



Global Alliance for Vaccines and Immunisation (GAVI)

APPLICATION FORM FOR COUNTRY PROPOSALS

For Support to:

*Immunisation Services, Injection Safety
and New and Under-Used Vaccines*

Revised 15 July 2007

Please return a signed copy of the document to:
GAVI Alliance Secretariat; c/o UNICEF, Palais des Nations, 1211 Geneva 10, Switzerland.

Enquiries to: Dr Ivone Rizzo, irizzo@gavialliance.org or representatives of a GAVI partner agency. All documents and attachments must be in English or French, preferably in electronic form.

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Executive Summary

After the end of the first phase of GAVI support for immunization activities and the introduction of the Hepatitis B and haemophilus influenzae type b vaccines in 2002, Rwanda is proud to say that, thanks to this support, we have achieved a high level of vaccine coverage, decreased vaccine preventable diseases, and we have improved the quality of immunization-related services. Moreover, with this support we equipped the health facilities with cold chain equipment, thereby giving the people of Rwanda safe and quality vaccines.

The country is seizing the opportunity afforded by GAVI to submit an application for support for Phase 2 and to introduce the pneumococcal vaccine into its national immunisation program.

Phase 2 support will enable the Ministry of Health, through the Expanded Program on Immunization, to maintain the achievements of the first phase and to introduce the pneumococcal vaccine according to the WHO recommendation.

In this second phase, special emphasis will be placed on:

- Introducing the pneumococcal vaccine into routine immunization
- Maintaining and increasing vaccine coverage for the other antigens in all the districts. There will be special emphasis on increasing vaccine coverage for the tetanus vaccine, where performance is currently poor.
- Strengthening vaccine management at the intermediate and peripheral level.
- Building capacities, both quantitatively and qualitatively for the EPI.

Expected results: A decrease in the burden of diseases linked to the vaccines that have been introduced, and pneumococcus in particular, as well as sustainably improved vaccine coverage in Rwanda, mainly through support for immunization services.

Support period 5 years (2008 – 2012)

Geographical coverage for the support: entire country.

THE TOTAL BUDGET REQUESTED FROM GAVI IS: USD 33,922,242

2. Signatures of the Government and National Coordinating Bodies

Government and the Inter-Agency Coordinating Committee for Immunisation

The Government of would like to expand the existing partnership with the GAVI Alliance for the improvement of the infants routine immunisation programme of the country, and specifically hereby requests for GAVI support for immunization services and new and under-used vaccines.

The Government of Rwanda commits itself to developing national immunisation services on a sustainable basis in accordance with the comprehensive Multi-Year Plan presented with this document. The Government requests that the GAVI Alliance and its partners contribute financial and technical assistance to support immunisation of children as outlined in this application.

Table N°3.6 of page 11 of this application shows the amount of support in either supply or cash that is required from the GAVI Alliance. Table N° 3.6 of page 11 of this application shows the Government financial commitment for the procurement of this new vaccine (NVS support only).

Minister of Health:

Signature:

Name:

Date:

Minister of Finance:

Signature:

Name:

Date:

National Coordinating Body - Inter-Agency Coordinating Committee for Immunisation:

We the members of the ICC/HSCC¹ met on October 3, 2007 to review this proposal. At that meeting we endorsed this proposal on the basis of the supporting documentation which is attached.

- The endorsed minutes of this meeting are attached as DOCUMENT NUMBER: 1

Name/Title	Agency/Organisation	Signature
.....		
.....		
.....		
.....		
.....		
.....		

In case the GAVI Secretariat has queries on this submission, please contact:

Name: Dr Fidèle NGABO

Title: Coordinator, Expanded Program on Immunisation

Tel No.: 00250 0830 47 50

Address: Ministry of Health

Fax No.:

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¹ Inter-agency coordinating committee or Health sector coordinating committee, whichever is applicable.

Email: ngabog@yahoo.fr

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

The Inter-Agency Coordinating Committee for Immunisation

Agencies and partners (including development partners and CSOs) supporting immunisation services are co-ordinated and organised through an inter-agency coordinating mechanism (ICC/HSCC). The ICC/HSCC are responsible for coordinating and guiding the use of the GAVI ISS and NVS support. Please provide information about the ICC/HSCC in your country in the spaces below.

Profile of the ICC/HSCC

Name of the ICC/HSCC: [Inter-agency Coordination Committee for the EPI](#)

Date of constitution of the current ICC/HSCC: [1996](#)

Organisational structure (e.g., sub-committee, stand-alone): [stand-alone](#)

Frequency of meetings: [four times per year](#)

Composition: [Ministry of Health and partners](#)

Function	Title / Organization	Name
Chair	Permanent Secretary in the Ministry of Health	Mme Caroline KAYONGA
Secretary	Coordinator, Expanded Program on Immunisation	Dr Fidèle NGABO
Members	WHO Representative UNICEF Representative President of Polio Plus Rotary NPO/EPI WHO WHO EPI Focal Point UNICEF Project Officer Health, APO Health, UNICEF Director MMIS/JSI MCH/USAID CS Intra-Health/Twubakane Coordinator BUFMAR Director CTB Representative Red Cross Rwanda Health Department PSP/KIBUYE Swiss Cooperation	Dr Sue- MILANG Dr Joseph Foubi Dr Antoine MUYOMBANO Dr MAMADOU Malifa BALDE Dr Celse RUGAMBWA Dr Francine KIMANUKA Dr Denis B. MUHOZA Dr Diallo ADAMA Mr Eric KAGAME Mr Achille KABORE Ernest RWAGASANA Dr Jean Marie TROMME Gaetan GATSIMBANYI ... Dr Bonaventure SAVADOGO

Major functions and responsibilities of the ICC/HSCC:

- [Provide technical support to the EPI, primarily in planning activities, as well as their implementation, monitoring and evaluation;](#)
- [Serve as advocate by encouraging strong partnerships with the EPI, both domestically and abroad;](#)
- [Provide support to the EPI for resource mobilization, both domestic and foreign, that will be used to implement the program](#)

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

1. Encourage the other partners to join the ICC
2. Strengthen the monitoring of the recommendations made by the ICC during its meetings
3. Continue to mobilize resources and advocate for the Program

3. Immunisation Programme Data

Please complete the tables below, using data from available sources. Please identify the source of the data, and the date. Where possible use the most recent data, and attach the source document.

- Please refer to the Comprehensive Multi-Year Plan for Immunisation (or equivalent plan), and attach a complete copy (with an executive summary) as DOCUMENT NUMBER 2
- Please refer to the two most recent annual WHO/UNICEF Joint Reporting Forms on Vaccine Preventable Diseases and attach them as DOCUMENT NUMBERS 3 AND 4
- Please refer to Health Sector Strategy documents, budgetary documents, and other reports, surveys etc, as appropriate.

Table 3.1: Basic facts for the year 2007 (the most recent; specify dates of data provided)

	Figure	Date	Source
Total population	9,241,661	2007	2002 census of the population plus the growth rate
Infant mortality rate (per 1000)	86	2005	2005 Demographic Health Survey
Surviving Infants*	337,875	2007	2005 Demographic Health Survey (4% less infant mortality (86‰))
GNI per capita (US\$)	\$230	2004	2004 World Bank estimate
Percentage of GDP allocated to Health	6.62%	2003	National Health Accounts 2003
Percentage of Government expenditure on Health	11%	2007	Regular State budget

* Surviving infants = Infants surviving the first 12 months of life

Please provide some additional information on the planning and budgeting context in your country:

Please indicate the name and date of the relevant planning document for health
2005 – 2009 Health Sector Strategic Plan

Is the cMYP (or updated Multi-Year Plan) aligned with this document (timing, content etc) Yes

Please indicate the national planning budgeting cycle for health

Like all the development sectors, the health sector has a strategic plan that is aligned with the national poverty reduction plan. The planning and budgeting cycle for health is annual (January - December). The budgeted annual action plan is prepared based on the health sector's strategic plan. Annual planning is done by the Ministry of Health, but in close cooperation with all the components (districts, program, etc.). Since 2006, planning has taken decentralization into account, and decentralisation is already in effect in Rwanda. In other words, the State budget is determined taking the administrative districts into account. In the coming years, the Ministry will adopt the use of a planning and budgeting tool that is oriented to achieving the Millennium Goals to manage health services. The World Bank has adopted this tool in cooperation with UNICEF. The tool calculates the marginal cost necessary to remove the bottlenecks in order to achieve the Millennium Goals.

Please indicate the national planning cycle for immunisation

The national planning cycle for immunisation is annual based on the multi-year budgeted and consolidated plan.

Table 3.2: Current Vaccination Schedule: Traditional, New Vaccines and Vitamin A Supplement (refer to cMYP pages)

Vaccine (do not use trade name)	Ages of administration (by routine immunisation services)	Indicate by an "x" if given in:		Comments
		Entire country	Only part of the country	
BCG	Birth	X		
OPV	Birth, 6 weeks, 10 weeks and 14 weeks	X		4 doses
DTP-HepB-Hib	6 weeks, 10 weeks and 14 weeks	X		3 doses
Measles	9 months	X		
Vitamin A	9 months	X		

Table 3.3: Trends of immunisation coverage and disease burden
(as per last two annual WHO/UNICEF Joint Reporting Form on Vaccine Preventable Diseases)

Trends of immunisation coverage (in percentage)						Vaccine preventable disease burden		
Vaccine		Reported		Survey		Disease	Number of reported cases	
		2005	2006	2007	200...		2005	2006
BCG		91	98	97.8		Tuberculosis*	187	
DTP	DTP1	96	104	98.7				
	DTP3	95	100	97.0				
Polio 3		95	100	97.2		Polio	0	0
Measles (first dose)		89	94	95.7		Measles	292	602
TT2+ (Pregnant women)		54	60	98.1		NN Tetanus	4	2
Hib3		95	100	97.9		Hib **	0	0
Yellow Fever						Yellow fever		
HepB3		95	100	97.9		hepB sero-prevalence*		
Vit A supplement	Mothers (<6 weeks post-delivery)							
	Infants (>6 months)							

* If available

** Note: JRF asks for Hib meningitis

If survey data is included in the table above, please indicate the years the surveys were conducted, the full title and if available, the age groups the data refers to:

The survey was performed in 2007

Title: National Vaccine Coverage Survey

Age groups referred to: The immunisation data pertained to children between 12 and 23 months old and women with children from 0 to 11 months old.

Table 3.4: Baseline and annual targets (refer to cMYP pages)

Number	Baseline and targets					
	Base year	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
Births	360299	379278	389139	399257	409637	420288
Infants' deaths	30986	32618	33466	34336	35229	36145
Surviving infants	329313	346660	355673	364921	374408	384145
Pregnant women	219763	379 278	389 139	399 257	409 637	420 288
Target population vaccinated with BCG	353653	371 692	381 356	391 271	405 541	416 085
BCG coverage*						
Target population vaccinated with OPV3	312847	329 327	341 446	353 973	366 920	376 460
OPV3 coverage**						
Target population vaccinated with DTP***	312847	329 327	341 446	353 973	366 920	376 460
DTP3 coverage**						
Target population vaccinated with DTP1***	319433	336 260	345 003	353 973	370 664	380 302
Wastage ² rate in base-year and planned thereafter	5%	5%	5%	5%	5%	5%
Target population vaccinated with 3 rd dose of						
..... Coverage**						
Target population vaccinated with 1 st dose of						
Wastage ¹ rate in base-year and planned thereafter						
Target population vaccinated with 1 st dose of Measles vaccine	311818	311 994	327 219	346 675	355 688	364 936
Target population vaccinated with 2 nd dose of Measles vaccine						
Measles coverage**						
Pregnant women vaccinated with TT+	219763	265 494	311 311	359 331	389 155	399 273
TT+ coverage****						
Vit A supplement	Mothers (<6 weeks from delivery)					
	Infants (>6 months)					
Annual DTP Drop out rate [(DTP1-DTP3)/DTP1] x100		10%	10%	10%	10%	10%
Annual Measles Drop out rate (for countries applying for YF)						

* Number of infants vaccinated out of total births

** Number of infants vaccinated out of surviving infants

*** Indicate total number of children vaccinated with either DTP alone or combined

**** Number of pregnant women vaccinated with TT+ out of total pregnant women

² The formula to calculate a vaccine wastage rate (in percentage): $[(A - B) / A] \times 100$. Whereby: A = The number of doses distributed for use according to the supply records with correction for stock balance at the end of the supply period; B = the number of vaccinations with the same vaccine in the same period. For new vaccines check **table α** after Table 7.1.

Table 3.5: Summary of current and future immunisation budget (or refer to cMYP pages)

Please list in the tables below the funding sources for each type of cost category (if known). Please try and indicate which immunisation program costs are covered from the Government budget, and which costs are covered by development partners (or the GAVI Alliance), and name the partners.

	Expense	Future Immunisation Budget					
Cost Category	2006	2008	2009	2010	2011	2012	Total 2008 - 2012
Routine Recurrent Cost	US\$	US\$	US\$	US\$	US\$	US\$	US\$
Vaccines (routine vaccines only)	\$4,675,933	\$4,029,866	\$9,604,098	\$9,622,286	\$9,739,296	\$9,751,372	\$42,746,917
Traditional vaccines	\$358,510	\$366,278	\$379,392	\$396,671	\$409,478	\$418,289	\$1,970,106
New and underused vaccines	\$4,317,422	\$3,663,588	\$9,224,706	\$9,225,615	\$9,329,818	\$9,333,083	\$40,776,811
Injection supplies	\$172,513	\$197,873	\$294,339	\$311,149	\$324,708	\$333,714	\$1,461,782
Personnel	\$308,808	\$318,656	\$325,029	\$331,530	\$338,160	\$344,924	\$1,658,299
Salaries of full-time NIP health workers (immunisation specific)	\$186,984	\$190,724	\$194,538	\$198,429	\$202,397	\$206,445	\$992,534
Per-diems for outreach vaccinators / mobile teams	\$18,624	\$18,996	\$19,376	\$19,764	\$20,159	\$20,562	\$98,858
Per-diems for supervisions and monitoring	\$103,200	\$108,936	\$111,115	\$113,337	\$115,604	\$117,916	\$566,907
Transportation	\$158,997	\$165,758	\$169,073	\$172,455	\$170,203	\$173,608	\$851,097
Fixed site and vaccine delivery	\$22,859	\$26,447	\$26,976	\$27,516	\$23,101	\$23,563	\$127,604
Advanced strategies activities	\$136,138	\$139,311	\$142,097	\$144,939	\$147,102	\$150,044	\$723,493
Maintenance and overheads	\$182,838	\$207,426	\$222,484	\$238,394	\$234,242	\$247,619	\$1,150,166
Cold chain maintenance	\$157,699	\$167,961	\$172,945	\$178,699	\$187,605	\$191,357	\$898,567
Maintenance of building and other equipment	\$20,339	\$29,673	\$39,552	\$49,507	\$36,246	\$45,663	\$200,641
(electricity, water, etc.)	\$4,800	\$9,792	\$9,988	\$10,188	\$10,391	\$10,599	\$50,958
Short-duration training	\$174,390	\$177,878	\$181,435	\$185,064	\$188,765	\$192,541	\$925,683
Social mobilisation and IEC	\$72,540	\$73,991	\$75,471	\$76,980	\$78,520	\$80,090	\$385,051
Disease surveillance	\$164,974	\$168,273	\$174,760	\$175,072	\$178,573	\$182,145	\$878,823
Program management	\$226,950	\$231,489	\$236,119	\$240,841	\$245,658	\$250,571	\$1,204,678
Other							
Subtotal Recurrent Costs	\$6,137,943	\$5,571,210	\$11,282,808	\$11,353,770	\$11,498,126	\$11,556,583	\$51,262,497
Routine Recurrent Cost							
Vehicles	\$40,000	\$35,700					\$35,700
Cold chain equipment		\$113,765	\$26,009	\$36,733	\$85,342		\$261,848
Other capital equipment	\$1,382	\$80,629	\$85,816	\$81,420	\$51,361	\$67,850	\$367,077
Subtotal Capital Costs	\$41,382	\$230,094	\$111,825	\$118,153	\$136,704	\$67,850	\$664,626
Campaigns							
Measles	\$1,872,480		\$2,029,111				\$2,029,111
Vaccines and equipment	\$405,306		\$436,079				\$436,079
Operating Costs	\$1,467,174		\$1,593,032				\$1,593,032
Subtotal Campaign Costs	\$3,744,960		\$4,058,223				\$4,058,223
Other costs							
Construction of new building		\$306,000					\$306,000

Subtotal Other Costs		\$306 000					
GRAND TOTAL	\$9,924,284	\$6,107,304	\$15,452,856	\$11,471,922	\$11,634,829	\$11,624,433	\$56,291,345
Routine (Fixed strategies)	\$5,239,286	\$5,250,867	\$9,798,785	\$9,864,109	\$10,006,169	\$9,985,320	\$44,905,250
Routine (Advanced strategies)	\$940,039	\$856,437	\$1,595,848	\$1,607,813	\$1,628,661	\$1,639,114	\$7,327,872
Campaigns	\$3,744,960		\$4,058,223				\$4,058,223

Table 3.6: Summary of current and future financing and sources of funds (or refer to cMYP)

1.1		1.2	1.3 <i>Estimated financing per annum in US\$(,000)</i>				
	Funding source	Base year	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
Cost category							
Routine costs for immunisation		\$6,137,943	\$5,571,210	\$11,282,808	\$11,353,770	\$11,498,126	\$11,556,583
1	Government	\$1,016,476	\$1,256,017	\$2,358,382	\$2,476,425	\$2,589,562	\$2,595,632
2	WHO	\$233,162	\$237,846	\$237,846	\$237,846	\$237,846	\$237,846
3	UNICEF	\$115,388	\$170,000	\$170,000	\$170,000	\$170,000	\$170,000
4	GAVI	\$4,730,500	\$3,736,500	\$8,051,672	\$8,261,575	\$8,373,675	\$8,491,720
5	GAP	\$42,417	\$426,864	\$464,908	\$207,924	\$127,043	\$61,385
Equipment costs		\$41,382	\$230,094	\$111,825	\$118,153	\$136,704	\$67,850
1.	Government	\$20,256	\$45,650	\$65,205	\$95,455	\$98,750	\$46,620
2.	WHO						
3.	UNICEF	\$4,080	\$4,080	\$4,080	\$4,080	\$4,080	\$4,080
4.	GAVI	\$10,550	\$11,000	\$12,500	\$13,000	\$13,500	\$14,000
5	GAP	\$6,496	\$169,364	\$30,040	\$5,618	\$20,374	\$3,150
Campaigns		\$3,744,960		\$4,058,223			
1.	Government	\$565,294		\$293,258			
2.	WHO	\$252,970		\$262,587			
3.	UNICEF	\$451,814		\$469,754			
4.	GAVI						
Other costs			\$306,000				
1	Government						
2	WHO						
3	UNICEF						
4	GAVI		\$306,000				
GRAND TOTAL		\$9,924,284	\$6,107,304	\$15,452,856	\$11,471,923	\$11,634,830	\$11,624,433

4. Immunisation Services Support (ISS)

Please indicate below the total amount of funds you expect to receive through ISS:

Table 4.1: Estimate of fund expected from ISS

	Base Year	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
DTP3 Coverage rate	95%	95%	96%	97%	98	98
Number of infants reported / planned to be vaccinated with DTP3 (as in Table 3.4)	312847	329 327	341 446	353 973	366920	376460
Number of <i>additional</i> infants that annually are reported / planned to be vaccinated with DTP3		16 488	12119	12527	12947	9540
Funds expected (\$20 per additional infant)		329 600	242380	250540	258940	190800

* Projected figures

** As per duration of the cMYP

If you have received ISS support from GAVI in the past, please describe below any major lessons learned, and how these will affect the use of ISS funds in future.

Please state what the funds were used for, at what level, and if this was the best use of the flexible funds; mention the management and monitoring arrangements; who had responsibility for authorising payments and approving plans for expenditure; and if you will continue this in future.

Major Lessons Learned from Phase 1	Implications for Phase 2
1. Before GAVI support it was difficult to implement the action plan, both at the central level and at the district level, because the activities were only partially financed. With GAVI financing, all the planned activities are financed and implemented, and all the employees are motivated.	GAVI support should continue so that even more can be achieved. Thought should be given to the different strategies for sustainability.
2. Through the bi-annual meetings with district employees to monitor activity implementation, it has been possible to achieve the annual targets in terms of national vaccine coverage.	Planning is an ongoing process that is used to achieve satisfactory results.
3. The machinery and cold chain equipment have been replaced. Also, at the central level, the districts and health centres have been outfitted.	Preventive maintenance and the replacement of worn equipment should be considered in implementing the activities.
4. Training the health facilitators and raising their awareness throughout the country contributed to increasing vaccine coverage and decreasing the drop out rate.	Continuing education for health facilitators in awareness and community mobilization strategies will contribute to increasing vaccine coverage and decreasing the drop out rate.
5. The introduction of the new vaccine (pentavalent) motivated parents to increase the number of visits to the vaccine sessions.	Vaccine availability must be maintained to prevent the diseases covered by the pentavalent vaccine.

6. The audit of immunisation data quality, conducted by GAVI in 2002 and 2004, improved the skills of EPI personnel at all levels.	Ongoing supervision is necessary to effectively implement the recommendations of the data quality audit conducted by the GAVI team.
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If you have not received ISS support before, please indicate:
Rwanda has been receiving ISS support since 2002.

a) when you would like the support to begin:

b) when you would like the first DQA to occur:

c) how you propose to channel the funds from GAVI into the country:

d) how you propose to manage the funds in-country:

e) who will be responsible for authorising and approving expenditures:

➤ Please complete the banking form (annex 1) if required

5. Injection Safety Support

- Please attach the National Policy on Injection Safety including safe medical waste disposal (or reference the appropriate section of the Comprehensive Multi-Year Plan for Immunisation), and confirm the status of the document:
 - [There is a draft of the National Policy on Injection Safety. The document will be finalized during the course of 2008 with technical support from the WHO and MMIS/JSI using WHO funding. Nevertheless, the Ministry of Health has been disseminating information on injection safety to all the health facilities according to WHO recommendations.](#)
- Please attach a copy of any action plans for improving injection safety and safe management of sharps waste in the immunisation system (and reference the Comprehensive Multi-Year Plan for Immunisation).

Table 5.1: Current cost of injection safety supplies for routine immunisation

Please indicate the current cost of the injection safety supplies for routine immunisation.

Year	Annual requirements		Cost per item (US\$)		Total Cost (US\$)
	Syringes	Safety Boxes	Syringes	Safety Boxes	
2007	2,765,198	42,732	0.065	16	863,449

Table 5.2: Estimated supply for safety of vaccination with the BCG vaccine

(Please use one table for each vaccine BCG(1 dose), DTP(3 doses), TT(2 doses) ¹, Measles(1 dose) and Yellow Fever(1 dose), and number them from 5.1 to 5.5)

		Formula	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
A	Number of children to be vaccinated ²	#	371,692	381,356	391,271	405,541	416,085
B	Percentage of vaccines requested from GAVI ³	%	0	0	0	0	
C	Number of doses per child	#	1	1	1	1	
D	Number of doses	$A \times B/100 \times C$	371,692	381,356	391,271	405,541	416,085
E	Standard vaccine wastage factor ⁴	Either 2.0 or 1.6	2	2	2	2	2
F	Number of doses (including wastage)	$A \times B/100 \times C \times E$	743 384	762 712	782 543	811 082	832 170
G	Vaccines buffer stock ⁵	$F \times 0.25$	185 846	190 678	195 636	202 770	208 042
H	Number of doses per vial	#	20	20	20	20	20
I	Total vaccine doses	$F + G$	929 231	953 391	978 179	1 013 852	1 040 212
J	Number of AD syringes (+ 10% wastage) requested	$(D + G) \times 1.11$	618 868	634 958	651 467	675 226	692 781
K	Reconstitution syringes (+ 10% wastage) requested ⁶	$I / H \times 1.11$	51 572	52 913	54 289	56 269	57 732
L	Total of safety boxes (+ 10% of extra need) requested	$(J + K) / 100 \times 1.11$	7 442	7 635	7 834	8 120	8 331

¹ GAVI supports the procurement of AD syringes to deliver two doses of TT to pregnant women. If the immunisation policy of the country includes all Women in Child Bearing Age (WCBA), GAVI/The Vaccine Fund will contribute to a maximum of two doses for Pregnant Women (estimated as total births)

² To insert the number of infants that will complete vaccinations with all scheduled doses of a specific vaccine.

³ Estimates of 100% of target number of children is adjusted if a phased-out of GAVI/TF support is intended.

⁴ A standard wastage factor of 2.0 for BCG and of 1.6 for DTP, Measles, TT, and YF vaccines is used for calculation of INS support

⁵ The buffer stock for vaccines and AD syringes is set at 25%. This is added to the first stock of doses required to introduce the vaccination in any given geographic area. Write zero under other years. In case of a phased introduction with the buffer stock spread over several years, the formula should read: [F – number of doses (incl. wastage) received in previous year] * 0.25.

⁶ It applies only for lyophilized vaccines; write zero for other vaccines.

- If you do not intend to procure your supplies through UNICEF, please provide evidence that the alternative supplier complies with WHO requirements by attaching supporting documents as available.

Table 5.3 Estimated supply for safety of vaccination with the DTP3 vaccine

	DTP3-HepB-Hib	Formula	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
A	Number of children to be vaccinated ²	#	329,327	341,446	353,973	366,920	376,460
B	Percentage of vaccines requested from GAVI ³	%	85	80	75	70	65
C	Number of doses per child	#	3	3	3	3	3
D	Number of doses	$A \times B/100 \times C$	839,784	819,471	796,439	770,533	734,097
E	Standard vaccine wastage factor ⁴	<i>Either 2.0 or 1.6</i>	1.6	1.6	1.6	1.6	1.6
F	Number of doses (including wastage)	$A \times B/100 \times C \times E$	1,343,654	1,311,153	1,274,303	1,232,852	1,174,556
G	Vaccines buffer stock ⁵	$F \times 0.25$	335,913	327,788	318,576	308,213	293,639
H	Number of doses per vial	#	2	2	2	2	2
I	Total vaccine doses	$F + G$	1,679,567	1,638,941	1,592,878	1,541,065	1,468,195
J	Number of AD syringes (+ 10% wastage) requested	$(D + G) \times 1.11$	1,305,024	1,273,457	1,237,666	1,197,408	1,140,787
K	Reconstitution syringes (+ 10% wastage) requested ⁶	$I / H \times 1.11$	932,160	909,612	884,047	855,291	814,848
L	Total of safety boxes (+ 10% of extra need) requested	$(J + K) / 100 \times 1.11$	24,833	24,232	23,551	22,785	21,708

Table 5.4 Estimated supply for safety of vaccination with the TT2+ vaccine

	TT2+	Formula	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
A	Number of children to be vaccinated ²	#	265,494	311,311	359,331	389,155	399,273
B	Percentage of vaccines requested from GAVI ³	%	0	0	0	0	0
C	Number of doses per child	#	2	2	2	2	2
D	Number of doses	$A \times B/100 \times C$	530,989	622,622	718,662	778,311	798,547
E	Standard vaccine wastage factor ⁴	<i>Either 2.0 or 1.6</i>	1.6	1.6	1.6	1.6	1.6
F	Number of doses (including wastage)	$A \times B/100 \times C \times E$	849,582	996,196	1,149,859	1,245,297	1,277,675
G	Vaccines buffer stock ⁵	$F \times 0.25$	212,396	249,049	287,465	311,324	319,419
H	Number of doses per vial	#	10	10	10	10	10
I	Total vaccine doses	$F + G$	1,061,978	1,245,245	1,437,324	1,556,622	1,597,094
J	Number of AD syringes (+ 10% wastage) requested	$(D + G) \times 1.11$	825,157	967,555	1,116,801	1,209,495	1,240,942
K	Reconstitution syringes (+ 10% wastage) requested ⁶	$I / H \times 1.11$	0	0	0	0	0
L	Total of safety boxes (+ 10% of extra need) requested	$(J + K) / 100 \times 1.11$	10,468	12,274	14,167	15,343	15,742

Table 5.5 Estimated supply for safety of vaccination with the measles vaccine

	Measles	Formula	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
A	Number of children to be vaccinated ²	#	311,994	327,219	346,675	355,688	364,936
B	Percentage of vaccines requested from GAVI ³	%	0	0	0	0	0
C	Number of doses per child	#	1	1	1	1	1
D	Number of doses	$A \times B/100 \times C$	311,994	327,219	346,675	355,688	364,936
E	Standard vaccine wastage factor ⁴	<i>Either 2.0 or 1.6</i>	1.6	1.6	1.6	1.6	1.6
F	Number of doses (including wastage)	$A \times B/100 \times C \times E$	499,190	523,551	554,679	569,101	583,898
G	Vaccines buffer stock ⁵	$F \times 0.25$	124,798	130,888	138,670	142,275	145,974
H	Number of doses per vial	#	10	10	10	10	10
I	Total vaccine doses	$F + G$	623,988	654,438	693,349	711,376	729,872
J	Number of AD syringes (+ 10% wastage) requested	$(D + G) \times 1.11$	484,839	508,499	538,732	552,739	567,110
K	Reconstitution syringes (+ 10% wastage) requested ⁶	$I / H \times 1.11$	69,263	72,643	76,962	78,963	81,016
L	Total of safety boxes (+ 10% of extra need) requested	$(J + K) / 100 \times 1.11$	6,151	6,451	6,834	7,012	7,194

6. New and Under-Used Vaccines (NVS)

Please give a summary of the cMYP sections that refer to the introduction of new and under-used vaccines. Outline the key points that informed the decision-making process (data considered etc): After an initial experience introducing the Hepatitis B and haemophilus influenzae type b vaccines in 2002, Rwanda seized the opportunity GAVI offered to introduce the pneumococcal vaccine into its national immunisation program. This decision is also influenced by the WHO recommendation for developing countries to include this vaccine in their immunisation programs in view of the extent of the morbidity burden due to pneumococcus in young children, and the safety and efficacy of this vaccine as well. According to the WHO, infections caused by the pneumococcus are a major cause of morbidity and mortality throughout the world. In 2005, the WHO estimated that there were 1.6 million deaths caused by this agent each year, and that most of these deaths occur in poor countries.

Even if the extent of these infections is not well known in Rwanda at this time, many factors indicate that they are a serious health problem. The few data available at the Kigali University Hospital Centre show that the prevalence of these infections in children under five is high (see cMYP Table 10). Consequently, Rwanda is encouraged to adopt the WHO recommendation to carry out appropriate surveillance of pneumococcal diseases in order to have a morbidity reference and to be able to monitor the impact of the immunisation.

Please summarise the cold chain capacity and readiness to accommodate new vaccines, stating how the cold chain expansion (if required) will be financed, and when it will be in place. Please use attached excel annex 2a (Tab 6) on the Cold Chain. Please indicate the additional cost, if capacity is not available and the source of funding to close the gap

At the central level the EPI has three positive cold chambers with net capacity of 29,822 litres and a negative cold chamber that accommodates 5,295 litres. In addition, there are also four freezers with a capacity of 145 litres each and 11 refrigerators with a capacity of 169 litres each. The table below shows the status of total positive capacity for storing vaccines at the central level³ Table 7 of the plan to introduce the new vaccine shows that positive storage capacity can accommodate the introduction of the pneumococcal vaccine between 2009 and 2012. There will be no need to purchase new positive cold chain equipment.

At the district level the evaluation showed that 17 districts need to increase positive cold chain vaccine storage capacity with the introduction of the pneumococcal vaccine.

In preparation for this introduction, these refrigerators will be purchased with GAVI funds provided as a reward for 2006, added to the Ministry of Health's funding for purchasing equipment at the health facility level.

³ Cold chain evaluation and logistics, WHO/EPI, October 2007

Table 6.1: Capacity and cost (for positive storage) (Refer to Tab 6 of Annex 2a or Annex 2b)

		Formula	Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
A	Annual positive volume requirement, including new vaccine (specify: _____) (litres or m3) ⁴	<i>Sum-product of total vaccine doses multiplied by unit packed volume of the vaccine</i>	3,630 litres	84,409 litres	87,212 litres	89,914 litres	91,607 litres
B	Annual positive capacity, including new vaccine (specify: _____) (litres or m3)	#	96,897 litres	96,897 litres	96,897 litres	96,897 litres	96,897 litres
C	Estimated minimum number of shipments per year required for the actual cold chain capacity	A / B	0.04	0.87	0.90	0.93	0.95
D	Number of consignments / shipments per year	<i>Based on national vaccine shipment plan</i>	4	4	4	4	4
E	Gap (if any)	$((A / D) - B)$	- 95,989 litres	- 75,794 litres	- 75,094 litres	- 74,418 litres	- 73,995 litres
F	Estimated cost for expansion	US \$					

Please briefly describe how your country plans to move towards attaining financial sustainability for the new vaccines you intend to introduce, how the country will meet the co-financing payments, and any other issues regarding financial sustainability you have considered (refer to the cMYP):

In terms of financing, the national poverty reduction and economic development strategy, implemented in 2001, enabled Rwanda to eliminate its foreign debt in 2006. Funds that were previously allocated to debt service (over 30 million US dollars per year) are now allocated to the social services, and to health and education in particular. These positive effects, added to those of the economic growth that has been observed over the last five years (an average of 6% per year), should enable the country to cover at least a part of the priority needs of the people for primary health care under its long-term economic and social development plan known as "VISION 2020." From this standpoint, Rwanda has agreed to implement the strategy known as the New Partnership for Africa's Development (NEPAD). One of NEPAD's six strategic pillars is the government's role in mobilizing efforts and resources to develop health, with the goal of allocating at least 12% of the national budget to the health sector by 2015. This percentage is 10% in Rwanda today (2007).

Moreover, the country's health development strategy has been endorsed and supported by several of Rwanda's development partners (the World Bank, the UN Agencies, and various bilateral development cooperation agencies), and they will also probably provide additional support for the government's efforts should the need arise.

The funds used for its share will come from the regular government budget as was done for purchasing traditional vaccines and for co-financing pentavalent.

⁴ Use results from table 5.2. Make the sum-product of the total vaccine doses row (I) by the unit packed volume for each vaccine in the national immunisation schedule. All vaccines are stored at positive temperatures (+5°C) except OPV which is stored at negative temperatures (-20°C).

Table 6.2: Assessment of burden of relevant diseases (if available):

Disease	Title of the assessment	Date	Results

If new or under-used vaccines have already been introduced in your country, please give details of the lessons learnt from storage capacity, protection from accidental freezing, staff training, cold chain, logistics, drop out rate, wastage rate etc., and suggest solutions to address them:

Lessons Learned	Solutions / Action Points
- The introduction of new vaccines requires an increase in storage capacity at the central level as well as the intermediate and peripheral levels. - The maintenance of cold chain equipment and the lack of space that can accommodate the huge quantities of syringes and safety boxes are a concern for the Ministry of Health.	- The introduction of another line of vaccines will make it necessary to increase current storage capacity. Arrangements for sufficient storage space will have to be made at the district level to accommodate the new vaccines - To ensure quality maintenance service, there must be skilled staff (a company with the required skills) as well as an inventory of replacement parts and a permanent budget. - There are plans to expand storage space for injection equipment by building additional facilities.
- Cold chain logistics requires appropriate equipment and experienced personnel.	- Maintain/strengthen the current arrangement. Strengthening the competencies of the EPI logistics staff is essential, not only to minimize the mistakes that can lead to the loss or alteration of the vaccines, but also to monitor the work done by technical employees outside the EPI - Having generators at each vaccine storage facility (central and intermediate levels) is a priority of the Ministry of Health in order to maintain the cold chain in the event of a power failure. - The policy of training the auxiliary cold chain maintenance technicians in the districts should continue.
- Staff training is a prerequisite to introducing the new vaccines. The implementation of the program to introduce the new vaccines in 2002 was preceded by the training of trainers at the central and district level. In turn, these trainers	- Identify the targets trained previously and complete the training - Enrich training content, taking into account the strengths and weaknesses identified in the formative supervisions

trained the providers at the health centre level. The training was evaluated and supplemented during the regular formative supervisions in the first year of implementation.	
- The DTP1-DTP3 drop out rate at the national level was down from 9% in 1999 to 5% in 2006, while the drop out rate for DTP1-measles, which was 16% in 1999, was brought down to less than 10% in 2006. Nevertheless, a few districts still have rates above 10% for DTP1 and measles.	- Maintain the strategies applied to lower drop out rates: the use of health facilitators from the community to find drop outs, strengthening advanced strategy immunisation activities, increasing fixed strategy immunisation activities wherever necessary, the proper use of schedules, etc. - Strengthen the immunisation data monitoring system, formative supervisions and self-assessment meetings between the central level and the employees of the intermediate and peripheral level who are directly involved in the day-to-day EPI management.
- Considerable effort has been made to lower the vaccine wastage rate. For pentavalent, the average wastage rate is currently 5%. For the other antigens, efforts are under way to lower the wastage rate significantly.	- Strengthen monitoring and the monthly check of vaccine wastage, already instituted in several pilot districts, and expand it to all the districts.

Please list the vaccines to be introduced with support from the GAVI Alliance (and presentation):
2. Pneumococcal vaccine: Liquid with pre-filled syringes

First Preference Vaccine

As reported in the cMYP, the country plans to introduce **pneumococcal** (*antigen*) vaccinations, using **pneumococcal** vaccine, in **2009** (*n° of doses per vial*) **one dose in pre-filled syringes per vial, in liquid** (*lyophilized or liquid*) form.

Please refer to the excel spreadsheet Annex 2a or Annex 2b (for Rotavirus and Pneumo vaccines) and proceed as follows:

- Please complete the “Country Specifications” Table in Tab 1 of Annex 2a or Annex 2b, using the data available in the other Tabs: Tab 3 for the commodities price list, Tab 5 for the vaccine wastage factor and Tab 4 for the minimum co-financing levels per dose⁵.
- Please summarise the list of specifications of the vaccines and the related vaccination programme in Table 6.3 below, using the population data (from Table 3.4 of this application) and the price list and co-financing levels (in Tables B, C, and D of Annex 2a or Annex 2b).
- Then please copy the data from Annex 2a or 2b (Tab “Support Requested”) into Tables 6.4 and 6.5 (below) to summarize the support requested, and co-financed by GAVI and by the country.
- Please submit the electronic version of the excel spreadsheets Annex 2a or 2b together with the application

Table 6.3: Specifications of vaccinations with new vaccine

Vaccine: pneumococcal	Use data in:		Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
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⁵ Table D1 should be used for the first vaccine, with tables D2 and D3 for the second and third vaccine co-financed by the country

Number of children to be vaccinated with the third dose	Table 3.4	#	329,327	341,446	353,973	366,920	376,460
Target immunisation coverage with the third dose	Table 3.4	#	95%	96%	97%	98%	98%
Number of children to be vaccinated with the first dose	Table 3.4	#	336,260	345,003	353,973	370,664	380,302
Estimated vaccine wastage factor	Annex 2a or 2b Table E - tab 5	#	1.05	1.05	1.05	1.05	1.05
Country co-financing per dose *	Annex 2a or 2b Table D - tab 4	\$	0.15	0.15	0.15	0.20	0.20

* Total price pre dose includes vaccine cost, plus freight, supplies, insurance, fees, etc

Table 6.4: Portion of supply to be co-financed by the country (and cost estimate, US\$)

		Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
Number of vaccine doses	#	0	65,800	54,300	57,400	58,400
Number of AD syringes	#	0	0	0	0	0
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	0	750	625	650	650
Total value to be co-financed by country	\$		\$204,000	\$168,500	\$177,500	\$181,000

Table 6.5: Portion of supply to be procured by the GAVI Alliance (and cost estimate, US\$)

		Year 1 2008	Year 2 2009	Year 3 2010	Year 4 2011	Year 5 2012
Number of vaccine doses	#		1,292,800	1,067,900	1,123,500	1,147,300
Number of AD syringes	#	0	0	0	0	0
Number of re-constitution syringes	#	0	0	0	0	0
Number of safety boxes	#	0	14,350	11,875	12,475	12,750
Total value to be co-financed by GAVI	\$		\$6,672,000	\$5,511,500	\$5,786,000	\$5,921,000

➤ Please refer to http://www.unicef.org/supply/index_gavi.html for the most recent GAVI Alliance Vaccine Product Selection Menu, and review the GAVI Alliance NVS Support Country

Guidelines to identify the appropriate country category, and the minimum country co-financing level for each category.

Second Preference Vaccine

If the first preference of vaccine is in limited supply or currently not available, please indicate below the alternative vaccine presentation

According to the instructions we received, there is only one vaccine currently available for pneumococcus. Therefore, there is no alternative vaccine presentation.

- Please complete tables 6.3 – 6.4 for the new vaccine presentation
- Please complete the excel spreadsheets Annex 2a or Annex 2b for the new vaccine presentation and submit them alongside the application.

Procurement and Management of New and Under-Used Vaccines

a) Please show how the support will operate and be managed including procurement of vaccines (GAVI expects that most countries will procure vaccine and injection supplies through UNICEF):

The funds for purchasing vaccines are managed by the Ministry of Health and the Ministry of Finance. The government of Rwanda purchases the vaccines (traditional vaccines and the co-financing amount for the new vaccines) and injection equipment through UNICEF. The funds are paid directly by the Ministry of Finance to UNICEF. This method will be the same one used for the new vaccine that the country will introduce.

b) If an alternative mechanism for procurement and delivery of supply (financed by the country or the GAVI Alliance) is requested, please document:

- *Other vaccines or immunisation commodities procured by the country and description of the mechanisms used.*
- *The functions of the National Regulatory Authority (as evaluated by WHO) to show they comply with WHO requirements for procurement of vaccines and supply of assured quality.*

All the vaccines are purchased through UNICEF.

c) Please describe the introduction of the vaccines (refer to cMYP)

In its Expanded Program on Immunisation, Rwanda agreed to introduce the new or under-used vaccines gradually. The country is now in its second experience, because back in 2002 the Hepatitis B vaccine and the haemophilus influenzae type B vaccine were successfully introduced. The implementation of the second introduction with the pneumococcal vaccine will be of benefit to the first experience. The principal implementation stages are as follows:

- o The existing management tools will be modified to include the new data. Logistics will also be adjusted to incorporate the new vaccine.
- o Staff training will occur prior to introducing the new vaccine. This will be training in series and it will start with the trainers at the central and district levels. In turn, these trainers will train the providers at the health centre level. Finally, these trainers will train the network of community health care workers. Training modules will be adjusted prior to training. The training will be evaluated and supplemented during the formative supervisions, which will be frequent during the first year of implementation. About 12,910 employees will be trained, or 110 in the districts and hospitals, 800 in the health centres, and 12,000 community health care workers.
- o An intensive social mobilisation campaign will be organized in the first year and will be aimed at various targets, including political and religious leaders, medical circles and the community. IEC materials will be developed or adjusted to support this awareness campaign. Based on previous experiences, various channels of communication will be used, such as radio, television, newspapers, etc.

d) Please indicate how *funds* should be transferred by the GAVI Alliance (if applicable)

Funds to support immunisation services and new or under-used vaccines will come to the country via international bank transfer into a special Ministry of Health account domiciled with the National Bank of Rwanda.

e) Please indicate how the co-financing amounts will be paid (and who is responsible for this)

The co-financing amounts will be paid by the Ministry of Finance to UNICEF. The entity in charge of this will be the Ministry of Finance.

f) Please outline how coverage of the new vaccine will be monitored and reported (refer to cMYP)

- The monitoring and evaluation systems already in place will incorporate the new vaccine:
- o Regular formative supervisions of the hospitals and health centres;
 - o The monthly data submitted as part of the national health information system;
 - o Annual and twice-yearly review meetings between the central and peripheral levels ;
 - o Twice-yearly monitoring of immunisation activities, which will evaluate immunisation coverage as well as quality;
 - o Coverage surveys and external evaluations;
 - o A feedback system at all levels of the health pyramid will monitor progress and improve vaccine performance.

New and Under-Used Vaccine Introduction Grant

Table 6.5: calculation of lump-sum

Year of New Vaccine introduction	N° of births (from table 3.4)	Share per birth in US\$	Total in US\$
2009	389,139	\$0.30	116,742

Please indicate in the tables below how the one-time Introduction Grant⁶ will be used to support the costs of vaccine introduction and critical pre-introduction activities (refer to the cMYP).

Table 6.6: Cost (and finance) to introduce the first preference vaccine (US\$)

Cost Category	Full needs for new vaccine introduction	Funded with new vaccine introduction grant
	US\$	US\$
Training	71,960	\$40,000
Social Mobilization, IEC and Advocacy	97,726	\$25,000
Cold Chain Equipment & Maintenance	\$303,552	\$0
Vehicles and Transportation	5,263	\$5,263
Programme Management	1,183	\$1,183
Surveillance and Monitoring	91,600	\$30,000
Human Resources		\$0
Waste Management	40,500	\$10,000
Technical assistance	0	\$0
Other (production of guidelines and collection tools)	47,372	\$10,000
Other (Supervision)	21,547	\$5,296
Total	\$679, 520	\$116,742

➤ Please complete the banking form (annex 1) if required

Please complete a table similar to the one above for the second choice vaccine (if relevant) and title it **Table 6.7: Cost (and finance) to introduce the second preference vaccine (US\$)**

⁶ The Grant will be based on a maximum award of \$0.30 per infant in the birth cohort with a minimum starting grant award of \$100,000

7. Additional comments and recommendations from the National Coordinating Body (ICC/HSCC)

8. Documents required for each type of support

Type of Support	Document	DOCUMENT NUMBER	Duration *
ALL	WHO / UNICEF Joint Reporting Form (last two)	3 and 4	2005 2006
ALL	Comprehensive Multi-Year Plan (cMYP)	2	2008-2012
ALL	Endorsed minutes of the National Coordinating Body meeting where the GAVI proposal was endorsed		2007
ALL	Endorsed minutes of the ICC/HSCC meeting where the GAVI proposal was discussed	1	2007
ALL	Minutes of the three most recent ICC/HSCC meetings	5 and 6	2007
ALL	ICC/HSCC workplan for the forthcoming 12 months	Proposal document	2008
Injection Safety	National Policy on Injection Safety including safe medical waste disposal (if separate from cMYP)		X
Injection Safety	Action plans for improving injection safety and safe management of sharps waste (if separate from cMYP)		X
Injection Safety	Evidence that alternative supplier complies with WHO requirements (if not procuring supplies from UNICEF)		X
New and Under-used Vaccines	Plan for introduction of the new vaccine (if not already included in the cMYP)	7	2008

* Please indicate the duration of the plan / assessment / document where appropriate