

The Government of

THE UNITED REPUBLIC OF TANZANIA

Proposal for support submitted
To the
Global Alliance for Vaccines and
Immunization (GAVI)
and the Vaccine Fund

GAVI 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

Tanzania, which is made up of the Mainland, and Zanzibar, has a population of 34.7 million (1988 Census projection) growing at about 2.8% per year. The annual per capita income is approximately \$270. Current mortality levels are 147/1,000 live births for under-five and 99/1,000 live births for infants (Tanzania Reproductive and Child Health Survey (TRCHS), 1999). The 1999 data indicates national DPT3 immunization coverage of 74% with large variations between districts.

Until the year 2001 the injection equipment for EPI was sterilizable needles and syringes. In 2000 and 2001 EPI and injection safety assessments were done in Tanzania, which pointed out that 47% of all injection practices were unsafe.

From these findings of the injection safety survey, the Ministry of Health commenced the use of Auto-disable needles and syringes for all EPI injections and the use of safety boxes for the disposal of used needles and syringes in year 2002. The assessment of injection safety was possible through support from GAVI and The Government. The Ministries of Health of both Mainland and Zanzibar have constructed 13 low cost incinerators for pilot testing and had developed IEC materials for both health workers and the community on the importance of injection safety. The Ministry of Health has planned to provide one incinerator for every district by the year 2005.

Since EPI injections account for only 15% of all injections given in health facilities, there is therefore an evident need for collaboration with the curative sector for improving safe injection practices, which calls for a holistic approach to the issues of injection safety through the development of guidelines and training materials, through behavioral change of both the health providers and the community, through the provision of injection materials and through sharp management. This proposal is focused to address issues that will improve injection safety related to immunization in The United Republic of Tanzania.

Objective of Safe Injection Plans:

The United Republic of Tanzania aims at ensuring that by the end of 2003 the immunization given is safe for the recipient (child/woman), health worker, community and the environment.

To be able to achieve the implementation of this objective, the following strategies have been selected.

1. Behavior change targeting health care providers and the community.
2. Advocacy targeting policy and decision makers.
3. Training of Health Workers.
4. Provision of equipment and supplies.
5. Quality sharps and waste management.
6. Monitoring and evaluation.

National Guidelines On Injection Safety

A safe injection is defined as one which neither harms the child, mother, health workers, the public nor the environment. In 1999, WHO UNICEF and UNFPA set international

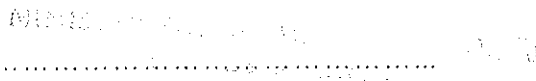
standards for the achievement of safe injections, which the United Republic of Tanzania has adopted as follows:

- One sterile needle and one sterile syringe for each injection
- Auto-disable needles and syringes are the injection equipment of choice for all EPI Injection.
- Safety boxes are to be used to collect all used needles and syringes immediately after use.
- Full safety boxes are to be incinerated under supervision as close to the point of use as possible.

2. Signatures of the Government

The Government of **THE UNITED REPUBLIC OF TANZANIA** commits itself to develop the 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 the Alliance and its partners to contribute financial and technical assistance to support immunization of children as outlined in this application.

Signature: 

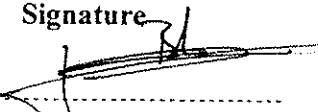
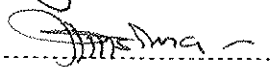
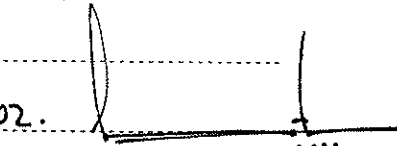
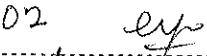
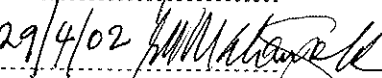
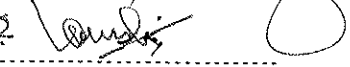

Title: 

Date: 29-05-2007

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.

Country Proposal for Support to the
Global Alliance for Vaccines and Immunization and the Vaccine Fund

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 does not imply any financial (or legal) commitment on the part of the partner agency or individual:

Agency/Organisation	Name/Title	Date	Signature
UNICEF	FRANCISCO BLANCO	25/04/02	
B. A. MUSHI	B. A. MUSHI	26/04/02	
PSU	Dr. B. Petens/CIA	29.04.02.	
WHO	Dr CORNELIA A. ATSYOR	29.04.02	
World Bank	Emmanuel Kabaghe	29/4/02	
USAID/Tanzania	M. Mushi	29/4/02	
MINISTRY OF HEALTH	Dr. ALI MZIGE	22.05.2002	

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

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Country Proposal for Support to the
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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		GNP per capita	\$US
Surviving Infants*		Infant mortality rate	/ 1000
Percentage of GDP allocated to Health		Percentage of Government expenditure for Health Care	

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

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
BCG							Tuberculosis		
DTP	DTP1						Diphtheria		
	DTP3						Pertussis		
OPV3							Polio		
Measles							Measles		
TT2+ (Pregnant women)							NN Tetanus		
Hib3							Hib		
Yellow Fever							Yellow fever		
HepB3							hepB seroprevalence (if available)		
Vit A supplementation	Mothers (< 6 weeks from delivery)								
	Infants (> 6 months)								

The best official estimate: Indicate the best official estimates of coverage among infants as reported in WHO/UNICEF Joint reporting form. Provide explanatory comments on why these are best estimate:

.....

Summary of health system development status relevant to immunization:

Ø Attached are the relevant section(s) of strategies for health system development

Document number.....

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

- The three major strengths identified in the assessments :

- The three major problems identified in the assessments :

- The three major recommendations in the assessments :

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

- the most recent assessment reports on the status of immunization services Document number.....
- 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.....

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

Title of the assessment	Month/Year

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.

- 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.....

- 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

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

Vaccine <i>(do not use trade name)</i>	Ages of administration <i>(by routine immunization services)</i>	Indicate by an "x" if given in :		Comments
		Entire country	Only part of the country	
Vitamin A				

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

Table 4 : Baseline and annual targets

Number of	Baseline	Targets						
	2000	2001	2002	2003	2004	2005	2006	2007
Births								
Infants' deaths								
Surviving infants								
Children vaccinated with BCG*								
Children vaccinated with OPV3**								
Children vaccinated with DTP3**								
Children vaccinated with**: <i>(use one row for any new vaccine)</i>								
Children vaccinated with Measles**								
Pregnant women vaccinated with TT+								
Vit A supplementation	Mothers (< 6 weeks from delivery)							
	Infants (> 6 months)							

* Target of children out of total births

** Target of children out of surviving infants

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

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

	Actual	Targets						
	2000	2001	2002	2003	2004	2005	2006	2007
Wastage rate ¹								
Drop out rate $[(DIP1 - DIP3) / DIP1] \times 100$								

- Planning and constraints for Polio Eradication Initiative:

¹ Formula to calculate DTP vaccine Wastage Rate (in percentage): $[(A - B) / A] \times 100$. Whereby : A = The number of DTP doses distributed for use according to the supply records; B = the number of DTP vaccinations. If you request for yellow fever vaccines, include a row for measles vaccine wastage rate.

7. Injection safety

- Summary of the injection safety plan:

A: UNITED REPUBLIC OF TANZANIA – TANZANIA MAINLAND

Table 6.1: Estimated supplies for safety of vaccination with For TT.

		Formula	2002	2003	2004	2005
A	Target of children for vaccination (for TT target women)	<i>Match with targets in table 4</i>	3,474,770	3,572,063	3,672,081	3,774,899
B	Number of doses per (for TT women)	#	3	3	3	3
C	Wastage factor		1.67	1.61	1.52	1.43
D	Number of doses	$A \times B \times C$	17,373,850	17,284,178	16,948,067	16,178,140
E	AD syringes (+10% wastage)	$D \times 1.11$	11,570,984	11,894,971	12,228,030	12,570,415
F	AD syringes buffer stock ²	$E \times 0.25$	2,892,746	2,973,743	3,057,008	3,142,604
G	Total AD syringes	$E + F$	14,463,730	14,868,714	15,285,038	15,713,019
H	Number of doses per vial	#	20	20	20	20
I	Number of safety boxes (+10% of extra need)	$F \times 1.11 / 100$	160,537	165,043	169,664	174,415

correct figures with adjustment

Table 6.2: Estimated supplies for safety of vaccination with for BCG.

		Formula	2002	2003	2004	2005
A	Target of children for vaccination for BCG target children.	<i>Match with targets in table 4</i>	1,233,510	1,285,943	1,351,326	1,419,362
B	Number of doses per child for BCG.	#	1	1	1	1
C	Wastage factor		2.5	2.4	2.4	2
D	Number of doses	$A \times B \times C$	3,083,775	3,061,769	3,002,946	2,838,724
E	AD syringes (+10% wastage)	$D \times 1.11$	1,369,196	1,427,397	1,499,972	1,575,492
F	AD syringes buffer stock ³	$E \times 0.25$	342,299	356,849	374,993	393,873
G	Total AD syringes	$E + F$	1,711,495	1,784,246	1,874,965	1,969,365
H	Number of doses per vial	#	10	10	10	10
I	Number of re-constitution syringes (+ 10% wastage)	$D \times 1.11 / H$	342,300	339,857	333,327	315,099
J	Number of safety boxes (+10% of extra need)	$(G+I) \times 1.11 / 100$	22,798	23,578	24,519	25,358

² The buffer stock for vaccines and AD syringes is set at 25%. This is calculated with the first stock of doses required to introduce the vaccination in any given geographic area. Write zero for other years.

³ The buffer stock for vaccines and AD syringes is set at 25%. This is calculated with the first stock of doses required to introduce the vaccination in any given geographic area. Write zero for other years.

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

	Formula	2002	2003	2004	2005	
A	Target of children for vaccination for Measles target children.	<i>Match with targets in table 4</i>	1,147,451	1,171,637	1,233,819	1,298,565
B	Number of doses per child for BCG.	#	1	1	1	1
C	Wastage factor		1.25	1.25	1.25	1.25
D	Number of doses	$A \times B \times C$	1,434,314	1,464,546	1,542,274	1,623,207
E	AD syringes (+10% wastage)	$AXBX \ 1.11$	1,273,671	1,300,571	1,369,539	1,441,408
F	AD syringes buffer stock ⁴	$E \times 0.25$	318,418	325,129	342,385	360,352
G	Total AD syringes	$E + F$	1,592,089	1,625,646	1,711,924	1,801,759
H	Number of doses per vial	#	10	10	10	10
I	Number of re-constitution syringes (+ 10% wastage)	$D \times 1.11 / H$	159,209	162,565	171,192	180,176
J	Number of safety boxes (+10% of extra need)	$(G+I) \times 1.11 / 100$	19,439	19,849	20,903	21,999

B: ZANZIBAR

Table 6.1B: Estimated supplies for safety of vaccination with For TT.

	Formula	2002	2003	2004	2005	
A	Target of children for vaccination (for TT target women)	<i>Match with targets in table 4</i>	39,130	40,704	41,925	43,183
B	Number of doses per (for TT women)	#	3	3	3	3
C	Wastage factor		1.67	1.67	1.67	1.67
D	Number of doses	$A \times B \times C$	196,043	203,927	210,043	216,348
E	AD syringes (+10% wastage)	$D \times 1.11$	43,435	45,181	46,537	47,933
F	AD syringes buffer stock ¹	$E \times 0.25$	49,011	50,982	46,537	54,087
G	Total AD syringes	$E + F$	245,054	254,909	262,554	270,435
H	Number of doses per vial	#	20	20	20	20
I	Number of safety boxes (+10% of extra need)	$F \times 1.11 / 100$	2,721	2,830	2,915	3,002

correct figures with clarification

Table 6.2B: Estimated supplies for safety of vaccination with for BCG.

		Formula	2002	2003	2004	2005
A	Target of children for vaccination for BCG target children.	<i>Match with targets in table 4</i>	34,670	35,711	36,782	37,885
B	Number of doses per child for BCG.	#	1	1	1	1
C	Wastage factor		2.5	2.5	2.5	2.5
D	Number of doses	$A \times B \times C$	86,674	89,276	91,954	94,713
E	AD syringes (+10% wastage)	$D \times 1.11$	34,483	39,639	40,828	42,053
F	AD syringes buffer stock ¹	$E \times 0.25$	21,669	22,319	22,989	23,678
G	Total AD syringes	$E + F$	108,342	111,595	114,942	118,391
H	Number of doses per vial	#	10	10	10	10
I	Number of re-constitution syringes (+10% wastage)	$D/H \times 1.11$	9,621	9,910	10,207	10,513
J	Number of safety boxes (+10% of extra need)	$(G+I) \times 1.11 / 100$	1,310	1,349	1,390	1,431

Table 6.3B: Estimated supplies for safety of vaccination with for Measles.

		Formula	2002	2003	2004	2005
A	Target of children for vaccination for Measles target children.	<i>Match with targets in table 4</i>	34,669	35,710	36,781	37,885
B	Number of doses per child for BCG.	#	1	1	1	1
C	Wastage factor		1.25	1.25	1.25	1.25
D	Number of doses	$A \times B \times C$	43,337	44,638	45,977	47,356
E	AD syringes (+10% wastage)	$A \times B \times C \times 1.11$	38,483	39,639	40,827	42,052
F	AD syringes buffer stock ¹	$E \times 0.25$	10,834	11,160	11,494	11,839
G	Total AD syringes	$E + F$	54,171	55,798	57,471	59,195
H	Number of doses per vial	#	10	10	10	10
I	Number of re-constitution syringes (+ 10% wastage)	$D \times 1.11 / H$	4810	4955	5103	5257
J	Number of safety boxes (+10% of extra need)	$(G+I) \times 1.11 / 100$	655	675	695	716

7.3 *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 Funds support, fill in "areas of support" For AD Syringes and waste disposal, fill in "source of funds")

Source of Funds	Area of support	Start of fund utilization
Government – Tanzania Mainland	AD –Syringes and waste disposal boxes.	January, 2002
GAVI Vaccine funds – Zanzibar	AD –Syringes and waste disposal boxes.	September, 2002
GAVI Vaccine funds – Tanzania Mainland	Advocacy and sensitisation meetings.	September 2002.
	Development, production and distribution of IEC Materials.	October 2002.
	Training of Health workers on basic immunization issues.	October 2002-04-24
	Sharps and waste management.	September 2002.

- 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.....

8. 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.

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

Disease	Title of the assessment	Date	Results

- (*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...in relation to the current experience with new and under-used vaccines:

- 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 :

- **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 formulas)

Table 7.1: Estimated number of doses of vaccine (Specify one table for each presentation of any vaccine and number it 7.2, 7.3, ...)

	Formula	2002	2003	2004	2005	2006	2007
A	Number of children to receive new vaccine ⁵	match with targets in table 4					
B	Number of doses per child	#					
C	Estimated wastage rate in percentage ⁶	%					
D	Equivalent wastage factor	See list in table α					
E	Number of doses	$A \times B \times D$					
F	Number of vaccines buffer stock ⁷	$E \times 0.25$					
G	Total of vaccine doses needed	$E + F$					
H	Percentage of vaccines requested from the Vaccine Fund	%					
I	Number of doses requested from the Vaccine Fund	$G \times H / 100$					
J	Number of doses per vial	#					
K	Number of AD syringes ⁸ (+10% wastage)	$[(A \times B) + F] \times 1.11 \times H / 100$					
L	Number of AD syringes buffer stock	$K \times 0.25$					
M	Total of AD syringes	$K + L$					
N	Number of Reconstitution ⁹ syringes (+10% wastage)	$I \times 1.11 / J$					
O	Number of safety boxes ¹⁰ (+10% of extra need)	$(M + N) \times 1.11 / 100$					

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 formulas as per table 7.1)

⁵ Please adjust estimates of target number of children to receive new vaccines, if a phased introduction is intended. If targets for hep B3 and Hib3 differ from DTP3, explanation of the difference should be provided.

⁶ The country would aim for a maximum wastage rate of 25% for the first year with a plan to gradually reduce it to 15% by the third year. For vaccine in single or two-dose vials the maximum wastage allowance is 5%. No maximum limits have been set for yellow fever vaccine in multi-dose vials.

⁷ The buffer stock for vaccines and AD syringes is set at 25%. This is calculated with the first stock of doses required to introduce the vaccination in any given geographic area. Write zero for other years.

⁸ A wastage factor of 1.11 is applied to the total number of vaccine doses requested from the Vaccine Fund, excluding the wastage of vaccines.

⁹ Only for lyophilized. Write zero for other vaccines.

¹⁰ A multiplying factor of 1.11 is applied to safety boxes to cater for areas where one box will be used for less than 100 syringes

- 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.....

9. 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 «Resource Mobilisation Plan» by the time of the mid-term Review. Highlights of the agreements made with donor-agencies (i.e.: Vaccine Independence Initiative) and the use of funds freed by debt relief :

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

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

10. Summary of requests to GAVI and the Vaccine Fund

With reference to all points presented above, the Government of,

considering that its DTP3 coverage for 2000 was% corresponding to number of children vaccinated with DTP3, requests the Alliance and its partners to contribute financial and technical assistance required to increase immunization of children.

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

A. Support for strengthening Immunization Services	YES	NO
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B. Support for Injection Safety YES NO

C. Support for New and Under-used Vaccines YES NO

A. SUPPORT FOR STRENGTHENING 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 (number of children). Funds will also be requested for following years as estimated in table 4.

- The in-country transfer of funds will be by (tick only one):¹¹

Government A Partner agency An independent
(specify name) third party

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

- If you submit the attached “Banking Details” form (Annex 3) with the proposal, it will speed up the process for funds disbursement to the country, as soon as the support for Immunization Services is approved.

B. SUPPORT FOR INTRODUCTION OF NEW AND UNDER-USED VACCINES

GAVI and the Vaccine Fund are requested to fund the plan for 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 9 : 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 *

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

¹¹ The preferred mechanism is payment directly to a Government account (Guidelines on Country Proposal # 5.1)

B.ZANZIBAR

(Tick one choice only):

- The amount of supplies listed in table 8**
- The equivalent amount of funds**

Table 8: Total supplies for safety of vaccinations with BCG, DTP, TT and MEASLES requested to GAVI and the Vaccines Fund *(fill in the total sums of rows "F", "H" and "I" of tables 6.1, 6.2, 6.3, 6.4.*

	ITEM	2002	2003	2004	2005
F	Total AD syringes	407,567	422,302	434,967	448,021
H	Total of Reconstitution syringes	14,431	14,865	15,310	15,770
I	Total of safety boxes	4,686	4,854	5,000	5,149

- *(In case you have chosen to receive funds)* If you submit the attached "Banking Details" form (Annex 3) with the proposal, it will speed up the process for funds disbursement to the country, as soon as the support for Injection safety is approved.

11. Additional comments and recommendations from the ICC