Overview

SCALING-UP HEALTH INVESTMENTS
FOR BETTER HEALTH, ECONOMIC GROWTH AND ACCELERATED POVERTY REDUCTION

GHANA MACROECONOMICS AND HEALTH INITIATIVE
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OCTOBER 2005
Acknowledgements

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Background

The Commission on Macroeconomics and Health (CMH), established by the World Health Organization in 2000 to assess the place of health in global economic development, found that extending the coverage of a set of essential health interventions to the world's poor could save millions of lives each year, spur economic growth and development, and reduce poverty (WHO 2001). It called on developing countries and their partners to scale up investments in health to the level of US$ 38 total health expenditure per capita per year by 2015 to cover essential interventions in order to achieve the internationally agreed Millennium Development Goals (MDGs), including the goal of reducing poverty by half from the 1990 levels.

The CMH recommended that developing countries establish temporary National Commissions on Macroeconomics and Health (NCMHs) or their equivalent to organise and lead the task of scaling up health interventions in order to achieve better and more equitable health outcomes. The NCMHs would assess national health priorities, establish a multi-year strategy to extend coverage of essential health services and address health systems constraints, taking into account synergies with other key health-producing sectors and ensuring consistency with a sound macroeconomic policy framework.

The CMH recommendations emphasized the importance of heightened collaboration between the Ministry of Health and the Ministries of Finance and Planning. Working together with the WHO and the World Bank, the national initiatives would prepare epidemiological baselines, quantified operational targets, and medium-term financing plans. In addition, the countries would analyse available data, develop strategies, and set out a framework of macroeconomics and health action to, among others, incorporate health more centrally in their Poverty Reduction Strategy Paper (PRSP) process and increase health spending in their respective national Medium-Term Expenditure frameworks.
The Ghana Macroeconomics and Health Initiative

In response to the recommendations of the CMH Report, in mid-2002 Ghana set up the Ghana Macroeconomics and Health Initiative (GMHI). The GMHI is a national mechanism for advocating for enhanced investment in health, improving the setting of priorities in the health sector, and achieving more effective decision-making on resource allocations to health at the central and peripheral levels of Government. The GMHI situates the response to health problems within the context of poverty reduction and macroeconomic development. It is thus in line with the Millennium Development Goals (MDGs), which have placed health at the heart of poverty reduction.

The GMHI was launched by His Excellency the President of the Republic, Mr. John Agyekum Kufuor, in November 2002 and is chaired by the National Development Planning Commission (NDPC). The coordination of the GMHI was done by the National Development Planning Commission in collaboration with the Ministries of Health, Finance, Local Government and Rural Development, Ghana Health Service, and other health related agencies with support from WHO. All major health partners in Ghana participate in the GMHI, including WHO, the United Nations Development Programme (UNDP), the United Nations Children’s Fund (UNICEF), the Danish International Development Agency (DANIDA), the United Kingdom Department for International Development (DFID) and the World Bank. An advisory committee was assigned the oversight responsibility, while the technical committee was assigned the task to assess the Ghana Poverty Reduction Strategy (GPRS) in the light of the recommendations made by the CMH.

Through the GMHI, the Government of Ghana has demonstrated strong political will to develop effective strategies towards ensuring better health for poor people and tackling health, development and poverty challenges in a holistic way.

The GMHI Report

The GMHI report is the result of a series of consultations, technical papers, workshops and expert works. It provides appraisals of strategic options and estimates the costs for scaling up health investments that will have the desired impact on health status, poverty reduction and economic growth within the shortest possible timeframe.

The GMHI process has promoted a clear link between the GPRS and the Government's annual budget. The GMHI report will also provide input into the Ministry of Health Third Programme of Work (2007-2011), and districts have been requested to use it as a reference while drawing up their health plans and budgets. More importantly, the report will serve as an advocacy tool for soliciting commitments and attracting increased resources to health, water and sanitation sectors and aligning development partners around national health priorities.

1 Revision began in September 2004.

The GMHI Report:

- Provides evidence of the link between health and development. Productivity losses due to ill health amount to about 6.4% of GNP each year in Ghana. The report details links between health, poverty, high population growth, low female literacy, poor nutrition and limited access to water and sanitation, especially in the deprived regions.
- Builds on the broad policy objectives of the GPRS and the Medium Term Health Strategy (MTHS) of providing essential interventions and basic services to the poor at the community level as a way of enhancing access to health services and reducing geographical inequities.
- Presents the health profile of Ghana, including a description of the 'top ten' health priorities designated by health sector authorities of Ghana because of their impact on mortality and morbidity and progress towards the MDGs, economic growth and poverty reduction. The analysis identifies interventions, the population in need and envisaged coverage. To deliver the interventions the GMHI embraces the Community Health Planning and Services (CHPS), or close to client) strategy, which aims to address the problem of limited access to health services, particularly for the rural population. In addition to the health sector, improved access to water and sanitation is seen as crucial to improve health.
- Provides a costed plan to scale up a health package consisting of priority health interventions, CHPS, health systems strengthening including human resource development and access to rural potable water and improved sanitation. Implementation of the plan will contribute towards achievement of the MDGs and other health targets.
- Calculates the total and incremental resource requirements for the health sector using two scenarios, a slower scaling up for 2007 and a more ambitious scenario for 2015. In order to calculate the resource gap, the report outlines three possible resource envelopes available to the health sector (MTEF, health-POW and Abuja Declaration) in order to finance the plan. The scaling up of the water and sanitation interventions address some of the main health determinants. The cost estimation for water and sanitation uses a base and ideal scenario by which coverage is expected to be raised.
- Summarizes the total resource requirements for the health package as in table I. For the health sector it is estimated that a total of about US$7.2 billion shall be needed for the period between 2002 and 2015 for investment in health delivery and CHPS. This is to enable the country to accelerate progress towards the achievement of the health and health-related MDGs and poverty reduction. It is also estimated, on the basis of the two (base and ideal) scenarios, that between US$732 and US$850 million shall be needed for the water and sanitation sector during the same period.
- Analyzes patterns of health finance and expenditure for further discussion on financing options for the health sector, including a national health insurance

2 The CHPS started as a new initiative of the Ghana Health Service in 1998, translating innovations from an experimental study of the Navrongo Health Research Centre into a community health care programme. Although not evaluated in detail the experimenting in some districts show positive results for service provision.
The link between health and development

The empirical links between health and the economy have been documented by many studies (Schultz, 1997, 1999), which show that low population health impedes economic well-being and economic development directly through economic losses to society. The losses from poor population health are dramatic and manifest themselves quantitatively in reductions in market income, longevity, and psychological well-being (i.e., pain and suffering) caused by illness (Philipson et al. 2001; Cutler et al. 1997). It is estimated that Ghana loses about 6.4% of its GDP, or about $620 million of its annual output in forgone productivity due to ill health. In addition, the burden of diseases such as malaria, which accounts for over 43% of all outpatients seen in Ghana’s health facilities and 25% of under-five mortality in Ghana, is estimated to cause about 600,000 lost Disability Adjusted Life Years (DALYs) in Ghana (WHO 1999) and engenders costs equivalent to about $177.5 million or 3% of forgone GDP in economic burdens (see also Gallup and Sachs 1998; Leighton and Foster 1993).

Against this background, scaling up health investment to lessen the burden of diseases, establish close to client services, and improve health systems development and health determinants is a step in the right direction. Moreover, Ghana’s future lies with its people. Investing in its people is essential for accelerated development and poverty reduction.

Burden of disease and priority interventions

The epidemiological profile of Ghana reveals that maternal and child health and communicable diseases, particularly malaria, remain the major causes of ill health. In addition, there is the ‘new’ threat from HIV and AIDS which has significant and direct implications on poverty. On top of this unfinished agenda is the increasing burden of non-communicable diseases, including road traffic accidents.

In light of this, the GMHI in conjunction with Ministry of Health has designated the top ten diseases list as key health priorities which are ranked in terms of mortality and morbidity rates. The selection of disease interventions was done with due regard to resource and absorptive capacity constraints of the country and also reflects what is really achievable in the country within the stipulated MDG time frame (2015). The identified interventions (see Table II) are key to addressing the major health conditions among the poor and cover diseases whose substantial reduction or eradication will help to improve significantly health conditions. They will consequently reduce poverty levels in Ghana and help the country to achieve the MDGs in an equitable manner. In light of the MDG targets as adopted in the GPRS, the GMHI reviewed the intervention target coverage levels for scaling up.

Next steps:

» The report is an advocacy tool for soliciting more resource commitments and alignment to the priority health package. A series of partner meetings (including donor meetings) will be organised to discuss, reach consensus and provide input into the next Ministry of Health Programme of Work 2007-2011 in order to reach the health MDGs targets.

SUMMARY POINTS

» The GMHI is a national mechanism for advocating enhanced investment in health, improving the setting of priorities in the health sector, and achieving more effective decision-making on resource allocations to health at the central and peripheral levels.

» The GMHI report provides a costed plan to scale up the package of priority health interventions, CHPS (including strengthening health systems and human resource for health) and access to rural potable water and improved sanitation. Implementation of the plan will contribute towards achievement of the MDGs and other health targets.

» Ghana now calls for the mobilization of additional resources from both domestic and external sources of US$ 5 billion to scale up essential health services and additional US$732-850 million to scale up water and sanitation to the MDG levels.

» The resource mobilization drive could be achieved using opportunities offered by debt relief, increased aid and other new financing mechanisms.

The reductions in market income can take the form of 1) costs of medical treatment; 2) the loss of labour-market income from a episode of illness; 3) the loss of adult earning power from episodes of disease in childhood; 4) the loss of future earnings from premature mortality (WHO 2001).
Table II. List of known Major Disease Interventions

<table>
<thead>
<tr>
<th>Interventions</th>
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</thead>
<tbody>
<tr>
<td>Reducing Maternal Mortality:</td>
</tr>
<tr>
<td>Safe Motherhood</td>
</tr>
<tr>
<td>Reducing Child Mortality:</td>
</tr>
<tr>
<td>IMCI</td>
</tr>
<tr>
<td>EPI</td>
</tr>
<tr>
<td>Neonatal care</td>
</tr>
<tr>
<td>Nutrition Programme</td>
</tr>
<tr>
<td>Dealing with Threats to Life Expectancy:</td>
</tr>
<tr>
<td>HIV/AIDS and STI Control</td>
</tr>
<tr>
<td>TB Control</td>
</tr>
<tr>
<td>NCD Programme</td>
</tr>
<tr>
<td>Accident and emergency Services</td>
</tr>
<tr>
<td>Neglected Diseases</td>
</tr>
<tr>
<td>Trachoma Control</td>
</tr>
<tr>
<td>Filariasis Elimination</td>
</tr>
<tr>
<td>Leishmaniasis Control</td>
</tr>
<tr>
<td>Schistosomiasis and other Helminthes Control</td>
</tr>
<tr>
<td>Buruli Ulcer Control</td>
</tr>
<tr>
<td>Reducing the Burden of Old Communicable Diseases</td>
</tr>
<tr>
<td>Malaria Control</td>
</tr>
<tr>
<td>Diarrhoea Prevention and Management</td>
</tr>
<tr>
<td>Acute Respiratory Infection</td>
</tr>
<tr>
<td>Guinea-worm Eradication</td>
</tr>
</tbody>
</table>

Therefore, the GMHI report is evidence-based in addressing the ‘top ten’ health priorities and is the basis for scaling up of selected health interventions according to the MDG and other targets.

Widening access to health services

In Ghana a major constraint to provision of health care is low access. It is estimated that nationally, about 60% of the population has access to health facilities. However, among the rural population this figure is much lower; only 37% live within one hour travel time (by any available means) from the health facility (see table III).

Table III. Summary Service Data

<table>
<thead>
<tr>
<th>Region</th>
<th>Poverty</th>
<th>% with access urban</th>
<th>% with access rural</th>
<th>MoH</th>
<th>Quasigovt.</th>
<th>Private-for-profit</th>
<th>Faith-based</th>
<th>NGO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper East</td>
<td>89.3</td>
<td>22</td>
<td>16</td>
<td>72</td>
<td>1</td>
<td>12</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Upper West</td>
<td>88.3</td>
<td>83</td>
<td>14</td>
<td>50</td>
<td>0</td>
<td>8</td>
<td>17</td>
<td>5</td>
</tr>
<tr>
<td>Northern</td>
<td>69.1</td>
<td>50</td>
<td>16</td>
<td>98</td>
<td>2</td>
<td>2</td>
<td>21</td>
<td>8</td>
</tr>
<tr>
<td>Central</td>
<td>49.7</td>
<td>75</td>
<td>42</td>
<td>88</td>
<td>4</td>
<td>66</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>Eastern</td>
<td>48.4</td>
<td>76</td>
<td>45</td>
<td>198</td>
<td>5</td>
<td>28</td>
<td>19</td>
<td>57</td>
</tr>
<tr>
<td>Brong Ahafo</td>
<td>38.8</td>
<td>76</td>
<td>38</td>
<td>103</td>
<td>2</td>
<td>10</td>
<td>18</td>
<td>49</td>
</tr>
<tr>
<td>Volta</td>
<td>37.4</td>
<td>75</td>
<td>51</td>
<td>205</td>
<td>1</td>
<td>29</td>
<td>17</td>
<td>32</td>
</tr>
<tr>
<td>Ashanti</td>
<td>35.7</td>
<td>75</td>
<td>48</td>
<td>138</td>
<td>11</td>
<td>107</td>
<td>47</td>
<td>113</td>
</tr>
<tr>
<td>Western</td>
<td>24.9</td>
<td>85</td>
<td>31</td>
<td>96</td>
<td>12</td>
<td>36</td>
<td>20</td>
<td>55</td>
</tr>
<tr>
<td>Greater Accra</td>
<td>7.3</td>
<td>94</td>
<td>63</td>
<td>62</td>
<td>10</td>
<td>179</td>
<td>5</td>
<td>89</td>
</tr>
<tr>
<td>Total</td>
<td>42.1</td>
<td>80</td>
<td>37</td>
<td>1,110</td>
<td>48</td>
<td>477</td>
<td>184</td>
<td>443</td>
</tr>
</tbody>
</table>

Proportion of total population: 49.1% urban, 21.1% rural

Source: GLSS 4, 2000; GDHS, 2003; GHS 2003

To extend and expand services to poor people in remote areas, Ghana proposes a new strategy for empowering communities to improve health status which is a bottom-up close-to-client structure. It is anchored at community level and has a nodal district hospital with an intermediary sub-district level (see figure I). This community-based health planning and services (CHPS) initiative underlies the Government’s policy of locating ‘nurses in every hamlet’ in Ghana.

The CHPS as a close-to-client system is designed to comprise of a set of CHPS zones within a sub-district, whereby the sub-district health facilities (health centres) provide technical backstopping for these zones and where at least a district hospital provides referral services for the sub-district structures as depicted in figure I. The CHPS divides the whole country into 5,280 CHPS zones under about 5,280 trained Community Health Officers (CHO), whereby each CHO caters for a population of about 500-5,000 people.
Based on positive result from a piloting exercise, the CHPS is supposed to become a sector-wide health system reform that aims to provide accessible primary health care to all communities of Ghana. It seeks to enable District Health Management Teams (DHMTs) throughout Ghana to adapt and develop approaches to community health care that are consistent with local traditions, sustainable with available resources, and compatible with prevailing needs.

In support of the CHPS initiative as a way of reducing geographical and service delivery barriers, the Technical Team on Health Service Provision of the GMHI recommended the following areas of action:

1. Increasing the physical access to care in Communities by scaling up the establishment of Community Health Planning and Services (CHPS).

2. It is recommended to complement CHPS with strategies for scaling up the establishment of community-based prepaid (insurance) schemes or Mutual Health Organisations as a process of removing financial barriers of communities’ access to health care.

3. Developing sound human resource production and management to reduce the rate of loss of health manpower. This should also lead to improving the quality and volume of services provided by government and private facilities especially at the District and Sub-district level to support and complement CHPS.

The phased roll out of the CHPS plan proposes that annually about three hundred (300) CHO’s will be placed within the communities. This phased plan takes into consideration districts with low populations and sparsely distributed populations. The GMHI report explains how this roll out plan has been costed, including human resources, facilities and medical equipment.

Constraints to Scaling-up

The GMHI analyzes various health system development constraints to scaling up interventions, in particular limited absorption capacity, availability of the required human resources and poor working environment. It is important that as Ghana begins to scale up health intervention programmes, emphasis is put on systemic approaches which address absorptive capacity. Key among the success factors is human resource, since any effort on the part of the government to achieve a better coverage of people with priority health services requires human resources for the implementation (Wyss et al 2003, Hanson et al 2003).

Ghana is presently severely short of qualified human resources for health delivery. This can be attributed partly to the inadequate capacity of training institutions to produce the required health personnel. This situation is also exacerbated by the high rates of attrition of trained professionals, inequitable distribution of staff and great disparities between the urban south and the rural north. The GMHI believes therefore that there is the need to increase investment in professional training and incentives to retain trained staff in the public service. As part of scaling up of interventions there is the need to direct resources to improve health systems development, infrastructure, medical equipment, transport and logistics, and health information systems.

Water and sanitation situation in Ghana

In Ghana it is estimated that 70% of all diseases are caused by lack of clean water and poor sanitation conditions. About 12% of all visits to health facilities are water and sanitation-related (e.g. diarrhoeal diseases, skin diseases, and acute eye infections, cholera and dysentery, typhoid and infectious hepatitis, trachoma and scabies). In 2002, it was estimated that 44% of all outpatient visits to health facilities in Ghana were due to malaria. Malaria infections are, however, transmitted by mosquitoes, whose spread is caused by poor sanitation and drainage. This is due to the fact that the majority of Ghanaians do not have access to clean drinking water. Table IV shows that only 41% of Ghanaians have access to water from the pipe. Most of the people in the rural and urban areas are susceptible to diseases because of the lack of potable water and sanitation facilities. Over 34% of the rural people, for instance, depend on untreated water from rivers, streams and other natural sources for their drinking water.

### Table IV. Sources of Drinking Water

<table>
<thead>
<tr>
<th>Source</th>
<th>Urban (%)</th>
<th>Rural (%)</th>
<th>Ghana (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pipe borne</td>
<td>80</td>
<td>19</td>
<td>41</td>
</tr>
<tr>
<td>Well</td>
<td>11</td>
<td>47</td>
<td>34</td>
</tr>
<tr>
<td>Natural source</td>
<td>9</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

The case of solid waste management services has been a major problem for Ghana; with the urban centres producing currently over 1 million tones a year. Out of this, only one-third is collected and the remaining left to pollute the environment. In the Greater Accra Region, supposed to have the best waste disposal system as at 2003, less than 20% of the residents have access to the approved solid waste disposal facility; 29% are without any facility and more than 50% use unapproved facilities/systems. This is the reason why access to potable water and improved sanitation systems has been chosen as one of the vital goals of the MDGs, the New Partnership for Africa’s Development (NEPAD), the Ghana Poverty Reduction Strategy, (GPRS), WHO and the United Nations General Assembly Special Session (UNGASS). For instance, whilst NEPAD makes it obligatory for member countries to initiate actions to ensure sustainable access to safe and adequate clean water supply and sanitation, especially for the poor, the water and sanitation MDG recommends the proportion of the population without access to potable water be halved by 2015.

### SUMMARY POINTS

- Evidence suggests that there are strong links between health and development in Ghana, with about 6.4% of GDP lost annually in forgone productivity due to ill health.
- Epidemiological evidence indicates the persistence of poor maternal and child health as well as communicable diseases, especially malaria, and the growing threat from HIV and AIDS. The GMHI report identifies a set of priority interventions and achievable target levels which will accelerate Ghana’s progress towards the health MDGs, economic growth and poverty reduction.
- To address the problem of low access to health services, Ghana proposes a close-to-client strategy, anchored at the community level.
- This strategy needs to be strengthened by further attention to specific health systems requirements, e.g. information systems, decentralization, public-private partnerships, and in particular, human resources towards increasing absorption capacity.
- Addressing Ghana’s main health problems will require attention to the lack of clean water and sanitation conditions, which cause about 70% of all diseases.

### Analysis of costs and investment plan

The GMHI document analyses the costs and investment plan for scaling-up priority interventions in health, water and sanitation, with the view to providing information and guidelines for health policy planning. This document provides background information for mainstreaming health issues into government’s strategic policy framework and budgets. The section spells out the assumptions, methodology, and the process used in estimating the costs of scaling-up a close-to-client set of priority interventions in Ghana. The costing is based on a designated set of health priority areas of intervention meant to control or eradicate the top ten diseases with high potential impact on mortality or disease burden in Ghana and thus on health MDGs, economic growth and poverty reduction. Using the above costing information it develops an investment plan for scaling up investments along the lines of the recommended per capita health expenditure to achieve the health MDGs.

The cost estimates are arrived at by multiplying the unit cost of an identified priority health intervention by the population-in-need (PIN) of that intervention. In calculating the cost estimates, it is important to note that the selected population-in-need and the unit costs scenarios allow for the achievement of target levels that ensure the parallel achievement of the health MDGs, rapid economic growth and poverty reduction.

The investment plan allows for the construction of additional facilities at the sub district, district and regional levels, rehabilitation and expansion of existing health facilities and training institutions. In relation to human resources, the GMHI adapted existing models to develop alternative scenarios concerning projections of the human resource requirements of an ‘ideal’ future close-to-client health care system. On the whole it is estimated that additional costs for human resources to facilitate the scaling-up exercise would be equivalent to about 26% of total incremental costs of scaling-up health interventions during the period 2002-2015. These estimates hover around US$1,302.25 million for the whole period 2002-2015.

Using the MTEF for health, the total cost of expanding services were analysed for two time frames (2007 and 2015) based on the level of investment, feasible levels of target coverage, and ability to expand services assumptions. The 2007 scenario determines a medium term scaling-up (2002-2007) in the context of large-scale investment at both the peripheral and local-health care units as well as referral treatment centres, but is restricted by resource and absorptive capacity constraints. The 2015 scenario assumes scaling-up on the basis of large-scale investments over a longer period, which can permit high levels of coverage for a number of interventions, because it is less restricted by resource and absorptive capacity constraints.

For the whole planning period of 2002-2015 under review, the report’s cost estimates suggest that about US$7.66 billion shall be needed to enable the country achieve the selected health targets. In terms of the two timeframe scenarios the total estimated cost for 2002-07 is about US$2.06 billion and US$5.6 billion for the 2007-15 period. It is believed that the expenditures underlying these cost estimates would allow the country to achieve a per capita public health spending of about US$13 in 2002 and increase it to US$21 and US$41 in 2007 and 2015 respectively (see table V). These expenditure levels are not only comparable to international standards but are also likely to allow Ghana to achieve the per capita health expenditure levels as promoted by the CMH and WHO as minimum levels for developing countries for accelerate progress towards the MDGs and other health targets.
The incremental costs reflect the additional resources that would be needed to expand the activities or services of the selected health interventions from existing low levels to higher health outcomes. The incremental costs presented also in the table V reflects the difference between the total estimated costs for the health sector package scaling up and the projected resource envelope available to the Ministry of Health annually from the government’s budgetary allocations.

The GMHI estimates a total incremental cost of scaling-up investments for health interventions to achieve the set target levels during the whole period (2002 – 2015) of about US$4,981.24. The additional annual expenditures are expected to allow Ghana to increase its per capita public health expenditures additionally by approximately US$12 in 2007 and by about US$31 in 2015. The incremental resources claim on the GDP by the health sector is estimated to range between 2% and 5% of GDP during 2002-2015. The average health expenditure-to-GDP ratio for the period under review is equivalent to 2.9%.

### Resource gap

The GMHI then proposes three resource envelope options, according to the MTEF, Programme of Work (PoW II) and the Abuja declaration target of 15% of national budgets allocated to the health sector, to finance the proposed investment plan. This results in three simulated models that give three different resource gaps (see table VI). The first MTEF model with the highest gap requires increasing amounts of resources to be mobilised from external sources but presents a viable possible alternative from the government’s point of view, because it ensures the premise that the government will be able to offer the needed contribution or resources expected of it. The third model, based on the Abuja declaration target, with the smallest resource gap, commits the government to a health-expenditure target of 15% relative to government expenditure annually by 2006. This scenario appears to require the least needed external support, and which the government can easily mobilize to close the resource gap. But it also reflects the case which obliges the government to contribute increasing resources to the health sector from its own resources. The second model, built on the POW II financing estimates, presents probably, the best alternative scenario, because the available resource envelope comprises only finances which have already been pledged or committed by specific or identified donors and the government for the health sector in the near future.

### Total costs of scaling up water and sanitation interventions in rural Ghana

The GMHI cost estimation for achieving water and sanitation MDG targets uses a base and ideal scenario, by which the government is expected to raise coverage from the present low level of 41.28% (water) and 28% (sanitation) of the population to about 71% (base scenario) and 85% (ideal scenario) in 2015 respectively. The GMHI makes use of a statistical estimation model for the forecasting of the costs. A summary of the incremental cost estimates are presented in table VII. The total cost for providing water and sanitation facilities to cover about 71% of the population is about US$732.1 million and about US$850.4 million to cover about 85%
of the total population by 2015. For the 71% coverage for water facilities about US$946.7 million, made up of US$78.5 million for boreholes, US$18.3 million for hand-dug-wells and US$399.8 million for piped systems, would be needed. The total cost of increasing access to sanitation to about 71% coverage, is also estimated to be about US$235.5 million, consisting of US$188.5 million of sanitation facilities, about US$21.1 million for software and about US$25.9 million for project management.

In the ideal case, the total cost for providing water and sanitation facilities to cover about 85% of the population is about US$850.4 million. Out of this amount about US$32.6 million would be needed for water and about US$371.8 million for sanitation facilities.

Table VII. Summary of Total Cost of Water and Sanitation (US$ million)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Base Scenario</th>
<th>Ideal Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borehole</td>
<td>78.5</td>
<td>100.2</td>
</tr>
<tr>
<td>Hand-Dug-Well</td>
<td>18.3</td>
<td>21.8</td>
</tr>
<tr>
<td>Pipe System</td>
<td>399.8</td>
<td>410.6</td>
</tr>
<tr>
<td>Sub-Total Water</td>
<td>496.6</td>
<td>532.6</td>
</tr>
<tr>
<td>Sanitation</td>
<td>188.5</td>
<td>248.5</td>
</tr>
<tr>
<td>Software</td>
<td>21.1</td>
<td>22.7</td>
</tr>
<tr>
<td>Project Management</td>
<td>25.9</td>
<td>46.6</td>
</tr>
<tr>
<td>Total</td>
<td>732.1</td>
<td>850.4</td>
</tr>
</tbody>
</table>

The above estimates are a reasonable first approximation of the costs associated with achieving the MDGs for health, water and sanitation targets. However, it needs to be clear that resource estimation is not a science and must cope with lack of data and relies on various assumptions. Nevertheless, it assists in setting priorities to reach health, water and sanitation targets and increase access for vulnerable populations. It is evident that the Government almost needs to triple its current budget to expand access to a package of health interventions that addresses the main disease burden and achieves more equitable health service delivery.

### Table VIII. Health Sector Revenue (1999-2003) (in billion cedis, %)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ideal</td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**Health financing and under funding of the health sector**

Given the estimates of needed resources for implementing the GMHI plan, it will be important to determine how to mobilize the additional resources. Traditionally Ghana has largely relied on public resources, financial credits, internally generated funds, foreign funding and others. Over the last two years, other sources of funding, e.g. HIP, have also emerged. Available data indicate that the Ministry of Health recorded a total of about c2,115.87 billion in gross revenue for the financing of health care in Ghana. This represents an increase of about 55% from c1,365.2 billion in 2002. Out of the total available finance for the health sector in 2003, government budgetary allocations accounted for about 47% (see table VIII), which represents the greatest share of total health spending in Ghana. The second largest source of health spending comes from contributions from donors and NGOs, which accounted for about 27% of total revenue for health care spending in 2003.

The GMHI found that government allocations to the health sector have fallen in real terms since independence. This was documented using a time series deflation to measure the real value of fiscal resource allocations to the health sector, with 1993 as the base. As can be seen in figure II, the real value of budgetary allocations has over the period declined from an index of over 141 in 1975 to 119.80 in 2004. In terms of the health resource claim on the total output of the country it must be noted that, even though the percentage of GDP allocated to public health care expenditures has increased substantially (see figure II) it still hovered below 1.5% of GDP in 2004. The relative share of health expenditure to total GDP lingers below two percent. These conditions have resulted in a state of under funding of the health sector in Ghana as evidenced in the low levels of per capita total health expenditure in purchasing power parity of $63 per person, as compared to $411 by Namibia, $220 by Botswana and $277 by Mauritius.

### SUMMARY POINTS

- Using the MTEF for health, the total costs of scaling up the public health interventions were determined for two time frames (2007 and 2015) based on the level of investment, feasible levels of target coverage, and assumptions about the ability to expand services.
- Incremental resource requirements to achieve better health in line with the MDGs are approximately US$ 5 billion, while the estimate to achieve the water and sanitation MDGs is slightly below US$1 billion.
- Compared with projections of government budgetary allocations under MTEF, POW, and the Abuja Declaration, only the recommendations of the GHMI have the potential for achievement the health MDGs.

Source: MoH financial statement and 2003 annual review (main) report.
This compound the problem of financing the health sector. Not only is the funding of health sector inadequate, the available inadequate resources have indeed declined in real terms over time. This underscores the necessity for more investment in the sector so as to improve health and poverty reduction by 2015.

National health insurance scheme

Financing of health care in Ghana in the past was through user payments that accounted for 15% of the total resources. The inadequacy of these resources and the inconvenience of user fees have resulted in dwindling health service utilization in Ghana, with only 20% of the estimated 18% of the population who require health care at any given time being able to access it.

In 2001 the government initiated a National Health Insurance Scheme as a humane option of obtaining additional resources for the financing of health care without deterring the poor and vulnerable groups from seeking care when they need it. Under the new National Health Insurance Act 2003 (Act 650), the scheme comprises the Mutual (District and Private) Health Insurance Scheme and the Private Commercial Health Insurance Scheme.

Contributions to the schemes are made according to ability to pay. For members of the DMHIs in the informal sector, it is estimated that the minimum benefit package will be offered at a minimum premium contribution of €6,000 per adult person per month and this shall also cover the group in the category of core poor. Workers who contribute to the social security system (SSNIT), will have 2.5% deducted from the 17½% SSNIT contribution. The minimum benefit package of health services to be provided by all the schemes shall include general and specialist consultations, in-patient services, laboratory and ultrasound scanning services and drugs as contained in the approved NHIS drug list.

Reallocation of resources for health

With regard to the utilisation of available resources for the health sector, about 49.6% of the resources available to the health sector in 1996 were used to finance recurrent expenditure, while 50.4% went to finance capital expenditure. This trend has reversed over time to 81.3% and 18.7% for recurrent and capital respectively in 2003. It must however be pointed out that the substantial upsurge in recurrent expenditure since early 2000 is a result of large increases in personal emoluments, and this has resulted in a substantial decline in health capital expenditure.

The increasing trend in the wage expenditure of the health sector is indeed a constant dilemma. On the one hand the wages of health personnel are too low to stem the high attrition of health staff which has afflicted the health sector in recent times or ensure supply to meet the high demand for staff. On the other hand the wage bill is relatively too high, compared to non-salary items, to allow for increases in spending for other important non-wage expenditure or health infrastructure.

Owing to the dire consequences of the drain of qualified staff from the services, it is proposed to increase the total resource envelope for personal emoluments from initial 22% of total resource envelope available for scale-up successively to 35% in 2007 and stabilize it at around 30% during the 2015 scenario. It is expected that human resource development would account for about 69% of the total resources available to management and administration. This increase is intended to facilitate recruitment of new and qualified as well as to maintain old essential staff.

The indicated resource allocation to the district level and below in the past can be regarded as low. In 1997, for instance, the levels of care in the district and sub-district levels, where the majority of the poor resided, received only 26% of non-wage recurrent expenditures. It is against this background that the POW I & II proposed resource shifts between the institutional levels, particularly for non-wage spending in favour of the district and sub-district levels. The relative share of non-wage recurrent resources meant for the districts would increase to about 32.7% in 2007. The sources of these shifts include cuts in non-wage recurrent expenses at headquarters (MOH-GHS and statutory bodies). To achieve this there is the need for reallocation of resources in addition to new resource.

It is promising that the GMHI recommends to allocate almost 70% of the capital investment resources to the district and sub-district level institutions to implement the proposed close-to-client strategy to address the epidemiological and health systems evidence, particularly for the poor.

Mobilising increased resources for health

In a critical evaluation of the Ghanaian financing situation, the World Bank does not believe that the level of public spending on health (including donor funding), in the current economic context and competing demands on the resources of the nation, and even under the most optimistic scenario, can be increased beyond US$12 per capita by 2006 (World Bank 2003). Higher user fees and health insurance premiums appear not feasible in the current economic circumstances with...
out exacerbating the poverty situation or inequalities. The only way to facilitate substantial improvement in health outcomes and poverty reduction therefore is a new prioritized health package that would convincingly form the basis for additional substantial resource mobilization from other local and external sources for scaling-up investment in the health sector.

The GPRS commits the government to increase the overall resources available for health. The increased additional finance is likely to increase the ratio of health expenditure to GDP from its current low level of below 2% to about 4%. This increase is to be achieved through increases in normal budgetary allocation and additional resource transfer, particularly, from HIPC funds to the health sector as part of Medium Term Priority Programmes and Projects under the GPRS. This increase is likely to guarantee a per-capita health expenditure equivalent to about $10 by 2005. This, however, appears too low to cover the costs of even a minimum health package as described by the GMHI.

Therefore the biggest challenge is mobilizing resources to finance the scaling up of investment in the health sector. The GMHI suggests a number of options to mobilize domestic and foreign resources to support the proposed scaling-up of investments in health care, and water and sanitation. These options, which are outlined in section 2.8 of the main report, include:

1. improving the Government of Ghana resource mobilization drive for the health and water and sanitation sectors;
2. allocation of HIPC Funds to the health sector;
3. establishment of Community Health Endowment Fund;
4. reviewing resource allocation criteria (between sectors or geographical locations) especially under the GPRS;
5. Health Insurance Scheme;
6. Continuation of the exemption fund under the new health insurance scheme;
7. Health Insurance Scheme;
8. getting the Development partners to increase and harmonize and align their contribution to the sectoral plans.

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