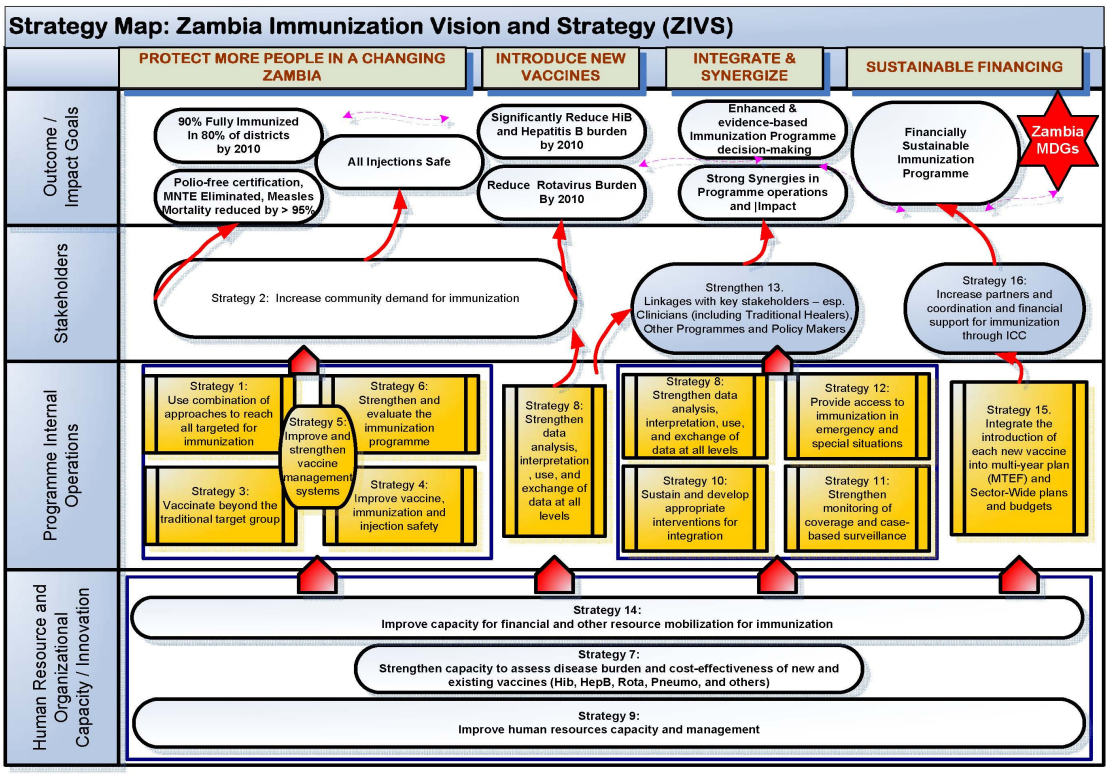
ZAMBIA PROGRAMME ON IMMUNIZATION: MULTI-YEAR PLAN, 2006 - 2010



Protect More People
Accelerate Disease Control
Surveillance & Knowledge Management
Sustain Financing & New Vaccines
Integrate & Synergize

June 2005

MINISTRY OF HEALTH
ZAMBIA

ZAMBIA COMPREHENSIVE MULTI-YEAR PLAN

FOR IMMUNIZATION PROGRAMME

2006 – 2010

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Preface

The National Programme on Immunization remains a key vehicle to deliver immunization and other essential child health services in the Zambia. Our country has in the past few years achieved significant improvements in key socio-demographic indicators. The infant mortality rate, for example, has declined from 109 per 1000 live birth in 1996 to 95 per 1000 in 2002. Under-5yr mortality rate also declined from 197 per 1000 in 1996 to 168 per 1000 in 2002. The immunization programme has been recognized for its sustained high coverage levels and its contribution to the observed reduction in childhood morbidity and mortality rates. We acknowledge the immense contribution of our development partners, including, WHO, UNICEF, JICA, USAID and GAVI in supporting these achievements.

This comprehensive Multi-Year Plan (cMYP) for immunization for the next five years (2006 – 2010) will be linked with the National Health Strategic Plan (2006-2010) and the Medium Term Expenditure Framework (MTEF) of the Government of Zambia. The plan seeks to reduce vaccine preventable diseases through integrated interventions that would strengthen the overall health system. It is hoped that, when effectively implemented, this cMYP (developed within the framework of the Global Immunization Vision and Strategy (GIVS) would contribute significantly toward improving child health and to the attainment of the Millennium Development Goals. All stakeholders should therefore support the immunization programme by working within the strategic goals and objectives contained in this important multi-year plan for the immunization programme in Zambia.

Dr Simon Miti
Permanent Secretary,
Minister of Health

Foreword

The Zambia immunization programme has been recognized for its sustained high coverage and contribution towards improving child survival and economic development. However, sustaining the gains of EPI requires a strategic approach, with clear mission, goals and strategic objectives that can help to secure medium and long-term resources, and also focus day-to-day implementation efforts.

In pursuant of the mission of the Zambia National Health strategic Plan "*to provide* service delivery and contribute to the human and socio-economic development of the nation", this comprehensive Multi-Year plan (cMYP) for Immunization (2006-2010) was developed within the framework of the National Health Strategic Plan (2006-2010). It was also based on the Global Immunization Mission & Strategy (GIVS) - ratified by WHO and UNICEF in May 2005. The plan development process involved the extensive consultations and participation of stakeholders from public, private, development partners and donors.

The plan articulates the mission of the programme and the strategic objectives through which the immunization programme, the Ministry of Health and its cooperating partners will achieve the programme goals. It also contains the cost of the Immunization programme and provides financing scenarios that can guide investments of the Ministry of Health and other partners to ensure an integrated, sustainable and high-performance immunization programme in Zambia.

The framework contained in this document should form the foundation for all provincial and district level planning and implementation of Immunization activities - in order to ensure immunization services that are based on the current best practices, and to support implementation efforts that lead toward sustainability, equity, maximum coverage and impact.

Dr Victor Mukonka
Director, Public Health and Research

Acknowledgements

The development of this comprehensive multi-year plan for immunization involved extensive consultations, participation and inputs from a wide array of stakeholders. The Public Health and Research department would therefore like to thank all the contributors to this important plan.

We wish to sincerely express our gratitude to the leadership of Ministry of Health, the Minister of Health, Ms Sylvia Masebo and the Permanent Secretary, Dr Simon Miti for their commitment and support toward the development of this plan, which seeks to contribute to the health of the future leaders of this nation, through a vibrant and effective immunization programme.

The technical, financial and logistics support rendered by the World Health Organization, UNICEF, USAID, JICA and other cooperating partners is thankfully acknowledge. In particular, we also thank the external facilitators – Dr Mutale Mumba (WHO/AFRO/ICP), Dr Steve Wiersma (WHO/HQ) and Mr Prosper Nyandagazi (UNICEF/New York) for their invaluable inputs.

Last but not least, we thank the Child Health Technical Working Group for their tireless efforts in working on the several drafts of this important plan.

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Dr P. Kalesha
Child Health Specialist
Ministry of Health

Acronyms & Abbreviations

ADS	Auto-disable Syringe
AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
BCG	Bacille Calmette-Guerin vaccine
CHWk	Child Health Week
cMYP	Comprehensive Multi Year Plan
DHS	Demographic Health Survey
DQA	Data Quality Assessment
EPI	Expanded Programme on Immunization
GAVI	Global Alliance of Vaccine and Immunization
GIVS	Global Immunization Mission & Strategies
GRZ	Government of the Republic of Zambia
HC	Health Centre
HCW	Healthcare workers
ICC	Inter-agency Coordination Committee
IDSR	Integrated Disease Surveillance Response
IEC	Information, Education and Communication
IMR	Information Mortality Rate
PRSR	National Strategy for Economic Growth, Poverty Reduction and Social Development.
ISS	Institutional Strength Support
MDG	Millennium Development Goal
MoH	Ministry of Health and Family Welfare
MTEF	Medium-term Expenditure Framework
NGOs	Non-Governmental Organizations
NIDs	National Immunization Days
NT	Neonatal Tetanus
OPV	Oral Polio Vaccine
PHC	Primary Health Care
RED	Reaching Every District Strategy
SIA	Supplemental Immunization Activities
SNIDs	Sub-national Immunization Days
SOCMOB	Social Mobilization
TT	Tetanus toxoid vaccine

Executive Summary

Immunization has been one of Zambia's greatest public health success stories. However, in order to ensure that all children of Zambia benefit equitably from this intervention, a strategic, i.e., long-term approach to planning and implementation is essential. This comprehensive Multi Year Plan (cMYP) provides a framework on which to plan activities to achieve the major objectives of the national immunization programme, as contained in the national health policy. It sets out the medium-term (2006-2010) strategic goals of the immunization programme, the related strategic objectives, indicators, milestones, and key activities; it also includes the associated costing and funding plan.

The Zambia cMYP for immunization seeks to sustain the gains of the national immunization programme while contributing to strengthening the health system. The plan was based on the Global Immunization Vision and Strategy (GIVS) – which was ratified by the World Health Assembly in May 2005. Developing the cMYP involved three-steps: (a) identifying the key issues, (b) developing the plan, and (c) articulating the implementation, monitoring and evaluation approaches.

A. Identifying the Key Issues. An extensive situation analyses showed that they country has made significant progress in some key socio-demographic indices. The infant mortality rate, for example, has declined from 109 per 1000 live birth in 1996 to 95 per 1000 in 2002. Based on the GAVI funded study on Sector-wide barriers to the Immunization Programme in 2004 and the WHO-funded comprehensive EPI Review conducted in 2005, analyses of the significant barriers and enablers of an effective immunization programme in Zambia are summarized in the table below.

Situation Analysis Summary Table

	Key Barriers	Key Enablers
Immunization programme –Specific Issues	**Access to immunization and other health services**	
	• Sustaining outreach visits due to inadequate staff, logistics and funds • Poorly-trained / untrained HF staff, especially at lower levels • Sparse population in some districts • Inadequate local supervision of health facilities • High staff turnover and attrition in some districts	• Availability of wide network of Outreach Sites to support immunization services in rural areas • Strong linkage with communities in many districts and their involvement in updating community registers and attending review meetings • Motivated and committed staff at service delivery level • Availability of review meetings at all levels • Availability of supportive supervision missions from higher levels • RED strategy implementation experience in 10 pilot districts
	Immunization Coverage and Performance	
	• 20/72 districts having less than 80% coverage for Measles • 41/72 districts having less than 80% coverage for DPT3 • 35/72 districts having less than 80% TT2+ coverage	• Motivated District Health Information Officers • 39/64 districts high-performing districts • Consistent national BCG coverage more than 95% • Improving OPV3 coverage (>80% in 2005)
	EPI Logistics	
	• Inadequate training for newly employed or deployed logistics / cold chain staff • Need for coordination with Central	• Availability of computerized logistics management system • Trained logistics staff in most districts

	Medical Stores department	• Relatively strong logistics reporting, requisition, and distribution mechanism in place
	Injection Safety • Inadequate waste disposal system • Challenge of securing funds for the continuation of AD syringes at end of GAVI funding • Weak AEFI monitoring system	• Use of AD syringes for all vaccination • Availability of some funding from GRZ/MoH for AD syringes •
	Accelerated Disease Control • Risk of polio importation from other countries • Significant measles morbidity and mortality • Risk of NT cases from children not protected at birth	• Experience in conducting high quality polio response campaign (during 2002 wild polio virus importation) • Experience in conducting high quality measles and TT supplemental immunization Activities • Strong active EPI surveillance system with consistently high quality indicators
	Financing • Huge funding gap likely, with the end of GAVI Phase I funding • Large resource requirements especially for new vaccines introduction	• GRZ support for immunization through the HIPC and MTEF mechanisms • Opportunities for EPI funding through GAVI Phase II and IFFIM facilities
Sectoral / Other External Issues	• Health reforms and the need for more inter-departmental collaborations • Intense competition for resources from other health and developmental programmes • Low economic situation in the country • Poor social infrastructure in may parts of the country, especially the rural areas • Relatively poor communication networks and internet facilities that impede information transmission and communication between all levels	• Strong government commitment to immunization and child health • Availability of Global and national goals and initiatives that relate to immunization • Generally increasing macro-economic status of Zambia

B. Developing the Plan

The major elements of this multi-year plan are the mission, strategic goals, strategic objectives, key activities, and the costing / financing plan. They were developed based on a comprehensive situation analyses, including a review of global goals and national priorities.

Mission

The mission of the immunization programme during the period 2006 – 2010 is as follows:

To reduce the burden of vaccine preventable diseases,
by protecting more people in Zambia
through the use of safe and effective vaccines,
and in such as way as to strengthen the overall health system.

The principles that would guide the efforts to accomplish this mission are *Quality and safety* – to *ensure* immunization services based on best practices; *Maximal coverage and reach - to* overcome access barriers at all levels; *Equity and gender equality - to* give priority to the underserved and hard-to-reach groups; *Sustainability through technical and financial capacity building and Excellence in Programme Management – to ensure effective* use of resources following result-based principles and evidence-based practices.

Strategic Goals

The five goals or key results areas of the immunization programme are:

- STRATEGIC GOAL 1: Protect more people by use of safe and effective vaccines
- STRATEGIC GOAL 1I: Accelerate the reduction of morbidity and mortality from vaccine preventable diseases
- STRATEGIC GOAL III: Strengthen immunization programme financing and sustain the introduction of additional vaccines
- STRATEGIC GOAL IV: Strengthen EPI Disease Surveillance in the context of overall improvement of the national health information system
- STRATEGIC GOAL V. Integrate EPI with other Interventions in the context of strengthening the Health System

Strategic Objectives

During the 5–year period, 2006 – 2010, the major strategic objectives for each goal are as follows:

STRATEGIC GOAL 1: Protect more people by use of safe and effective vaccines

- Strengthen and scale-up the implementation of RED strategy in all districts in the country
- Improve the quality of immunization service delivery and quality assurance
- Strengthen and improve safe injection practices and waste disposal
- Strengthen and improve effective vaccine and cold chain management
- Strengthen Advocacy, Communication and IEC and community participation in immunization activities

STRATEGIC GOAL 1I: Accelerate the reduction of morbidity and mortality from vaccine preventable diseases

- Provide 2nd dose measles vaccine by measles SIAs and routine vaccination
- Strengthen MNT Elimination activities
- Sustain PEI activities and strengthen preparations for rapid response to polio importations

STRATEGIC GOAL III: Strengthen immunization programme financing and sustain the introduction of additional vaccines

- Strengthen capacity to mobilize financial and other resources for immunization
- Sustain the introduction of pentavalent (DPT-HepB+Hib) vaccine and strengthen the national capacity for vaccine independence
- Strengthen capacity to prepare for introduction of additional vaccines

STRATEGIC GOAL IV: Strengthen EPI disease surveillance & knowledge management in the context of overall improvement of the national health information system

- Strengthen AFP, Measles and NNT Surveillance
- Integration of EPI Surveillance with other surveillance of other priority diseases
- Strengthen capacity of districts in planning, use of EPI information tools and sharing of best practices
- Contribute to strengthening the health Information system and knowledge management

STRATEGIC GOAL V. Integrate EPI with other Interventions in the context of strengthening the Health System

- Improve EPI Human resource management & strengthen performance-based reward system
- Strengthen linkages between immunization and other health system interventions
- Strengthen pre-service and in-service core competences & skills in immunization and integration

The milestones and key activities for each strategic objective are outlined in Section 4.

Costing and Financing the Plan

Implementing this immunization programme multi-year plan will require increasing costs and GRZ budgetary allocation over the 2006 - 2010 periods. The marked increases in programme costs and 60% budgetary allocation are driven mainly by the introduction of new vaccines, Supplemental Immunization Activities (i.e. campaigns) and increases in population of children to be vaccinated due to the anticipated coverage improvements and increase in the annual birth cohort.

The resource requirements, financing and funding gaps a total requirement of more than USD$ **$171,035,828** for 2006 – 2010 (minus shared costs, e.g., salary of health workers) for the 5 – year period (see the figure below). The funding gaps indicate the need for the GRZ to seek innovative means to raise resources.

The country will need to apply for GAVI phase II funding, and negotiate for a gradual annual increase in GRZ funding toward taking overall funding responsibility for vaccine procurement by 2015. The overall financing strategy shall seek to have government resources increasingly used for vaccine procurement, while the bulk of the remaining programme operational costs are covered by financial and technical support mobilized from other sources.

Financing the Multi-year Plan

Baseline Expenditure (2005)	
Total Expenditures	$21,758,970
Routine Immunization only	$21,758,970
per capita	$1.9
per DTP child	$43.8
% Vaccines and supplies	0.0%
% National funding	#DIV/0!

Resource Requirements, Financing and Gaps	**2006**	**2007**	**2008**	**2009**	**2010**
Total Resource Requirements	**$34,223,426**	**$37,067,669**	**$32,466,571**	**$33,687,925**	**$33,590,237**
Annual growth rate	36%	8%	-14%	4%	0%
Per capita	$2.9	$3.0	$2.6	$2.6	$2.6
Total Resource Requirements (Routine)	**$33,916,381**	**$34,624,513**	**$32,466,571**	**$33,687,925**	**$33,590,237**
per DTP targeted child	$69.0	$67.2	$61.5	$62.3	$60.6
% Vaccines and supplies	25%	25%	27%	26%	27%
Total Financing (Secured)	**$29,692,381**	**$33,562,739**	**$21,509,997**	**$22,327,073**	**$21,929,986**
Government	$10,233,115	$12,596,803	$10,388,302	$11,273,227	$14,500,709
Sub-national Gov.					
Basket Funds	$11,336,938	$9,887,816	$4,879,311	$4,976,897	$4,395,690
GAVI-TVF	$7,442,328	$6,901,193	$6,112,384	$5,976,949	$2,933,587
JICA	$180,000	$2,600,000	$100,000	$100,000	$100,000
UNICEF	$278,000	$1,516,927			
WHO	$172,000	$10,000			
USAID/HSSP/HCP	$50,000	$50,000	$30,000		
Other					
Funding Gap	**$4,531,046**	**$3,504,930**	**$10,956,574**	**$11,360,852**	**$11,660,251**
% of Total Needs	13%	9%	34%	34%	35%
Total Financing (Not Secured - Probable)	**$2,523,709**	**$617,000**	**$708,556**	**$1,145,751**	**$910,146**
Government	$2,378,453	$59,000	$65,321	$600,000	$310,000
Sub-national Gov.					
Basket Funds					
GAVI-TVF					
JICA	$125,256		$163,235	$65,751	$120,146
UNICEF	$10,000	$20,000		$20,000	$20,000
WHO	$10,000	$498,000	$1,460,000	$460,000	$460,000
USAID/HSSP/HCP		$40,000	$500,000		
Other					

Funding Gap	**$2,007,337**	**$2,887,930**	**$10,248,018**	**$10,215,101**	**$10,750,105**
% of Total Needs	6%	8%	32%	30%	32%

Composition of the funding gaps	**2006**	**2007**	**2008**	**2009**	**2010**
Vaccines and injection equipment					
Personnel	$71,904	$55,000	$0	$0	$680,745
Transport		$723,906			
Activities and other recurrent costs	$740,490	$1,394,020	$9,555,728	$9,469,171	$9,565,426
Logistics (Vehicles, cold chain and other equipment)	$1,060,505	$2,719,888		$272,187	$17,665
Campaigns	$0				
Other	$298,453	$522,044	$787,486	$503,235	$509,300
Total Funding Gap	**$2,007,337**	**$5,412,930**	**$10,278,018**	**$10,215,101**	**$10,750,105**

Implementing, Monitoring and evaluating progress

The cMYP shall be implemented in such a way as to strengthen the existing immunization programme infrastructure and the overall health system. The Strategy map - a useful tool that can help to clarify the strategic thrust of the immunization programme and the strategic objectives link to the overall goal of this Multi-Year Plan - is shown in Section 3.3.

In order to institutionalize the monitoring process, the following management review mechanism shall be implemented:

- Monthly departmental progress reviews of scheduled activities
- Quarterly progress reviews by the ICC
- Mid-year assessment and annual evaluations

The monthly and quarterly reviews shall focus on activity completion (Activity Performance Indicators) and expenditure, while the mid-year and annual reviews shall concentrate on the overall outcome objectives and the Key Performance Indicators (KPIs).

To evaluate progress toward achieving the objectives of this 5-year plan, the DGHS/MoH and the ICC shall implement the following evaluation mechanisms:

- Mid-term Evaluation in 2008
- Summative (or End of Plan) Evaluation and comprehensive immunization programme review in 2010

This comprehensive plan also contains a one-year immunization programme action plan for 2006 – that will kick-start the momentum toward achieving the laudable and ambitious goals of the immunization programme in Zambia.

1 Introduction

Childhood immunization is one of the most cost-effective of all health interventions – saving more lives for the money invested than almost any other health intervention available today[1]. However, in order to ensure that all children of Zambia benefit equitably and sustainably from this intervention, a long-term approach to planning and implementation is essential.

This plan sets out the medium-term (2006–2010) strategic goals of the immunization programme, the related objectives, indicators, milestones, key activities and the associated costing and funding plan. This comprehensive Multi Year Plan (cMYP) provides a framework on which to plan activities to achieve important objectives of the national immunization programme, as contained in the national health policy. It also includes the one-year annual plan for 2006.

Thus this document provides not only the framework on which activities should be planned to achieve the objectives of the Zambia immunization programme, but it also outlines the rationale and cost implications for the introduction of new vaccines and other interventions - that are crucial for increasing the impact of vaccination on the health of the people of Zambia.

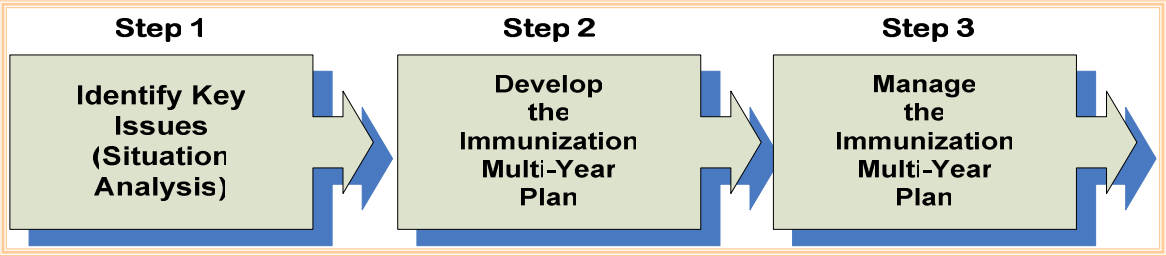
1.1 Process of Developing the Multi-Year Plan

The development of this comprehensive multi-year plan (cMYP) for immunization focused on two distinct, yet inter-related processes – the development of the Strategic Plan and annual work plan and the preparation of the costing and financial plan. The details of these two processes are outlined below.

1.1.1 Developing the Strategic Plan and Annual Work plan

This Zambia cMYP for the immunization programme was based on the Global Immunization Vision and Strategy (GIVS) - ratified by the World Health Assembly in May 2005. The work on preparing the cMYP culminated in a workshop of stakeholders held in May 2005. The cMYP development planning process involved three-steps: identifying the key issues, developing the plan, and articulating the implementation, monitoring and evaluation mechanism (see Figures 1 and 2).

Figure 1 Multi-year Plan development Steps



[1] WHO (2003). State of the World's Vaccines and Immunization

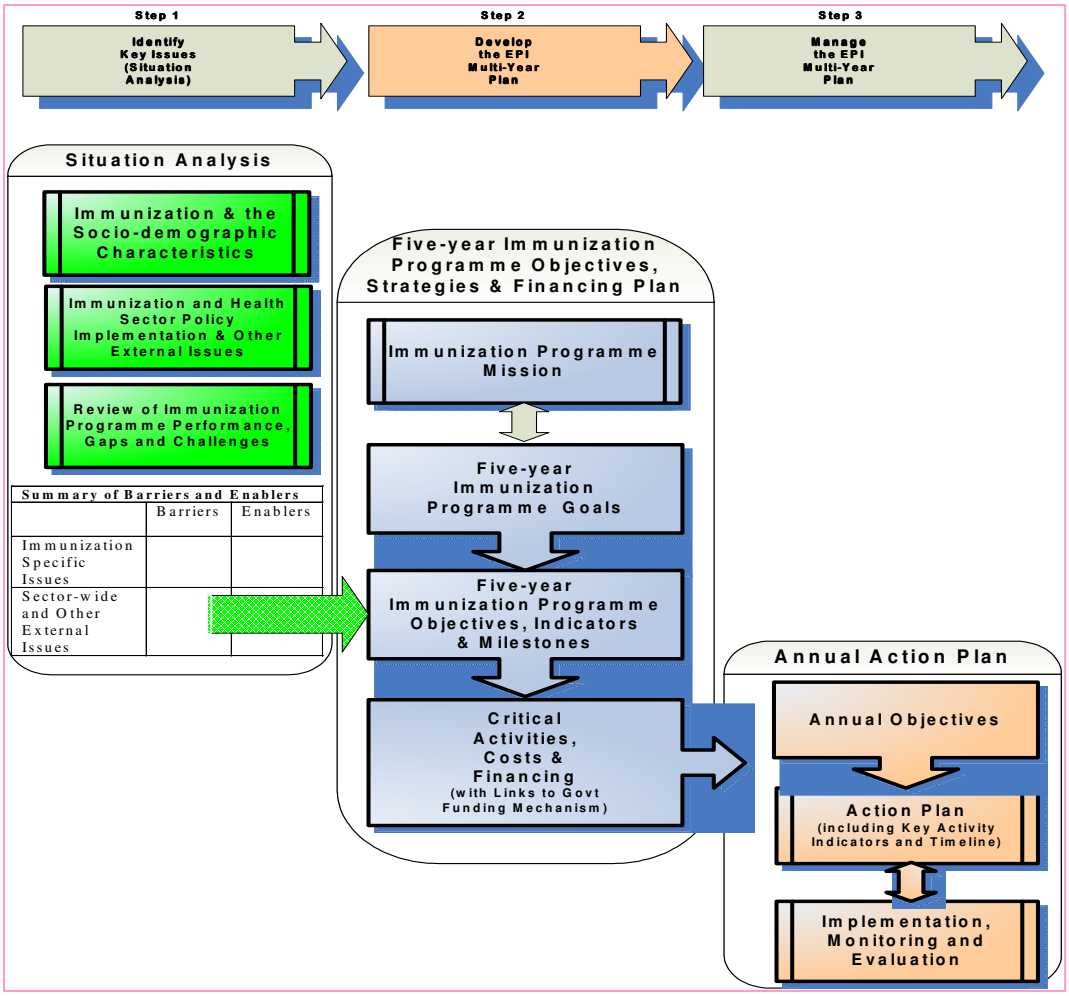
It was inclusive, and entailed extensive consultations, participation and inputs from a wide array of stakeholders, including all levels and programmes in the health sectors – programme directors and managers from the all levels of the health sector, national, Provincial, district and District levels. Multi-lateral and bilateral partner agencies also supported the process. WHO and the UNICEF provided international facilitators to support the process. The List of participants at the cMYP workshop is shown n Appendix 1. The strategic framework for developing the programme strategy is shown in Annex 2.

1.1.2 Costing the Multi-year Plan

In order to develop the develop the costing and financing plan for the period 2006 – 2010, the team collected data on the costs /expenditures for immunization services and activities and also reviewed the immunization programme's Financial Sustainability Plan (FSP) developed in 2003.

The analyses of the costing and financing data were done using the Excel-based cMYP Costing Tool developed by GAVI. This tool enabled the quantification of the cost implications of the interventions, including the various scenarios for the introduction of new vaccines. The next section presents the details of the situation analyses, including the funding performance and gaps.

Figure 2: Multi-year Plan development process



2 Situation Analysis

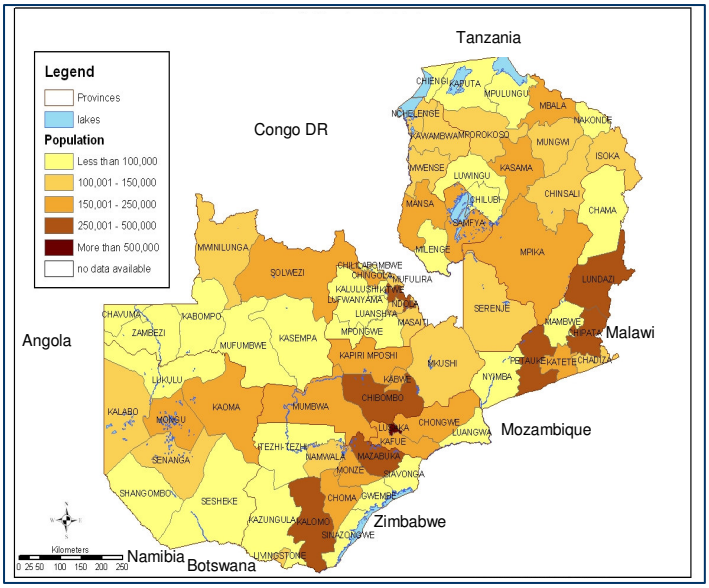
This section examines the current status, performance challenges and gaps that formed the basis for the strategies and key activities contained in this plan. It outlines the socio-demographic and health sector contexts, and the status of the immunization programme components and the major immunization programme initiatives.

2.1 Immunization and the Socio-demographic Status of Zambia

Zambia, a land locked country in southern Africa, consists administratively of nine (9) provinces and seventy-two (72) districts. The country has a tropical climate with three seasons: cool dry winter (May to August) hot dry season (September-October) and hot rainy season (November-April). The annual rainfall varies from 600 to 1,100mm in the country, and the erratic rainfall patterns in the southern and eastern parts of the country often results into spells of drought, crop failure and famine.

With a total population of 10.3 million and total area of 752,612 square kilometers, some provinces are very sparsely populated another challenge in reaching the un-reached through outreach services. Access to immunization outreach posts and sites is often hampered by the topographic characteristics of the areas. Parts of the Northern, Central, Eastern and Southern provinces are mountainous, and often require four-wheel-drive vehicles to reach remote rural villages. Meandering through the country are five big rivers (Luangwa, Zambezi, Kafue, Luapula and Chambeshi) and four in-land lakes (Tanganyika, Mweru, Bangweulu and the man-made Kariba). Many areas of Luapula, Southern, Western, and parts of Eastern provinces are swampy, and have many islands that experience seasonal floods from rivers that drain through them; reliable boats and canoes are usually required to reach these communities that live on the islands and across the rivers for immunization and other health services.

Figure 3: Zambia – Population Density by District



Since the mid-1990s Zambia has been implementing health sector reforms based on decentralization of responsibilities of health care delivery including immunization from the central offices to the peripheral offices. The health reforms has a vision of providing equity of access to a cost effective quality health care as close to the family as possible. In order to have a smooth delivery of the health care package, the following structures are in place to support the implementation of health interventions:

- *Ministry of Health/Central Board of Health (CBoH) which coordinates health service delivery nationally;*
- *Nine provincial health offices which serve as liaisons between the CBoH and the district level offices;*
- *The District Health Board (DHB) and Hospital Management Health Boards.*
- *Health Centres working with Neighbourhood Health Committees working in to encourage community participation.*

The operational linkages of the above-mentioned structures are such that the Ministry of Health provides policy guidance and development of technical guidelines based on the prevailing health status. The provincial level acting as a link between the Ministry of Health and the district and hospitals, interprets policy guidelines and provides technical support to hospital and district health management teams.

The second and third level hospitals including specialized hospitals provide clinical diagnostics and care as well as technical support to the district health management teams with regard to clinical diagnostics and care at first level hospitals and health centres. In order to further increase geographic access to immunization and other integrated services, health centres have established outreach sites in their catchment communities.

Figure 4: Zambia: Health Institutions by Type, Size and Ownership

Facility Type		No of Units	Total Number of		Number of Facilities Owned by			Total
			Beds	Cots	Govt	Private	Missions	
3rd Level Hospital		5	3,802	452	5			5
2nd Level Hospital		18	5,133	988	12		6	18
1st Level Hospital		73	6,795	1,166	35	17	21	73
Health Centres	Rural	973	8,077	570	889	23	61	973
	Urban	237	1,632	325	163	74		237
Health Posts		20			19	1		20
Total		**1,326**	**25,439**	**3,501**	**1,123**	**115**	**88**	**1,326**

Figure 5: Summary of Hospitals by Level and Province

Province	Population	Number of Hospitals by Level			Health Centres and Posts			Total number of Health Centres and Post
		1st Level	2nd Level	3rd Level	Rural	Urban	Health Posts	
Central	1,130,481	7	2		87	23	0	110
Copperbelt	1,632,431	11	2	3	50	142	0	192
Eastern	1,453,056	7	2		143	2	0	145
Luapula	879,464	6	1		111	2	0	113
Lusaka	1,596,582	6		2	45	46	4	94
Northern	1,422,183	5	3		144	1	3	146
North-western	654,020	7	2		110	3	3	115
Southern	1,327,546	14	5		173	15	10	201
Western	821,680	10	1		110	3	0	113
Total	**10,917,443**	**73**	**18**	**5**	**973**	**237**	**20**	**1,326**

2.2 Immunization and Health Sector Policy Implementation

Within the broader context of the overall national development, the Zambia National Health Strategic Plan, 2006 - 2010 seeks "*to provide service delivery and contribute to the human and socio-economic development of the nation*".[2]

With a GDP per capita of $342 and 84.6% of the population living below the $1/day, poverty remains a major barrier to improving child health, and to the attainment of the MDG 4. The proportion of government's budget spent on Health in 2004 was only 10%. However, DPT3 coverage – an indicator of immunization service accessibility and utilization - is one of the proxy indicators in the government's Poverty Reduction Strategy Paper (PRSP) application.
Children have continued to suffer and die from potentially preventable and treatable diseases which are reflected in high morbidity and mortality. Immunizable diseases contribute significantly to the disease and death burden. Infant mortality rate (IMR) has dropped from 109 in 1996 to 95 in 2002. Under-five mortality has dropped from 197 in 1996 to 168 in 2002 (DHS 2001-2002). However, these rates are still very high.

In 2004, GAVI-funded assessment of sector wide barriers to immunization showed that a major barrier to immunization was low funding. There were also concerns about long-term sustainability of the new and relatively expensive vaccines. However, the joint basket funding between the MoH and cooperating partners has eased some of the financial difficulties at district level: DHMTs were planning and managing district health services (including immunization) and the finances themselves. Besides, fund disbursements to the districts were generally timely, regular and predictable. An EPI Financial Sustainability Plan developed in 2003 helped to focus the MoH on the future financing requirements of the immunization programme.

Zambia: Demographic and socio-economic data

Parameter	Date	Estimate	Source
Total Population (thousands)	2000	10,324	GRZ
Annual Population Growth	2000	2.46	GRZ
% of Urban Population	2000	36	GRZ
Life expectancy at birth	2002	39.7	GRZ
GDP per capita, (US$)	2005	380	IMF
GDP average annual growth rate	2001	5.2	IMF
% Government Budget Spent on Health Care	2004	11.9	GRZ
Per Capita Expenditure on Health (US $)	2004	2%	GRZ

Inadequate infrastructure and human resource, especially in rural areas are major barriers in the delivery of effective immunization services. Zambia has 18 general Hospitals, 44 District hospitals, and more than one thousand health centers located all over through the country. The MoH is currently constructing health posts to increase access and availability of immunization (and other health care) services. To address the staff shortage, the MoH has introduced retention schemes with incentives to encourage health staff to stay, particularly in rural areas.

[2] MoH (2005). Ministry of Health Strategic Plan, 2005 - 2009

2.3 Immunization Programme Components – Performance, Gaps and Challenges

2.3.1 Service Delivery, Access and Coverage

Immunization service delivery is organized and offered at all static points and outreach posts. The target is children less than 1 year; however, during the biannual Child Health Week exercises immunization is offered to children older than one year. Zambia follows the immunization schedule below.

Vaccine	Age of administration	Dose	Route	Site of administration
BCG	At birth or when first seen	0.05 ml	Intradermal	Upper outer aspect of the left forearm
DPT-Hep -Hib	At six weeks first dose, Ten weeks –second dose, Fourteen weeks Third dose	0.5 ml	Intra-muscular (IM)	Outer outside of the middle of the thigh
Polio	Day zero up to thirteen days- dose zero, at six weeks first dose, Ten weeks –second dose, Fourteen weeks- Third dose and nine months –fourth dose if dose zero was missed.	2 drops	(In the mouth)	Mouth
Measles	At nine months	0.5 ml	Sub-cutaneous	Outer side of the upper arm
TT	First dose-First contact pregnancy, 2nd dose after one month, 3rd dose after 6 months, 4th dose after 1 year, 5th dose after 1 year.	0.5 ml	Im	Outer side of the upper arm
Vitamin A	Every six months from age of six months to 59 months	100 000Iu t0 200000Iu	mouth	mouth

Vaccination of School children

Age	Vaccine
School entry	BCG booster if no scar
School entry	Measles if no previous immunization recorded
School entry	TT
Other school grades	TT to girls of childbearing age

Access to immunization outreach posts and sites is often hampered by the topographic characteristics of the areas and reliable boats and canoes are usually required to reach these communities that live on the islands and across the rivers for immunization and other health services. With a total area of 752,612 square kilometers (and a population of 10.3 million people), some provinces are very sparsely populated - another challenge in reaching the un-reached through outreach services.

2.3.2 Reaching Every District strategy

The Reaching Every District (RED) strategy that was adopted by the country in 2003 as an effective approach to reach the un-reached and the missed opportunities. The strategy has been implemented in the first ten priority districts. Preliminary field assessment results have revealed an increase in the coverage, increased community demand for immunization, increased community participation. The significant reduction in the number of un-immunized children is evidence that the strategy has been effective, see Annex 3.

In terms of coverage, there has been a steady increase in the number of districts (45% in 2002 to 59% in 2004), reporting Fully Immunized Children of more than 80%, however, a third of them are still below 80%., as shown in Annex 2.

2.3.3 EPI Logistics

The GAVI Institutional Strengthening Support (ISS) window was used to improve the distribution system of EPI vaccines and supplies. The EPI cold chain system was revitalized with the support of JICA as 55% of equipment in the field was replaced in 2002. Selected sentinel health facilities are currently being used to monitor vaccine utilization and wastage in the country. Efforts to address and promote safe disposal of injection materials have began with purchase of 27 incinerators.

2.3.4 Surveillance

Zambia's EPI Surveillance activities are implemented using an integrated approach (in context of Integrated Disease Surveillance and Response (IDSR). Focal point persons at provincial, district and health facility levels conduct daily active surveillance activities and the high quality AFP surveillance is an indicator of the strength of the surveillance

system. However, data analysis and interpretation and use at district and lower levels is remains a challenge.

2.3.5 Advocacy, Communications and Community Mobilization

Advocacy activities and related commitment is relatively high at national level. There is little involvement of private and commercial sector. Information and community education to raise community demand and utilization of immunization services is high during immunization campaigns and inadequate during routine activities. An integrated communication strategy is now being developed to streamline and strengthen immunization communication activities.

2.3.6 Programme Management

In addition to government and cooperating partners contribution most of which contribute through the basket of the sector wide approach process, there has been additional support from the Global alliance on Vaccines and Immunization (GAVI), under the Immunization Services Support, material support of Auto-Disable syringes (ADs) and new vaccines with their injection materials (ADs & safety boxes). The country also received a GAVI award of $2.17m in 2005 for high immunization performance.

Efforts are being made to strengthen integration and create synergies to improve implementation of immunization services.

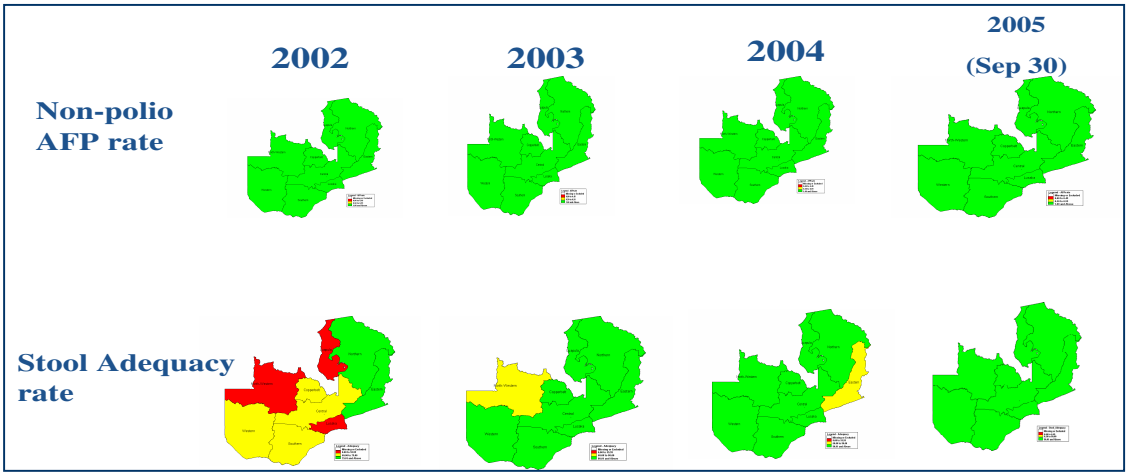
Baseline and annual targets

2.3.6.1.1.1 Number		Baseline and targets							
		Base-year	Year of GAVI application	Year 1 of Program	Year 2 of Program	Year 3 of Program	Year 4 of Program	Year 5 of Program	Year 6 of Program
		2005	2006	2007…	2008…	2009…	2010…	2011…	2012…
Births		605,990	620,817	636,140	651,977	668,346	685,264	702,753	720,831
Infants' deaths		60,599	62,082	63,614	65,198	66,835	68,526	70,275	72,083
Surviving infants		545,391	558,735	572,526	586,779	601,511	616,738	632,478	648,748
Pregnant women		492,640	509,070	527,996	547,661	568,094	582,474	604,368	627,123
Infants vaccinated with BCG		538,409	558,735	578,887	599,819	621,562	644,148	667,615	691,998
BCG coverage*		88%	90	91	92	93	94	95	96
Infants vaccinated with OPV3		476,234	502,862	518,136	539,836	550,383	567,378	585,042	603,337
OPV3 coverage**		87%	90	90.5	91	91.5	92	92.5	93
Infants vaccinated with DTP3***		515,936	533,592	549,626	566,242	583,466	601,319	619,828	639,017
DTP3 coverage**		95%	95.5	96	96.5	97	97.5	98	98.5
Infants vaccinated with DTP1***									
Wastage[3] rate in base-year and planned thereafter		10%	10%	10%	5%	5%	5%	5%	5%
Infants vaccinated with Measles		449,414	455,369	469,471	487,027	505,269	521,144	537,606	554,680
Measles coverage**		82%	81%	82%	83%	84%	85%	85%	86%
Pregnant women vaccinated with TT+		492,640	509,070	527,996	547,661	568,094	582,474	604,368	627,123
TT+ coverage****		82%	83%	84%	85%	85%	86%	87%	82%
Vit A supplement	Mothers (<6 weeks from delivery)								
	Infants (>6 months)	1,342,120	1,719,184	1,783,638	1,850,611	1,920,208	1,992,538	2,067,715	2,145,857

7.1.

2.3.7 Accelerated Disease Control Initiatives

i. Polio Eradication Initiative. The last indigenous polio case was identified in 1995 following an outbreak in Lusaka and Mwinilunga. The country conducted three national & sub-national polio vaccine Immunization Days (NIDs/ SNIDs) between 1996 and 2002, the last of which was conducted in response to polio virus importation in Western Province of Zambia. The African Regional Certification Commission (ARCC) accepted Zambia's documentation for polio-free certification in October 2005.

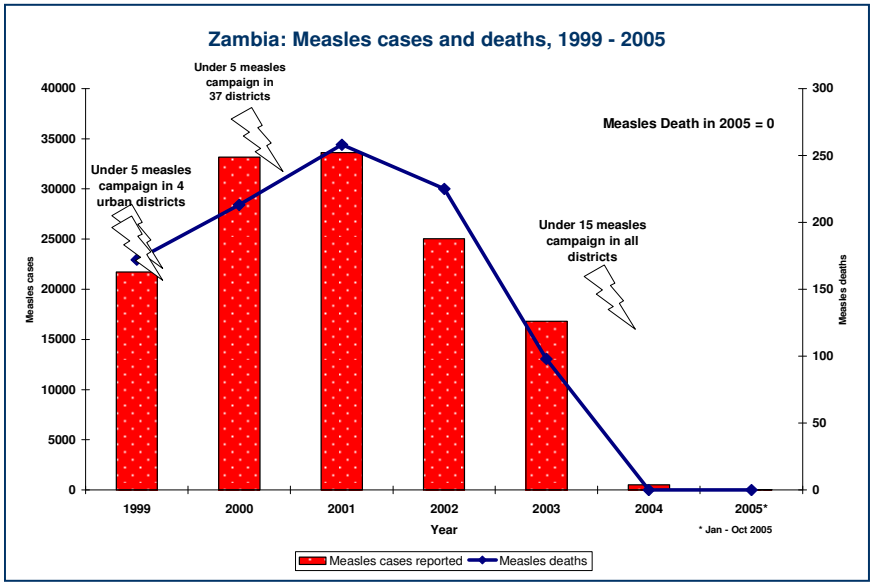


ii. Maternal & Neonatal Tetanus Elimination

Zambia is on its way to maternal and neonatal tetanus elimination: TT2+ coverage has been above 80% since 2002, and only 5 districts are currently classified as high-risk. TT supplemental immunization is planned for the high-risk districts in 2005.

iii. Accelerated Measles Control

Following the successful national measles catch-up campaigns in 2003 – for which the country received an award for excellence from the African Regional Task Force on Immunization – the burden of measles had reduced dramatically. An active case-based measles surveillance system tracks the incidence of measles nationwide. Death from measles is now near zero.



2.3.8 Summary of Immunization Programme Enablers and Barriers

	Key Barriers	Key Enablers
Immunization programme –Specific Issues	**Access to immunization and other health services** • Sustaining outreach visits due to inadequate staff, logistics and funds • Poorly-trained / untrained HF staff, especially at lower levels • Sparse population in some districts • Inadequate local supervision of health facilities • High staff turnover and attrition in some districts	• Availability of wide network of Outreach Sites to support immunization services in rural areas • Strong linkage with communities in many districts and their involvement in updating community registers and attending review meetings • Motivated and committed staff at service delivery level • Availability of review meetings at all levels • Availability of supportive supervision missions from higher levels • RED strategy implementation experience in 10 pilot districts
	Immunization Coverage and Performance • 20/72 districts having less than 80% coverage for Measles • 41/72 districts having less than 80% coverage for DPT3 • 35/72 districts having less than 80% TT2+ coverage	• Motivated District Health Information Officers • 39/64 districts high-performing districts • Consistent national BCG coverage more than 95% • Improving OPV3 coverage (>80% in 2005)
	EPI Logistics • Inadequate training for newly employed or deployed logistics / cold chain staff • Need for coordination with Central Medical Stores department	• Availability of computerized logistics management system • Trained logistics staff in most districts • Relatively strong logistics reporting, requisition, and distribution mechanism in place
	Injection Safety • Inadequate waste disposal system • Challenge of securing funds for the continuation of AD syringes at end of GAVI funding • Weak AEFI monitoring system	• Use of AD syringes for all vaccination • Availability of some funding from GRZ/MoH for AD syringes •
	Accelerated Disease Control • Risk of polio importation from other countries • Significant measles morbidity and mortality • Risk of NT cases from children not protected at birth	• Experience in conducting high quality polio response campaign (during 2002 wild polio virus importation) • Experience in conducting high quality measles and TT supplemental immunization Activities • Strong active EPI surveillance system with consistently high quality indicators
	Financing • Huge funding gap likely, with the end of GAVI Phase I funding • Large resource requirements especially for new vaccines introduction	• GRZ support for immunization through the HIPC and MTEF mechanisms • Opportunities for EPI funding through GAVI Phase II and IFFIM facilities

Sectoral / Other External Issues	• Health reforms and the need for more inter-departmental collaborations • Intense competition for resources from other health and developmental programmes • Low economic situation in the country • Poor social infrastructure in may parts of the country, especially the rural areas • Relatively poor communication networks and internet facilities that impede information transmission and communication between all levels	• Strong government commitment to immunization and child health • Availability of Global and national goals and initiatives that relate to immunization • Generally increasing macro-economic status of Zambia

3 Goals, Mission and Guiding Principles

This comprehensive immunization multi-year plan builds on the strengths and opportunities identified in the current immunization programme and seeks to mitigate the barriers identified in order to strengthen the immunization programme within the broader context of the health system. It is anchored on contributing - through a robust immunization programme - to achieving the broader global and national goals. With an annual birth cohort of over 4 million and under-five population of 12 million, Zambia immunization programme have the potential to contribute significantly to the national and global goals outlined below.

3.1 Global Goals

a) Development Goals

GLOBAL GOALS - MDG 4

Reducing under-five mortality by 2/3 between 1990 and 2015

Measured by: Under-5 MR, IMR, % infants immunized against measles

b) UNGASS, GIVS, GAVI, WHO/UNICEF GLOBAL Goals

Immunization Coverage

- By 2010 or sooner all countries will have routine immunization coverage at 90% nationally with at least 80% coverage in every district

Polio

- By 2005, the world would be certified polio-free

Measles

- 90% reduction in infant mortality by 2010 compared to 2000

Neonatal Tetanus

- Elimination in every district by 2005

Hepatitis B

- By 2002, 80% of all countries with adequate delivery systems will have introduced hepatitis B vaccine. By 2007, all countries.

Heamophilus influenza B

- By 2005, 50% of the poorest countries with high disease burdens and adequate delivery systems will have introduced Hib vaccine

3.2 National Priorities

Based on the national goal of reducing infant and child mortality under the HNPSP, and the global goals identified by UNGASS, GIVS, GAVI, WHO and UNICEF, the major national priorities of the Zambia immunization programme are as follows:

- Achieve 90% of under -1yr fully immunized
- Sustain official polio-free certification status
- Measles mortality reduced by 95%
- Maternal and neonatal tetanus is eliminated
- New generations are protected against liver disease caused by hepatitis B and meningitis caused by Heamophilus Influenza B.
- New Vaccines introduced and sustained
- Immunization programme financially sustainable
- Improve evidence-based immunization programme decision-making
- Strong synergies between immunization and related interventions
- Increase and Strengthen human resource capacity
- Zambia on track to meet Millennium Development Goals

3.3 Mission of the Zambia Immunization Programme

In order to ensure a strong focus on the national priorities and the global goals of immunization, the mission of the Zambia immunization programme is as follows:-

MISSION OF ZAMBIA IMMUNIZATION PROGRAMME

To reduce the burden of vaccine preventable diseases by protecting more people in Zambia through the use of safe and effective vaccines, and in such as way as to strengthen the overall health system

3.4 Guiding Principle

In pursuit of the mission of the immunization programme, the guiding principles shall be as follows:

- *Quality and safety*. The immunization programme will deliver immunization services based on best practices in vaccine procurement, storage, distribution and quality-assured service delivery
- *Maximal coverage and reach*. To overcome barriers at all levels, to sustain demand and ensure all pregnant mothers and children are immunized as per the national schedule
- *Equity and gender equality*. To reduce disparities in services by addressing the needs of the underserved and hard-to-reach, regardless of their sex, socio-economic or political affiliations
- *Sustainability through technical and financial capacity building*. Ensuring sufficient financial and human resources for long-term needs for immunization services, through investments by the GRZ and key partners
- *Excellence in Programme Management*. The Zambia immunization programme, in collaboration with key partner agencies and stakeholders, will optimize the use of resources following result-based principles and evidence-based practices.

4 Strategic Goals and Objectives

This immunization multi-year plan for 2006 -2010 envisions five goals or key results areas. In order to chart the direction of the programme in the medium term, and to ensure focus on the key actions required to accelerate progress toward each goal, the specific objectives, strategies, indicators, and milestones to measure progress to ward the goals are summarized below.

4.1 Immunization Programme Strategic Goals

The five goals or key results areas of the immunization programme are:

- STRATEGIC GOAL 1: Protect more people by use of safe and effective vaccines
- STRATEGIC GOAL 1I: Accelerate the reduction of morbidity and mortality from vaccine preventable diseases
- STRATEGIC GOAL III: Strengthen immunization programme financing and sustain the introduction of additional vaccines
- STRATEGIC GOAL IV: Strengthen EPI Disease Surveillance in the context of overall improvement of the national health information system
- STRATEGIC GOAL V. Integrate EPI with other Interventions in the context of strengthening the Health System

4.2 Immunization Programme Strategic Objectives

During the 5–year period, 2006 – 2010, the major strategic objectives for each goal are as follows:

STRATEGIC GOAL 1: Protect more people by use of safe and effective vaccines

- Strengthen and scale-up the implementation of RED strategy in all districts in the country
- Improve the quality of immunization service delivery and quality assurance
- Strengthen and improve safe injection practices and waste disposal
- Strengthen and improve effective vaccine and cold chain management
- Strengthen Advocacy, Communication and IEC and community participation in immunization activities

STRATEGIC GOAL 1I: Accelerate the reduction of morbidity and mortality from vaccine preventable diseases

- Provide 2nd dose measles vaccine by measles SIAs and routine vaccination
- Strengthen MNT Elimination activities
- Sustain PEI activities and strengthen preparations for rapid response to polio importations

STRATEGIC GOAL III: Strengthen immunization programme financing and sustain the introduction of additional vaccines

- Strengthen capacity to mobilize financial and other resources for immunization
- Sustain the introduction of pentavalent (DPT-HepB+Hib) vaccine and strengthen the national capacity for vaccine independence

- Strengthen capacity to prepare for introduction of additional vaccines

STRATEGIC GOAL IV: Strengthen EPI Disease Surveillance & Knowledge management in the context of overall improvement of the national health information system

- Strengthen AFP, Measles and NNT Surveillance
- Integration of EPI Surveillance with other surveillance of other priority diseases
- Strengthen capacity of districts in planning, use of EPI information tools and sharing of best practices
- Contribute to strengthening the health Information system and knowledge management

STRATEGIC GOAL V. Integrate EPI with other Interventions in the context of strengthening the Health System

- Improve EPI Human resource management & strengthen performance-based reward system
- Strengthen linkages between immunization and other health system interventions
- Strengthen pre-service and in-service core competences & skills in immunization and integration

A one-page summary of the strategic objectives and goals is also shown in Annex 4.

4.3 Strategic Goals, Objectives, Indicators, Milestones and Strategic Initiatives / Activities

STRATEGIC GOAL	STRATEGIC OBJECTIVE	KEY INDICATOR	MILESTONES	KEY ACTVITIES
STRATEGIC GOAL 1: Protect People & Save Lives by widespread use of Safe vaccines	1.1. Scale-up and strengthen RED strategy implementation in all districts	% FIC in every district	70% - 2007 80% - 2008 90% - 2009	• Support district microplanning and management of EPI activities • Supportive Supervision – focused and results oriented • Involve Communities Leaders and other stakeholders in EPI • Monitoring EPI coverage performance
	1.2 Ensure high quality and high coverage immunization service	Drop-out less than 10% by 2008 DPT1 – DPT3	25 % by 2007 20 % by 2008	• Improve quality of service delivery, including waiting time, patient flow and key messages, through a focus on quality assurance • Monitor Community satisfaction with immunization service
	1.3 Ensure Safe Injection practices and waste disposal	Development of waste plan management % injection using AD syringes	2006: 25% of districts have implemented waste management 2007: 100% districts have implemented effective waste management	• Ensure availability and use of AD syringe for all vaccinations • Provide injection safety kits and waste disposal kits • Procure and install incinerators • Improve system for disposal of safety kits
	1.4 Ensure effective vaccine and cold chain management 1.5 Ensure effective cold chain management	% Vaccine wastage rate % Districts with no stockouts	<10% for HepB 100% by 2007	• Conduct timely forecasts of vaccine requirement for routine, SIA and Mop-up activities • Order and procure required vaccines • Ensure timely supply and distribution of vaccines and supplies to lower levels • Ensure availability of adequate quantity of all EPI record keeping and reporting forms • Conduct regular testing of vaccine potency at national and facility levels • Replace and repair cold chain equipment, as required

				• Provide cold chain equipment accessories, including paraffin, solar batteries, etc
	1.6 Strengthen EPI Advocacy, Communication and IEC	% satisfaction with EPI services among users % DPT1-DPT3 Drop out rate	>90% annually < 10% annually	• Strengthen EPI Programme Communication & Advocacy • Strengthen Linkages and collaboration with NGOs and community leaders and other stakeholders • Develop, print and distribute IEC materials on immunization issues • Sustain community perception of the high value of immunization
STRATEGIC GOAL II: Accelerate Reduction of morbidity and mortality from Vaccine Preventable Diseases	2.1 Provide 2nd dose measles vaccine by SIAs and routine vaccination	Measles mortality	Measles incidence reduction by 90% in 2006	• Conduct Follow up measles campaign in 2007 • Detect and respond to measles outbreaks, as per National Health Policy • Consider introduction of 2nd dose routine measles vaccine in 2009
	2.2 Implement MNT Elimination Activities	NT case/100live births	2006: <1 per 1000 live births	• Conduct TT SIA in high-risk districts in 2006 • Assess MNTE risk status of all districts • Conduct Validation of NT Elimination status in 2007
	2.3 Sustain PEI activities and strengthen preparations for rapid response to any polio importation / outbreak	Up-to-date Polio Outbreak Response plan available	> 90% in every district Polio certification by 2008	• Update polio response preparedness plan • Support and strengthen the activities of Polio Certification Committees (NCC, NPEC and NTF)
STRATEGIC GOAL III: Strengthen immunization programme financing and sustain the introduction of additional	3.1 Sustain the introduction of pentavalent (DPT-HepB+Hib) vaccine and strengthen the national capacity for vaccine independence 3.2 Strengthen capacity to introduce additional vaccines	% coverage of pentavalent vaccine	> 90% by 2010	• Ensure GRZ contribution for new vaccines • Support sentinel surveillance for Hib • Support HiB and hepatitis disease-burden studies • Strengthen Rotavirus sentinel surveillance • Support studies on burden of vaccine preventable diseases

vaccines	3.3 Ensure sufficient and sustainable immunization programme financing 3.4 Ensure efficiency in use and accountability for immunization programme funds	% of funding for vaccines	Increase by 10% each year	• Mobilize funds from GAVI funds and other partners • Ensure timely financial allocation and disbursement to lower levels for EPI activities • Ensure financial probity in funding activities • Support the preparation of cMYP 2011-2015 • Prepare Annual Work plan for each year (2006 – 2010)
STRATEGIC GOAL IV: Strengthen EPI disease surveillance & knowledge management in the context of overall improvement of the national health information system	4.1 Strengthen AFP, Measles and NNT Surveillance	Measles: % of measles cases positive % for measles IGM samples with results within 7 day AFP: AFP Rate % stool adequacy NT: No of NT cases/1000 live births	< 10% >80% >2 / 100,000 pop < 15yrs <1 /1000 live births - 2006	• Strengthen and sustain timeliness and completeness of active surveillance reporting • Support active surveillance visits to facilities, especially to 'silent areas' • Support specimen transportation and investigation • Strengthen regular sensitization of service provider at all levels (specialists, general physicians, traditional healers etc.) • Support the timely reporting and review of AEFIs
	4.2 Strengthen provincial and district capacity in planning, use of EPI information and sharing of best practices	% districts with updated EPI microplans	100% in 2007	• Training of district on microplanning and use of EPI information and tools • Strengthen the regular feedback and sharing of performance trends on integrated service delivery
	4.3 Expand the integration of EPI surveillance with surveillance of other priority diseases			• Support IDSR activities • Support integration of EPI and HMIS / other health information system components • Conduct data quality assessments in districts • Conduct coverage surveys of

				immunization and other integrated services, as appropriate
V. Integrate EPI with other Interventions in the context of strengthening the Health System	5.1 Ensure effective EPI Human resource management & Strengthen the performance-based reward system	Equitable and efficient Performance-based reward system in place	90% - 2006 100% - 2007	➔ Clarify and expand the job description of staff to include immunization and integrated service delivery ➔ Support the establishment of performance-based rewards for provinces and districts and Health Facilities ➔ Strengthen the operations of the national EPI secretariat at the national levels
	5.2 Strengthen Linkages between EPI and other health interventions	Children receiving Vitamin A with Measles at the EPI session % women receiving Vitamin A during Post-partum period	90% in 2007	➔ Support coordination meetings with other programmes, as required ➔ Support Child Health Week planning, implementation and evaluation ➔ Support the planning and evaluation of integrated SIAs
	5.3 Strengthen in-service and pre-service staff core competences in immunization and integrated service delivery	Percent trained staff in EPI and other interventions	90% by 2006 100% by 2007	➔ Strengthen in-service training in immunization and integrated service delivery ➔ Strengthen pre-service training in immunization and surveillance activities ➔ Establish mechanisms for sharing immunization programme best practices among all levels of the health system

5 Costing and Financing the Immunization Programme

Ensuring adequate funding for this Multi-Year Plan is critical to the success of the Immunization programme. This section presents the costing and financing requirements of the Immunization programme during the period 2006 – 2010.

5.1 Immunization Programme Resource Requirements for 2006 - 2010

Implementing this immunization programme multi-year plan will require increasing costs over the 2006 - 2010 period. The marked increases in programme costs are driven mainly driven by:

- Introduction of new vaccines, and
- Supplemental Immunization Activities
- Increases in population of children to be vaccinated due to coverage improvements and increase in the annual birth cohort.

Over the period 2006 to 2010, the total programme costs (minus shared costs) are over USD $54 million. About 78% of this sum represents the routine programme recurrent costs (more than 60% new vaccines). The Supplemental Immunization Activities accounts for 16% and 6% for routine capital investments in the programme. The projected resource requirements, by year, are shown in the table below.

Table 3. Immunization Programme Resource Requirements, 2006 - 2010

Multi-Year Plan Costing for Zambia (in US$) - Summary Table

	Future Resource Requirements					
MYP Components	2006	2007	2008	2009	2010	Total 2006 - 2010
Vaccine Supply and Logistics	8,489,665.41	8,146,805.49	9,726,912.03	8,412,420.65	8,461,943.27	43,237,746.85
Service Delivery	695,136.31	770,615.17	3,318,705.38	915,031.76	521,335.44	6,220,824.06
Advocacy and Communication	212,241.60	220,816.16	229,737.13	239,018.51	248,674.86	1,150,488.27
Monitoring and Disease Surveillance	648,288.65	674,479.51	701,728.48	730,078.31	759,573.47	3,514,148.41
Programme Management	-	-	-	-	-	-
Grand Total	10,045,331.97	9,812,716.33	13,977,083.02	10,296,549.23	9,991,527.05	54,123,207.60

Zambia MYP Funding Gaps and Selected Indicators

Baseline Expenditure (2005)	
Total Expenditures	$0
Routine Immunization only	$0
per capita	$0.0
per DTP child	$0.0
% Vaccines and supplies	#DIV/0!
% National funding	#DIV/0!

Resource Requirements, Financing and Gaps	2006	2007	2008	2009	2010	2006 - 2010
Total Resource Requirements	**$10,045,332**	**$9,812,716**	**$13,977,083**	**$10,296,549**	**$9,991,527**	**$54,123,208**
Annual growth rate	100%	-2%	30%	-36%	-3%	
Per capita	$0.8	$0.8	$1.1	$0.8	$0.7	$0.8
Total Resource Requirements (Routine)	**$9,459,726**	**$9,201,864**	**$9,258,388**	**$9,631,726**	**$9,991,527**	**$47,543,232**
per DTP targeted child	$22.1	$20.4	$20.0	$20.2	$20.3	$20.6
% Vaccines and supplies	81%	83%	80%	80%	79%	80%
Total Financing (Secured)	**$6,943,919**	**$5,526,172**	**$5,023,458**	**$5,813,674**	**$5,254,442**	**$28,561,666**
Government	$109,997	$161,896	$207,416	$255,920	$322,601	$1,057,829
Sub-national Gov.						
Basket Funds	$183,600	$187,272	$191,017	$194,838	$198,735	$955,462
GAVI-TVF	$6,560,322	$5,087,005	$4,535,025	$4,608,093	$4,643,107	$25,433,552
JICA	$90,000	$90,000	$90,000	$90,000	$90,000	$450,000
UNICEF				$664,823		$664,823
WHO						
ZHIP						
Other						
Funding Gap	**$3,101,412**	**$4,286,544**	**$8,953,625**	**$4,482,875**	**$4,737,085**	**$25,561,541**
% of Total Needs	31%	44%	64%	44%	47%	47%
Total Financing (Not Secured - Probable)	**$2,541,201**	**$2,220,275**	**$6,819,689**	**$2,194,209**	**$2,270,755**	**$16,046,129**
Government						
Sub-national Gov.						
Basket Funds	$393,129	$432,178	$498,815	$583,187	$675,112	$2,582,421
GAVI-TVF						
JICA	$402,467	$17,245	$442,179	$451,022	$435,643	$1,748,555
UNICEF	$1,285,606	$1,310,852	$3,918,695	$700,000	$700,000	$7,915,153
WHO	$460,000	$460,000	$1,460,000	$460,000	$460,000	$3,300,000
ZHIP			$500,000			$500,000
Other						
Funding Gap	**$560,211**	**$2,066,270**	**$2,133,936**	**$2,288,666**	**$2,466,330**	**$9,515,413**
% of Total Needs	6%	21%	15%	22%	25%	18%

Composition of the funding gaps	2006	2007	2008	2009	2010	2006 - 2010
Vaccines and injection equipment		$1,332,346	$1,640,000	$1,698,431	$1,793,624	$6,399,380
Personnel						
Transport						
Activities and other recurrent costs	$380,530	$415,296	$451,466	$489,097	$528,248	$2,264,637
Logistics (Vehicles, cold chain and other equipment)	$244,702	$318,628	$42,471	$101,138	$144,458	$851,396
Campaigns						
Other						
Total Funding Gap	**$560,211**	**$2,066,270**	**$2,133,936**	**$2,288,666**	**$2,466,330**	**$9,515,413**

5.2 Financing the Immunization Programme

To ensure sufficient and sustainable immunization programme financing is one of the strategic objectives of this multi-year plan. The mechanisms for resource mobilization and use are based on a mix of the following:

- Mobilization of additional resources (local and external),
- Increase in reliability of resources, and
- Strategies to increase programme efficiency.

Figure 6

The future secure and probable financing and gaps are shown in Figures 20 and 21. Secure funding represents funds from GRZ, and other confirmed sources. Probable funds represent potential funds from multilateral agencies and the pool funds. The funding from the multilateral agencies is probable based maintenance of their respective current funding to the immunization programme.

The funding gap in the near future implies that the programme has to seek innovative means to raise resources. The major funding gap is due to the planned introduction of new pentavalent DPT+HepB-Hib vaccine. The country will need to apply for GAVI phase II funding - with the GRZ negotiating for a possible 10% increase in annual funding toward taking overall funding responsibility for vaccine procurement in the next 10 years. The overall strategy shall seek to have Government resources increasingly applied toward vaccine purchases, with the bulk of the remaining programme operational costs covered by additional support mobilized from other sources

5.3 Integrating the Costs into the MoH Operational Plan

Integrating the costs of the immunization multi-year plan into the National Health Sector Plan is essential in order to secure GRZ funds for planned activities. The Public Health and Research departmental Plan contains the plan of the department responsible for immunization programme, and it is a component of the National Health Sector Plan - which is funded under the MTEF and SWAP mechanisms.

The process to ensure adequate linkage with the Government of Zambia funding mechanism involved three steps:

- Defining the linkages between the cMYP and the National Health Sector Plan and budgeting mechanisms.
- Tagging the immunization programme cost items to the Ministry of Finance MTEF Codes for resource allocation
- Translating immunization programme goals, objectives and costs into the National Health Sector Plan formats and categories

The tables below show the cMYP costing by immunization programme goals, and also by the MoF budgeting codes.

6 Implementing, Monitoring and Evaluating the Multi-year Plan

The major guidelines that would ensure effective implementation, monitoring and evaluation of the cMYP are outlines below.

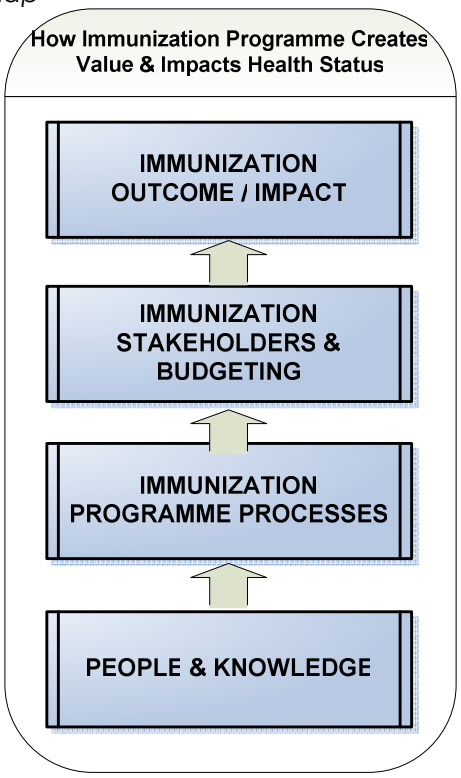
6.1 Implementing the Plan

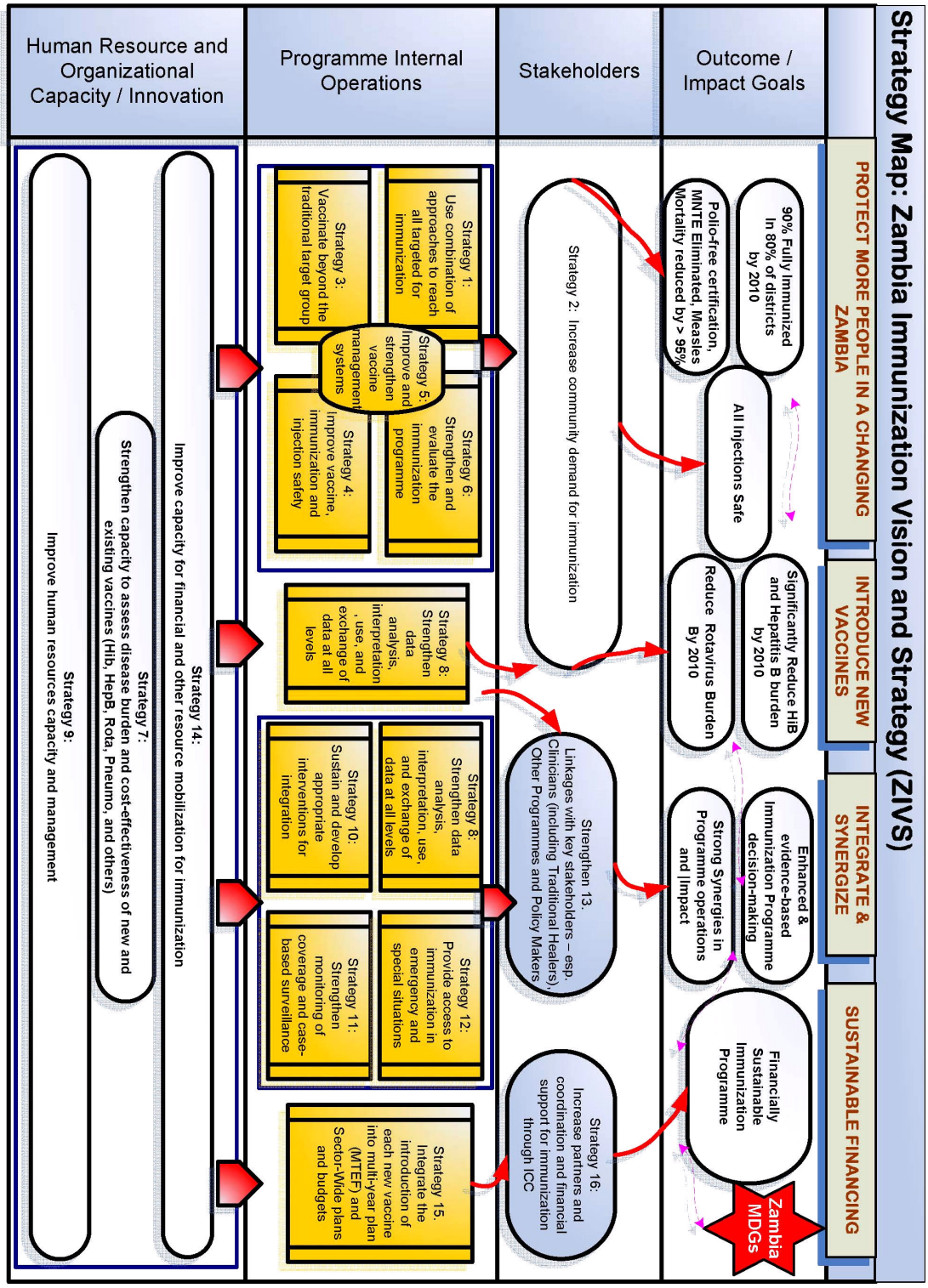
This multi-year plan for immunization shall be implemented as a component of the essential health services, under Department of Public Health and Research of the Ministry of Health. All provinces and districts shall ensure that they focus on the key strategic objectives and activities of the cMYP in their areas of responsibilities. Linkages with other departments and sectors should be strengthened as needed, in order to facilitate implementation of the activities contained in this plan and overall strengthening of the health system.

Immunization Programme Strategy Map – The Road Map

As the immunization programme creates value and impacts health status by effectively leveraging the human and organizational resources to conduct programme processes, including service delivery, logistics, surveillance, this interaction creates value to communities and other stakeholders. The continuous utilization of the services by stakeholders leads to increased coverage, reduction of disease burden and a strengthened health system. The strategic objectives may therefore be linked along this value-creating chain to produce a strategy linkage map.

The immunization programme strategy map is shown in Figure 22. This strategic linkage map navigational map will be utilized to enhance stakeholders buy-in and support for the cMYP, as it, among others, illustrates the mission and strategic objectives in simple terms so everyone can understand and more importantly, contribute.
The Strategy Map will also form a foundation for the cMYP performance management system.



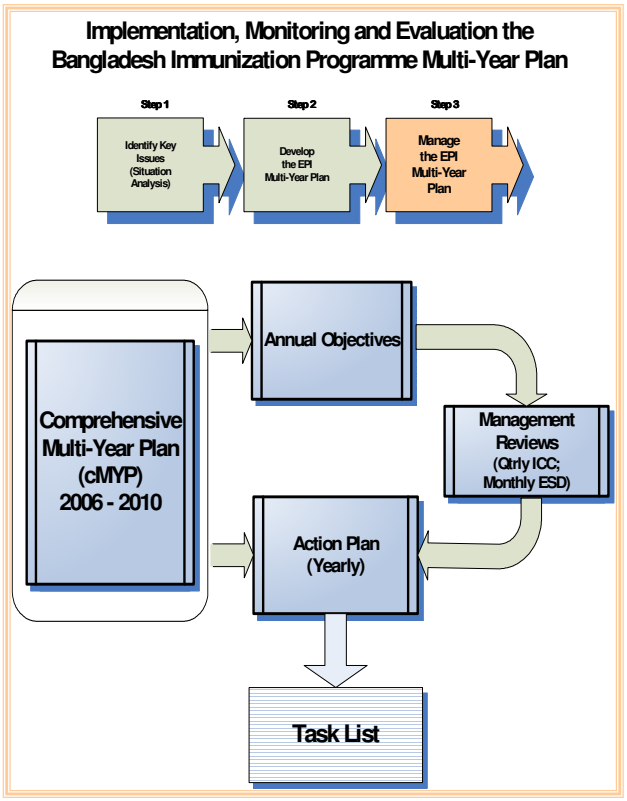

Strategy Map: Zambia Immunization Vision and Strategy (ZIVS)
PROTECT MORE PEOPLE IN A CHANGING ZAMBIA
INTRODUCE NEW VACCINES
INTEGRATE & SYNERGIZE
SUSTAINABLE FINANCING
Outcome / Impact Goals
Stakeholders
Programme Internal Operations
Human Resource and Organizational Capacity / Innovation
90% Fully Immunized In 80% of districts by 2010
Polio-free certification, MNTE Eliminated, Measles Mortality reduced by > 95%
All Injections Safe
Significantly Reduce HiB and Hepatitis B burden by 2010
Reduce Rotavirus Burden By 2010
Enhanced & evidence-based Immunization Programme decision-making
Strong Synergies in Programme operations and Impact
Financially Sustainable Immunization Programme
Zambia MDGs
Strategy 2: Increase community demand for immunization
Strengthen 13. Linkages with key stakeholders – esp. Clinicians (including Traditional Healers), Other Programmes and Policy Makers
Strategy 16: Increase partners and coordination and financial support for immunization through ICC
Strategy 1: Use combination of approaches to reach all targeted for immunization
Strategy 3: Vaccinate beyond the traditional target group
Strategy 5: Improve and strengthen vaccine management systems
Strategy 6: Strengthen and evaluate the immunization programme
Strategy 4: Improve vaccine, immunization and injection safety
Strategy 8: Strengthen data analysis, interpretation , use, and exchange of data at all levels
Strategy 8: Strengthen data analysis, interpretation, use, and exchange of data at all levels
Strategy 12: Provide access to immunization in emergency and special situations
Strategy 10: Sustain and develop appropriate interventions for integration
Strategy 11: Strengthen monitoring of coverage and case-based surveillance
Strategy 15. Integrate the introduction of each new vaccine into multi-year plan (MTEF) and Sector-Wide plans and budgets
Strategy 14: Improve capacity for financial and other resource mobilization for immunization
Strategy 7: Strengthen capacity to assess disease burden and cost-effectiveness of new and existing vaccines (Hib, HepB, Rota, Pneumo, and others)
Strategy 9: Improve human resources capacity and management

6.2 Monitoring and Evaluating Progress

Monitoring the progress of the implementation of planned activities is an essential component of the cMYP management process. The indicators for each strategic objective shall be monitored at all levels of operations. The major milestones along the timeline of this plan are shown in Table 1 (see page 17).

In order to institutionalize the monitoring process, annual objectives shall be developed during each year based on the cMYP and based on a review process, and this shall be the basis for development of the annual Action Plan and the Task Lists to be developed by focal persons / teams responsible for each activity area. As shown in Figure 22, the following management review mechanism shall be institutionalized:

- Biweekly reviews by Child Health Technical Group
- Monthly departmental progress reviews
- Quarterly progress reviews by the ICC
- Mid-year progress reviews and annual reviews



Monthly and quarterly reviews shall focus on activity completion (Activity Performance Indicators) and expenditure, while the mid-year and annual reviews shall concentrate on the overall outcome objectives and the Key Performance Indicators (KPIs) defined in Section 4.3 (see page 22)

In order to evaluate progress toward achieving the objectives of this 5-year plan, the following evaluation mechanisms shall be implemented:

- Mid-term Evaluation
- Summative (or End of Plan) Evaluation

These evaluation exercise shall be conducted by independent groups and institutions recommended by the ICC. The summative evaluation process may be linked to a comprehensive Immunization programme review that would feed into the development of the next medium term strategic plan for immunization (2011 – 2015).

7 One-year (2006) Action Plan for the Immunization Programme

In 2006, the key issues to be addressed, the broad strategy and focus and the related activities and timeline are outlined below.

Issues and Challenges. The major challenges and issues that will be focused in 2006 are as follows:

Access to immunization and other health services
- ❖ Sustaining outreach visits due to inadequate staff, logistics and funds
- ❖ Poorly-trained / untrained HF staff, especially at lower levels
- ❖ Sparse population in some districts

Immunization Coverage and Performance
- ❖ 20/72 districts having less than 80% coverage for Measles
- ❖ 41/72 districts having less than 80% coverage for DPT3
- ❖ 35/72 districts having less than 80% TT2+ coverage
- ❖ High staff turnover in some districts

EPI Logistics
- ❖ Inadequate training for newly employed or deployed logistics / cold chain staff
- ❖ Need for coordination with Central Medical Stores department

Injection Safety
- ❖ Inadequate waste disposal system
- ❖ Challenge of securing funds for the continuation of AD syringes at end of GAVI funding
- ❖ Weak AEFI monitoring system

Accelerated Disease Control
- ❖ Risk of polio importation from other countries
- ❖ Significant measles morbidity and mortality
- ❖ Risk of NT cases from children not protected at birth

Financing
- ❖ Huge funding gap likely, with the end of GAVI Phase I funding
- ❖ Large resource requirements especially for new vaccines introduction

Strategic Goals, Programme Objectives & Thrusts. *The* major programme goal in 2006 is to contribute to MoH goals for maternal and child health and the MDGs 4 and 6 by protecting more people and reducing the burden of vaccine preventable diseases through high quality immunization services, using currently available and new vaccines, in such a way as to strengthen the overall health system.

Based on the core principles of quality and safety, equity, maximum coverage and reach, sustainability and excellence in programme management the major programme goals and thrust for 2006 are as follows:

1: Protect more by use of safe vaccines – by strengthening and scaling –up the RED strategy in all Districts

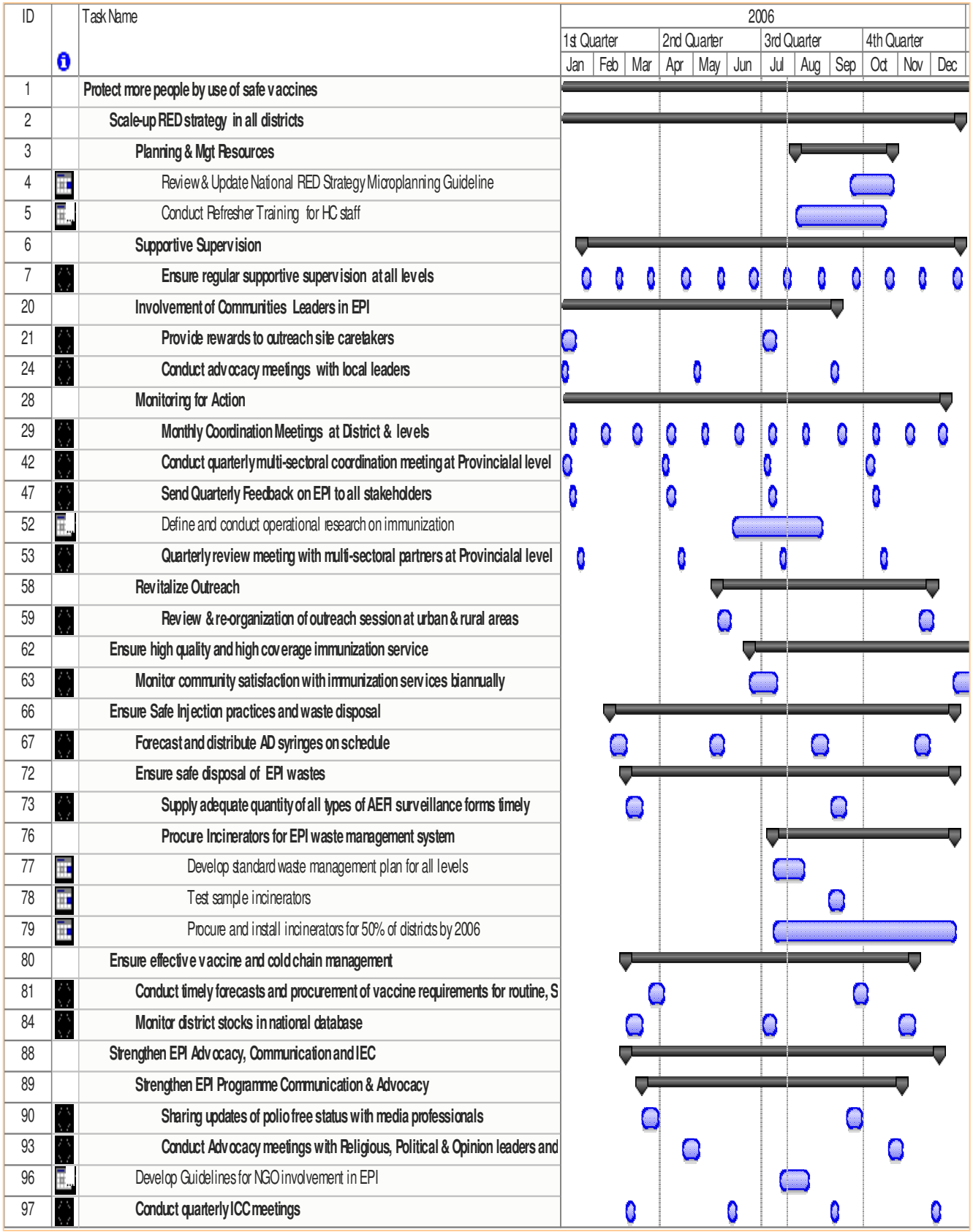
1I: Accelerate Reduction of morbidity and mortality from VPDs – by conducting MNTE SIAs and planning for the follow-up measles SIAs in 2007

III: Strengthen Immunization programme Financing and sustaining the introduction of additional vaccines – by sustaining pentavalent (DPT+HepB-HiB) introduction, while mobilizing additional resources for programme activities.

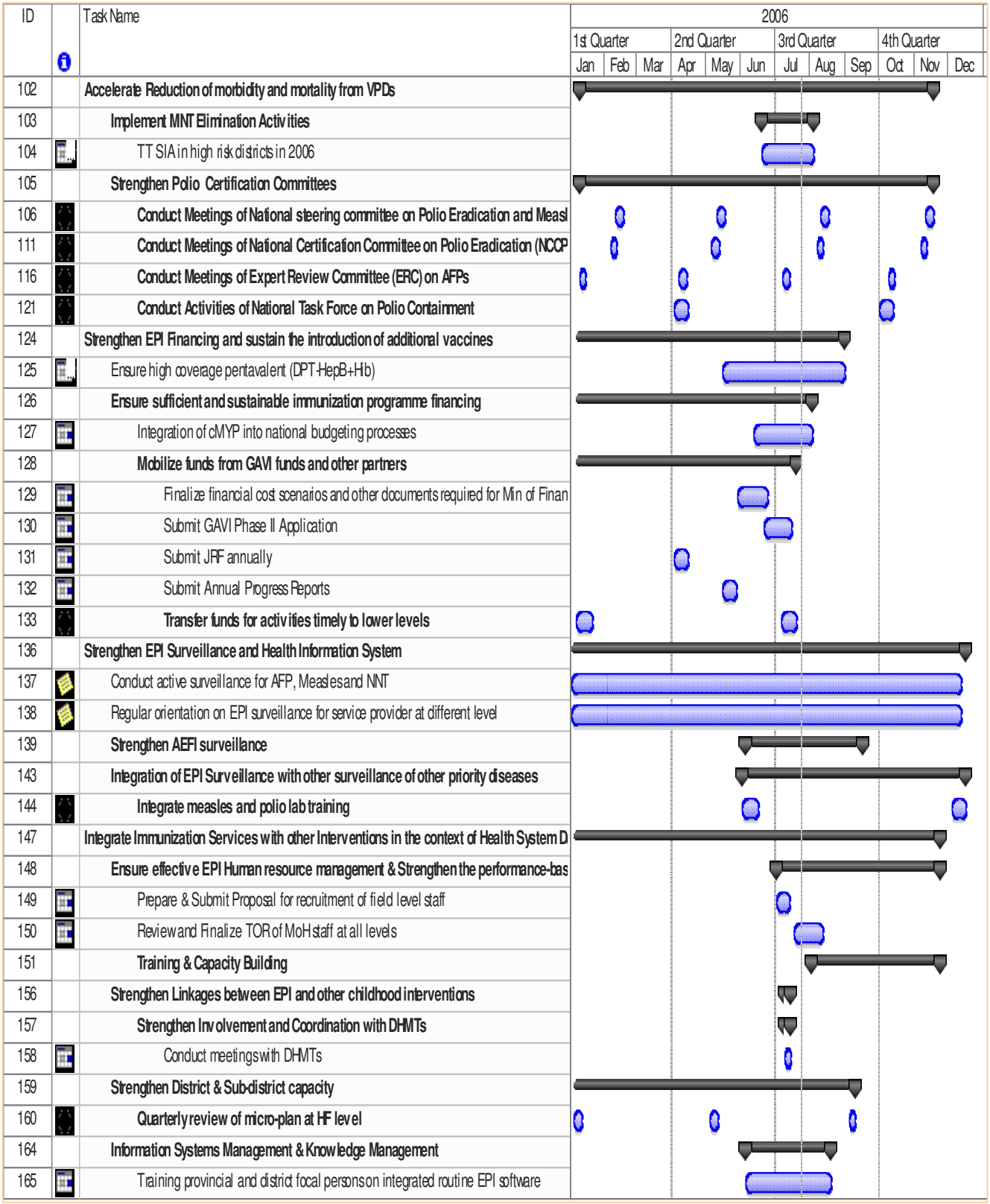
IV: Strengthen EPI Surveillance and the Health Information System – by strengthening AFP, measles, NT, AEFI and integration with the surveillance and information system of other priority diseases

V. Integrate EPI with other Interventions in the context of strengthening the Health System – by expanding the TOR of EPI staff at all levels and optimizing integrated service delivery services opportunities. The key activities and their timelines are shown in Figures 8 below.

Figure 7: Immunization Programme Action Plan – 2006 - I



Appendix 8: Immunization Programme Action Plan – 2006 - II



Annex

Annex I: WORKSHOP ON EPI MULTI-YEAR PLAN (2006-2010) BASED ON THE GLOBAL IMMUNIZATION VISION AND STRATEGY (GIVS), Taj Pamodzi Hotel, Lusaka, May 13 – 17, 2005

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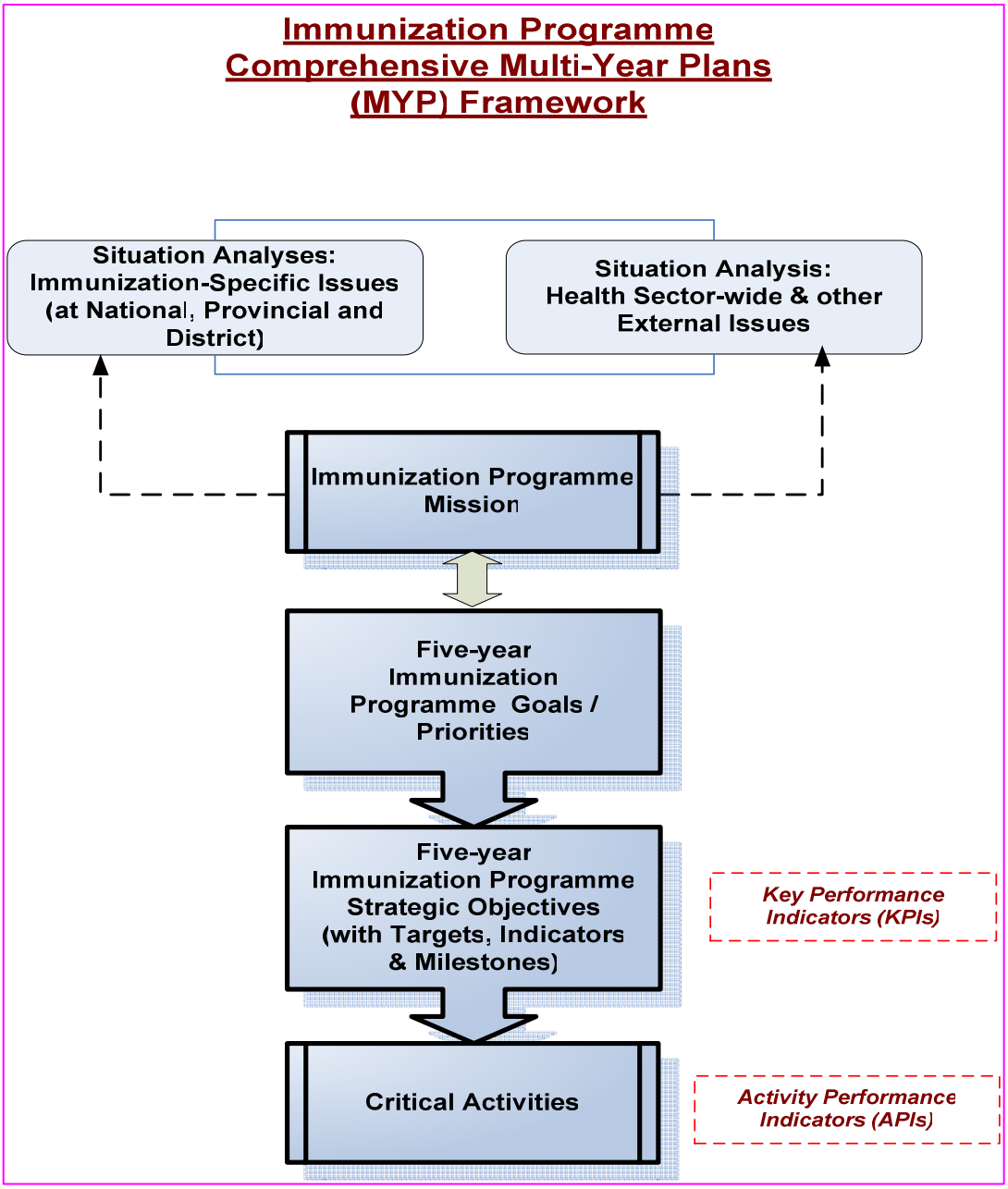
Annex 3: cMYP Framework for Hierarchy of Objectives

The framework simplifies the immunization programme's hierarchy of objectives and strategies. It shows how the mission relate to the context of the situation analysis; how the strategic goals flow from the mission, and how the strategic (medium –long term) objectives link with the strategic goal.It also shows how Critical Activities or Initiatives that are strategic (that can be accomplished over a time horizon extending beyond one year) must flow from a strategic objective.



Annex 3A: Situational analysis - EPI System Components

System components	Indicators	Year		
		2002	2003	2004
Routine Coverage	*National DTP3 coverage*	99%	96.1%	94%
	National MCV3 coverage	92%	95%	99%
	% of districts with > 80% coverage	45.8%	40.3%	59%
	National DPT1-DPT3 drop out rate	No Data	No Data	No Data
	Percentage of districts with drop out rate DTP1-DTP3>10	N/A	N/A	N/A
New vaccines	*National HepB3 coverage*	N/A	N/A	N/A
	National Hib3 coverage	N/A	N/A	94%
Vitamin A	*CHWA Vitamin A coverage*	80%	81%	72%
Routine Surveillance	*% of surveillance reports received at national level from districts compared to number of reports expected*	93%	97%	98%
Cold chain/Logistics	*Percentage of cold chain equipment replaced in past 2 years*	55%	55%	55%
Immunization safety	*Percentage of districts have been supplied with adequate (equal or more) number of AD syringes for all routine immunizations*	100%	100%	100%
Vaccine supply	*Was there a stock-out at national level during last year?*	No	Yes	No
	If yes, specify duration in months	-	2/12; 3/12	-
	If yes, specify which antigen(s).	-	DPT; BCG	-
Communication	*Availability of a plan*	Yes	Yes	Yes
Financial sustainability	*What percentage of total routine vaccine spending was financed using Government funds?(including loans and excluding external public financing)*	0%	5%	78%
Human resources availability	*No. of health workers / vaccinators per 10, 000 populations*	0.5 per 1,000	0.5 per 1,000	0.5 per 1,000

Annex 3B: Situational analysis - EPI System Components

System Components	Indicators	Year		
		2002	2003	2004
Linking to other health interventions	Were immunization services systematically linked with delivery of other interventions (Malaria, Nutrition, and Child Health) established.	Yes	Yes	Yes
Management /planning	*Are a series of district indicators collected regularly at national level?*	Yes	Yes	Yes
Research	*Number of vaccine related studies conducted/being conducted*	Nil	Nil	Nil
Data Management	*Percentage of Province EPI focal point trained on vaccine data management*	100%	100%	100%
Training activities	*Percentage of EPI focal point training on central vaccine store*	100%	100%	100%
	Percentage of EPI focal point training on Province vaccine store	100%	100%	100%
ICC	*Number of meetings held*	7	5	4
Wastage	*Wastage calculation at central vaccine stores*	Yes	Yes	Yes
	Wastage calculation at Province vaccine stores	No Data	No Data	No Data
	Action taken to overcome wastage	Yes	Yes	Yes

Annex 3C: Situational analysis – EPI Disease Control Initiatives

Component	Indicators	National		
		2002	2003	2004
Polio	*National OPV3 coverage*	94%	109%	120%
	What was the non polio AFP rate per 100, 000 children under 15 yrs. of age	2.5	2.1	2.5
	Extent: NID/SNID *No. of rounds* *Coverage range*	• 3 NIDs done < 5 years old; coverage > 95% • The last NID was 1999 • The last SNIDs was 2002		
MNT	*TT2+ coverage*	78 %	82%	85 %
	Number of districts reporting > 1case per 1,000 live births	6.9%		
	Was there an SIA (Y/N)	NR		
Measles / Rubella	*Measles coverage*	92%	95%	99%
	No. of outbreaks reported	Endemic		4
	Extent: NID/SNID *Age group Coverage*	In June 2003, a national catch-up campaign conducted among < 15 years coverage was 96.7 % (Validated by Evaluation Survey)		
Hepatitis B	*National HepB3 Vaccine*	NR		
	Hep.B surface Ag among antenatal	7%		
HiB	*National Hib3 coverage*			
	% of isolates at the UTH sentinel site which are H. influenzae	25%	31%	8%
	Death due to HiB.	0	0	0

NR = Not Relevant

Annex 4: One-page Strategy Fact Sheet

Zambia Immunization Programme Strategy: 2006 – 2010

MISSION	To reduce the burden of vaccine preventable diseases, by protecting more people in Zambia through the use of safe and effective vaccines, and in such as way as to strengthen the overall health system
STRATEGIC GOALS / KEY RESULTS AREAS	• I: Protect more people by use of safe and effective vaccines • II: Accelerate the reduction of morbidity and mortality from vaccine preventable diseases • III: Strengthen immunization programme financing and sustain the introduction of additional vaccines • IV: Strengthen EPI Disease Surveillance in the context of overall improvement of the national health information system • V. Integrate EPI with other Interventions in the context of strengthening the Health System

OUTCOME / TARGETS	• Overall outcome: contribute to achieving MDG4 – Reduce childhood mortality
	• Targets linked to the MDGs and in line with National Health Strategic Plan:
	  ▪ Achieve 80% Fully Immunized Children in every district by 2009
	  ▪ Maintain polio free status
	  ▪ Reduce measles mortality by 90% by 2010 (compared to 1999 estimate)
	  ▪ Eliminate NT by 2007

STRATEGIC GOALS AND OBJECTIVES OF THE MULTI-YEAR PLAN

STRATEGIC GOAL 1: Protect more people by use of safe and effective vaccines

- Strengthen and scale-up the implementation of RED strategy in all districts in the country
- Improve the quality of immunization service delivery and quality assurance
- Improve safe injection practices and waste disposal
- Strengthen effective vaccine and cold chain management
- Strengthen Advocacy, Communication and IEC and community participation in EPI activities

STRATEGIC GOAL 1I: Accelerate the reduction of morbidity and mortality from vaccine preventable diseases

- Provide 2nd dose measles vaccine by measles SIAs and routine vaccination
- Strengthen MNT Elimination activities
- Sustain PEI activities and strengthen preparations for rapid response to polio importations

STRATEGIC GOAL III: Strengthen immunization programme financing and sustain the introduction of additional vaccines

- Strengthen capacity to mobilize financial and other resources for immunization
- Sustain the introduction of pentavalent (DPT-HepB+Hib)
- Strengthen capacity to introduce additional vaccines

STRATEGIC GOAL IV: Strengthen EPI disease surveillance & knowledge management in the context of overall improvement of the national health information system

- Strengthen AFP, Measles and NNT Surveillance
- Integration of EPI Surveillance with other surveillance of other priority diseases
- Strengthen capacity of districts in planning, use of EPI information tools and sharing of best practices
- Contribute to strengthening the health Information system and knowledge management

STRATEGIC GOAL V: Integrate EPI with other Interventions in context of strengthening the Health System

- Improve EPI Human resource management & strengthen performance-based reward system
- Strengthen linkages between EPI and other childhood interventions
- Strengthen pre-service and in-service core competences & skills in immunization and integration