

Evaluation of GAVI Immunization Services Support Funding Case Study: Mozambique

This report presents findings from one of six country case studies conducted as part of a Global Alliance for Vaccines and Immunization (GAVI) commissioned evaluation of the Immunization Services Support (ISS) funding mechanism. The ISS funding mechanism provides performance-based funding aimed at improving routine immunization. The goal of the evaluation was to assess the impact of ISS funding in furthering GAVI objectives and to identify ways to improve the ISS scheme. This report is a working paper that informs the final report. In addition to information from the six country case studies, the evaluation incorporated data from a desk review of 52 countries. It is recommended that this report be read in conjunction with *Evaluation of GAVI Immunization Services Support Funding*, which provides a full description of the background and methodology for the evaluation.

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1. Description of Visit

A two-person team comprising Catherine Connor from Abt Associates Inc., and Dr. Fernando Verani from AED visited Mozambique from April 18 to 28, 2004. On April 19, Eric Wiesen, EPI Technical Officer from the WHO Southern Africa Regional Office in Harare participated on the case study on behalf of WHO.

Prior to arrival in Mozambique, the team reviewed several documents. Upon arrival, the team received from the local UNICEF office, more than a dozen additional documents that were extremely useful. See Annex 8 for a list of all documentation.

In Mozambique, the EPI Program is known as PAV (Programa Alargado de Vacinacao). The EPI Manager, Dr. Manuel Novela, arranged all interviews and field visits for the team, and participated in most of the meetings. The team interviewed PAV staff, MOH officials and staff at the central, provincial, district and facility levels, representatives and staff from UNICEF, WHO, and USAID. See Annex 1 for list of contacts and schedule of appointments. Accompanied by Dr. Novela, the team made two one-day field visits to the district of Matola in Maputo Province and the rural district of Xai Xai in Gaza Province. On the last day of the team's visit, they held a short debriefing at the office of the National Director of Health for PAV management and representatives of WHO and UNICEF. See Annex 2 for copy of the debriefing summary shared by the team.

1.1. Methodological Issues

Dr. Novela has been the EPI Manager since October 2003 (six months). Dra. Ana Charles, his predecessor, is in Australia so the team was not able to interview her. She was the EPI Manager from 2001-2003 and oversaw ISS decision-making and spending during this period.

The 2 districts that the team visited are not representative of many of the 144 districts. They both were easily accessible by car. Even the rural district and health clinic of Xai-Xai are likely much better staffed and supplied than most other rural districts because of their proximity to the capital and the national highway.

For lack of time, the team was not able to interview a representative of the MOH Department of Administration and Management (DAG) that is involved in the management of the ISS account.

The team cannot verify the accuracy of the vaccination data presented in the report. Issues with official EPI data are discussed in section 6. The DHS 2003 data are considered to be preliminary.

2. Context

2.1. Country context

Mozambique, which covers an area of 799,380 square kilometers, is located on the western coast of Africa. It is bordered by South Africa, Swaziland, Zimbabwe, Zambia, Malawi and Tanzania, and has a 2500 kilometer-long coastline running from north to south along the Indian Ocean. From the coast inwards, the first region is the coastal plain with its high population density, followed by the plateaus lying between 200 and 1000 meters and the high plateaus and mountains rising to over 1000 meters. For administrative purposes, Mozambique is divided into 11 provinces that are subdivided into 144 districts. Maputo, which also has the status of a province, is the country's economic and political capital.

In 2000, the population of the 11 provinces was estimated to be 17.2 million (National Institute of Statistics, projections based on the 1997 population census); the most heavily populated Provinces are Zambézia and Nampula, with respectively 20.34% and 19.47% of the total population. The average population density is 20 people per square kilometre, with the highest density in Nampula (35 per km²) and the lowest in Niassa (6 per km²). According to figures from the 1997 population census, the current population growth rate is 2.4%. The urban population (provincial capitals) makes up barely 23% of the total, meaning that Mozambique is an essentially rural country.

Mozambique's recent political evolution is the result of two phases. During the first phase, from independence to the end of the 1980s, the country took the path of a single party system under which FRELIMO led Mozambican society along the lines of a centralized planned economy. This phase was also characterized by a long lasting civil war that ended in 1992.

This political model began to change in 1990, with the adoption of a Constitution enshrining the multi-party system. The first multi-party general elections were held in 1994 and the second in 1999. The first local elections took place in 1998. General elections are planned to take place in December 2004.

Since the signing of the peace agreement in 1992, Mozambique has made a huge effort to consolidate democracy and introduce a comprehensive programme of economic reforms. Its economic performance has been consistently sound, and has attained and even surpassed its ambitious objectives. GDP grew in real terms an average of 8% per year from 1999 to 2003. Inflation has averaged 10.67% in the same period.

Despite the progress made, Mozambique is still one of the world's poorest countries, with 69.4% of the population living below the poverty line (US\$0.40 per day) (PARPA, 2001). In 2000, per capital gross domestic product (GDP) was US\$ 210 (UNDP, 2001). The incidence of poverty is higher in rural areas (71.3%) than in urban ones (62%). Moreover, according to the UNDP Human Development Report 2001, Mozambique ranks 168 out of 174 countries in the human

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development index, far below the average for sub-Saharan Africa and the less developed countries.

The Government's vision of efforts to control poverty is set out in the 2001-2005 Plan of Action to Reduce Absolute Poverty in Mozambique (PARPA).

2.2. Health System Context

To a large extent, Mozambique's epidemiological profile is a pre-transition one, in other words marked by the predominance of communicable, infectious and parasitic diseases, including malaria, diarrhoeal diseases, respiratory infections, tuberculosis and HIV/AIDS, which is spreading rapidly.

Maternal mortality rates in Mozambique (600-1100 per 100 000 live births) are among the highest in the world. Infant mortality rates (147/1000), child mortality rates (219/1000) and prevalence of chronic malnutrition (H/A <2 Z score =36%) (ISDM, 1997) and other social indicators are among the highest in sub-Saharan Africa (PESS, 2001).

Mozambique is prone to frequent outbreaks of epidemics of cholera, dysentery, meningococcal meningitis and bubonic plague. Occurrence of these epidemics is favoured by the fragile environment, especially in urban areas, and by over-population in towns and cities as a result of migration by people who sought safety during the 16-year war.

This health situation is maintained and even exacerbated by a number of critical factors, including:

- The low level of school enrolment among the population as a whole and among women in particular;
- Poor nutrition, especially under-nutrition and micronutrient deficiency;
- An environment not conducive to good health, especially in the large towns, partly on account of over-population, inadequate treatment of refuse and human waste, stagnant rainwater because of poor drainage, etc.;
- Limited drinking water supply, covering barely 25% of the country's population;
- Disparities between regions in access to and consumption of health care.
- Very limited number of Mozambique health professionals (e.g. 400 practicing medical doctors). This is apparently due to a government policy restricting the number of students in medicine, nursing and other schools¹.

Mozambique's service delivery system is made up of the public sector, the private non-profit sector and the private for-profit sector. Of these sectors, the public sector – The National Health Service (Serviço Nacional de Saúde) has so far been the main provider of health services nationwide. SNS is organized into four levels of care, with levels I and II, the most peripheral, charged with implementing the primary health care strategy (PHC) and level II providing referral for conditions which level I is unable to deal with, such as birth complications, injuries, medical

¹ Source: Interview with USAID and corroborated by Peace Corps

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and surgical emergencies etc. Levels III and IV essentially provide more complex treatment and referral services for the lower levels. Primary health care services, are delivered through 1,037 health facilities.

The private for-profit sector is developing gradually, especially in the large towns. Health care provision (including some vaccination activities) by the private non-profit sector composes primarily of foreign non-governmental organizations (NGOs) and a number of religious bodies operating under agreements with the Ministry of Health. National NGOs are developing gradually and are focused on the implementation of community health programmes in the fields of prevention, disease control and education and information.

As a whole, PHC is still the main strategy pursued in order to bring down the high morbidity and mortality levels from communicable diseases, especially malaria, STI/HIV/AIDS, tuberculosis, leprosy, diarrhoeal diseases and acute respiratory infections. All of these PHC activities are key elements of the Plan of Action to Reduce Absolute Poverty (PARPA).

2.3. Health Sector Financing

International agencies have a pronounced presence in the health sector, and there are several coordinating bodies functioning to promote coordination (see Annex 4). International agencies appear to contribute more than half of the financing for Mozambique's health sector. However, Mozambique has not yet done a National Health Accounts exercise so Total Health Expenditures does not include all household out-of-pocket health expenditures. Since household spending is not taken fully into account, the health financing data presented below may understate total health expenditures and overstate the contribution of donor and governmental funding.

In 1997, international agencies accounted for 52 percent of total health expenditures, the national treasury 22 percent, user fees paid at public health facilities was 19 percent, and health insurance premium payments deducted from civil servants' salaries was 7 percent. (FSP 2002) This level of dependence on external financing has continued with donor funds representing 51 percent of total health expenditures in 2000, 52 percent in 2001, 55 percent in 2002, and 52 percent in 2003 (MOH EPI Briefing, 2003).

The Ministry of Planning and Finance (MPF) determines the health sector budget each year based on the level of funds available from the State Budget and from user fees collected at public health facilities². The MPF disburses funds monthly but the amount can vary depending upon the availability of funds in the Treasury. The State Budget allocation to health has grown.

External funding comes from up to 28 different international agencies. Data from Mozambique's EPI Financial Sustainability Plan shows that USAID has been the biggest single donor

² Minimal user fees are collected by public health facilities for curative and specialist services and for drugs. User fee revenues (called earmarked revenue or "receitas consignadas") are channeled to the MPF to be registered and then allocated back to the health sector as part of the annual public health budget.

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contributing 17% of all external health financing from 1997 to 2000; followed by the World Bank (13%), and Swiss SDC (9%). External funding flows into the health system in a variety of ways:

- International agencies manage and spend their funds directly through direct payments or in-kind contributions of building construction/renovation, vehicles, equipment, supplies, drugs, etc. (e.g. GAVI and JICA)
- International agencies maintain local offices that implement projects and manage funds directly (UNFPA, EU)
- International agencies contract with NGOs or private consultancy firms to implement health programs (e.g. USAID and EU).
- Budgetary support wherein international donors have financed more than half of the total State Budget (e.g. EU, Ireland, UNICEF, WHO).

Since the 1990s, donors have contributed to the Drug Fund that procures medicines and medical supplies such as vaccines and syringes for EPI. In 2004 donors will contribute to a Common General Fund as part of a Sector Wide Approach (SWAP) to the health sector. SWAP funding is replacing direct budgetary support for the health sector. Prior to 2004, donors contributed funds directly to the government treasury account for direct support of the general public budget. Under the SWAP approach, external funds are kept in a separate account managed by the relevant ministry. In addition to health, there are SWAP common fund accounts for education, agriculture, public works and water.

In the health sector, the Sector Wide Approach emphasizes strengthening the health system and financing integrated health programs based on the approved Health Sector Strategic Plan (PESS), as opposed to financing vertical programs. EPI is a key component of the Strategic Plan. However, because the SWAP Common Fund finances the health sector generally, the amount of funds allocated to EPI is not precisely known, but is estimated to be about 12% in 2004.

The Common Fund for health pays for capital investment (equipment, renovation, vehicles) and operational expenses except for staff salaries and drugs/vaccines, the latter being paid for from the Drug Fund. The MOH develops an annual plan and budget for the common fund that is reviewed by the SWAP group. Interestingly, like the ISS Fund, the MOH has autonomy to develop and propose the annual Common Fund budget and the MOH is fully responsible for its execution. Therefore, the lack of restrictions on the ISS funds was not seen as a major innovation in Mozambique.

2.4. IMMUNIZATION BACKGROUND

The Expanded Program on Immunization (EPI) is one of the essential components of the SNS (National Health Service) primary health care services. In organizational terms, at the central level, EPI is part of the Family Health Department, which also includes other programs such as maternal and child health, integrated management of childhood illness (IMCI), reproductive and adolescent health, mental health and nutrition and health education. The Family Health

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Department is part of the Community Health Division, which comes under the National Health Directorate (DNS). See Annex 5 for an MOH organizational chart.

At the provincial level, EPI is integrated into the Community Health Department (RSC), which also includes other programs at the central level. The provincial RSC also covers epidemiology and major endemic diseases. At the district level, where vaccination activities are actually implemented, the head of EPI is under the authority of the District Director of Health.

EPI is currently operational in 771 health facilities, according to information provided at the EPI central office. An inventory of all health facilities is currently taking place in the entire country, funded by UNICEF. The results of this inventory will show with accuracy the status of all cold chain equipment and health facilities where EPI is operational. In most of the facilities vaccinations are performed by an Agent of Preventive Medicine, who may have other duties to perform simultaneously with vaccinations, such as screening of eligible children and registration on tally sheets. Usually the vaccinator is in charge of reporting vaccination data to district level on a monthly basis. He is, in fact, the originator/source of the data that flow through the information system up to the central EPI office, where a data manager, who has been assigned in the central EPI office since July 2002, consolidates all data and forwards them to the SIS (Health Information System). The EPI data manager has also the duty to produce data reports that serve as the source for the WHO/UNICEF Joint Report Form (JRF) as well as GAVI /ISS Annual Progress Report.

Since its inception in the 1980s, EPI in Mozambique has been making an enormous effort to raise vaccination coverage for children under 12 months of age. See Annex 3 for a summary timeline of major EPI events 1994-2004. As a main strategy to reach the target group of children under 12 months, EPI has adopted fixed vaccination in the health facilities where cold chain is available. However, an important proportion of the population— estimated to be around 30% - is underserved by the health facilities, making outreach vaccination an essential strategy to cover those populations.

During the period of the civil war, EPI suffered from all sorts of constraints, from limitations of accessibility to economic restrictions. This was reflected in the vaccination coverage rates, which were stable in the 40% level for DTP3 throughout most of the 1990s. From 1997 onwards vaccination coverage in the country is thought to have been in the range of 60-65 %. However, much higher coverage is reported through the SIS, due to the use of a low denominator that is based on census data. The Demographic and Health Survey (DHS) conducted in 1997 reported a national DTP3 coverage rate of 59.6%, ranging from 28.9% in Cabo Delgado to 88.1% in Maputo City. The 2003 DHS shows DTP3 coverage at 57.2%. These survey-derived figures stand in stark contrast to the official country estimates on the Joint Reporting Form for 2002 (corresponding temporally to the 2003 DHS in terms of period of activity), which indicates DTP3 coverage of 84% and DTP1 coverage of 97%. Issues of immunization data quality are discussed further in section 6 of this report. Annex 7 shows coverage data disaggregated by Districts for 2003 for all antigens.

With the launching of the Polio Eradication Initiative in Africa, the EPI in Mozambique implemented Sub-National Immunization Days (with Oral Polio Vaccine) in 1996 and National

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Immunization Days in 1997, 1998 and 1999. As the transmission of wild poliovirus seemed to have been interrupted, NIDs were discontinued and AFP surveillance continues, together with routine polio vaccination as the main strategic tool to keep the country free of polio. Recently, initiatives to control measles were developed in terms of vaccination drives in main cities. A national measles campaign has not been, as of April 2004, decided, but there is a proposal to implement a National Campaign in 2004.

3. GAVI-Associated Developments

3.1. GAVI Application process

In 2000, the then-EPI Manager, Dr. Manuel Matosse, heard about GAVI at a meeting in Harare when GAVI was just beginning. He requested the application forms and worked with the EPI Technical Group (primarily WHO and UNICEF) to complete the application. Targets for GAVI ISS proposal were based on the nationwide eligible population of children under 12 months of age, as estimated by the National Statistics Institute (Questionario de Indicadores Basicos de Bem-Estar) in 1997. GAVI ISS funding was viewed as a plus to fit into the EPI Five-Year Plan 2000-2004, and as a support to the development of EPI, particularly through intensification of outreach vaccination during the Monthly Health Days carried out at the district level.

Mozambique had in place the three prerequisites required for a GAVI application. The country had an Interagency Coordinating Committee (ICC) functioning since 1998, a national EPI assessment was conducted in 1998, and a multi-year plan (MYP) for EPI covering five years was prepared in 1999. At the time of the GAVI application in 2000, the ICC consisted of the National Director of Health and 12 international members: USAID, UNICEF, WHO, GTZ, Rotary International, UNFPA, Swiss Cooperation, Irish Cooperation, DFID, World Bank, Dutch Cooperation and European Union (see Annex 6). The ICC reviewed and signed off on the application and it was submitted in 2000. Mozambique applied for multiple GAVI account funds, including ISS funding, at the same time.

Table 1 **GAVI Support Approved for Mozambique**

GAVI Component	When Approved	Level Approved
Immunization Services Support	July 2000	\$3,291,000
New/Under used Vaccines: DTP3-hepB	July 2000	\$14,956,000
Injection Safety	October 2000	\$960,000
Other: introduction of new vaccines	July 2000	\$100,000
Total		\$19,307,500

After approval, Dr. Matosse attended a GAVI meeting in Nairobi and successfully advocated for Mozambique to be the first country in Africa to introduce the DTP-HB vaccine. He also

welcomed Bill Gates Senior to visit Mozambique for the launch of the new DTP-HB vaccine in July 2001. UNICEF worked closely with the EPI to plan the launch, including advocacy and defense of the much higher cost.

4. National Level

4.1. Planning and Allocation of ISS Funds

To date, the MOH and EPI have made centralized yet logical programming decisions for ISS funds consistent with the 1998 Assessment, the MYP, and the financial sustainability plan (FSP). EPI has spent approximately \$300,000 of the total ISS funds distributed so far by GAVI.

EPI proposed how to utilize ISS funds in 2001-2002, based on the priorities set out in the EPI Five year Plan for 1999-2004 which, in turn, was developed from the recommendations of the independent EPI Evaluation of December 1998. Among those priorities, expansion of vaccination activities by outreach teams was considered one of the main strategies to reach the remote populations. The choice was made to use the bulk of ISS funds as an investment to increase the capacity of districts to implement outreach vaccinations. The proposed budget was discussed with the Community Health Division and National Health Directorate (Dr. Martin). The EPI Manager presented to the ICC the overall plan for funding of EPI activities from all funding sources (WHO, UNICEF, JICA, USAID, GAVI) through the FSP in 2002. After approving the major expenditure categories like supervision activities, vehicles, meetings, etc. presented in budgets, the ICC is not involved in the execution of the budgets, or in determining the allocation of these activities and assets among provinces and districts. Members of the ICC were given a detailed accounting in writing of how the \$303,127 was spent (see Table 2). Both WHO and UNICEF referred to copies of these tables during our interviews.

4.2. Utilization of ISS funds

Table 2 provides a breakdown of ISS expenditures to date. So far, no ISS funds have been distributed directly to the provinces or districts. PAV centrally procured items like motorcycles, bikes, computers and training events. Each province submitted a request to PAV for the number of items needed and background information including population size, size of the province (km²), and number of “problem districts”. The distribution of these items among the provinces was based on need, not as a reward to high performers. The provinces distributed items among their districts. There was no documentation of the final destination of these items by district so the exact number of districts (out of 144) that have benefited from the ISS funds is not known.

While the central level decided how to spend ISS funds, provinces and districts were the main beneficiaries through the receipt of the vehicles, computers, training events and supervision. The majority of ISS funds (57%) spent so far were used to buy 34 motorcycles and 400 bicycles that were distributed among all 11 provinces to increase the number of mobile brigades to do outreach and expand access to EPI services. Based on these criteria, all 11 provinces received from 2 to 5

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motorcycles and PAV encouraged them to allocate the motorcycles and bikes to the districts planning to implement the outreach program called Monthly Health Days³.

The next largest category of expenditure was information system as a result of Mozambique failing its DQA. Twenty-two percent of ISS funds spent to date went for computers (4%) and meetings between PAV and the national health information system SIS (18%).

Table 2 ISS allocation by year and by type of expenditure (USD) 2001-2003

Mozambique	Actual		
	2001	2002	2003
Recurrent Expenditures:			
Personnel - contracted staff and subsidy	760	600	960
Personnel - Overtime and per diem		2,700	19,600
Provincial level supervision/monitoring	19,616	436	1,394
District level supervision/monitoring			
Central level meetings for PAV, SIS		192	54,316
Meetings for GAVI		4,423	
Equipment Maintenance		679	1,246
Gas, Oil, Batteries			2,085
Training materials	488		97
Other-Canada Loan?			2,974
Total Recurrent	20,865	9,030	82,673
Capital Expenditures:			
Vehicles: 34 motorcycles, 400 bikes		142,078	32,000
Audiovisual equipment, microwave			1,784
Computer equipment			12,668
Extensions/Other			149
PBX central			1,880
Total Capital Expenditures	-	142,078	48,481
Grand total	20,865	151,108	131,154
Total spent per year/total spent to date	7%	50%	43%

Source: GAVI Fund Expenditures 2001, 2002, 2003, PAV documents

Mozambique has faced several events during the GAVI funding period so far but these events (floods in 2001, measles outbreak) have not influenced ISS spending.

4.2.1. Inter-Agency Coordinating Committee (ICC)

In 2000 at the time of the GAVI application, the ICC had 12 international members. Since then, the ICC has maintained this structure. The ICC meets three to four times per year and its primary objective is to coordinate EPI efforts among members. This is a critical task given that the

³ Health facilities did not receive motorcycles or bikes because they do not conduct this type of outreach.

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country's EPI is funded primarily with external funds and in-kind contributions. In fact, in addition to the ICC, a smaller interagency technical group meets monthly to coordinate closely on EPI activities. Different members of the ICC have different roles. UNICEF and WHO work most closely with the MOH and EPI on EPI activities. In addition to participating in the ICC, each has a full time staff person working exclusively on EPI (Sr. Bertrand at UNICEF and Dra. Lucia at WHO) who provide technical and managerial assistance to EPI. The other members of the ICC are less involved directly with EPI operations. Their role on the ICC is to facilitate interagency coordination and advocacy for funding. Many of the international organizations represented on the ICC are also members of the health sector SWAP group. This group meets every two weeks and has been an opportunity for ICC members to discuss EPI issues in between ICC meetings. See Annex 4 for a summary of different coordinating bodies in the health sector whose membership overlap with ICC.

As discussed above, the ICC has been involved in the details of programming and spending ISS funds. The ICC sees the MOH as the institution that is responsible for programming the ISS funding and accountable for execution of ISS funding decisions. So far, PAV and the MOH have taken the lead in deciding how ISS funds will be spent and PAV manages the expenditures. However, the ICC participates in broader planning discussions with PAV and receives PAV planning documents. These broader discussions and planning documents guide the MOH decision-making process for programming ISS funding. For example, the budgets for 2001-2003 presented in Mozambique's Financial Sustainability Plan previews how GAVI-ISS funds would be used. Actual expenditures so far are consistent. Also, PAV prepared an Action Plan and Budget for 2002⁴ and again actual GAVI-ISS expenditures are consistent with the budget. In a departure from past practice, the ISS budget for 2004 that EPI presented to the ICC a few weeks prior to the team's visit is extremely detailed.

The actual role of the ICC in the planning and allocation of ISS funds differs from that anticipated in the country's GAVI application and Annual Progress Reports (see Box 1 below). The MOH and ICC should discuss and clarify the ICC's role in programming ISS funds going forward and then confirm the description of the process that will be presented in the next Annual Progress Report.

⁴ Plan de Accao e Orcamento para o Ano 2002, Relatorio do Fundo GAVI – Ano 2001 (EPI Action Plan and Budget for 2002, GAVI Fund Report for 2001), PAV, MOH, June 2002

Box 1: Planned Role of ICC in the Decision-Making Process for ISS Funds

“The MOH will prepare a budget for the available funds and *said budget will be presented to the ICC for a consensus*. Once approved, the funds will be administered according to the budget. *A quarterly financial report will be presented to the ICC*. In addition every year an independent company is hired to conduct audit to this process and other in the MoH. GAVI initiative will benefit for this control mechanisms already established.”

Mozambique Country Proposal for Support to the Global Alliance for Vaccines and Immunization, 2000

“EPI manager proposes the different areas where funding should be applied. This proposal is previously discussed with the Deputy Director for Health for Community Health *before being presented to the ICC for its approval*. Finally, it's sent to the National Director of Health”.

Annual Progress Report to GAVI for 2001

Looking ahead to future ISS spending in 2004, the new EPI Manager is thinking to propose distributing ISS funds directly to the districts. To that end, he has asked each province to prepare a budget proposal in consultation with their districts. So far, eight of the 11 provinces have submitted proposals. However the EPI Manager is conscious of the many challenges to distributing ISS funds directly, including the need to:

- Explain how ISS funding works to hundreds of staff spread across the country when there is no existing clear and simple description in Portuguese
- Explain that this may be the last year of ISS funds if Mozambique does not pass the next DQA
- Develop criteria for deciding how much ISS funds each province and district should receive
- Communicate these criteria to provincial and district staff in a clear and transparent manner to avoid misunderstanding
- Develop a system for distributing and tracking ISS funds to provinces and districts, since the ISS funds are outside the State Budget allocation and accounting system

4.2.2. Understanding of ISS

GAVI was known to everyone interviewed at the provincial level and above as assisting with EPI. Understanding of the ISS system was limited at the central level, and non-existent at the provincial, district and facility levels. Among central level EPI staff, ISS funding is referred to as the “GAVI Fund” (Fundo GAVI). The current EPI Manager had some understanding of how the ISS fund worked, and that future ISS funding was suspended because of the failure to pass the DQA. Other central level staff from EPI, the National Directorate of Health, and the Ministry of Plan and Finance understood that GAVI funding was for strengthening vaccination services but were not familiar with the details of how the reward share system works. The lack of knowledge

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about ISS below the central level is understandable given that to date, Mozambique has decided to program ISS funds at the central level and then subsequently distribute the items purchased to the provinces and districts. Also ISS has contributed a relatively small amount of money so far (\$300,000). The lack of any explanation of the ISS system in Portuguese was seen as a barrier to broader understanding of how the ISS fund works.

The EPI Data Manager, who has been in his position since early 2002, did not know how ISS funding worked but he could describe very well the objectives of GAVI and accurately relate what the ISS funds had been used for (transport, trainings, supervision). Interestingly, he did not know about the DQA (conducted in July 2002), and said he was not interviewed or debriefed by the DQA team. He had a copy of the DQA report but could not recall its contents. The Abt/AED team reviewed the ISS system and DQA findings with him during the interview.

The EPI Technical Advisor, Dr. Matosse, was the EPI Manager from 1994 – 2001 and was directly involved in the GAVI application. He didn't use the term "ISS" but articulated clearly the purpose of the ISS fund and the reward system, and understood the current suspension of payments due to the failure of the DQA.

Outside of EPI, the Director General of Health also did not use the term "ISS" but understood the purpose of the ISS fund and was very involved in programming decisions and signing off on expenditures. The Director of Planning and Cooperation knew of the ISS account. WHO, UNICEF and USAID staff were familiar with ISS and knew of Mozambique's suspended status due to the DQA. However it appeared that none had a detailed understanding of the reward system and payment formulas and schedule.

4.2.3. Public Sector Financial Cycle and Process

The Abt/AED team reviewed the existing systems for disbursement and control of government and external health funds from the central to lower levels, to see how useful this system might be to disburse ISS funds from the MOH to provinces or districts. The government's fiscal year is January-December. There are three sources of funds for health: the state budget, user fees collected by public health facilities, and external donor funds pooled into the "common fund" through a SWAP approach. The state budget and user fee revenues are in one account and the donor "common fund" is in a separate account. The Ministry of Planning and Finance (MPF) controls the accounts at the national level and the Provincial Offices of Planning and Finance (PPF) controls the accounts for the provincial and district levels. Provincial and central level staff prepare an annual plan and budget in June/July of the prior year. During the course of the fiscal year, the PPF receives state budget and donor common funds from the central level, and collects user fee revenue from the health facilities in the province. With these funds, the PPF is supposed to pay the expenses (except salaries) incurred by the provincial and district health offices, and health facilities based on a monthly voucher of receipts submitted by the province. The district health office pays salaries separately and directly by issuing checks to staff each month.

The district health administrator helps prepare the annual plan and budget; in theory he visits each health facility in his district about 3 times a year to review their execution of the budget and

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check the state of physical assets, and prepares the monthly expenditure vouchers (receipts with a summary cover sheet). The monthly voucher is submitted to the PPF by the tenth day of the following month for processing and payment. PPF processing of the voucher is often delayed and expenses are not paid promptly. For example, as of April the Gaza PPF had not yet processed January and February vouchers for the Xai Xai district so the district was running deficits for electricity, telephone service, gas, and all other operating expenses (except staff salaries). This delay contributes to a district or province's inability to fully execute its budget each year. For example the Xai Xai district spent 85% of its state budget account and only 78% of the donor common fund account in 2003. The MPF explained that delays at the beginning of the fiscal year are common because funds for the new year cannot be released until the accounting for the previous year is closed. This annual accounting closure can take several months. The district health administrator attributes the shortfall to the PPF delays in processing the monthly voucher of expenses.

4.3. Management of ISS Funds

4.3.1. Timing of GAVI Disbursements

To date, Mozambique has received 4 disbursements of GAVI-ISS Funds. Six to 12 months have passed between GAVI approval of tranche disbursements and receipt of funds in country (see Table 3 below). Disbursement of the first tranche was the quickest with only 6 months passing between GAVI approval and receipt of funds in country (July 2000 to January 2001). The delay was caused by the slowness in sending GAVI the banking information. The second tranche of \$231,000 took the longest to arrive in Mozambique. Funds approved by GAVI in January 2002 were sent on December 27 of the same year and deposited in the BIM account on December 30, almost 12 months later. This delay again may have been caused by delays in sending banking information to GAVI. The third ISS payment of \$462,000 was disbursed in 2 equal installments. The first half (called the "third tranche" of \$231,000) took 7 months from GAVI approval in November 2002 until it was sent on June 16 and deposited on June 17, 2003. The second half was sent by GAVI in February and was deposited on February 9, 2004 for a total of 15 months wait between GAVI approval and disbursement. The MOH accountant explained that his department does not have any direct contact with the donor agency. Communications regarding disbursements and bank information are through the relevant MOH staff (in this case EPI), which may partly explain the delays.

Table 3 Timing of ISS disbursements and EPI spending

Mozambique				
Tranche	1	2	3	4
Date of GAVI Board approval (a)	18-Jul-00	8-Jan-02	19-Nov-02	19-Nov-02
Date of GAVI decision letter (a)	20-Sep-00	18-Jan-02	26-Nov-02	26-Nov-02
Date bank information to GAVI (a)	12-Jan-01	NA	5-Feb-03	5-Feb-03
Date Tranche sent by GAVI (a)	16-Jan-01	27-Dec-02	16-Jun-03	early Feb
Date Tranche deposited in account in Moz.(b)	19-Jan-01	30-Dec-02	17-Jun-03	9-Feb-2004
Initiation of EPI spending (c)	1-Sep-01	Jan-03	not yet	not yet
No. of months: GAVI approval to tranche deposit	6	12	7	15
No. of months: Tranche deposit to EPI spending	7	1	9+	2+
Total months: GAVI approval to EPI spending	13	12	16+	17+

Sources:

- a) GAVI documents as quoted in Abt Desk Study
- b) ISS Fund BIM Bank Account statement
- c) EPI GAVI Fund Report for 2001, June 2002

4.3.2. **Timing of EPI Spending**

The national EPI has spent only about \$300,000 of ISS funds so far, equivalent to all of Tranche 1 and part of Tranche 2. EPI has waited up to 12 months after receipt of ISS funds in Mozambique before spending the money. A major problem cited was that GAVI does not advise the EPI when GAVI disburses funds to the account in Mozambique. EPI staff are not aware of the deposit. If GAVI would email Dr. Novela that a wire transfer has been processed, he could follow up with the MOH accounting department to confirm its arrival. The delay may be explained in part by the fact that ISS funds must follow the same annual planning and budget cycle as the state budget. The EPI Manager does not receive a copy of the ISS account statement so he can adequately follow all transactions. Another issue is the procedure for acquisition of any capital items (e.g. motorcycles, bikes and computers) is typically very time consuming. For example, in mid 2003 PAV initiated the process to buy additional motorcycles, but despite the supplier contract being approved and paid, the items have not yet been delivered – 8 months later. Also there was a change in EPI management in September 2003. EPI submitted a budget of \$378,574 to the ICC on April 16 for expenditures in 2004.

4.3.3. **ISS Bank Account**

ISS Funds are kept in a separate U.S. dollar account at the Banco Internacional de Mozambique (BIM), a private commercial bank. This is because the Central Bank does not have USD accounts for this type of project funding.⁵ Other international agencies that want their project funding kept

⁵ The Director of Plan and Cooperation at the MOH hopes that in the future the Central Bank will establish USD accounts, to be called "Contas Forex" and the ISS account among others will be moved to the Central Bank.

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separate from the state budget or SWAP Common Fund for Health also have similar separate accounts with BIM (e.g. UNICEF). It typically takes about 15 days to set up one of these project accounts with BIM and it is considered a routine task.

Programming, spending and accounting of ISS funds follows the same cycle and procedures as the general budget. PAV proposes an annual plan that must be approved by the National Director of Health and filed with the Ministry of Planning and Finances (MPF). Based on approved budgets, the MPF prepares tables for ministries, the accounting staff and the treasury to guide and control spending.

To spend ISS funds, EPI makes a request to the National Directorate of Health that analyzes the request in light of the approved budget. A check is prepared and can have 5 signatures of which 2 are required – the National Director of Health and the Chief of the Secretariat for Health. The other signatories (not obligatory) are the 3 deputy directors of health (Hospital Administration, Epidemiology, and Community Health). The Central Bank must approve any expenditure made outside Mozambique (imports) or any cash withdrawals above \$5000. Checks are made out to specific creditors or suppliers. The Procurement Center (Centro de Abastimento) handles purchase of all fixed assets (e.g. motorcycles, bikes, computers) including competitive bidding, import financing, and the supplier contract.

The National Health Directorate accountant keeps all receipts and other paperwork for all ISS expenditures. In addition, there is an annual independent audit of the ISS account by Price Waterhouse Coopers. Their audit report is typically finalized around June.

5. District level

5.1. Planning and allocation process

As described above, EPI and the MOH have taken the lead in deciding how ISS funds will be spent and EPI manages the expenditures. To date, no ISS funds have been distributed directly to the provinces or districts. While the central level decided how to spend ISS funds, provinces and districts were the main beneficiaries through the receipt of the vehicles, computers, training events and supervision. Staff below the central level appreciated these items (the motorcycles, bikes, computers, trainings), but they were not aware of how the items were purchased.

EPI Management indicated that the lack of communication regarding ISS to provincial or district staff was a deliberate decision on the part of the central level due to a concern that this could lead to manipulation of EPI data (specifically the reported number of DTP3 vaccinations) at the district level. During the 1980s socialist political period, there was a performance-based reward system for health facilities and it is not remembered as a positive experience. The team discussed with EPI management how communication of the DQA (or other mechanisms to verify the data independently) to district staff could act as a deterrent against data manipulation.

The team visited the districts of Matola and Xai-Xai.

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Matola District in Maputo province has a total population of 625,309 (1997 Census projection for 2003). Situated 30 km southwest of Maputo city, Matola is part of the metropolitan area of the capital. Due to the geographical proximity to Maputo, the District has easy access to the EPI central office. The number of children under 12 months targeted for EPI is 25,012.

Xai-Xai District in Gaza province has a total population of 215,847 (1997 Pop. Census projection for 2003). Situated 205 km north of Maputo, Xai-Xai city is also site of the provincial capital. The Chicunbane Rural Hospital, situated 10 km south of Xai-Xai city is the site for the Xai-Xai District. The area of the District was one that most suffered the floods of 2000. Today, in order to estimate the age of the children when mothers are in doubt, the vaccinators use the floods to determine when each child was born, before or after the floods.

In **Matola District**, vaccination coverage for 2003 for DTPHB3 is 69.9% as reported by the District EPI office based on administrative data (see Annex 7). The Matola Health center, one of 12 existing health facilities in the district, was visited and vaccination tally sheets were seen to be available for the past two years. The visiting team considered inadequate the method of recording vaccinated children on a daily basis. The multidose antigens of polio and DTPHB are recorded as one, i.e., Polio1, Polio2 or Polio3, since they are given together. This may be the origin of problems in the consolidation of data at the end of the month. In a worst scenario, a shortage of Polio vaccine would make the vaccinator postpone other vaccinations such as DTPHB. The number of children denied services in the vaccinating site therefore, could lead to an increase in missed opportunities for vaccination.

In **Xai-Xai District**, vaccination coverage for 2003 for DTPHB3 is 84.8% as reported by the District EPI office based on administrative data (see Annex 7). Vaccination tally sheets are available for years 2000-2003, consolidated on monthly basis.

6. Changes in outcomes associated with use of ISS funds

As mentioned above, only about \$300,000 of ISS funds has been spent to date, representing less than 3% of all EPI expenditures; therefore, it could be argued that so far there has been too little money to generate changes in outcomes.

Most of the ISS funds (61%) have been spent on motorcycles, bicycles and computers that, assuming a standard useful life of 5 years, can be expected to provide mid-term improvements. Almost all this equipment was distributed to selected districts. The second largest expenditure category (18%) is support to EPI, for example meetings with the national health information system (SIS). Expenditures to strengthen EPI management could potentially catalyze longer-term improvements in performance. Certainly EPIs needs in terms of trained personnel and management systems have been documented as a key component to be addressed (e.g. 1998 Assessment p. 21, 2002 FSP p. 16).

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The figure 1 and 2 and table 4 below show the evolution of the number of children less than 12 months of age vaccinated with DTP3, 1999-2004, as well as a comparison between DHS survey data and administrative data 1997-2003.

Figure 1

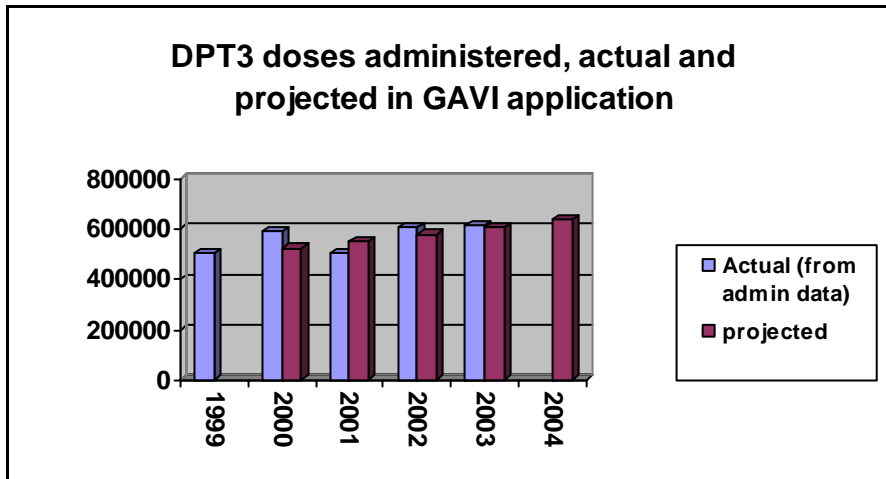


Figure 2

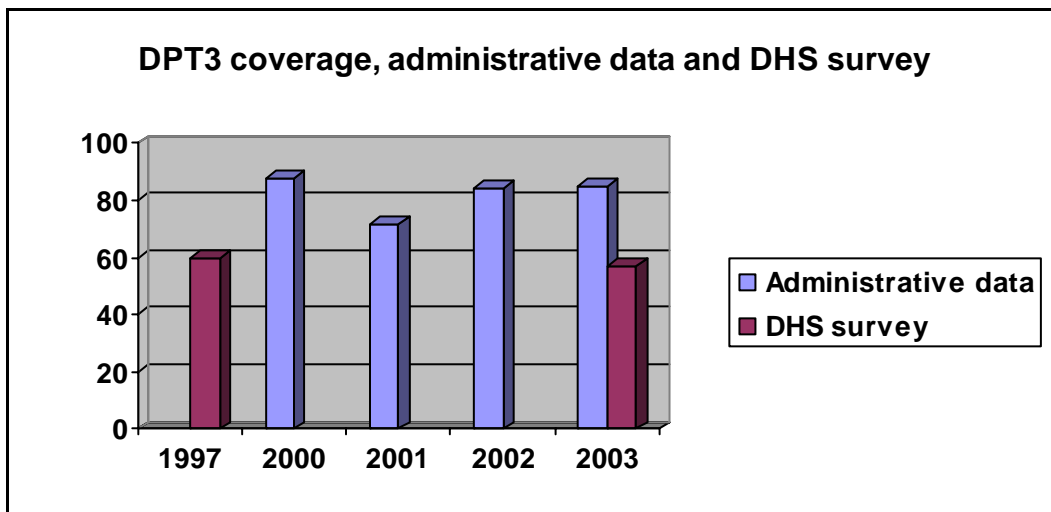


Table 4 DTP3 Target Population, Doses Administered and Coverage 1999-2003

	Target population (a)	Doses administered (b)	Percent coverage (c)	Projected Doses to be Administered 2000-20003 (d)
1999		503,164	81%	
2000	672,451	589,887	87.70%	523,164
2001	706,246	504,262	71.40%	549,322
2002	723,301	604,174	84%	576,788
2003	724,527	613,348	84.70%	605,627
2004	-	-	-	635,908

Notes:

a) Source: EPI Central Office, DHS 1997-2003

b) Source: EPI Central Office, DHS 1997-2003

c) Calculated

d) Source: GAVI application 2000

According to these figures, 110,184 additional children were immunized with DTP3 between 1999 and 2003, compared to the 102,463 additional children projected in the GAVI proposal for these years.

Estimates of vaccination coverage for multiple antigens for the years 1999-2003 are shown below. These represent official country estimates found on Joint Reporting Forms submitted to WHO and UNICEF, and thus are likely to overestimate coverage relative to population-based surveys (as discussed in section 2.4 of this report, but may be useful to gain an understanding of trends over time.

Table 5 WHO/UNICEF Joint Reporting Form Estimates 1999-2003

	1999	2000	2001	2002	2003
DTP1	NA	99%	95%	97%	88%
DTP3	81	88	80	84	85
Measles	90	97	92	94	80
TT2+	53	61	45	NA	30
DTP1-3 drop out	NA	11	16	13	3
DTP1-measles drop out	NA	2	4	3	5

As already mentioned, the quality of EPI data has been a critical issue in Mozambique for many years. Therefore, any attempt to analyze coverage data generated by administrative procedures, that is, by the information system, must be viewed with caution. It is important to note, in conducting any analyses, that the Data Quality Audit in 2002 reproved the Mozambique system as not being reliable enough to infer any data analysis. The process of registering, recording, and

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reporting data from health facility level to the intermediate levels of district and province reflects problems in various areas, such as definition of forms to be used, information flow, training and supervision of health staff. The program and a few strategies are currently addressing the problems: a review of the entire information system and training for formative supervision are being developed to correct the problems. The latter strategy will be implemented with ISS funds and is planned to take place before July 2004. It is expected that vaccination data quality will improve so that coverage trends analysis will be possible.

Several problems and causes pertaining to the issue of immunization data quality were discussed during this visit. At the facility level, the vaccinator, simultaneously with other duties, screens and registers children at the vaccination sites. One problem is that EPI data have presented two unusual trends in several districts: coverage rates greater than 100% for DTP3 and number of children vaccinated with DTP3 is greater than the number of children vaccinated with DTP1 or DTP2. Possible explanations included:

- Possible under-counting of the population in the 1997 census that would understate the denominator of coverage rates.
- Children older than 12 months counted as part of the <12-month target population due to faulty recall of age by the parent or small size of child.
- Migration from rural to urban areas. For example, some families use an urban clinic to vaccinate a child with DTP3 who has received his DTP1 and DTP2 in the rural facility. So the urban facility has higher DTP3 vaccinations than DTP1 or 2.
- Over reporting of children vaccinated and doses given to mask wastage.

Guidelines on how to fill out tally sheets, as well as monthly consolidation at the health facility level, have been made available for the last few years. However, high staff turnover, particularly of vaccinators, combined with a lack of training and supervision has contributed to poor performance at each level of the reporting system.

The national Health Information System (SIS) is responsible for the official information system in the health sector, including EPI. SIS consolidates data quarterly. Health facilities consolidate vaccination data and forward them monthly to the district level, which in turn consolidates data and forwards them to the provincial level. The provinces send consolidated information disaggregated by district to the central SIS office. Deadlines for reporting at each level are well known and usually followed. Late information is added to reports whenever data come in. It may take two months for some provinces to receive complete data from all districts.

Prior to the DQA in July 2002, EPI hired a data manager at the central office to improve the EPI data system and help EPI attend to the increased demand for external reporting (e.g. JRF and GAVI Progress Report). With the new data manager, EPI has instituted several changes: a) increased the frequency of reporting from quarterly to monthly, b) required provinces to send consolidated data to EPI (not just to SIS), and c) had the data manager follow-up by phone to get late or missing data. The data manager reconciles data sent by the provinces to SIS. Report completeness of coverage data is significantly improving since DQA was done in 2002.

After the 2002 DQA, from October 2002 to June 2003, EPI collaborated with USAID's contractor, JSI, to deliver intensive (1 week) trainings in cold chain and EPI data management in

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6 provinces, with all district chiefs. Using ISS Funds, EPI held a workshop with SIS in 2003 and bought computers for all 11 provinces. EPI also has written procedures (“normas”) for completion of each EPI data form.

In order to improve the quality of data, EPI is preparing to initiate a training program on supervision at all levels using ISS funds. The training program is based on the use of supervision guidelines which includes data quality improvement. It is hoped that when the training program is completed and supervision is implemented, data quality will be improved at all levels.

7. Immunization financing past, present, future

Table 6 below estimates the total annual routine EPI budget from 1999 to 2004. Donors fund a major portion of EPI. The government share is estimated because PAV does not have a line item in the State Budget and EPI operations at the district and facility levels, which are significant, are not tracked separately.

Table 6 Funding for Routine EPI Budget (USD) 1999-2004(h)

Mozambique	1999(c)	2000 (d)	2001 (e)	2002 (f)	Projected 2004 (g)
Government		1,607,744	1,471,483	1,194,129	-
Earmarked Revenue (a)		44,285			-
Donors	2,102,162	3,016,542	3,616,767	3,872,093	837,000
GAVI Vaccines (b)		-	2,347,000	2,503,815	4,280,500
GAVI Injection Supplies (b)		-		2,263,465	276,000
GAVI ISS		-	20,865	227,204	378,574
Deficit (Budget-financing)					7,608,800
Total EPI Budget	2,102,162	4,668,571	7,456,115	10,060,706	13,380,874
% Change in total EPI funding per year		122%	60%	35%	33%
GAVI-ISS funds as % of total EPI Funding		0%	0.3%	2%	3%
Total GAVI support as % of total EPI Funding		0%	31%	47%	34%

a) User fees and Medical Assistance Fund

b) In-kind contribution

c) Source: Country Application to GAVI, 2000

d) Source: FSP 2002, Table 9 on page 21

e) Sources: FSP 2002 Annex 8

f) Source: Second Annual Progress Report for 2002

g) Sources: National Director of Plan and Cooperation, MOH; Letter from GAVI dated 13 Feb. 2004; and PAV proposed budget for ISS funds

h) 2003 was data not available

So far, the ISS funds spent in Mozambique have not been significant (2%) compared to the overall EPI costs.

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The cost of administering the ISS scheme would include opening a separate bank account, separate accounting, GAVI reporting (e.g. Annual Progress Report), and the independent audits of the account and the EPI data. The MOH does not consider these costs a burden and considers them typical for project funding. The DQA has contributed to EPI taking steps to strengthen the EPI information system. The MOH accounting department is taking care of the banking and accounting paperwork, so there is no burden on EPI.

Participation in GAVI and the leadership of the ICC are credited with reinvigorating the EPI program after some years of low activity after the end of DANIDA funding in 1997. The presence of GAVI, the serious functioning of the ICC, and the worldwide publicity that accompanied the launch of the quadrivalent in 2001 has contributed to maintaining EPI as a highly visible priority with the MOH and Government.

The major change in donor and government health funding was the creation of the SWAP mechanism for donors to contribute to a common fund. 2003 was considered a transition year from direct budgetary support to the SWAP approach which will really begin in 2004. Beginning in 2004, PAV will have its own line item in the MOH budget and actual Common Fund and State Budget funding to EPI will be easier to track. Since the GAVI award in 2000, EPI has continued to be a priority for WHO, UNICEF, USAID, and other partners like JICA. ISS funding can be considered additive as no one has decreased assistance as a result of ISS spending.

Mozambique's participation in GAVI led to the introduction of DTP3-HepB in 2001, AD syringes and materials for injection safety. The FSP estimates that use of the quadrivalent vaccine approximately doubles the cost of a fully vaccinated child from \$7.28 to \$14.5. However, a combination vaccine reduces the cost of syringes, cold chain storage, transportation, and staff time.

According to the FSP, the MOH and its partners expect the Common Fund to replace GAVI funding.

8. Comparison of GAVI with GFATM application process and implementation, and their effects on the health system

The Global Fund for AIDS, Tuberculosis and Malaria (GFATM) has approved \$54 million of funding, equivalent to two years of the total amount of \$155.7 million requested by Mozambique. The request covers strengthening prevention, care, support and treatment for all three diseases. To date, GFATM has not disbursed any funds.

For GAVI funding and in-kind contributions that have written confirmation, they are included in the MOH's planning and budgeting process and assumptions. Selected EPI indicators are part of the MOH's Strategic Plan for the Health Sector (Plano Estrategico do Setor de Saude "PESS"). It

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was not clear if the approved GFATM funding would be included in this year's planning and budgeting exercise by the MOH (for execution in 2005). However, the Director of Planning and Cooperation for the MOH anticipated that GFATM funds would be pooled with the SWAP Common Fund for health, and therefore follow the same cycle and procedures for budgeting/planning, spending and accounting that the Common Fund and State Budget follow.

UNICEF and UNFPA had a major technical assistance role in Mozambique's application to GFATM and the country's response to clarifying questions. Similarly, UNICEF and WHO were closely involved in preparing the GAVI application with PAV.

While the CCM and ICC are similar in terms of being coordinating bodies concerned with specific health issues, there are several differences. The CCM is multi-sectoral with representation beyond the health sector including the private sector, NGOs and other ministries (e.g. education). Institutions are elected to represent their sector on the CCM – one institution for multilaterals, one for bilaterals, one for the private sector, etc. Sector membership on the CCM is permanent while the institutions and individuals rotate. In the case of the ICC, a group of international agencies and selected MOH departments are members. The ICC has a clear institutional counterpart in EPI which has existed since the 1980s. The GFATM initiatives and CCM are likely to have several institutional counterparts that cut across ministries and sectors. The ICC's scope and mandate as a guiding and coordinating body for EPI are clear and limited. Mozambique's GFATM initiative is much larger and complex, and the CCM's role is still evolving. The scope and operation of Mozambique's EPI is more straightforward. EPI results are easier to measure. The chair of the CCM is the Minister of Health. The chair of the ICC is the National Director of Health, Dr. Alexandre Managuele and the secretary is the EPI Manager, Dr. Novela. While the ICC has generally deferred to the MOH as the body responsible and accountable for programming and spending ISS funds; it is not clear if the CCM will have a similarly "hands off" role with GFATM funding.

9. Discussion and Conclusions

9.1. Main findings

9.1.1. GAVI Impact

Between 1997 and 2003, which includes the time period that GAVI has operated in Mozambique, DHS household surveys indicate that the number of DTP3 vaccinations has not increased.

However, there have been important investments and improvements in the EPI:

- ICC leadership and GAVI participation reinvigorated the EPI program after some years of low activity after the end of DANIDA funding in 1997.
- The presence of GAVI, the serious functioning of the ICC, and the worldwide publicity that accompanied the launch of the quadrivalent vaccine in 2001 has contributed to maintaining EPI as a highly visible priority with the MOH and Government.

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- ICC ensures partner coordination and synergy
- Successful advocacy with GOM to fund EPI through the Drug Fund and Common Fund
- Introduction of AD syringes and quadrivalent vaccine.

It is both difficult and potentially misleading to try to attribute changes in EPI performance to GAVI, or the ISS component alone. Other major inputs have contributed to an improved EPI like the major investment in the renewal and extension of cold chain equipment (UNICEF), training and supervision of provincial/district/facility EPI staff (USAID, WHO), and significant external funding of the public health system generally which provides a structure upon which EPI can operate.

9.1.2. ISS Impact

ISS Funds spent so far represent about 2% of total EPI funding and most of ISS Funds (57%) have been invested in outreach (34 motorcycles, 400 bicycles), an essential strategy to expand coverage as presented in the 1998 assessment and MYP. ISS Funds and failing the DQA have led to senior level attention and investment in EPI data collection/storage/reporting: 89 districts trained, 11 computers distributed to the provinces, increased timeliness and completeness of district reporting, monthly reporting directly to PAV (not just to the HIS). Looking ahead, the 2004 budget for ISS Funds emphasizes supervision of districts.

9.1.3. ISS Decision-making

To date, the MOH and PAV have made centralized yet logical programming decisions for ISS funds consistent with the 1998 Assessment, MYP and FSP. Actual expenditures are consistent with plans. Allocation decisions – both in terms of expenditure categories and allocation among districts - are responsive to identified needs. ISS is not used to reward high performers. PAV questions whether the EPI data currently available would allow for accurate identification of high performers. PAV also is concerned about creating an incentive for staff to manipulate data.

Transparency of decision-making is achieved with the ICC and senior levels of the MOH through documentation in plans and detailed accounting of how funds have been spent. There is little or no communication about how ISS funds will be spent or were spent with lower levels.

The ICC's role with respect to ISS funding is to review plans (major expenditure categories) and expenditures. The ICC is not involved in detailed planning of ISS funds or in the execution of the budgets, or in determining the allocation of ISS-funded activities and assets among provinces and districts. The ICC sees the MOH and EPI as the bodies responsible and accountable for planning and spending ISS funds.

9.1.4. Factors affecting the success of ISS

The most daunting challenges to success in terms of vaccination, are the physical realities of Mozambique – size, long shape and topography; rural population, poor roads, rains/flooding, and poverty. The weak EPI data system caused Mozambique to fail its first DQA and suspended ISS payments. It remains to be seen if the investments made to date to strengthen the system will be

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adequate to pass the second DQA. Another factor affecting success may be the degree of understanding of ISS. PAV did not convey full details of the ISS reward system. The system is relatively complex and there are no explanations in English or Portuguese. Had there been a deeper and broader understanding of the reward system, it is possible that stakeholders would or could have done more in 2001-2003 to expand DTP-3 vaccinations and improve the EPI information system. Another factor affecting long-term success may be the abrupt end of support in 2005, just when ISS funding will peak if Mozambique is successful in reaching its goals.

9.2. Analysis

Only about \$300,000 of ISS funds has been spent to date or less than 3% of all EPI expenditures, so it can be argued that so far there has been too little money to make a significant difference. Most of the ISS funds (61%) have been spent on motorcycles, bicycles and computers that, assuming a standard useful life of five years, can be expected to provide mid-term improvements. All this equipment was distributed to districts. The second largest expenditure category (18%) is support for EPI meetings, for example with the national health information system (SIS). Expenditures to strengthen EPI management could potentially catalyze longer-term improvements in performance. EPI's needs in terms of trained personnel and management systems have been documented as a key component to be addressed (e.g. 1998 Assessment p. 21, 2002 FSP p. 16).

9.3. Positive Experiences and Innovations

ISS expenditures are well linked to the EPI Assessment, MYP and FSP. Since each of these exercises and documents was required by GAVI, this experience ought to be replicable in other countries.

Mozambique's process to plan and spend ISS funds cannot be called innovative. It has been careful and consistent with EPI objectives and government procedures.

9.4. Challenges and Recommendations

Several challenges are discussed above under "Factors Affecting the Success of ISS". An active and involved ICC and EPI Technical Group (EPI, UNICEF, and WHO) are providing leadership, resources and technical expertise to deal with these challenges. GAVI could leverage the ICC more than it has in the past. For example, GAVI could confer with the ICC (or an ICC point person) before sending PAV official communications to ensure consistency and impact of messages. The ICC can be a useful antennae for GAVI if GAVI taps ICC members for local, current information that would be useful for its interactions with the government.

Delays in sending and spending the ISS funds occur between GAVI and Mozambique, and within Mozambique. GAVI should communicate directly with EPI whenever a fund transfer is made so

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that EPI can follow-up with MOH accounting that manages the ISS bank account. PAV should receive periodic bank statements for the ISS account to be able to know exactly how much funds are available and the pace of transactions.

An ICC member suggested that the flexibility of ISS funds should be used to invest in strengthening the quality of EPI management to get a longer-term payoff. Areas that could be addressed include planning transitions of the EPI manager, promoting greater teamwork, cohesion, and institutional memory. UNICEF works very closely with EPI on administrative as well as technical issues, and may have other recommendations.

Mozambique has not sought to fully take advantage of the “reward” aspect of ISS funding. To overcome this challenge, understanding of ISS reward system must be deeper at the central level and exist below the central level. PAV raises legitimate concerns about giving rewards (cash or in-kind) directly to high performing districts. To overcome these challenges, EPI could possibly distribute something useful to EPI staff all the way down to the facility level that communicates information they need to do their jobs better and a message about reward for performance.

There is a lack of information about what GAVI will do after the 5 years is over, when possibly GAVI-ISS assistance will be at its peak. It will be a challenge for PAV to manage the EPI that will suffer an abrupt end to major external support, especially after GAVI has raised the EPI cost structure in Mozambique with the introduction of quadrivalent vaccine.

Annex 1: Contact List and Schedule

April 19, 2004

Dr. Manuel Novela, EPI Manager, PAV, MOH

Dr. Nono, PAV

Mr. Paulo, Logistics, PAV, MOH, seconded from the Change Project (USAID)

Eric Wiesen, EPI Technical Officer, WHO Southern Africa

Kevin Novotny, Country Director, Project Hope implementing the Change Project and the Health Service Delivery Support Project (USAID)

April 20, 2004

Field visit to Maputo Province

Edgar Agostinho, District PAV Officer and Nutrition Advisor, Matola District Health Office

Dra. Sandra Loreiro, Director, Matola Unidade Sanitaria II (District health center)

Sr. Vasco, PAV, Matola Unidade Sanitaria II (District health center)

April 21, 2004

Dr. Torres, WHO Representative

Dra. Estela Lucia Oliva Linares, EPI Officer, WHO

Dr. Jonas Chambule, Health Project Officer, UNICEF

Mr. Bertrand Jacquet, UNICEF

Dr. Manuel Novela, EPI Manager, PAV, MOH

Mr. Arguinaldo Mario Jessinau, Data Manager, PAV, MOH

April 22, 2004

Field visit to Xai Xai District in Gaza Province

Dr. Xavier, Chief Medical Officer of Gaza Province

Sr. Fernando Said, Provincial Coordinator of Community Health Programs

Sr. Alberto Mabota, Provincial PAV Officer

Sra. Marilia, Provincial Manager of cold chain

Sr. Artur, District Administrative Officer for Xai Xai District

Sra. Maria Elena, Chief for PAV, Xai Xai District

Sra. Salome, PAV, Xai Xai Health Center

Sra. Delfina, PAV, Xai Xai Health Center

April 23, 2004

Dr. Domingos Lambor, Deputy Director, Ministry of Planning and Finance

Dra. Marie-Pierre Poirier, UNICEF Country Representative

April 26, 2004

Dr. Humberto Cosa, National Director of Plan and Cooperation, MOH

Sr. Manissa, Accountant, National Directorate of Health, MOH

Dr. Manuel Matosse (Pecos), EPI Technical Advisor, seconded from Change Project

Dr. Titus Angi, Health Population and Nutrition Specialist, HPN Office, USAID

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April 27, 2004

Debriefing at the MOH

Dr. Martin Djedje, Deputy Director of National Health for Community Health

Dr. Manuel Novela, EPI Manager, PAV, MOH

Dr. Manuel Matosse (Pecos), EPI Technical Advisor, seconded from Change Project

Mr. Bertrand Jacquet, UNICEF

Dr. Nono, PAV, MOH

Mr. Paulo, Logistics, PAV, MOH, seconded from the Change Project (USAID)

Mr. Jalane Francisco, PAV, MOH, Logistics and Administration, seconded from UNICEF

Annex 2: MOH Debrief on GAVI-ISS Study: Mozambique Country Case Study

27 April 2004

GAVI Impact

- Reinvigorated EPI
- National visibility and priority
- ICC ensuring partner coordination/synergy
- Successful advocacy with GOM to fund PAV
- AD syringes, training, quadrivalent introduced

ISS Impact

- ISS Funds less than 3% of total EPI funding
- Investment in outreach – 34 motorcycles, 400 bicycles
- Investment in EPI data collection/storage/reporting – PAV Data Manager, 89 districts trained, 11 computers, increased district reporting timeliness and completeness
- Strengthen supervision – guide produced

ISS Decision-making

- Centralized
- Responsive to identified needs, not reward of high performers
- Transparency through FSP and annual PAV plan
- Actual expenditures consistent with plans

ISS Fund Management

- BIM account
- Annual independent audit
- Follow same cycle and procedures as OE
- Delays of 6 to 12 months from GAVI approval to deposit
- Delays of 12+ months from deposit to spending
- Limited understanding of ISS

Transaction Costs

- GAVI meetings internal and external
- Annual progress reports, MYP, FSP
- Bank account forms
- Independent audit of data and ISS account

Factors affecting the success of ISS

- EPI data system
- +/- 50% pop without access to EPI: poverty, rural pop, big long country, roads, rains
- Limited understanding of ISS reward system
- Abrupt end of support in 2005

Thank You All!

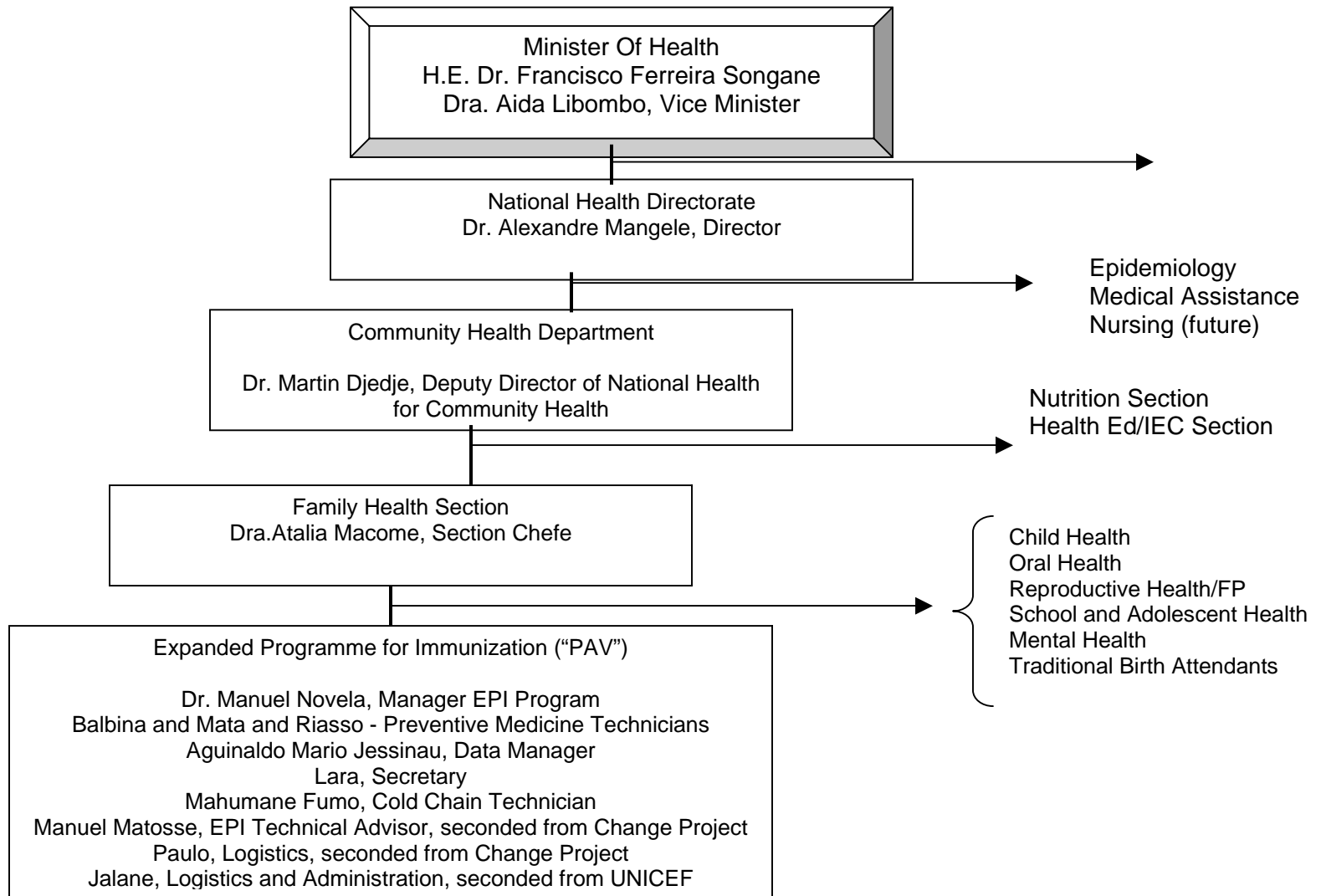
Annex 3: Timeline of Major EPI and Other Events in Mozambique

- 1994 Dr. Manuel “Pecus” Matosse is EPI Manager
DANIDA accord with MOH to fund EPI
- 1997 DANIDA funding of EPI ends abruptly, major impact on EPI
DHS Survey
- 1998 ICC Established
National EPI Assessment
- 1999 EPI Five-Year Plan
Presidential Elections
- 2000
 - Q1 Devastating floods in south displaces thousands
Mozambique applies to GAVI
 - Q2 Kaya-Kwanga Agreement between MOH and health sector partners
GAVI approves application
- 2001 UNICEF major investment in cold chain
QUIBB Survey
 - Q1 First tranche of ISS Funds disbursed by GAVI
Flooding in Zambezi Valley displaces 70,000
First shipment of Quadrivalent Vaccine (DTP-HepB)
 - Q2 Dra. Ana Charles is new EPI Manager
Health Sector Strategic Plan (PESS) approved based on SWAp strategy
Launch national campaign for DTP-HepB
 - Q3 PAV begins spending ISS funds
- 2002 UNICEF major investment in cold chain
 - Q3 DQA Study (July-Aug)
 - Q4 Second tranche of ISS Funds
Financial Sustainability and Injection Safety Plans
- 2003 Transition year for external funding of health sector
DHS Survey
 - Q1 Workshop on PAV response to DQA findings
SWAP: Revised code of conduct for health sector partners
 - Q2 Third tranche of ISS Funds
 - Q3 Dr. Novela is new EPI Manager
- 2004 First year of SWAP Common Fund
 - Q1 Fourth tranche of ISS Funds
PAV submits detailed 2004 Budget for ISS Funds to ICC

Annex 4: Selected Coordinating Bodies in MZ Health Sector	
Health Coordinating Committee (CCS)	
Membership	Minister of Health Minister of Plan and Finances Minister of State Ambassadors (bi-laterals) Country Representatives (multi-laterals)
Role	Highest level Macro issues Sign off on major agreements negotiated by other committees
Meeting Frequency	2 times/year
Sector Wide Approach Technical Group (GT-SWAP) since 2003	
Membership	National Director for Health Technical Officer for health (bi-laterals) Country Representatives (multi-laterals)
Role	Coordinate health sector activities and assistance Annual plan and budget for the health "Common Fund" Review previous year's execution of Common Fund
Meeting Frequency	2 times/month
Country Coordinating Mechanism for HIV-AIDS (CCM)	
Membership	Elected rotating representatives of each sector: Public sector (Minister of Health, Minister of Education, Multi-lateral sector Bi-lateral sector NGO sector Private sector
Role	Coordinate activities and assistance in HIV-AIDS, Tb, and Malaria
Meeting Frequency	DK
Inter-Agency Coordinating Committee (ICC) since 1998	
Membership	National Director of Health EPI Manager Multi-laterals Bi-laterals/Embassies MOH department chiefs (Epidemiology, National Health Institute)
Role	Coordinate activities and assistance for EPI Advocacy for sustainable funding of EPI Review PAV annual plan and budget
Meeting Frequency	3-4 times/year

Annex 5

Ministry of Health of Mozambique
 Organization Chart Highlighting Position of the National Expanded Programme for Immunization



Mozambique Case Study

Annex 6: Mozambique ICC

Inter-Agency Coordinating Committee for EPI		
Function	Title / Organization	Name
Chair	National Director of Health/MoH	Dr. Alexandre Managuele
Secretary	National EPI Manager/MoH	Dr. Manuel Novela
International Members	<ul style="list-style-type: none"> • UNICEF • USAID • WHO • UNFPA • GTZ • Rotary Mozambique • DFID • EU • Swiss Coop • Irish Coop • World Bank • Dutch Cooperation 	Dra. Marie-Pierre Poirier and/or Bertrand Jacquet Dr. Abu and/or Dr. Titus Dra. Estela Lucia Oliva Linares
MOH Members	<ul style="list-style-type: none"> • Pharmaceutical Dept. • IEC Unit • Epidemiology Unit • Maintenance Dept. • Family Health Dept. • Planning Dept. • Supply Unit 	

Mozambique Case Study

Annex 7: EPI Activities in Mozambique by Province and District 2003

Districts	Popu- lation	BCG			Target	VAS		DTPHB1		DTPHB3		Drop-out Rate(%) DTPHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
CUAMBA	172,212	6,888	10,574	153.5	6,716	7,564	112.6	8,669	129.1	7,584	112.9	12.5
LAGO	70,484	2,819	2,768	98.2	2,749	2,292	83.4	2,489	90.5	2,142	77.9	13.9
LICHINGA CIDADE	125,366	5,015	7,979	159.1	4,889	7,043	144.1	7,668	156.8	7,242	148.1	5.6
LICHINGA DIST.	72,614	2,905	4,594	158.2	2,832	2,488	87.9	4,604	162.6	3,005	106.1	34.7
MAJUNE	22,381	895	1,388	155.0	873	979	112.2	1,346	154.2	1,182	135.4	12.2
MANDIMBA	102,133	4,085	5,849	143.2	3,983	4,864	122.1	5,777	145.0	5,120	128.5	11.4
MARRUPA	47,519	1,901	2,782	146.4	1,853	2,231	120.4	2,073	111.9	1,859	100.3	10.3
MAUA	34,529	1,381	2,001	144.9	1,347	1,607	119.3	1,950	144.8	1,461	108.5	25.1
MAVAGO	10,982	439	1,128	256.8	428	799	186.6	862	201.3	714	166.7	17.2
MECANHELAS	86,394	3,456	4,992	144.5	3,369	3,121	92.6	4,922	146.1	3,842	114.0	21.9
MECULA	14,231	569	626	110.0	555	467	84.1	634	114.2	526	94.8	17.0
METARICA	26,908	1,076	1,712	159.1	1,049	1,313	125.1	1,546	147.3	1,363	129.9	11.8
MUEMBE	22,469	899	1,416	157.6	876	1,391	158.7	1,464	167.1	1,181	134.8	19.3
N'GAUMA	45,601	1,824	2,666	146.2	1,778	1,551	87.2	2,536	142.6	1,897	106.7	25.2
NIPEPE	27,323	1,093	1,314	120.2	1,066	400	37.5	1,292	121.2	571	53.6	55.8
SANGA	60,047	2,402	2,838	118.2	2,342	1,334	57.0	2,237	95.5	1,545	66.0	30.9
TOTAL NIASSA	941,193	37,648	54,627	145.7	36,707	39,444	107.5	50,069	136.4	41,234	112.3	17.6

Mozambique Case Study

Districts	Popu- lation	BCG			Target	VAS		DPTHB1		DPTHB3		Drop-out Rate(%) DPTHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
ANCUABE	116,413	4,657	5,172	111.1	4,540	3,202	70.5	4,978	109.6	3,477	76.6	30.2
BALAMA	121,216	4,849	5,626	116.0	4,727	3,776	79.9	3,716	78.6	3,557	75.2	4.3
CHIURE	232,041	9,282	9,549	102.9	9,050	7,543	83.4	8,218	90.8	7,520	83.1	8.5
IBO	7,967	319	323	101.4	311	306	98.5	316	101.7	299	96.2	5.4
MACOMIA	79,466	3,179	2,786	87.6	3,099	4,445	143.4	2,501	80.7	1,896	61.2	24.2
MECUFI	36,992	1,480	1,654	111.8	1,443	1,272	88.2	1,593	110.4	1,507	104.5	5.4
MELUCO	26,121	1,045	1,035	99.1	1,019	836	82.1	927	91.0	817	80.2	11.9
MOCIMBOA DA PR	84,757	3,390	3,788	111.7	3,306	3,300	99.8	2,739	82.9	2,997	90.7	-9.4
MONTEPUEZ	170,624	6,825	7,723	113.2	6,654	5,165	77.6	6,304	94.7	5,415	81.4	14.1
MUEDA	109,633	4,385	4,055	92.5	4,276	3,324	77.7	3,129	73.2	3,024	70.7	3.4
MUIDUMBE	70,764	2,831	2,594	91.6	2,760	2,074	75.2	2,475	89.7	2,209	80.0	10.7
NAMUNO	170,517	6,821	6,706	98.3	6,650	5,400	81.2	6,129	92.2	5,569	83.7	9.1
NANGADE	60,762	2,430	2,287	94.1	2,370	2,072	87.4	1,849	78.0	1,835	77.4	0.8
PALMA	53,327	2,133	1,965	92.1	2,080	2,068	99.4	2,274	109.3	1,835	88.2	19.3
PEMBA CIDADE	121,967	4,879	5,212	106.8	4,757	5,244	110.2	4,889	102.8	4,494	94.5	8.1
PEMBA METUGE	55,285	2,211	2,374	107.4	2,156	2,525	117.1	2,344	108.7	2,186	101.4	6.7
QUISSANGA	38,936	1,557	1,886	121.1	1,519	1,904	125.4	1,756	115.6	1,977	130.2	-12.6
TOTAL C. DELGADO	1,556,788	62,272	64,735	104.0	60,715	54,456	89.7	56,137	92.5	50,614	83.4	9.8

Mozambique Case Study

Districts	Popu- lation	BCG			Target	VAS		DPTHB1		DPTHB3		Drop-out Rate(%) DPTHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
ANGOCHE	260,601	10,424	11,413	109.5	10,163	8,163	80.3	9,121	89.7	7,429	73.1	18.6
MOGINCUAL	97,040	3,882	5,559	143.2	3,785	4,025	106.4	5,013	132.5	3,960	104.6	21.0
MOGOVOLAS	184,423	7,377	10,821	146.7	7,192	7,909	110.0	8,252	114.7	6,609	91.9	19.9
MOMA	281,058	11,242	13,716	122.0	10,961	10,346	94.4	11,778	107.5	9,600	87.6	18.5
MONAPO	256,347	10,254	12,258	119.5	9,998	9,881	98.8	12,094	121.0	10,156	101.6	16.0
MOSSURIL	94,017	3,761	3,369	89.6	3,667	3,190	87.0	3,456	94.3	2,815	76.8	18.5
ILHA DE MOC	50,172	2,007	2,183	108.8	1,957	1,743	89.1	2,145	109.6	1,803	92.1	15.9
MECONTA	150,152	6,006	7,130	118.7	5,856	5,360	91.5	6,618	113.0	5,452	93.1	17.6
CID.NACALA PORTO	252,026	10,081	10,091	100.1	9,829	6,636	67.5	7,474	76.0	8,851	90.0	-18.4
MEMBA	210,705	8,428	8,822	104.7	8,217	6,047	73.6	7,574	92.2	5,607	68.2	26.0
NACALA VELHA	120,815	4,833	4,821	99.8	4,712	3,424	72.7	3,326	70.6	3,064	65.0	7.9
ERATI	216,279	8,651	9,274	107.2	8,435	7,319	86.8	8,326	98.7	6,875	81.5	17.4
NACAROA	85,837	3,433	6,067	176.7	3,348	3,734	111.5	4,087	122.1	3,548	106.0	13.2
CID.NAMPULA	370,882	14,835	19,407	130.8	14,464	15,050	104.0	18,414	127.3	15,504	107.2	15.8
NAMPULA RAPALE	154,520	6,181	9,431	152.6	6,026	7,560	125.5	7,443	123.5	7,403	122.8	0.5
MUECATE	79,799	3,192	4,551	142.6	3,112	2,913	93.6	3,714	119.3	2,908	93.4	21.7
MECUBURI	139,144	5,566	6,579	118.2	5,427	5,424	100.0	4,505	83.0	4,177	77.0	7.3
MURRUPULA	112,241	4,490	6,368	141.8	4,377	3,814	87.1	5,378	122.9	4,274	97.6	20.5
RIBAUE	150,704	6,028	9,924	105.6	5,877	6,515	110.8	7,636	129.9	6,727	114.5	11.9
LALAUJA	65,568	2,623	3,362	378.4	2,557	3,040	118.9	1,822	71.3	1,491	58.3	18.2
MALEMA	153,089	6,124	5,733	54.9	5,970	5,775	96.7	4,819	80.7	4,028	67.5	16.4
TOTAL NAMPULA	3,485,419	139,417	170,879	122.6	135,931	127,868	94.1	142,995	105.2	122,281	90.0	14.5

Mozambique Case Study

Districts	Popu- lation	Target	Real- sed	Cover- age(%)	Target	Real- sed	Cover- age(%)	Real- sed	Cover- age(%)	Real- sed	Cover- age(%)	Rate(%) DPTHB
ALTO MOLOCUE	231,929	9,277	9,427	101.6	9,045	6,661	73.6	6,495	71.8	5,445	60.2	16.2
CHINDE	140,841	5,634	4,873	86.5	5,493	5,026	91.5	4,581	83.4	3,765	68.5	17.8
GILE	164,693	6,588	6,891	104.6	6,423	5,411	84.2	6,226	96.9	5,491	85.5	11.8
GURUE	238,728	9,549	11,368	119.0	9,310	10,978	117.9	11,186	120.1	10,488	112.6	6.2
ILE	230,463	9,219	17,554	190.4	8,988	12,044	134.0	11,770	131.0	10,507	116.9	10.7
INHASSUNGE	106,233	4,249	4,603	108.3	4,143	4,870	117.5	3,888	93.8	3,633	87.7	6.6
LUGELA	118,889	4,756	4,844	101.9	4,637	3,108	67.0	4,635	100.0	3,226	69.6	30.4
MAG.DA COSTA	261,218	10,449	9,173	87.8	10,188	11,588	113.7	9,838	96.6	9,041	88.7	8.1
MILANGE	415,336	16,613	18,723	112.7	16,198	14,481	89.4	16,836	103.9	15,831	97.7	6.0
MOCUBA	289,712	11,588	19,483	168.1	11,299	14,398	127.4	15,801	139.8	14,305	126.6	9.5
MOPEIA	86,081	3,443	5,524	160.4	3,357	5,889	175.4	5,364	159.8	4,697	139.9	12.4
MORRUMBALA	304,172	12,167	12,432	102.2	11,863	12,359	104.2	9,665	81.5	9,736	82.1	-0.7
NAMACURRA	197,288	7,892	8,982	113.8	7,694	7,829	101.8	6,785	88.2	5,961	77.5	12.1
NAMARROI	101,548	4,062	5,539	136.4	3,960	4,992	126.0	3,987	100.7	3,720	93.9	6.7
NICOADALA	252,874	10,115	11,093	109.7	9,862	7,977	80.9	7,324	74.3	5,955	60.4	18.7
PEBANE	164,823	6,593	5,107	77.5	6,428	3,943	61.3	3,686	57.3	2,913	45.3	21.0
QUELIMANE	255,093	10,204	9,292	91.1	9,949	11,249	113.1	8,700	87.4	8,551	86.0	1.7
TOTAL ZAMBEZIA	3,559,921	142,397	164,908	115.8	138,837	142,803	102.9	136,767	98.5	123,265	88.8	9.9

Mozambique Case Study

Districts	Popu- lation	BCG			Target	VAS		DPTHB1		DPTHB3		Drop-out Rate(%) DPTHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
ANGONIA	308,793	12,352	15,397	124.7	12,043	12,908	107.2	14,629	121.5	12,629	104.9	13.7
C.BASSA	71,530	2,861	3,281	114.7	2,790	3,068	110.0	3,463	124.1	3,033	108.7	12.4
CHANGARA	140,298	5,612	5,201	92.7	5,472	3,753	68.6	3,891	71.1	3,412	62.4	12.3
CHIFUNDE	58,018	2,321	3,660	157.7	2,263	2,532	111.9	2,968	131.2	2,518	111.3	15.2
CHIUTA	73,410	2,936	4,553	155.1	2,863	3,824	133.6	3,558	124.3	3,082	107.6	13.4
MACANGA	69,950	2,798	4,881	174.4	2,728	3,954	144.9	3,213	117.8	2,682	98.3	16.5
MAGOE	51,341	2,054	2,495	121.5	2,002	2,610	130.4	2,587	129.2	1,925	96.1	25.6
MARAVIA	63,388	2,536	2,945	116.1	2,472	2,902	117.4	2,607	105.5	2,207	89.3	15.3
MUTARARA	138,292	5,532	7,260	131.2	5,393	5,566	103.2	5,972	110.7	4,503	83.5	24.6
MOATIZE	121,819	4,873	7,284	149.5	4,751	6,226	131.0	6,999	147.3	5,725	120.5	18.2
TSANGANO	134,873	5,395	5,533	102.6	5,260	4,469	85.0	5,455	103.7	4,626	87.9	15.2
ZUMBO	44,015	1,761	1,644	93.4	1,717	2,077	121.0	2,547	148.4	1,674	97.5	34.3
CID.TETE	148,537	5,941	8,463	142.4	5,793	6,618	114.2	6,140	106.0	5,463	94.3	11.0
TOTAL TETE	1,424,264	56,971	72,597	127.4	55,546	60,507	108.9	64,029	115.3	53,479	96.3	16.5

Mozambique Case Study

Districts	Popu- lation	BCG			Target	VAS		DPTHB1		DPTHB3		Drop-out Rate(%) DPTHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
BARUE	97,472	3,899	6,030	154.7	3,801	4,844	127.4	5,683	149.5	4,893	128.7	13.9
GONDOLA	222,088	8,884	8,561	96.4	8,661	7,023	81.1	8,089	93.4	7,026	81.1	13.1
GURO	44,404	1,776	3,069	172.8	1,732	2,447	141.3	3,005	173.5	2,183	126.1	27.4
MANICA DISTR.	260,576	10,423	9,961	95.6	10,162	11,316	111.4	10,932	107.6	9,976	98.2	8.7
MOSSURIZE	145,404	5,816	3,907	67.2	5,671	4,034	71.1	4,169	73.5	3,160	55.7	24.2
SUSSUNDENGA	124,877	4,995	5,451	109.1	4,870	4,651	95.5	5,041	103.5	4,200	86.2	16.7
TAMBARA	35,243	1,410	1,905	135.1	1,374	1,518	110.4	1,922	139.8	1,489	108.3	22.5
MACOSSA	16,404	656	836	127.4	640	738	115.4	826	129.1	668	104.4	19.1
MACHAZE	84,975	3,399	3,655	107.5	3,314	2,741	82.7	3,371	101.7	2,893	87.3	14.2
CHIMOIO CIDADE	268,562	10,742	12,931	120.4	10,474	11,430	109.1	11,152	106.5	11,117	106.1	0.3
TOTAL MANICA	1,300,005	52,000	56,306	108.3	50,700	50,742	100.1	54,190	106.9	47,605	93.9	12.2

Mozambique Case Study

Districts	Popu- lation	BCG			Target	VAS		DPTHB1		DPTHB3		Drop-out Rate(%) DPTHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
BEIRA CODADE	544,535	21,781	9,401	43.2	21,237	11,972	56.4	12,130	57.1	11,415	53.8	5.9
BUZI	146,171	5,847	6,561	112.2	5,701	4,787	84.0	5,303	93.0	4,591	80.5	13.4
CAIA	90,973	3,639	5,335	146.6	3,548	5,558	156.7	5,506	155.2	5,229	147.4	5.0
CHEMBA	44,740	1,790	1,974	110.3	1,745	2,242	128.5	1,995	114.3	1,837	105.3	7.9
CHERINGOMA	18,103	724	1,636	225.9	706	1,397	197.9	1,674	237.1	1,451	205.5	13.3
CHIBAVAVA	66,904	2,676	5,315	198.6	2,609	4,577	175.4	5,074	194.5	4,669	178.9	8.0
DONDO DISTR	167,834	6,713	4,740	70.6	6,546	4,622	70.6	5,444	83.2	4,972	76.0	8.7
GORONGOSA	89,475	3,579	4,222	118.0	3,490	3,167	90.8	4,176	119.7	3,184	91.2	23.8
MACHANGA	44,363	1,775	1,503	84.7	1,730	1,376	79.5	1,783	103.1	1,686	97.4	5.4
MARINGUE	62,634	2,505	3,334	133.1	2,443	2,539	103.9	2,537	103.9	1,677	68.7	33.9
MARROMEU	70,845	2,834	4,998	176.4	2,763	3,548	128.4	4,369	158.1	3,585	129.8	17.9
MUANZA	13,447	538	646	120.1	524	449	85.6	648	123.6	618	117.8	4.6
NHAMATANDA	188,725	7,549	8,272	109.6	7,360	5,520	75.0	7,692	104.5	6,614	89.9	14.0
TOTAL SOFALA	1,548,749	61,950	57,937	93.5	60,401	51,754	85.7	58,331	96.6	51,526	85.3	11.7

Mozambique Case Study

Districts	Popu- lation	BCG			Target	VAS		DPTHB1		DPTHB3		Drop-out Rate(%) DPTHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
FUNHALOURO	33,789	1,352	2,072	153.3	1,318	1,879	142.6	2,071	157.2	1,865	141.5	9.9
GOVURO	30,655	1,226	1,501	122.4	1,196	1,422	118.9	1,400	117.1	1,365	114.2	2.5
HOMOINE	105,812	4,232	4,701	111.1	4,127	3,676	89.1	4,534	109.9	4,107	99.5	9.4
INHAMBANE CID	65,078	2,603	4,505	173.1	2,538	3,418	134.7	4,033	158.9	3,758	148.1	6.8
INHARRIME	95,415	3,817	4,932	129.2	3,721	4,130	111.0	4,739	127.4	4,627	124.3	2.4
INHASSORO	50,719	2,029	1,889	93.1	1,978	1,640	82.9	1,927	97.4	1,751	88.5	9.1
JANGAMO	119,293	4,772	3,189	66.8	4,652	3,099	66.6	3,403	73.1	3,373	72.5	0.9
MABOTE	38,523	1,541	1,650	107.1	1,502	1,307	87.0	1,698	113.0	1,504	100.1	11.4
MASSINGA	206,693	8,268	9,546	115.5	8,061	8,389	104.1	10,371	128.7	10,132	125.7	2.3
MAXIXIE	140,644	5,626	5,206	92.5	5,485	4,039	73.6	4,633	84.5	4,426	80.7	4.5
MORRUMBENE	131,524	5,261	5,260	100.0	5,129	4,335	84.5	5,209	101.6	5,027	98.0	3.5
PANDA	49,676	1,987	1,814	91.3	1,937	2,037	105.1	1,796	92.7	1,705	88.0	5.1
VILANCULOS	132,751	5,310	5,606	105.6	5,177	5,251	101.4	6,001	115.9	5,932	114.6	1.1
ZAVALA	163,024	6,521	5,467	83.8	6,358	5,409	85.1	6,050	95.2	5,333	83.9	11.9
TOTAL INHAMB	1,363,596	54,544	57,336	105.1	53,180	50,031	94.1	57,865	108.8	54,905	103.2	5.1

Mozambique Case Study

Districts	Popu- lation	BCG			Target	VAS		DPTHB1		DPTHB3		Drop-out Rate(%) DPTHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
BILENE	165,932	6,637	10,258	154.6	6,471	9,537	147.4	11,322	175.0	9,541	147.4	15.7
CHIBUTO	163,685	6,547	7,243	110.6	6,384	7,789	122.0	6,555	102.7	5,915	92.7	9.8
CHICUALACUALA	38,829	1,553	1,613	103.9	1,514	1,270	83.9	1,516	100.1	1,080	71.3	28.8
CHIGUBO	14,945	598	709	118.6	583	719	123.4	745	127.8	607	104.1	18.5
CHOKWE DISTR	236,036	9,441	7,237	76.7	9,205	7,361	80.0	6,790	73.8	6,312	68.6	7.0
GUIJA	65,729	2,629	3,520	133.9	2,563	3,420	133.4	3,975	155.1	3,300	128.7	17.0
MABALANE	29,087	1,163	1,216	104.5	1,134	1,046	92.2	1,158	102.1	882	77.8	23.8
MANJACAZE	177,873	7,115	9,141	128.5	6,937	7,584	109.3	8,953	129.1	7,881	113.6	12.0
MASSANGENA	14,051	562	667	118.7	548	632	115.3	718	131.0	707	129.0	1.5
MASSINGIR	25,097	1,004	1,178	117.3	979	1,186	121.2	1,237	126.4	1,219	124.5	1.5
XAI-XAI CID	152,411	6,096	4,582	75.2	5,944	4,922	82.8	5,467	92.0	5,034	84.7	7.9
XAI-XAI DISTR	215,847	8,634	7,529	87.2	8,418	7,352	87.3	7,481	88.9	7,138	84.8	4.6
TOTAL GAZA	1,299,522	51,981	54,893	105.6	50,681	52,818	104.2	55,917	110.3	49,616	97.9	11.3

Mozambique Case Study

Districts	Popu- lation	BCG			Target	VAS		DPTHB1		DPTHB3		Drop-out Rate(%) DPTHB
		Target	Reali- sed	Cover- age(%)		Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	Reali- sed	Cover- age(%)	
BOANE	74,806	2,992	2,618	87.5	2,917	2,955	101.3	2,851	97.7	2,982	102.2	-4.6
CID MATOLA	625,309	25,012	11,186	44.7	24,387	17,303	71.0	16,960	69.5	17,058	69.9	-0.6
MAGUDE	32,264	1,291	1,586	122.9	1,258	1,452	115.4	1,517	120.6	1,572	124.9	-3.6
MANHICA	139,139	5,566	6,206	111.5	5,426	5,939	109.4	6,472	119.3	6,171	113.7	4.7
MARRACUENE	48,299	1,932	1,366	70.7	1,884	1,749	92.9	1,699	90.2	1,563	83.0	8.0
MATUTUINE	37,444	1,498	789	52.7	1,460	958	65.6	910	62.3	856	58.6	5.9
MOAMBA	39,529	1,581	1,217	77.0	1,542	1,316	85.4	1,515	98.3	1,354	87.8	10.6
NAMAACHA	42,531	1,701	1,220	71.7	1,659	1,139	68.7	1,253	75.5	1,219	73.5	2.7
TOTAL MAP. PROV.	1,039,321	41,573	26,188	63.0	40,534	32,811	80.9	33,177	81.9	32,775	80.9	1.2
CHAMACULO	296,473	11,859	6,140	51.8	11,562	9,269	80.2	9,940	86.0	9,642	83.4	3.0
JOSE MACAMO	275,297	11,012	14,969	135.9	10,737	10,152	94.6	10,719	99.8	10,246	95.4	4.4
MAVALANE	487,063	19,483	13,944	71.6	18,995	17,343	91.3	16,520	87.0	15,728	82.8	4.8
TOTAL MAP. CID.	1,058,833	42,353	35,053	82.8	41,294	36,764	89.0	37,179	90.0	35,616	86.2	4.2
Mozambique	18,577,611	743,104	815,461	109.7	724,527	699,998	96.6	746,656	103.1	662,918	91.5	11.2

Annex 8: Documents Reviewed

National Evaluation of EPI 1998

Expanded Vaccine Program Five Year Plan 2000-2004, MOH, December 1999

National Well-Being Survey 2001 (“QUIBB: Questionário de Indicadores Básicos de Bem-Estar”) by the National Statistics Institute

Plan de Accao e Orcamento para o Ano 2002, Relatorio do Fundo GAVI – Ano 2001 (EPI Action Plan and Budget for 2002, GAVI Fund Report for 2001), PAV, MOH, June 2002

DQA Report 2002 by PriceWaterhouseCoopers September 2002

DQA Presentation (ppt slides) 2002

Financial Sustainability Plan (original in Portuguese) November 2002

Financial Sustainability Plan (English translation) January 2003

Financial Sustainability Plan for PAV 2000-2004 (Budget tables 6-14 and Implementation Schedule in Portuguese)

GAVI Annual Progress Report 2001, submitted October 2002

WHO/UNICEF Joint Reporting Forms on Vaccine Preventable Diseases for 2000, 2001, 2002, and 2003

UNICEF Immunization Plus Matrix 3 for 2002 and 2003. Part of UNICEF Mozambique Annual Report

Mozambique Presentation on ISS Funding (ppt slides) at the Southern Africa EPI Manager Meeting April 2003

Briefing Presentation on GAVI support to EPI Mozambique (ppt slides), September 19, 2003

WHO/UNICEF Review of National Immunization Coverage Mozambique 1980-2002, October 2003

GAVI Annual Progress Report for 2002, Submitted September 2003

Vaccine Management Assessment Presentation (ppt slides), by Serge Ganivet, WHO, December 2003

DHS Preliminary Report 2003, by the National Statistics Institute, Measure DHS+/ORC Macro, February 2004

GAVI Letter to MOH re 2002 Annual Progress Report, February 2004

Injection Safety Evaluation, Preliminary Report and Slide Presentation, March-April 2004, by working group of MOH, WHO and UNICEF

GAVI Fund (ISS Funds) bank account statement for January – December 200?

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GAVI Fund Expenditures 2001, 2002, 2003, PAV documents

Budget for the GAVI Fund (ISS Funds) for 2004, PAV, March 18 2004

EPI coverage data per district 2003 prepared by PAV Data Manager, April 2004