23 April 2002
Revision 3
April 2002

The Government of

The Kingdom of LESOTHO

Proposal for support submitted to the

Global Alliance for Vaccines and Immunization (GAVI)

and the Vaccine Fund

Global Alliance for
Vaccines and Immunization

This document is accompanied by an electronic copy on diskette for your convenience. Please return a copy of the diskette with the original, signed hard-copy of the document to GAVI Secretariat; c/o UNICEF, Palais des Nations, 1211 Geneva 10, Switzerland. Enquiries please to: Dr Tore Godal, tgodal@unicef.org or representatives of a GAVI partner agency. All documents and attachments must be submitted in English or French.

1. Executive Summary

Synopsis of the proposal including the specific requests for support from GAVI and the Vaccine Fund. The figures essential for the calculation of award amounts should be presented here, including: baseline data, current DTP3 coverage and targets for increased coverage, strategies for reaching all children, requested number of doses of vaccine(s) and their presentations (drawn from the tables in this form). Summarise also the nature of ICC participation in developing this proposal.

The Government of the Kingdom of Lesotho places great importance in the provision of sound health care services to its population. The high immunization coverage registered in the early 90s was a result of government's commitment in financial and technical resources towards improving the welfare of the children of Lesotho. The AIDs scourge, rising poverty and unemployment have however over-stretched the limited resources meant for the health care delivery system.

The reduction of vaccine-preventable diseases such as measles and neonatal tetanus since the inception of EPI in the country is a clear testimony of the importance to strengthen the immunization activities. It is on this background that the government with its collaborating partners are asking for support in two areas namely, n*ew vaccines, and safe injection.* While DPT coverage of 56% in 2000 was a decline, coverage seemingly improved in 2001. Although the quality of the routine reporting is still questionable, it is believed that the improvement was due to efforts made to improve management, advocacy at all levels, and communication, for immunization and logistics support. To verify the coverage data, a vaccination coverage survey is planned for 4th quarter of 2002.

The country aims to vaccinate at least 70% of the target population of under one year in the year 2003 with DPT and Hep B vaccines (the new vaccine). This target translates into **47,915** children. The first preference for the country is the 2- dose vial pentavalent (DPT-HepB+Hib) vaccine. However, due to the unavailability of the pentavalent, Lesotho plans to introduce the **monovalent Hep B vaccine in July 2003** and then switch to the **pentavalent vaccine in 2005**. In 2005, the country aims to vaccinate at least 80% of the target population, which translates into **57,345** children. The total number of doses of monovalent Hep B vaccine for 2003-2004 is **409,941 and 637,120** doses of the pentavalent vaccine for 2005-2007.

In addition to introducing new vaccines, the country plans to introduce auto-disable syringes for all EPI injections. Hence, assistance with A-D syringes and safety boxes is being requested to improve safe injection practices.

The ICC has been very involved in the preparation of this Application and fully endorses its content.

2. Signatures of the Government and the Inter-Agency Co-ordinating Committee

The Government of the **Kingdom of Lesotho** commits itself to developing national immunization services on a sustainable basis in accordance with the multi-year plan presented with this document. Districts performance on immunization will be reviewed annually through a transparent monitoring system. The Government requests that the Alliance and its partners contribute financial and technical assistance to support immunization of children as outlined in this application.

Signature: .....

Title: MINISTER OF HEALTH AND SOCIAL WELFARE

Date: 23 APRIL 2002

OFFICE OF THE MINISTER
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23 APR 2002
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MASERU, 100 LESOTHO

The GAVI Secretariat is unable to return submitted documents and attachments to individual countries. Unless otherwise specified, documents may be shared with the GAVI partners and collaborators.

We, the undersigned members of the Inter-Agency Co-ordinating Committee endorse this proposal on the basis of the supporting documentation which is attached. Signatures for endorsement of this proposal do not imply any financial (or legal) commitment on the part of the partner agency or individual:

Agency/Organisation	Name/Title	Date	Signature
MOHSW	T. RAMATLAPENG	22/4/2002	
MOHSW	C.T. MOORAS	22/4/2002	
MOH & SW	E.T. MALI	22.04.02	
MOHSW	G. PHIRI	22.04.02	
MOHSW	M. MCDINS	22.04.02	
ROTARY I	DR A.S LEBONA	22.04.02	
IRELAND AID	Carol Hamon	22.04.02	
W.H.O	DR. T.R. TSHABALALA	22.04.02	
UNICEF	ANNE-MARIE FONSEKA	22.4.02	
MASERU CITY COUNCIL (MCC)	S.A. Thamae Director Health	22.04.02	
CHAL	L. Ferguson AHC Coordinator	22.04.02	

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3. Immunization-related fact sheet

Table 1: **Basic facts** (For the year 2000 or most recent; specify dates of data provided)

Population	2,233,266**	GNP per capita	$US 680
Surviving Infants*	66,998	Infant mortality rate	74/1000LB
Percentage of GDP allocated to Health	3.2	Percentage of Government expenditure for Health Care	7% (2001-2002)

* Surviving infants = Infants surviving the first 12 months of life
** Projection based on the 1996 population census.

Table 2: **Trends of immunization coverage and disease burden by 12 months of age**
as per annual WHO/UNICEF Joint Reporting Form on Vaccine Preventable Diseases

Trends of immunization coverage (in percentage)								Vaccine preventable disease burden		
Vaccine		Reported		Survey				Disease	Number of reported cases	
		1999	2000	1999	Age group	2000	Age group		1999	2000
BCG		68	53	NA	NA	NA	NA	Tuberculosis	63	128
DTP	DTP1	55	58	NA	NA	NA	NA	Diphtheria	0	0
	DTP3	62	56	NA	NA	NA	NA	Pertussis	0	0
OPV3		60	56	NA	NA	NA	NA	Polio	0	0
Measles		63	48	NA	NA	NA	NA	Measles	248	660
TT2+ (Pregnant women)				NA	NA	NA	NA	NN Tetanus	0	0
Hib3		NA	NA	NA	NA	NA	NA	Hib	NA	NA
Yellow Fever		NA	NA	NA	NA	NA	NA	Yellow fever	NA	NA
HepB3		NA	NA	NA	NA	NA	NA	hepB seroprevalence (if available)	NA	NA
Vit A supplementation	Mothers (< 6 weeks after delivery)	NA	NA	NA	NA	NA	NA			
	Infants (> 6 months)	NA	34	NA	NA	NA	NA			

The best official estimate: Indicate the best official estimate of coverage among infants as reported in WHO/UNICEF Joint reporting form. Provide explanatory comments on why these are the best estimates: Immunization data from all the Health Service Areas (HSAs) are aggregated at national level and coverage is calculated against the target population of under-one year as projected by the National Bureau of Statistics of Lesotho. This is the best estimate as reported in the joint WHO/UNICEF Joint reporting form.

The decline in vaccination coverage as observed in the last two years is due mainly to the inadequate managerial capability, advocacy and logistics support. Communication services were also poor. The Government is making every effort to improve the situation.

- Summary of health system development status relevant to immunization:

The Government of Lesotho is in the process of restructuring its health sector in order to meet the multiple challenges faced by the country. The vision of the reform is to achieve the following:

- Universal coverage so that every citizen has access to essential health services
- Social justice so that those in greatest need will receive particular attention, and
- Equity so that every person, no matter the social standing, will receive the same treatment, with the only determining factor being their need for services

The emphasis will be on prevention and eradication of priority diseases, especially those that are amenable to cost effective approaches such as immunization of women and children. The short-to-medium term priorities include:

- Reducing infant morbidity and mortality rates
- Reducing maternal mortality through the promotion of safe motherhood, within a comprehensive reproductive health context
- Eradicating and eliminating EPI priority diseases namely poliomyelitis, Neonatal Tetanus and Measles by the year 2005

The Ministry of Health and Social Welfare is committed to addressing the challenges observed in the EPI review. Through its collaborating partners and donors, most of the health facilities have been provided with working refrigerators in order to keep vaccines safe and potent. The government has for the first time procured BCG vaccine for the year 2001 as an indication of supporting the vaccine independence initiative. Although there is critical shortage of health personnel, each health centre is staffed by at least a registered nurse and/or a nursing assistant who are supposed to conduct outreach services in order to increase immunization coverage. Capacity building will be strengthened at all levels in order to improve the knowledge and skills of health workers in order to cope with the present challenges, policies and innovations.

Non-Governmental Organizations (NGOs) in Lesotho collaborate with the Ministry of Health and Social Welfare in the provision of health services. The Christian Health Association of Lesotho (CHAL), Lesotho Highlands Development Authority (LHDA), Red Cross, Maseru City Council etc have actively been involved in immunization including information, education and communication. Some NGOs are members of the ICC.

θ Attached are the relevant section(s) of strategies for health system development — Document number 01

Attached sections of the health sector reform document reflect some of the strategies on the development of the health sector in the country. Key issues are:

- Decentralization policy
- Introduction of multi-sectoral approach to the provision of health services
- Introduction of the Health Service Area strategy (HSA)
- Introduction of the Nurse Clinician cadre
- Introduction of the Community Health Worker programme
- District Management Improvement Project

4. Profile of the Inter Agency Co-ordinating Committee (ICC)

Various agencies and partners (including NGOs and Research Institutions) that are supporting immunization services are co-ordinated and organised through an inter-agency co-ordinating mechanism which is referred to in this document as ICC.

- Name of the ICC: **Inter-agency Coordinating Committee for EPI, Lesotho**

- Date of constitution of the current ICC: **1996**
- Organisational structure (e.g., sub-committee, stand-alone): **The Chairperson for the ICC is the Honourable Minister of Health and Social Welfare. The committee has several sub-committees such as**:

  - Technical sub-committee

  - Social Mobilization Sub-committee

  These committees are mandated to conduct certain activities that are planned by the main Committee.

- Frequency of meetings: **The ICC normally meets quarterly. However, extra-ordinary meetings are held whenever necessary to address or discuss urgent issues.**
- Composition:

Function	Title / Organization	Name
Chair	Minister of Health and Social Welfare	Dr P. Sekatle
Secretary	National EPI Programme Manager	Mrs S.S. Matśoele
Members	• Director General, Health Services • WHO Representative • UNICEF Representative • Chairperson, Rotary International • Programme Officer, Ireland AID • Head, PHC Services, CHAL • Director, Maseru City Council • Head, Laboratory Services • Paediatrician, Para-statal • Director, Laboratory Services • Paediatrician	Dr. T. Ramatlapeng Dr T.R. Tshabalala Mrs. K. Gamble-Payne Dr A.D. Lebona Ms. C. Hannon Mrs. L. Fegurson Mr A.S. Thamae Mr E.T.Tlali Dr M. Metsing Dr. C. T. Moorosi Dr. G. Phiri

- Major functions and responsibilities of the ICC:

  i) Coordination: The ICC coordinates all partners with a view to fostering a strong partnership which will facilitate sharing of resources and technical input and which will ultimately lead to maximize benefits of the limited resources.
  ii) Advocacy: The committee advocates for EPI at higher political level in the country and internationally to ensure that the programme objectives are achieved.
  iii) Programme Implementation: The ICC reviews and endorses EPI Plans and supports the EPI programme by mobilizing resources both locally and internationally. It is also responsible for ensuring that it supports the operationalization of the technical issues
  iv) Social mobilization: One of the critical tasks of the ICC is to support programmes with social mobilization to ensure wide publicity of the programmes
  v) Transparency and accountability: Since the ICC will mobilize resources for EPI, the committee is alos obliged to review and monitor the use of funds and other resources together with the EPI Unit and give continuous feedback to the donors and communities as need arises.
  vi) Information, Education and Communication: The ICC will ensure support for IEC activities.

- Three major strategies to enhance the ICC's role and functions in the next 12 months:

  i) Ensuring that quarterly meetings with all ICC members are conducted as planned. The minutes and agenda are circulated to members in time
  ii) Ensuring that the terms of reference for the ICC are clear and responsibilities explicitly outlined.
  iii) Ensuring that the ICC is periodically briefed about immunization and disease surveillance activities in order to enlist their support at all levels.

- Three main indicators (in addition to DTP3 coverage) that are chosen by the ICC to monitor implementation of this proposal:

  i) The drop-out rate: as a sign of improvement in the immunization services, the ICC will also look at the reduction of drop- out rate in multidose antigens
  ii) The ICC will monitor immunization coverage by Health Service Areas (HSAs)
  iii) Wastage Rate: The committee will emphasize the need to reduce vaccine wastage rate which is at the moment estimated as being above 30%

Attached are the supporting documents :

θ Terms of reference of the ICC	Document number 02
θ ICC's workplan for the next 12 months	Document number 03
θ Minutes of the three most recent ICC meetings or of any other meetings in which partners participated that concerned improving and expanding the national immunization program	Document number: 04

5. Immunization services assessment(s)

Reference is made to the most recent assessments of the immunization system that have been completed within the three years prior to the submission of this proposal.

- Assessments, reviews and studies of immunisation services for current reference:

Title of the assessment	Main participating agencies	Dates
Review of the Expanded Programme on Immunization in the Kingdom of Lesotho	Ministry of Health and Social Welfare WHO / AFRO WHO / Lesotho UNICEF / Lesotho Department of Health / South Africa	July, 2001

- The three major strengths identified in the assessments:

i) Cold Chain: Most of the health facilities visited had working EPI refrigerators with thermometers in good condition. The review also did not find any frozen DPT. The VVM on all OPV vials did not reach a discard point

ii) Clinical Practices: Screening of children through the 'road to health card' was done in most facilities by health workers. Health talks were given by health workers before vaccinations were administered to clients

iii) Vaccination Coverage and Disease Surveillance: Health workers in most health facilities collected and compiled vaccination statistics which were normally sent to Health Services Area (HSAs) and the central EPI Office. AFP and Measles case-based surveillance was instituted.

- The three major problems identified in the assessments:

i) Transport for distribution of vaccines, other EPI logistics and supervision was highly cited. The National EPI Office does not distribute vaccines to health facilities. Health Services Areas collect vaccines from the national vaccine storeroom using their own transport, which sometimes is not available. This results in vaccine stock outs in health facilities.

ii) Inadequate knowledge and skills of health workers in the management of EPI. Calculation of vaccine wastage was not being done by most health workers. The majority of health workers did not know the EPI policies on multi-dose vial, the use and interpretation of VVM, AEFI, safe injection etc.

iii) Inadequate advocacy and communication on immunization activities. Social mobilization is inadequate and most health facilities have shortage of publicity materials or have outdated materials. Other communication channels apart from leaflets and posters are not utilized.

- The three major recommendations in the assessments:

  i) Improvement on the availability and use of transport at national and HSA levels. This will improve distribution of vaccines, supportive supervisory visits to HSAs and other health facilities.

  ii) Improvement of health workers knowledge and skills in the management of EPI. The training should cover such areas as current policies and guidelines on the use of multidose vial vaccine, the use and interpretation of the VVM and Cold Chain Monitor, management of vaccines and the calculation of immunization coverage, vaccine wastage and drop-out rate. The present disease surveillance procedures will also be better understood.

  iii) Information, Education and Communication should be intensified by addressing pertinent areas which are negatively affecting the immunization activities. Promotional materials both visual and audiovisual should be developed according to the needs of the target groups of the community.

- Attached are complete copies (with an executive summary) of:

  - ❑ the most recent assessment reports on the status of immunization services — Document number 05.
  - ❑ a list of the recommendations of the assessment reports with remarks on the status of their implementation i.e. included in work-plan, implemented, not implemented, in progress.... — Document number 06.

Key recommendations	Implemented	Not implemented	In Progress	Remarks
1. Revision of EPI Policy	✓			To be circulated nationally for peer review
2. Conducting supportive supervisory visits			✓	This will be enhanced by procurement of transport for all 18 HSAs by 2001
3. Use of refrigerated vehicle for distribution of vaccines and other supplies to HSAs			✓	The system of national EPI Office to deliver vaccine to HSAs will be strengthened
4.Training of Health Workers in EPI Management			✓	Some of the training sessions will start in May 2002. The trainings will continue up to 2005
5.Use of village registers to trace defaulters and thereby increase coverage			✓	This practice be strengthened in villages over a period of time
6. Advocacy and Communication for immunization			✓	The health education section is in the process of revising some of the promotion materials. When the proposal will be approved, it is going to revise all the materials so that the new vaccines are incorporated.

- Components or areas of immunization services that are yet to be reviewed (or studied).

Component or area	Month/Year
Vaccination Coverage Survey	4th quarter 2002

6. Multi-Year Immunization Plan

Based upon the recommendations of the assessment of immunization services, the Government has developed (or updated) the multi-year immunization plan or adjusted the health sector plan.

The EPI Multi Year Plan of Action was developed in August, 2001 and was discussed and endorsed by all members of the ICC

θ Attached is a complete copy (with an executive summary) of the Multi-Year Immunization Plan or of the relevant pages of the health sector plan. Document number 07

- **Technical support required for implementation of the immunization plan** ***(expert consultants, training curricula, managerial tools…)***

Type of technical support	Period for the support	Desired from which agency
Logistician to assist in the training of trainers for logistics and vaccine management.	May 2002	WHO, UNICEF, Ireland Aid
Training of health workers for the introduction of the new vaccine	To be determined	WHO, UNICEF, Ireland Aid
To design IEC messages and materials	To be determined	WHO, UNICEF, Ireland Aid
Evaluation of introduction process	To be determined	WHO, UNICEF, Ireland Aid

Table 3: Schedule of vaccinations with traditional and new vaccines, and with Vit A supplementation

Vaccine *(do not use trade name)*	**Ages of administration** *(by routine immunization services)*	**Indicate by an "x" if given in:**		**Comments**
		Entire country	**Only part of the country**	
BCG	At birth or first contact until the age of 12 months	X		
DPT	6, 10, 14 weeks	X		
Hep B	6, 10, 14 weeks	X		
DPT-Hep + Hib	6, 10, 14			
OPV	Birth, 6, 10, 14 weeks	X		
Measles	9, 18 months	X		Second dose given at 18 months
DT	18 months	X		Booster dose
TT (pregnant women)	First contact, 4 weeks, 6 months, 1 year, 1 year	X		
Vitamin A	Every 6 months from 6 – 59 months old	X		

- Summary of major action points and timeframe for improving immunization coverage:

Major Action Points	Responsible Office	Timeframe
Training of health workers and supervisors in midlevel management that shall include among others immunization coverage and disease surveillance, data analysis, calculation of vaccine wastage and drop-out rates, vaccine management etc.	-MOH&SW -ICC, WHO, UNICEF	From 2002 to 2005
Procurement of vehicles (truck) for collection and distribution of EPI materials	-ICC -Donors	2003
Implementation of the new EPI policies such as the MDVP, use and interpretation of VVM and Cold Chain Monitors, AEFIs, Safe injection and waste management.	-MOH&SW -ICC	2002-2003
iv) Strengthening advocacy and communication	-MOH&SW	2002

Table 4: Baseline and annual targets

Number of		Baseline	Targets						
		2000	2001 (60%)	2002 (65%)	2003 (70%)	2004 (75%)	2005 (80%)	2006 (85%)	2007 (90%)
Births		69.083	70.525	71.956	73.515	75.196	76.985	78.865	80.738
Infants' deaths		5.112	5.219	5.328	5.440	5.565	5.697	5.836	5.975
Surviving infants		64.324	65.666	66.998	68.450	70.015	71.681	73.431	75.176
Infants vaccinated with BCG*		34.174	42.315	46.771	51.461	56.397	61.588	67.035	72.664
Infants vaccinated with OPV3**		36.293	39.400	43.549	47.915	52.511	57.345	62.416	67.658
Infants vaccinated with DTP3**		36.062	39.400	43.549	47.915	52.511	0	0	0
Infants vaccinated with HepB**		NA	NA	NA	47.915	52.511	0	0	0
Infants vaccinated with DPT-HepB+Hib**		NA	NA	NA	0	0	57.345	62.416	67.658
Infants vaccinated with Measles**		30.970	39.400	43.549	47.915	52.511	57.345	62.416	67.658
Pregnant women vaccinated with TT+		27.956	42.315	46.771	51.461	56.397	61.588	67.035	72.664
Vit A supplementation	Mothers (< 6 weeks from delivery)	NA	NA	NA	NA	NA	NA	NA	NA
	Infants (> 6 months)	43.930	39.400	43.549	47.915	52.511	57.345	62.416	67.658

* Target of children out of total births

** Target of children out of surviving infants

- Summary of major action points and timeframe for reduction of vaccine wastage. If maximum allowance of wastage rates cannot be achieved immediately, the proposal has to provide a rationale for a higher rate:

  - Careful planning of the estimates and distribution of the new and routine vaccines
  - Improved management of the cold chain
  - Implementation of the revised WHO policy on the use of opened multi-dose vials of vaccine in subsequent sessions
  - Training on the use and interpretation of the vaccine vial monitor (VVM) as a management tool for OPV and other vaccines that may have VVMs
  - Introduction of the new combination DTP-HepB + Hib vaccine in a two-dose presentation when available.
  - Improving vaccine stock management at all levels
  - Reducing missed opportunities for vaccination of eligible children and pregnant mothers

Table 5: Estimate of annual DTP wastage and drop out rates

	Actual	Targets						
	2000	2001	2002	2003	2004	2005	2006	2007
Wastage rate [1]	35	30	25	20	15	15	15	15
Drop out rate [(DTP1 - DTP3) / DTP1] x 100	X**	X	X	X	X	X	X	X

X** : We have been unable to calculate drop-rate using the routine reporting data. As indicated in **table 2**, DPT 3 coverage is higher than DPT1. This problem should be resolved when the vaccination coverage survey is conducted.

- Countries requesting YF vaccine have to present the same table for measles vaccine wastage rates.
- Planning and constraints for the Polio Eradication Initiative:

  - Successful NIDs held in 1997 for polio eradication
  - Target of detecting at least 1 AFP case in 100,000 population of <15 years was met in 2000. In 2001, 12 AFP cases were reported thereby exceeding our target.
  - As at 15th April, 2002, 6 out of 10 expected AFP cases had been detected
  - Two national members have been elected to serve on the Inter-country Certification Committee (I.C.C.C.) formed in the Republic of South Africa and which includes Swaziland, Lesotho and South Africa.
  - Collection of two stool specimens within the first 14 days is currently the biggest challenge faced. However, efforts to improve on quality of surveillance have been put in place in order to reach the 80% target.

7. Injection safety

7.1 *Summary of the injection safety strategy for immunization* (for all countries):

- Introduction of auto-disable syringes into the routine immunization services
- Introduction of WHO approved safety boxes into the EPI programme

[1] Formula to calculate DTP vaccine wastage rate (in percentage): [(A – B) / A] x 100. Whereby : A = The number of DTP doses distributed for use according to the supply records with correction for stock balance at start and end of the supply period; B = the number of DTP vaccinations.

- Re-assessment of storage space before the introduction of the new vaccines.
- Collaborating with the Environmental Health Section to ensure correct waste management policies are implemented.
- Introduce a needle-stick policy for the management and/or treatment of accidental needle prick injuries
- Training of health workers to improve injection practices through careful handling of syringes and needles at each stage of injection administration.
- Ensure that vaccines that contain no preservatives are destroyed at the end of a session, and not stored for reuse.
- Use the Best Practical Environment Option (BPEO) for the destruction of all safety boxes and other clinic waste, building of incinerators in major health facilities.

θ Attached is a copy of the Plan to achieve Safe Injections (including plans for transition to auto-destruct syringes) and Safe Management of Sharps Waste or of the relevant pages of the health plan. Document number 08

7.2 *Injection safety equipment* (For countries submitting a request for injection safety support).

The following tables calculate the amount of supplies requested for injection safety:

Table 6.1: Estimated supplies for safety of vaccination with BCG vaccine

		Formula	2003	2004	2005	2006	2007
		Target coverage	70%	75%	80%	85%	90%
A	Target of children for BCG vaccination	*See targets in Table 4*	51 462	56 398	61 588	67 035	72 664
B	Number of doses per child	#	1	1	1	1	1
C	Number of BCG doses	A x B	51 462	56 398	61 588	67 035	72 664
D	AD syringes (+ 10% wastage)	C x 1,11	57 123	62 602	68 363	74 409	80 657
E	AD syringes buffer stock	D x 0,25	14 281	0	0	0	0
F	Total AD syringes	D + E	**71 403**	**62 602**	**68 363**	**74 409**	**80 657**
G	Number of doses per vial	#	20	20	20	20	20
H	Number of re-constitution syringes (+ 10% wastage)	C x 1,11 / G	**2 856**	**3 130**	**3 418**	**3 720**	**4 033**
I	Number of safety boxes (+ 10% extra need)	(F + H) x 1,11 / 100	**824**	**730**	**797**	**867**	**940**

Table 6.2: Estimated supplies for safety of vaccination with DPT vaccine

		Formula	2003	2004	2005	2006	2007
		Target coverage	70%	75%	80%	85%	90%
A	Target of children for DPT vaccination	*See targets in Table 4*	47 916	52 512	57 345	62 416	67 658
B	Number of doses per child	#	3	3	0	0	0
C	Number of DPT doses	A x B	143 747	157 536	0	0	0
D	AD syringes (+ 10% wastage)	C x 1,11	159 559	174 865	0	0	0
E	AD syringes buffer stock	D x 0,25	39 890	0	0	0	0
F	Total AD syringes	D + E	**199 449**	**174 865**	**0**	**0**	**0**
G	Number of doses per vial	#	10	10	10	10	10
H	Number of re-constitution syringes (+ 10% wastage)	C x 1,11 / G	**0**	**0**	**0**	**0**	**0**
I	Number of safety boxes (+ 10% extra need)	(F + H) x 1,11 / 100	**2 214**	**1 941**	**0**	**0**	**0**

Table 6.3: Estimated supplies for safety of vaccination with Measles vaccine

		Formula	2003	2004	2005	2006	2007
		Target coverage	70%	75%	80%	85%	90%
A	Target of children for Measles vaccination	*See targets in Table 4*	47 916	52 512	57 345	62 416	67 658
B	Number of doses per child	#	2	2	2	2	2
C	Number of Measles doses	A x B	95 831	105 024	114 690	124 833	135 315
D	AD syringes (+ 10% wastage)	C x 1,11	106 373	116 577	127 305	138 564	150 200
E	AD syringes buffer stock	D x 0,25	26 593	0	0	0	0
F	Total AD syringes	D + E	**132 966**	**116 577**	**127 305**	**138 564**	**150 200**
G	Number of doses per vial	#	10	10	10	10	10
H	Number of re-constitution syringes (+ 10% wastage)	C x 1,11 / G	**10 637**	**11 658**	**12 731**	**13 856**	**15 020**
I	Number of safety boxes (+ 10% extra need)	(F + H) x 1,11 / 100	**1 594**	**1 423**	**1 554**	**1 692**	**1 834**

Table 6.4: Estimated supplies for safety of vaccination with DT vaccine

		Formula	2003	2004	2005	2006	2007
		Target coverage	70%	75%	80%	85%	90%
A	Target of children for DT vaccination	*See targets in Table 4*	47 916	52 512	57 345	62 416	67 658
B	Number of doses per child	#	1	1	1	1	1
C	Number of DT doses	A x B	47 916	52 512	57 345	62 416	67 658
D	AD syringes (+ 10% wastage)	C x 1,11	53 186	58 288	63 653	69 282	75 100
E	AD syringes buffer stock	D x 0,25	13 297	0	0	0	0
F	Total AD syringes	D + E	**66 483**	**58 288**	**63 653**	**69 282**	**75 100**
G	Number of doses per vial	#	10	10	10	10	10
H	Number of re-constitution syringes (+ 10% wastage)	C x 1,11 / G	**0**	**0**	**0**	**0**	**0**
I	Number of safety boxes (+ 10% extra need)	(F + H) x 1,11 / 100	**738**	**647**	**707**	**769**	**834**

Table 6.5: Estimated supplies for safety of vaccination with TT vaccine

		Formula	2003	2004	2005	2006	2007
		Target coverage	70%	75%	80%	85%	90%
A	Target of pregnant women for TT vaccination	*See targets in Table 4*	51 462	56 398	61 588	67 035	72 664
B	Number of doses per pregant woman	#	2	2	2	2	2
C	Number of TT doses	A x B	102 924	112 796	123 176	134 071	145 328
D	AD syringes (+ 10% wastage)	C x 1,11	114 245	125 203	136 725	148 818	161 315
E	AD syringes buffer stock	D x 0,25	28 561	0	0	0	0
F	Total AD syringes	D + E	**142 807**	**125 203**	**136 725**	**148 818**	**161 315**
G	Number of doses per vial	#	10	10	10	10	10
H	Number of re-constitution syringes (+ 10% wastage)	C x 1,11 / G	**0**	**0**	**0**	**0**	**0**
I	Number of safety boxes (+ 10% extra need)	(F + H) x 1,11 / 100	**1 585**	**1 390**	**1 518**	**1 652**	**1 791**

3.3 *Areas for injection safety funds* (For countries requesting funds equivalent to the supplies calculated above).

List of areas of injection safety funded by different sources: *(For the GAVI/Vaccine Fund support, fill in "areas of support". For AD syringes and waste disposal, fill in "source of funds".)*

Source of fund	Area of support	Start of fund utilization
GAVI/Vaccine Fund	AD syringes and waste disposal boxes	January 2003

(Use as many rows as necessary

The government of Lesotho is requesting GAVI to provide 100% these items as outlined in tables 6.1-6.5

h

iv) New and under-used vaccines

- Summary of those aspects of the multi-year immunization plan that refer to the introduction of new and under-used vaccines.

Section 6.0 of the multi year plan of action talks about introduction of innovations in the EPI programme

Sub-Section 6.1 outlines the desire and commitment of the government of Lesotho to introduce pentavalent DPT-HepB+Hib in the routine immunization activities by 2002. The plan further proposes necessary areas that need to be addressed before the introduction of new vaccines such as adequate storage facilities, production of training guides, training of health workers, modification of recording and reporting forms, adequate publicity to communities and other stake holders.

Sub-Section 6.2 refers to the introduction of auto-disable (A-D) syringes in routine immunization services and how they can be disposed off in order to ensure safe injection practices. It is hoped that the EPI programme will shift from using re-usable and or disposable syringes to A-D syringes in routine immunization services by 2002.

- Assessment of burden of relevant diseases *(if available)* :

Disease	Title of the assessment	Date	Results
	Possibly to be done in future when the sentinel site for Hib will be established as required by WHO N/A	2002 onwards	Proportion of meningitis caused by Hib

- *(if new or under-used vaccines have been already introduced)*
Lessons learnt about storage capacity, protection from accidental freezing, staff training, cold chain, logistics, drop out rate, wastage rate etc. as per current experience with new and under-used vaccines:

Currently an assessment of burden of relevant diseases has not yet been done. However, it is proposed that a Hib surveillance sentinel site will be identified with a view to establishing the magnitude of the disease.

- Summary of the action points that address possible implications for storage capacity, staff training, cold chain, measures to avoid freezing of vaccines, logistics, drop out rate, wastage rate etc... in the Plan for Introduction of New and Under-used Vaccines :

  - Additional cold chain equipment will be purchased for the Health Service Areas (HSAs) and health facilities to replace old ones.
  - Additional and durable shelves will be bought for the national cold room.
  - The refrigerated vehicle will make regular deliveries to health facilities
  - The temperature in all fridges and freezers will be monitored twice daily, and thermometers will be used in cold boxes during outreach sessions or during transportation of vaccines.
  - Training will be given at all levels of health service provision (for trainers, supervisors, health workers including national health training college).
  - Appropriate training materials will be developed, funds provided, and training on all formulations and presentations of the new vaccines will be given
  - Posters and leaflets will be produced for information, education and communications for both the health workers and the public.
  - Training materials will be made available to all HSAs at least six weeks prior to start-up date.
  - The policy of Multi-dose vials will be implemented in all health facilities by the end 2002
  - IEC to be provided prior to the introduction of the new vaccines

- **First preference:** required number of doses and presentations of requested new and under-used vaccines. *(For each one of the requested first preference of new and under-used vaccine, please use provided formulae)*

Table 7.1: Estimated number of doses of HepB (10 doses) vaccine

		Formula	2003	2004	2005	2006	2007
		Target coverage	70%	75%	80%	85%	90%
A	Number of children to receive HepB vaccine [2]	match with targets in table 4	47 916	52 512	57 345	62 416	67 658
B	Number of doses per child	#	3	3	0	0	0
C	Estimated wastage rate [3]	%	20%	15%	15%	15%	15%
D	Équivalent wastage factor	1 / (1 - C)	1,25	1,18	1,18	1,18	1,18
E	Number of HepB doses	A x B x D	179 684	185 336	0	0	0
F	Number of vaccines buffer stock [4]	E x 0,25	44 921	0	0	0	0
G	Total of HepB vaccine doses needed	E + F	**224 605**	**185 336**	**0**	**0**	**0**
H	% of vaccines requested from Vaccine Fund	%	100%	100%	100%	100%	100%
I	Number of HepB doses requested from Vaccine Fund	G x H	224 605	185 336	0	0	0
J	Number of doses per vial	#	10	10	10	10	10
K	Number of AD syringes [5] (+ 10% wastage)	[(A x B) + F] x 1,11 x H	209 422	174 865	0	0	0
L	Number of AD syringes buffer stock	K x 0,25	52 355	0	0	0	0
M	Total of AD syringes	K + L	**261 777**	**174 865**	**0**	**0**	**0**
N	Number of reconstitution syringes [6] (+ 10% wastage)	(I x 1,11) / J	**0**	**0**	**0**	**0**	**0**
O	Number of safety boxes (+ 10% of extra need) [7]	(M + N) x 1,11 / 100	**2 906**	**1 941**	**0**	**0**	**0**

Table 7.2: Estimated number of doses of Hib (10 doses) vaccine

		Formula	2003	2004	2005	2006	2007
		Target coverage	70%	75%	80%	85%	90%
A	Number of children to receive Hib vaccine	match with targets in table 4	47 916	52 512	57 345	62 416	67 658
B	Number of doses per child	#	3	3	0	0	0
C	Estimated wastage rate [3]	%	20%	15%	15%	15%	15%
D	Équivalent wastage factor	1 / (1 - C)	1,25	1,18	1,18	1,18	1,18
E	Number of Hib doses	A x B x D	179 684	185 336	0	0	0
F	Number of vaccines buffer stock [4]	E x 0,25	44 921	0	0	0	0
G	Total of Hib vaccine doses needed	E + F	**224 605**	**185 336**	**0**	**0**	**0**
H	% of vaccines requested from Vaccine Fund	%	100%	100%	100%	100%	100%
I	Number of Hib doses requested from Vaccine Fund	G x H	224 605	185 336	0	0	0
J	Number of doses per vial	#	10	10	10	10	10
K	Number of AD syringes [5] (+ 10% wastage)	[(A x B) + F] x 1,11 x H	209 422	174 865	0	0	0
L	Number of AD syringes buffer stock	K x 0,25	52 355	0	0	0	0
M	Total of AD syringes	K + L	**261 777**	**174 865**	**0**	**0**	**0**
N	Number of reconstitution syringes [6] (+ 10% wastage)	(I x 1,11) / J	**0**	**0**	**0**	**0**	**0**
O	Number of safety boxes (+ 10% of extra need) [7]	(M + N) x 1,11 / 100	**2 906**	**1 941**	**0**	**0**	**0**

Table α : Wastage rates and factors

Vaccine wastage rate	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%
Equivalent wastage factor	1.05	1.11	1.18	1.25	1.33	1.43	1.54	1.67	1.82	2.00	2.22	2.50

- **Second preference:** Required number of doses and presentations of requested new and under-used vaccines, if first preference is not available. *(Please use provided formulae as per table 7.1)*

Table 7.3: Estimated number of doses of DTP-HepB+Hib (2 doses) Pentavalent vaccine

		Formula	2003	2004	2005	2006	2007
		Target coverage	70%	75%	80%	85%	90%
A	Number of children to receive Pentavalent vaccine	match with targets in table 4	47 916	52 512	57 345	62 416	67 658
B	Number of doses per child	#	0	0	3	3	3
C	Estimated wastage rate [3]	%	20%	15%	5%	5%	5%
D	Équivalent wastage factor	1 / (1 - C)	1,25	1,18	1,05	1,05	1,05
E	Number of Pentavalent vaccine doses	A x B x D	0	0	181 089	197 104	213 655
F	Number of vaccines buffer stock [4]	E x 0,25	0	0	45 272	0	0
G	Total of Pentavalent vaccine doses needed	E + F	**0**	**0**	**226 361**	**197 104**	**213 655**
H	% of vaccines requested from Vaccine Fund	%	100%	100%	100%	100%	100%
I	Nber of Pentavalent doses requested from Vaccine Fund	G x H	0	0	226 361	197 104	213 655
J	Number of doses per vial	#			2	2	2
K	Number of AD syringes [5] (+ 10% wastage)	[(A x B) + F] x 1,11 x H	0	0	241 210	207 846	225 299
L	Number of AD syringes buffer stock	K x 0,25	0	0	60 303	0	0
M	Total of AD syringes	K + L	**0**	**0**	**301 513**	**207 846**	**225 299**
N	Number of reconstitution syringes [6] (+ 10% wastage)	(I x 1,11) / J	**0**	**0**	**125 630**	**109 393**	**118 579**
O	Number of safety boxes (+ 10% of extra need) [7]	(M + N) x 1,11 / 100	**0**	**0**	**4 741**	**3 521**	**3 817**

θ Attached is the plan of action for vaccinations with new or under-used vaccines
(if already contained within the national, multi-year plan, indicate pages) Document number 08

v) Strategic directions to mobilise additional resources for immunization

- Summary of strategies that the Government intends to pursue to increase the resources for immunization of children, and that will be converted in a comprehensive Financial Sustainability Plan by the time of the mid-term review. Highlights of the agreements made with donor agencies (i.a.: Vaccine Independence Initiative) and the use of funds freed by debt relief:

The Government of Lesotho is committed to ensuring the provision of sound health care to the children of Lesotho. It is on this light that it has for the first time taken the initiative to contribute to the procurement of BCG vaccine for the 2001-2002 financial year. The government has in the past been supporting EPI by procuring such logistics as refrigerators, vaccine carriers, cold boxes, syringes in order to complement external support for the programme.

The government will continue with its efforts to mobilize adequate resources for immunization from its own allocation and from its collaborating partners and donors. The 15% committed by the government for the procurement of vaccines will be increased over the next five years. The ICC on the other hand, will ensure

mobilization of adequate resources in order to improve and sustain the immunization services.

Periodic review of the immunization activities will be conducted in order to assess the performance of the programme. Findings will be discussed and disseminated to all stakeholders. Health Service Areas (health administrative areas) with low immunization coverage will be identified through a monitoring system that will be put in place and appropriate actions will be instituted in order to improve coverage in those areas.

- Tables of expenditure for 2000 and resource needs detailing the sources of funds for 2000 and subsequent years are attached in Annex 1. Document number 09

For more details on expenditure towards immunization activities see tables 1 and 2 on Annex 1.

- Remarks on recurrent cost reduction strategies which contribute to financial sustainability, such as vaccine wastage reduction:

  - Careful planning of the estimates and distribution of the new and routine vaccines
  - Improved management of the cold chain
  - Implementation of the revised WHO policy on the use of opened multi-dose vials of vaccine in subsequent sessions
  - Training on the use and interpretation of the vaccine vial monitor (VVM) as a management tool for OPV and other vaccine that may have VVMs
  - Introduction of the new combination DTP-HepB + Hib vaccine in a two-dose presentation.
  - Improving vaccine stock management at all levels
  - Reducing missed opportunities for vaccination of eligible children and pregnant mothers

vi) Summary of requests to GAVI and the Vaccine Fund

With reference to all points presented above, the Government of Lesotho considering that its DTP3 coverage for 2000 was **56%** corresponding to **36,062** number of children receiving 3 doses of DTP, requests the Alliance and its partners to contribute financial and technical assistance required to increase immunization of children.

Specifically, the Government hereby applies for the following types of support from GAVI and the Vaccine Fund. *(Circle "YES" or "NO" according to the requests submitted with this proposal):*

- ***Support for Immunization Services*** *YES* (*NO*)
- ***Support for New and Under-used vaccines*** (*YES*) *NO*
- ***Support for Injection Safety*** (*YES*) *NO*

10.1 SUPPORT FOR IMMUNIZATION SERVICES

GAVI and the Vaccine Fund are requested to fund the immunization services in year 2002 according to the number of additional children (as compared to the baseline) that are targeted to be immunized with DTP3 as presented in table 4, namely 43, 549 *(number of children)*. Funds will also be requested for following years as estimated in table 4.

This has already been taken care of. Lesotho was approved for the ISS fund in 2001

- The Government takes full responsibility to manage the in-country transfer of funds.
  (In case an alternative mechanism is necessary please describe it and the reasons for it:)

- Operational mechanism that is followed for safeguarding transparency, standards of accounting, long-term sustainability and empowerment of the government in using the funds:

Although funds will be managed by the government, the ICC members shall endorse all the transactions for the utilization of funds. All activities shall be discussed and endorsed by the ICC before funds are released for the activities. Several signatories will be identified in order to ensure transparency and accountability and periodic monitoring will be done and reports submitted.

- *Countries requesting immunization services support should submit the "Banking Details" form (Annex 3) with their proposal.*

3.2 SUPPORT FOR NEW AND UNDER-USED VACCINES

GAVI and the Vaccine Fund are requested to fund the introduction of New and Under-used Vaccines by providing the following vaccines: *(fill in only what is being requested from the Vaccine Fund in line with tables 7.1, 7.2...)*

Table 8: New and under-used vaccines requested from GAVI and the Vaccine Fund

Vaccine presentation	Number of doses per vial	Starting month and year	Number of doses requested for first calendar year	Number of doses requested for second calendar year *
HepB (monovalent)	10	April 2003	224.605	185.336
DTP-HepB + Hib (pentavalent)	2	January 05	226.361	197.104

* Vaccines will also be requested for following years as described in tables 7.1, 7.2...

- Vaccines will be procured *(tick only one)* :

By UNICEF ☑ By GOVERNMENT ☐

- *(If vaccines are proposed to be procured by the Government)* Process and procedures of the National Regulatory Authority to control the purchase and delivery of vaccines into the country, including weaknesses, constraints and planned measures to improve the control system:

As stated above, the vaccines will be procured by UNICEF on behalf of the Government of Lesotho.

- ***(In case you are entitled to receive US$ 100,000 to facilitate the introduction of new vaccines)*** Please *submit the attached "Banking Details" form (Annex 3) with the proposal.*

3.3 SUPPORT FOR INJECTION SAFETY

GAVI and the Vaccine Fund are requested to support the injection safety plan by providing:

(Tick one choice only): ☑ **The amount of supplies listed in table 9**

☐ **The equivalent amount of funds**

Table 9: Total supplies for safety of vaccinations with BCG, DTP, Measles, DT and TT vaccines requested to GAVI and The Vaccines Fund

ITEM		2003	2004	2005	2006	2007
Total AD syringes	for BCG	71 403	62 602	68 363	74 409	80 657
	for Others *	541 705	474 933	327 684	356 665	386 614
Total of reconstitution syringes		13 493	14 788	16 149	17 577	19 053
Total of safety boxes		6 955	6 131	4 575	4 980	5 398

- ***(In case you request funds equivalent to the above supplies at the prices obtained by UNICEF)*** Please submit the attached "Banking Details" form (Annex 3) with the proposal.

vii) Additional comments and recommendations from the ICC

- The ICC fully supports the proposal and is looking forward to its approval by the independent review committee of the GAVI secretariat
- The ICC reiterates the total government commitment to ensuring improving and strengthening EPI services in the country.

ANNEX 1

Statement of financing and of unmet needs for immunization (USD ,000)

Table 1

Expenditure in 2000 from different sources

Ref. #	**Category** / Line item	Central Govern-ment	Local Govern-ment	Private sector	Donor 1[1] WHO	Donor 2 UNICEF	Donor 3 Irish Aid	Donor 4 EU	Donor 5 LHDA	Total Expend-iture in 2000
1.	**Vaccines, AD syringes...**									
1.1	▪ BCG, DPT, OPV, Measles, TT					84,884				84,884
1.2	▪ Vitamin A					9,790				9,790
2.	**Equipment (cold chain, spare parts, sterilisation...)**									
2.1	▪ Cold chain equipment							45,300		45,300
2.2	▪ Personnel and operation	81,160					17,755	5,940	5,940	110,795
2.3	▪ Transport				40,000					40,000
3.	**Other item immunization specific**									
3.1	▪ Measles and AD syringes					48,000	58,651			106,651
3.2	▪ NIDS and surveiellance				89,278					89,278
Total expenditure in 2000		8,1160			129,278	142,674	76,406	51,240	5,940	486,698

[1] If basket funding or a similar aggregated funding approach is used, please describe the total funding amounts, and/or detail partner contributions as fully as possible.
[2] Please use the electronic version of the document and insert as many columns for partner contributions as are necessary for your submission.
[3] Please use the electronic version of the document to insert as many line items as necessary for your submission.

Table 2

Budget for 2000 **(Fill in a similar table for subsequent years)**

Ref. #	**Category** / Line item	Contributions committed by partners							Total projected needs	Unmet needs
		Central Govern-ment	Private sector	Donor 1[1] (WHO)	Donor 2 (UNICEF)	Donor 3 (Irish Aid)	Donor 4 EU	Donor 5 (LHDA)		
1.	**Vaccines, AD syringes...**									
1.1	▪ BCG, DPT, OPV, Measles, TT				84,884				113,178	28,295
1.2	▪ Vitamin A				9,790				9,790	0
2.	**Equipment (cold chain, spare parts, sterilisation...)**									
2.1	▪ Cold chain equipment						45,300		45,637	337
2.2	▪ Personnel and operation	81,160				17,755	5,940	5,940	199,913	89,118
	▪ Transport			40,000					40,000	0
3.	**Other item immunization specific**									
3.1	▪ Measles and AD syringes				48,000	58,651			201,863	95,212
3.2	▪ NIDS and surveillance			89,278					89,278	0
Total commitment		81,160		129,278	142,674	76,406	51,240	5,940	699,659	212,962

[1] If basket funding or a similar aggregated funding approach is used, please describe the total funding amounts, and/or detail partner contributions as fully as possible.
[2] Please use the electronic version of the document and insert as many columns for partner contributions as are necessary for your submission.
[3] Please use the electronic version of the document to insert as many line items as necessary for your submission.

Table 2

Budget for 2001 **(Fill in a similar table for subsequent years)**

Ref. #	**Category** / Line item	Contributions committed by partners							Total projected needs	Unmet needs
		Central Government	Private sector	Donor 1[1] (WHO)	Donor 2 (UNICEF)	Donor 3 (Irish Aid)	Donor 4 EU	Donor 5 (LHDA)		
1.	**Vaccines, AD syringes...**									
1.1	▪ BCG, DPT, OPV, Measles, TT	32,909			81,373					
1.2	▪ Vitamin A				6,500					
2.	**Equipment (cold chain, spare parts, sterilisation...)**									
2.1	▪ Cold chain equipment					385,000				
2.2	▪ Personnel and operation	81,160								
	▪ Transport			10,000		15,000				
3.	**Other item immunization specific**									
3.1	▪ Measles and AD syringes									
3.2	▪ NIDS and surveiellance			80,000						
Total commitment				90,000	87,873	400,000				

[1] If basket funding or a similar aggregated funding approach is used, please describe the total funding amounts, and/or detail partner contributions as fully as possible.
[2] Please use the electronic version of the document and insert as many columns for partner contributions as are necessary for your submission.
[3] Please use the electronic version of the document to insert as many line items as necessary for your submission.

ANNEX 2

Summary of documentation[2]

Background information on Health System Development status	
a) Attached are the relevant section(s) of strategies for health system development	Document number 01
Profile of the Inter Agency Co-ordinating Committee (ICC)	
b) ICC's workplan for the next 12 months	Document number 02.
c) Terms of reference of the ICC	Document number 03
d) Minutes of the three most recent ICC meetings or any meetings concerning the introduction of new or under-used vaccines or safety of injections	Document number 04
Immunization Services Assessment	
e) Most recent, national assessment report(s) on the status of immunization services	Document number 05
f) Summary of the recommendations of the assessment report(s) with remarks on the status of implementation of each recommendation.	Document number 06
Multi-Year Immunization Plan	
g) Complete copy (with executive summary) of the Multi-Year Immunization Plan or of the relevant pages of the health sector plan.	Document number 07
h) Action plan for the introduction of new or under-used vaccines into immunization services	Document number 08
i) A copy of the Plan to achieve Safe Injections (including plans for transition to auto-destruct syringes) and Safe Management of Sharps Waste or of the relevant pages of the health plan.	Document number 09
Unmet needs requiring additional resources	
j) Tables of expenditure for 2000 and resource needs (Annex 1)	Document number 10

[2] Please submit hard copy documents with an identical electronic copy whenever possible