information system* [online database]. Geneva: World Health Organization; 2011 (<http://apps.who.int/whosis/database/>, accessed 2011).
25. Carasso BS et al. Availability of essential medicines in Ethiopia: an efficiency-equity trade-off? *Tropical Medicine & International Health* 2009; 14(11):1394–400.
26. Mesfin MM et al. Cost implications of delays to tuberculosis diagnosis among pulmonary tuberculosis patients in Ethiopia. *BMC Public Health* 2010; 10:173.
27. *Ethiopia: Building on progress. A plan for accelerated and sustained development to end poverty (PASDEP)*. Addis Ababa: Ministry of Finance and Economic Development; 2006.
28. Dercon S et al. The impact of agricultural extension and roads on poverty and consumption growth in fifteen Ethiopian villages. *American Journal of Agricultural Economics* 2009; 91(4):1007–21.
29. Lu C et al. Public financing of health in developing countries: a cross-national systematic analysis. *Lancet* 2010; 375(9723):1375–87.
30. Ooms G et al. Crowding out: are relations between international health aid and government health funding too complex to be captured in averages only? *Lancet* 2010; 375(9723):1403–5.
31. Anon. Ethiopia's elections: five more years. *The Economist*, 20 May 2010.
32. Anon. Correspondent's diary: a country of grey and gold. *The Economist*, 28 May 2010.
33. Powell-Jackson T et al. Reducing child and maternal mortality: democracy and economic growth in divided societies. *Social Science and Medicine* 1002; 73(1):33–41.
34. Stuckler D et al. Does recession reduce global health aid? Evidence from 15 high-income countries, 1975–2007. *Bulletin of the World Health Organization* 2011; 89(4):252–57.
35. Lock K et al. Potential causes and health effects of rising global food prices. *British Medical Journal* 2009; 359:269–72.