GAVI
THE GLOBAL ALLIANCE FOR VACCINES & IMMUNIZATION

Partnering with The Vaccine Fund

Annual Progress Report

to the
Global Alliance for Vaccines and Immunization (GAVI)
and
The Vaccine Fund

by the Government of the

Kingdom of Cambodia

Date of submission: 30 September 2002

Reporting period: 1 January – 31 December 2001

Inception report	☐
First annual progress report	☒
Second annual progress report	☐
Third annual progress report	☐
Fourth annual progress report	☐
Fifth annual progress report	☐

Financial sustainability plan attached ☐

1. Progress Report

1.1. Immunization Services

1.1.1 Receipt of immunization services funding

Date(s) of receipt of funds: No funds received in 2001

Please report on the progress, including any problems that have been encountered with regard to support for immunization strengthening. Please describe the mechanism for management of these funds, including the role of the Inter-Agency Co-ordinating Committee (ICC).

First ISS funds were received in February 2002, and disbursement of funds has begun to occur in the third quarter of the year. Funding is used to support such areas as regular technical supervision, planning meetings, training, IEC activities and materials, community representatives to enact birth registration, and piloting incentives for health workers achieving and documenting certain outcomes. This will be reported in the Second Annual Report 2003. **Please find a summary of the National Immunization Program (NIP) plan for ISS funds 2002 attached to this report.**

The Ministry of Health (MOH) holds all funding from the Vaccine Fund in a separate bank account with the (NIP) being responsible for developing and submitting a plan for using these funds, based partially on provincial and district plans, and requesting disbursements from the MOH. The NIP develops the plan in coordination with the Technical Working Group (TWG) of the Immunization Coordination Sub-Committee (ICSC); it is discussed with the ICSC and submitted for approval to the MOH. The NIP will provide accounting of the funds to the ICSC.

1.1.2 Statement on use of GAVI/The Vaccine Fund immunization services support

In the past year (2001), the following major areas of activities have been funded with the GAVI/The Vaccine Fund contribution.

Area of immunization services support	Total amount in US $	Proportion of funds by level		
		Central	District	Service delivery
Vaccines				
Injection supplies				
Personnel				
Transportation				
Maintenance and overheads				
Training				
IEC / social mobilization				
Monitoring and surveillance				
Vehicles				
Cold chain equipment				
Other ……. *(specify)*				

Please indicate the date(s) of the ICC meeting(s) when the allocation of funds was discussed: (22 March 2002, 25 January 2002)

1.1.3 Immunization Data Quality Audit (DQA) (*If it has been implemented in your country)*

A plan of action to improve the reporting system based on the recommendations from the DQA, has been prepared

YES ☐ *NO* ☐

This is not applicable to Cambodia as we have not implemented an official GAVI DQA in country.

The plan of action has been discussed and endorsed by the ICC in the meeting of ……(Date).

The NIP did conduct a modified DQA in September 2001 which estimated that 87% of reported vaccinations could be verified at delivery level; this is the factor used to adjust the baseline coverage for Cambodia. While the assessment found that many data reporting problems existed, there didn't seem to be systematic inflation. Although the NIP has not developed a specific plan to improve the reporting system, it has worked to begin simplifying the data reporting system, working to avoid duplication with the Health Information System. The NIP has also developed a tool, a Post-Activity Assessment, which monitors the accuracy of health center reports and immunization registers by comparing the immunization status of all children in a selected village. National-level supervisors and provincial and district supervisors with support from partner agencies have begun to use this, and the NIP is working to make it a standard part of supervision. A specific plan is under construction on how to incorporate this into program monitoring and evaluation.

It is our understanding that the Vaccine Fund/GAVI will be responsible for conducting an official DQA in Cambodia in 2003 as required for the Mid-Term Review. If this is not the case, Cambodia kindly requests that the Vaccine Fund/GAVI provide funding next for Cambodia to conduct this DQA.

1.2 New & Under-used Vaccines

1.2.1 Receipt of new and under-used vaccines *Date(s) of receipt of vaccines:* 31 May 2001, (May 2002)

Please report on the progress, including starting date of vaccinations and any problems that have been encountered with regard to vaccines and supplies provided by GAVI/The Vaccine Fund.

Vaccination was started on 1 October 2001 in 4 health centers (HCs) in Kampong (Kg) Chhnang operational district (OD), Kampong Chhnang province with auto-disable (AD) syringes and safety boxes. These new interventions have been well accepted with the only main problem to date being the inconsistent supply of AD syringes for BCG. Disposable syringes are being used for BCG in the meantime.

As reported last year, there were some problems with the delivery of the 9,600 vials of DTP-HepB vaccine in 2001, but the delivery of 13,550 vials received in May of 2002 was adequate.

1.2.2 Major activities

Please outline what major activities have been or will be undertaken to prepare for new vaccine introduction.

In coordination with the health authorities in Kg Chhnang, vaccine introduction was expanded to 10 additional health centers on 3 December and to the final 9 health centers of Kampong Chhnang OD on 17 December, providing 1669 doses to infants in 2001. The training was expanded to 3 days to provide refresher training on other items and was conducted the week prior to introduction. Over a 100 staff from health centers and the provincial health department (PHD) and OD were trained. The NIP, with assistance from a training consultant, conducted training of trainers (TOTs) of PHD and OD staff to implement these trainings and to conduct follow-up supervision during the first fixed sessions and outreach performed by the vaccinators.

Expansion to the second OD, Kampong Tralach, occurred in August 2002 to cover the remaining 11 of the 34 health centers in Kampong Chhnang province, a total provincial target population under 1 year of about 16,000. This August training covered over 80 health personnel and was used as a pilot for the nationwide training on immunization safety (including introduction of AD syringes and safety boxes into the routine program) and outreach.

In March 2002, a community/health worker KAP survey was conducted in preparation for IEC/social mobilization activities that will be taking place in the final quarter 2002. Vaccine wastage monitoring has been implemented, and results will lead to implementation and studying of strategies to reduce wastage at the end of 2002 and in 2003. Finally, the NIP hosted a one-day seminar on Hepatitis B led by a trainer from Glaxo SmithKline. Invitees included a few EPI staff from different provinces, directors from the major hospitals, and several departments in the MOH in addition to many NIP staff.

Initial results from the introduction province show an increase in coverage in the first district for the first 6 months of the year when compared to the previous year (2001), from 34% (3,185/10,525) to 40% (3,876/10,944).

1.2.3 Statement on use of GAVI/The Vaccine Fund financial support (US$100,000) for the introduction of the new vaccine

The following major areas of activities have been funded (specify the amount in US$) with the GAVI/The Vaccine Fund support:

These funds were received in February 2002 along with the first payment of ISS funds. None of this funding has been used at this time. It is intended to support training and IEC activities around the expansion of new vaccine to other provinces (set for last quarter 2002 or first quarter 2003) and possibly other activities to improve immunization services.

1.3 Injection safety

1.3.1 Receipt of injection safety support

Please report on the progress, including any problems that have been encountered with regard to the injection safety support.

The supplies, consisting of 334,500 AD syringes for BCG, 1,514,960 other AD syringes, 65,500 reconstitution syringes and 21,300 safety boxes were received in March 2002 without incident.

1.3.2 Progress of transition plan for safe injections and safe management of sharps waste.

Should include objectives, indicators, main achievements, main constraints and targets for next year.

Introduction of the safe injection supplies is occurring along the lines of the national plan submitted to GAVI last year with the Inception Report. The introduction into the routine program has been delayed due to preparation of the training program, but the goal of nationwide implementation by the end of 2002 will be achieved, including installation of incinerators in every province by the end of October. By mid-September, 182 trainers from 20 Provinces (mid-level managers) had been trained to be trainers and staff from 37% of HCs had received training. It is expected that 60% of HCs will be covered by the end of September, 80% by the end of October and 100% by the end of November. Given the smooth transition to the new equipment in the introduction province, no difficulties are expected. The exchange system and waste disposal, which has worked well in the introduction project, will be the responsibility of each province with the NIP providing training and assistance as needed.

The objectives from the plan submitted last year are:

- achieve the transition to **exclusive use of ADs** for EPI vaccines by the end of 2002.
- establish adequate **incineration** facilities for every province.
- pilot and establish an '**exchange strategy**' for used injection materials.
- increase **health worker knowledge and practice** on safe injection and disposal.
- increase **community awareness** of the importance of safe injection and disposal.

Significant progress on all of these will be completed in 2002. Also, injection safety is one of the three program indicators selected for reporting to GAVI during the Mid-Term Review next year.

In addition, the NIP is using this introduction to begin working on improving immunization training by using expert trainers, for the first time, to conduct TOTs for PHD and OD staff, focusing on methodologies, developing lesson plans and how to best use the training materials. The NIP is working with the Regional Training Centers and the PHD Continuing Education Units set up by the MOH to do this. The NIP also hosted a consultant in March 2002 to conduct a costing study of the waste disposal system. Currently, work is being conducted to develop education materials, including videos/movies, to improve awareness of the importance of injection safety.

The MOH has begun purchasing AD syringes for the health system (1 million syringes bought in 2001 for use in 2002); has instituted safe disposal of sharps boxes at all referral hospitals where incinerators exist, and has recently created a position to coordinate injection safety efforts across the health system.

1.3.3 Statement on use of GAVI/The Vaccine Fund injection safety support (if received in the form of a cash contribution)

The following major areas of activities have been funded (specify the amount) with the GAVI/The Vaccine Fund injection safety support in the past year:

The monetary portion of this award ($91,100) was also received in February 2002 with the other sets of funds, and this funding is primarily being used for training (vaccinators and incinerator operators) and producing supporting materials for education.

2. Financial sustainability

Inception Report : Outline steps towards the development of a financial sustainability plan
First Annual Report : Submit completed financial sustainability plan
Subsequent Reports : Summarize progress on financial sustainability

Cambodia was one of 2 countries to conduct a pre-test of the Financial Sustainability Plan (FSP) guidelines. The team, provided by the GAVI Financing Task Force, conducted the study 4-8 March 2002.

The NIP hosted a consultant 15-26 July 2002 to support development of the Financial Sustainability Plan (FSP). A draft 7-year budget was discussed with the ICSC at the 26 July meeting. The FSP consultant will probably return 8-15 November to facilitate completion of the FSP and present to the ICSC. In the meantime, WHO and the World Bank are providing support to the NIP through a local accounting consultant to improve the financial management capacity of the program in order to sustain this process. The report is expected to be ready by the end of November 2002 as requested by GAVI.

3. Request for new and under-used vaccines for year 2003

3.1 Up-dated immunization targets

Confirm/update basic data (= surviving infants, DTP3 targets, New vaccination targets) of the multi-year immunization plan approved with country application: revised Table 4 of approved application form and give reasons for any changes.

Table 1: Baseline and annual targets

Number of	Baseline and targets							
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Births	485, 923	497,780	509,727	521,960	534,487	547,315	560,450	573,901
Infant deaths	51,150	52,398	53,655	54,943	56,262	57,612	58,995	60,411
Surviving infants	434,774	445,382	456,071	467,017	478,225	489,703	501,456	513,491
Infants vaccinated with DTP3 (adjusted by DQA)*	252,390	251,842	308,076	262,697	191,290	39,176	0	0
Infants vaccinated with DTP-HepB3 **		479	12,770	93,403	191,290	352,586	401,164	410,792
Wastage rate of DTP-HepB			50%***	35%	30%	25%	25%	25%

* The numbers for 2000-2001 represent reported data from NIP adjusted by the modified DQA conducted in 2001. The unadjusted numbers for 2000-2001 are 290,104 and 289,473. Doses of DTP-HepB have been deducted.

** The DTP-HepB data is from the introduction province only for 2000-2001. Many of the children receiving DTP-HepB3 will have received 1 or 2 doses of DTP previously. The expected vaccination coverage for DTP-HepB is 80% when introduced in a province, and the national estimated percent of DTP3 doses given as DTP-HepB is 3.5% (2002), 25% (2003), 50% (2004), 90% (2005)

***Based on current information from introduction province through August 2002.

If the request for supply for the coming years differs from previously approved plan:

Please indicate the reasons for those changes and, where relevant, the related modifications of targets of children to be vaccinated, wastage rate and type of vaccine. Indicate that UNICEF Supply Division has assured the availability of the new quantity of supply according to new changes. Summarise the related modifications of the activities and of the budgets of the work-plan for introduction of new vaccines and indicate the date of the ICC meeting when the changes were endorsed.

The numbers in Table 1 are comparable to the numbers submitted in the Inception Report and Application submitted in 2001 with some slight changes to the estimated coverage for DTP-HepB each year. Also, reduction in wastage has not happened as quickly as hoped; this may be due to increasing coverage through outreach where small numbers of children are accessed at each session. Coverage in the introduction province has increased (and is on target to reach 80% DTP-HepB3) without a significant reduction in wastage to date. Thus, vaccine use has been higher than originally planned. While our goal is to achieve 35% wastage for next year, we feel this is ambitious and even if wastage is reduced to that amount or lower, the average wastage for 2003 is still likely to be greater than 35%. Thus, our DTP-HepB vaccine request for next year (Table 2) includes 40% wastage to help insure introduction of the vaccine does not have to be delayed due to vaccine shortage. Work on reducing vaccine wastage will intensify in the second half of 2002 and 2003.

There is an important item that Cambodia would appreciate GAVI and the Vaccine Fund to consider in regards to supporting the introduction of Hepatitis B vaccination in Cambodia:

Full (100%) 5-Year Support Spread over 8 Years to Facilitate Phase-in of Donor Support
Cambodia kindly requests that GAVI and the Vaccine Fund provide the same offer to Cambodia that it did to other countries that applied after Cambodia: a full 5-year supply (all provinces for 5 years) extended over 8 years. This option was not available to Cambodia when we applied in the first round in July 2000. An increase in the original total supply extended through 2008 would allow Cambodia to better assure a secure supply of vaccine by phasing in increasing donor and government support over a 3-4 year period, especially since this vaccine constitutes a significant increase in vaccine costs for the program. If GAVI and the Vaccine Fund agree, we will submit a plan and revised estimation of vaccine (about 8 million doses total) for this.

This report was discussed at the ICSC meeting on 25 September 2002 with special attention to the above request for additional support for DTP-HepB vaccine.

3.2 Confirmed/revised request for new vaccine *(to be shared with UNICEF Supply Division)* for the year 2003

Table 2: Estimated number of doses of DTP-HepB vaccine

		Formula	For year 2003
A	**Number of children to receive new vaccine**		93,403
B	**Percentage of vaccines requested from The Vaccine Fund**	*%*	100
C	**Number of doses per child**		3
D	**Number of doses**	*A x B/100 x C*	280,209
E	**Estimated wastage factor**	*(see list in table 3)*	1.67
F	**Number of doses (incl. wastage)**	*A x C x E x B/100*	467,949
G	**Vaccines buffer stock**	*F x 0.25*	116,987
H	**Anticipated vaccines in stock at start of year 2003***		0
I	**Total vaccine doses requested**	*F + G - H*	584,936
J	**Number of doses per vial**		10
K	**Number of AD syringes (+ 10% wastage)**	*(D + G – H) x 1.11*	436,916
L	**Reconstitution syringes (+ 10% wastage)**	*I / J x 1.11*	
M	**Total of safety boxes (+ 10% of extra need)**	*(K + L) / 100 x 1.11*	6,068

Remarks

- **Phasing:** 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
- **Wastage of vaccines:** 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.
- **Buffer stock:** 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.
- **Anticipated vaccines in stock at start of year… ….:** It is calculated by deducting the buffer stock received in previous years from the current balance of vaccines in stock.
- **AD syringes:** A wastage factor of 1.11 is applied to the total number of vaccine doses requested from the Fund, excluding the wastage of vaccines.
- **Reconstitution syringes:** it applies only for lyophilized vaccines. Write zero for other vaccines.
- **Safety boxes:** 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

* The balance will be used to support immunization during the first quarter prior to delivery of vaccine in 2003, and any remainder will be quite small at this stage.

Table 3 : 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

3.3 Confirmed/revised request for injection safety support

(If quantity of current request differs from the GAVI letter of approval, please present the justification for that difference).

While there has been a delay in the introducing safe injection equipment, it is estimated that the current supply provided by the Vaccine Fund in 2002 should cover nearly a half-year's supply that will be required for the last quarter 2002 and first quarter 2003 (prior to arrival of supplies from GAVI for 2003) as well as the buffer stock for 2002.

Due to a delay in implementation of the Japan Grant Aid, Cambodia is requesting that the entire 2003 requirements be given as supplies and that the 2004 requirements be given as cash equivalent for everything except AD syringes for BCG; the AD syringes for BCG should be provided by the Vaccine Fund for 2004. The requirements for 2003-2004 follow. Please note that the wastage factors for BCG (2.0) and measles (1.6) set by GAVI could result in an undersupply of reconstitution syringes since many immunizations are given through outreach to villages with target populations of 5 or less per month for these 1-dose-schedule vaccines. Increasing coverage by improving access to some hard-to reach locations might increase vaccine wastage.

Table 4.1: Estimated supplies for safety of vaccination for the next two years with BCG

		Formula	For year 2003	For year 2004
A	**Target of children for BCG vaccination** [1]	#	420,315	430,403
B	**Number of doses per child**	#	1	1
C	**Number of BCG doses**	A x B	420,315	430,403
D	**AD syringes (+10% wastage)**	C x 1.11	467,017	478,225
E	**AD syringes buffer stock** [2]	D x 0.25	0	0
F	**Total AD syringes**	D + E	467,017	478,225
G	**Number of doses per vial**	#	20	20
H	**Vaccine wastage factor** [3]	*Either 2 or 1.6*	2	2
I	**Number of reconstitution syringes (+10% wastage)** [4]	*C x H x 1.11 / G*	46,655	47,775
J	**Number of safety boxes (+10% of extra need)**	*(F + I) x 1.11 / 100*	5,702	5,839

Table 4.2: Estimated supplies for safety of vaccination for the next two years with DTP

		Formula	For year 2003	For year 2004
A	Target of children for DTP vaccination [1]	#	262,697	191,290
B	Number of doses per child	#	3	3
C	Number of DTP doses	A x B	788,091	573,870
D	AD syringes (+10% wastage)	C x 1.11	874,781	636,996
E	AD syringes buffer stock [2]	D x 0.25	0	0
F	Total AD syringes	D + E	874,781	636,996
G	Number of doses per vial	#	10	10
H	Vaccine wastage factor [3]	*Either 2 or 1.6*		
I	Number of reconstitution syringes (+10% wastage) [4]	*C x H x 1.11 / G*	0	0
J	Number of safety boxes (+10% of extra need)	*(F + I) x 1.11 / 100*	9,710	7,071

Table 4.3: Estimated supplies for safety of vaccination for the next two years with Measles

		Formula	For year 2003	For year 2004
A	Target of children for Measles vaccination [1]	#	350,263	382,580
B	Number of doses per child	#	1	1
C	Number of Measles doses	A x B	350,263	382,580
D	AD syringes (+10% wastage)	C x 1.11	388,792	424,664
E	AD syringes buffer stock [2]	D x 0.25	0	0
F	Total AD syringes	D + E	388,792	424,664
G	Number of doses per vial	#	10	10
H	Vaccine wastage factor [3]	*Either 2 or 1.6*	1.6	1.6
I	Number of reconstitution syringes (+10% wastage) [4]	*C x H x 1.11 / G*	62,207	67,947
J	Number of safety boxes (+10% of extra need)	*(F + I) x 1.11 / 100*	5,006	5,468

Table 4.4: Estimated supplies for safety of vaccination for the next two years with TT

		Formula	For year 2003	For year 2004
A	**Target of pregnant women for TT vaccination** [1]	#	326,912	406,492
B	**Number of doses TT woman**	#	2	2
C	**Number of TT doses**	A x B	653,824	812,984
D	**AD syringes (+10% wastage)**	C x 1.11	725,745	902,413
E	**AD syringes buffer stock** [2]	D x 0.25	0	0
F	**Total AD syringes**	D + E	725,745	902,413
G	**Number of doses per vial**	#	10	10
H	**Vaccine wastage factor** [3]	*Either 2 or 1.6*		
I	**Number of reconstitution** [4] **syringes (+10% wastage)**	*C x H x 1.11 / G*	0	0
J	**Number of safety boxes (+10% of extra need)**	*(F + I) x 1.11 / 100*	8,056	10,017

Table 5: Summary of total supplies for safety of vaccinations with BCG, DTP, TT and measles for the next two years.

ITEM		For the year 2003	For the year 2004	Justification of changes from originally approved supply:
Total AD syringes	**for BCG**	467,017	478,225	BCG coverage is already high, so with improvements to the program, the coverage targets have been raised from 80% to 90% for 2003 and beyond. Due to a delay in the Japan Grant Aid, Cambodia is requesting the Vaccine Fund to provide all supplies for 2003 and only AD syringes for BCG in 2004, with the remainder as cash equivalent.
	for other vaccines	1,989,318	1,964,073*	
Total of reconstitution syringes		103,679	110,414*	
Total of safety boxes		28,474	28,395*	

* Cash equivalent should be provided for this equipment in 2004.

[1] GAVI will fund the procurement of AD syringes to deliver 2 doses of TT to pregnant women. If the immunization policy of the country includes all Women of Child Bearing Age (WCBA), GAVI/The Vaccine Fund will contribute to a maximum of 2 doses for Pregnant Women (estimated as total births).

[2] 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 for other years.

[3] Standard wastage factor will be used for calculation of re-constitution syringes. It will be 2 for BCG, 1.6 for measles and YF.

[4] Only for lyophilized vaccines. Write zero for other vaccines