

STUDY REPORT
ON
THE SUPPORTING PROJECT
FOR
EXPANDED PROGRAM ON IMMUNIZATION
(GRANT AID FOR CHILD WELFARE)
IN
THE REPUBLIC OF GUINEA

NOVEMBER 2000

JAPAN INTERNATIONAL COOPERATION AGENCY

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PREFACE

In response to a request from the Government of the Republic of Guinea, the Government of Japan decided to conduct a study on the Grant Aid for Child Welfare, the Supporting Project for Expanded Program on Immunization and entrusted the Japan International Cooperation Agency (JICA) to conduct the study with the assistance of the Japan International Cooperation System (JICS).

JICA sent to the Republic of Guinea a study team from July 15 to August 6, 2000.

I hope that this report will contribute to the promotion of the project and to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Guinea for their close cooperation extended to the team.

November 2000



Kunihiko Saito

President

Japan International Cooperation Agency



Location Map

Abbreviations

PEV : Expanded Program on Immunization (Programme Elargi de Vaccination)

SSP : Primary Health Care (Soins de Santé Primaires)

ME : Essential Drugs (Médicaments Essentiels)

OAU : Organization of African Unity

ESPFIDC : Equipment Supply Program for Infections Disease Control

WHO : World Health Organization

UNICEF : United Nations Children's Fund

GAVI : Global Alliance for Vaccines and Immunization

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Chapter 1 Outline of the Project

The Government of the Republic of Guinea requested the Government of Japan to provide the Grant Aid for procurement of vaccines for routine vaccination, cold chain equipment for cold storage of vaccines and vehicles for vaccine transportation. The items of the request are listed in Table 1-1 below.

Table1-1 Requested Items

	Equipment	Quantity
1.	BCG vaccine (20 doses/vial)	99,000 vials
2.	Polio vaccine (10 doses/vial)	132,000 vials
3.	Measles vaccine (10 doses/vial)	526,000 vials
4.	DTP (diphtheria- tetanus - pertussis) vaccine (10 doses/vial)	394,000 vials
5.	Tetanus toxoid vaccine (10 doses/vial)	1,232,000 vials
6.	Yellow fever vaccine (10 doses/vial)	132,000 vials
7.	Auto-disable syringe	1,500,000 pieces
8.	Safety box	60,000 boxes
9.	Pre-fabricated type walk-in freezer (min. capacity of about 10m ³)	1 unit
10.	Pre-fabricated type walk-in refrigerator (min. capacity of about 20 m ³)	1 unit
11.	Generator	1 unit
12.	Kerosene and electronic refrigerator	50 units
13.	Ice-lined refrigerator	250 units
14.	Icepack freezer	150 units
15.	Vaccine cold box (capacity of about 20.7 liter)	300 units
16.	Vaccine cold box (capacity of about 8.7 liter)	300 units
17.	Vaccine carrier	500 units
18.	Icepack	800 units
19.	Spare parts for cold chain	1 set
20.	Vehicle for surveillance	2 units
21.	Vehicle for communication	5 units
22.	Motorcycle	35 units
23.	Cargo truck	1 unit
24.	Vehicle for maintenance work	1 unit
25.	Spare parts for vehicles	1 set

Chapter 2 Contents of the Project

2-1 Basic Concept of the Project

In 1998, the Republic of Guinea (hereinafter referred to as "Guinea") started the Expanded Program on Immunization (PEV) as one of the "Expanded Program on Immunization, Primary Health Care and Essential Drugs Projects (PEV/SSP/ME)". After the start of the PEV Program, Guinea improved the immunized rate of children from 1 percent in 1986 to 70 percent in 1998 under the assistance of other donor countries, and could reduce the incidence rate of diseases such as measles, polio, tetanus neonatorum, pertussis, diphtheria and BCG, which could be prevented by vaccines. However, the immunized rate of children is still insufficient in Guinea (70 percent in 1999 for the goal of 80 percent) because 70 percent of all the vehicles for vaccine transportation is old, cold chain equipment is old and access to the remote areas is difficult. In addition, reflecting the special recommendation aimed at eradication of polio in African countries that was adopted in the last conference of the heads of the states of the Organization of African Unity (OAU) held in Yaoundé, Cameroon, the Government of Guinea decided it as the highest priority issue to promptly improve the rate of vaccination in order to eradicate polio by the next OAU conference in 2000. However, the polio eradication program has not made favorable progress because of shortage of financial sources to properly enforce the governmental decision.

The Project is intended to procure vaccines, syringes for the vaccination, cold chain equipment and vehicles for vaccine transportation and for surveillance under the Japanese Grant Aid, in order to ensure the following goals in Guinea to be attained:

Prevention of infections (to improve immunized rate of infants under 1 year old and women at childbearing age to prevent them from being infected with preventable diseases);

Improvement of the vaccination system (to improve the vaccination system for effective implementation of vaccination in Guinea through renewal of refrigerating and freezing equipment in the target areas).

2-2 Basic Design of the Requested Japanese Assistance

2-2-1 Design Policy

The Government of Guinea requested the Government of Japan for provision of vaccines in the Equipment Supply Program for Infections Disease Control (ESPFIDC). Prior to application for the ESPFIDC in the year of 2001, however, the Government of Guinea made the request for procurement of vaccines for use in multiple years with replacement of large quantity of cold chain equipment under the Project. For this request, the Government of

Japan planned to procure vaccines instead of the ESPFIDC under the consideration that vaccines could be procured along with replacement of cold chain equipment. As the provision of vaccines should be examined on vaccination implemented in each full year, the Project will procure the required quantities of vaccines for 2001. For the polio vaccines that will be required in 2001 and other vaccines required in and after 2002, the advice of request for the ESPFIDC and assistance from other donors was recommended to the Government of Guinea.

As to the cold chain equipment, the Project intends to replace the existing deteriorated equipment in accordance with the same specifications of the existing equipment. The design policy for each of the equipment will be described below.

(1) Vaccines

- 1) Polio vaccine (OPV): WHO-UNICEF has been developing the Global Polio Eradication Initiative throughout the world, and the supply of this vaccine is quite tight. Thus, it is expected that there will be a difficulty in procuring the necessary quantity of this vaccine under the Japanese Grant Aid. As a result, the polio vaccine was excluded from this Project.
- 2) Yellow fever vaccine: The WHO study shows that there is no case of incidence of yellow fever since 1987 and the Global Alliance for Vaccines and Immunization (GAVI) plans to provide yellow fever vaccine in and after 2001. Thus, this item was excluded from the program to avoid the duplicate cooperation with GAVI.
- 3) BCG/Measles/DTP (diphtheria-tetanus-pertussis)/Tetanus toxoid vaccines: The request for the required quantities of these vaccines for three years was initially made, but the shelf life of these vaccines is about 2 years after the manufacture. If the quantities of vaccines for several years were procured, some quantities would remain over the shelf life during storage. Therefore, it was decided to procure the quantities for one year as estimated on the basis of the target population for vaccination in 2001 (for tetanus toxoid vaccine: women at childbearing age, which means women aged 15-45 years, for other vaccines: infants under 1 year old). The immunization schedule in Guinea is shown in Table 2-1 and the basis of estimation of vaccine quantities in Table 2-2.

Table 2-1 Immunization Schedule in Guinea

Name of Vaccine	Times of Vaccination	Intervals of Vaccination
Polio	4 times	At birth, and 6 weeks, 10 weeks and 14 weeks after birth
Yellow fever	Once	11 months after birth
BCG	Once	At birth
Measles	Once	9 months after birth
DTP	3 times	6 weeks, 10 weeks and 14 weeks after birth
Tetanus Toxoid	2 times	Women aged 15-45 years (childbearing age): within one year after the first vaccination

Source: Vaccination Information 1999 (excerpt), Guinea

Table 2-2 Required Quantities of Vaccines in the Expanded Vaccination Program (2001)

(DCS/DPS)	Total population	Target population		BCG	Measles	DTP	Tetanus
	2001	0-11-month infant	Woman of 15-45 years	(20doses/vial)	(10doses/vial)	(10doses/vial)	(10doses/vial)
Dixinn	180,046	7,202	45,012	720	958	2,874	8,980
Kaloum	90,727	3,629	22,682	363	483	1,448	4,525
Matam	191,858	7,674	47,965	767	1,021	3,062	9,569
Matoto	475,677	19,027	118,919	1,903	2,531	7,592	23,724
Ratoma	397,174	15,887	99,294	1,589	2,113	6,339	19,809
Boffa	180,187	7,207	45,047	721	959	2,876	8,987
Boké	337,891	13,516	84,473	1,352	1,798	5,393	16,852
Fria	92,882	3,715	23,221	372	494	1,482	4,632
Gaoual	157,972	6,319	39,493	632	840	2,521	7,879
Koundara	104,381	4,175	26,095	418	555	1,666	5,206
R.BOKE	873,313	34,932	218,329	3,495	4,646	13,938	43,556
Dabola	127,395	5,096	31,849	510	678	2,033	6,354
Dinguiraye	157,443	6,298	39,361	630	838	2,513	7,852
Faranah	169,618	6,785	42,405	678	902	2,707	8,460
Kissidougou	236,313	9,453	59,078	945	1,257	3,772	11,786
Kankan	301,420	12,057	75,335	1,206	1,604	4,811	15,033
Kérouané	176,702	7,068	44,176	707	940	2,820	8,813
Kouroussa	171,434	6,857	42,859	686	912	2,736	8,550
Mandiana	196,182	7,847	49,046	785	1,044	3,131	9,785
Sigui	311,807	12,472	77,952	1,247	1,659	4,976	15,551
Coyah	97,707	3,908	24,427	391	520	1,559	4,873
Dubrêka	151,257	6,050	37,814	605	805	2,414	7,544
Forécariah	230,982	9,239	57,746	924	1,229	3,686	11,520
Kindia	330,650	13,226	82,663	1,323	1,759	5,277	16,491
Télimélé	261,430	10,457	65,358	1,046	1,391	4,172	13,039
Koubia	102,621	4,105	25,655	410	546	1,638	5,118
Labé	280,878	11,235	70,220	1,124	1,494	4,483	14,009
Lélouma	152,609	6,104	38,152	610	812	2,436	7,611
Mali	235,855	9,434	58,964	943	1,255	3,764	11,763
Tougué	127,735	5,109	31,934	511	680	2,039	6,371
Dalaba	152,941	6,118	38,235	612	814	2,441	7,628
Mamou	263,703	10,548	65,926	1,055	1,403	4,209	13,152
Pita	266,645	10,666	66,661	1,067	1,419	4,256	13,299
Beyla	187,019	7,481	46,755	748	995	2,985	9,328
Gueckédou	388,703	15,548	97,176	1,555	2,068	6,204	19,387
Lola	149,981	5,999	37,495	600	798	2,394	7,480
Macenta	313,878	12,555	78,470	1,256	1,670	5,009	15,655
N'Zérékoré	315,944	12,638	78,986	1,264	1,681	5,042	15,758
Yomou	151,007	6,040	37,752	604	803	2,410	7,531
Total	8,218,654	328,744	2,054,651				

Source: Reply of Ministry of Health

Required quantity of vaccine = Target population × Times of vaccination × Rate of vaccination coverage × Waste rate factor × Reserve rate factor ÷ Doses per vial

Note:

Target population estimation: Infants under 1 year old = Total population × 4%;

Women at childbearing age (15-45 years) = Total population × 25%

Diseases for vaccination: Tetanus toxoid (for women at childbearing age), BCG, measles, DTP (for infants under 1 year old)

Times of vaccination: BCG (once), Measles (once), DTP (3 times), Tetanus Toxoid (2 times)

Vaccination coverage rate: Percentage of target population for which it is estimated that vaccination can be implemented: Tetanus Toxoid (60%), BCG, Measles, DTP (80%)

Wastage rate (%): The procured vaccines will be provided in multi-dose vials (multiple doses contained in each vial), but if all the quantity of doses in opened vials is not used out, the remaining doses have to be disposed as waste. This rate of waste is as follows: BCG (50%), Measles, DTP, Tetanus Toxoid (25%)

Wastage factor: 100 / (100 - wastage rate)

Reserve rate: Rate of reserve for breakdowns during transport and unusable vaccines: 20%

Reserve rate factor: 100 / (100 - reserve rate)

For the percentages (%) as described above, the figures used for estimation of the required quantities by the Ministry of Health, Guinea is used.

(2) Syringes and safety boxes

In Guinea, the introduction of auto-disable syringes has been planned to solve the secondary infection problem due to use of reusable syringes. Even if this type of syringes is introduced for only one year by the Project, however, there are no sufficient plans on the subsequent procurement after completion of the Project. Taking into consideration these circumstances, the distribution of the auto-disable syringes in the Project is for Kindia Region only that is located relatively near Conakry City and is planning to install an incinerator for disposal of used syringes. The items to be procured under the Project will be the required quantities for immunization of 4 types of vaccines (BCG/Measles/DTP/Tetanus Toxoid). For prevention of blood infection such as HIV, 0.05 m_l auto-disable syringes for BCG vaccination and 0.5 m_l auto-disable syringes for other types of vaccination will be procured. The safety boxes will be used for disposal of used auto-disable syringes. The quantities of safety boxes will be those required for the area to which auto-disable syringes will be distributed. In addition, the 5 m_l disposable syringes for reconstitution of BCG and measles vaccines that are freeze-dry vaccines will also be included in this procurement plan. The estimation of required quantities of syringes for BCG, Measles and DTP (diphtheria-tetanus-pertussis) vaccination to 0 to 11-month infants in the target area as well as syringes for reconstitution and safety boxes are shown in Table 2-3. The required quantities of syringes for tetanus toxoid vaccination to women of 15 to 45 years old and those of safety boxes are shown in Table 2-4.

Table 2-3 Required Quantities of Syringes for BCG/Measles/DTP (Diphtheria-Tetanus-Pertussis) Vaccination, BCG/Measles Vaccine Syringes for Reconstitution, and Safety Boxes

Region/Prefecture (DCS/DPS)	Total population 2001	Target population 0 – 11-month infants	Syringe			Safety box
			0.05 m _l (BCG)	0.5 m _l (Measles/DTP)	5 m _l (BCG/Measles dissolution)	
Coyah Prefecture	97,707	3,908	4,337	17,351	650	217
Dubréka Prefecture	151,257	6,050	6,715	26,862	1,007	336
Forécariah Prefecture	230,982	9,239	10,255	41,022	1,538	513
Kindia Prefecture	330,650	13,226	14,680	58,723	2,202	734
Télimélé Prefecture	261,430	10,457	11,607	46,429	1,741	580
Kindia Region Total	1,072,026	42,880	47,594	190,387	7,138	2,380

Source: Ministry of Health

Required quantities of 0.05 m_l (for BCG) and 0.5 m_l (for Measles and DTP) syringes = Target population × Times of vaccination per person × Vaccination coverage rate × Reserve rate factor × Stock rate factor
 Required quantity of 5 m_l syringes = Required quantity of 0.05 m_l syringes ÷ 20 doses + Required quantity of 0.5 m_l syringes ÷ 4 ÷ 10 doses

Note: Times of vaccination: BCG (once), Measles (once), DTP (3 times)

Vaccination coverage rate: Percentage of target population for which it is estimated that vaccination can be implemented: 80%

Reserve rate: Estimated rate of breakdowns during transport or unusable syringes: 10%

Reserve rate factor: 100 / (100 - Reserve rate)

Stock rate: Rate of stock in local level for the case that demand can not be met depending supply situation: 20%

Stock rate factor: 100 / (100 - Stock rate)

Required quantity of safety boxes = (Required quantity of 0.05 m_l syringes + Required quantity of 0.5 m_l) ÷ 100 (fraction rounded up)

For the above percentages (%), the figures used for estimation of required quantities by Ministry of Health, Guinea are used.

Table 2-4 Required Quantities of Syringes for Tetanus Toxoid Vaccination and Safety Boxes

Region/Prefecture (DCS/DPS)	Total population 2001	Target population women aged 15-45 Years	Syringe	Safety Box
			0.5 m_	
Coyah Prefecture	97,707	24,427	40,670	407
Dubrêka Prefecture	151,257	37,814	62,960	630
Forécariah Prefecture	230,982	57,746	96,147	962
Kindia Prefecture	330,650	82,663	137,633	1,377
Télimélé Prefecture	261,430	65,358	108,821	1,089
Kindia Region Total	1,072,026	268,008	446,231	4,465

Source: Ministry of Health

Required quantity of 0.5 m_ (for Tetanus Toxoid) syringes = Target population × Times of vaccination per person × Vaccination coverage rate × Reserve rate factor × Stock rate factor

Note: Times of vaccination: Tetanus (2 times)

Vaccination coverage rate: Percentage of target population for which it is estimated that vaccination can be implemented: 60%

Reserve rate: Estimated rate of reserve for breakdowns during transport and unusable syringes: 10%

Reserve rate factor: $100 / (100 - \text{Reserve rate})$

Stock rate: Rate of stock in local level for the case that demand can not be met depending supply situation: 20%

Stock rate factor: $100 / (100 - \text{Stock rate})$

Required quantity of safety boxes = Required quantity of 0.5 m_ syringes ÷ 100 (fraction rounded up)

For the above percentages (%), the figures used for estimation of the required quantities by Ministry of Health, Guinea are used.

(3) Cold chain equipment

1) Pre-fabricated type walk-in freezer/refrigerator and generator

These are the equipment to be used for centralized storage of vaccines for the entire country of Guinea. The existing equipment was installed by UNICEF at the Conakry Central Warehouse in 1988, but as the existing freezers are out of order and the refrigerators and generators are deteriorated, they need to be replaced. Thus, it was decided that one unit for each existing equipment would be replaced under the Project. Their capacities would be able to store the future required quantities of vaccines for the target population of vaccination by 2005 in consideration of increase of the total population (freezer: 9 m³; refrigerator: 19 m³). Table 2-5 shows the required quantity of vaccines for PEV in 2005, and Table 2-6 and Table 2-7 show the required capacities of walk-in freezer and refrigerator in 2005 respectively. The generator would secure the power supply capacity required for the freezers, refrigerators and the existing refrigerator at the central warehouse in case of power failure.

Table 2-5 Required Quantities of Vaccines for PEV (2005)

(DCS/DPS)	Total Population	Target population		BCG	Measles	Polio	DTP	Tetanus Toxoid	Yellow fever	Hepatitis B
	2005	0-11 month infants	Women of 15-45 age	(20doses/Vial)	(10doses/Vial)	(10doses/Vial)	(10doses/Vial)	(10doses/Vial)	(10doses/Vial)	(10 doses/ Vial)
Dixinn	227,304	9,092	56,826	909	1,209	4,837	3,628	11,337	1,209	3,628
Kaloum	114,541	4,582	28,635	458	609	2,437	1,828	5,713	609	1,828
Matam	242,216	9,689	60,554	969	1,289	5,154	3,866	12,081	1,289	3,866
Matoto	600,532	24,021	150,133	2,402	3,195	12,779	9,584	29,952	3,195	9,584
Ratoma	501,423	20,057	125,356	2,006	2,668	10,670	8,003	25,008	2,668	8,003
Boffa	201,232	8,049	50,308	805	1,071	4,282	3,212	10,036	1,071	3,212
Boke	377,354	15,094	94,338	1,509	2,008	8,030	6,023	18,821	2,008	6,023
Fria	103,730	4,149	25,932	415	552	2,207	1,656	5,174	552	1,656
Gaoual	176,422	7,057	44,106	706	939	3,754	2,816	8,799	939	2,816
Koundara	116,572	4,663	29,143	466	620	2,481	1,860	5,814	620	1,860
Dabola	142,274	5,691	35,569	569	757	3,028	2,271	7,096	757	2,271
Dinguiraye	175,831	7,033	43,958	703	935	3,742	2,806	8,770	935	2,806
Faranah	189,428	7,577	47,357	758	1,008	4,031	3,023	9,448	1,008	3,923
Kissidougou	263,912	10,556	65,978	1,056	1,404	5,616	4,212	13,163	1,404	4,212
Kankan	336,624	13,465	84,156	1,346	1,791	7,163	5,373	16,789	1,791	5,373
Kerouane	197,339	7,894	49,335	789	1,050	4,199	3,150	9,842	1,050	3,150
Kouroussa	191,457	7,658	47,864	766	1,019	4,074	3,056	9,549	1,019	3,056
Mandiana	219,095	8,764	54,774	876	1,166	4,662	3,497	10,927	1,166	3,497
Siguiri	348,224	13,929	87,056	1,393	1,853	7,410	5,558	17,368	1,853	5,558
Coyah	109,118	4,365	27,280	436	581	2,322	1,742	5,442	581	1,742
Dubreka	168,923	6,757	42,231	676	899	3,595	2,696	8,425	899	2,696
Forecariah	257,599	10,318	64,490	1,032	1,372	5,489	4,117	12,866	1,372	4,117
Kindia	369,267	14,771	92,317	1,477	1,965	7,858	5,894	18,417	1,965	5,894
Telimele	291,963	11,679	72,991	1,168	1,553	6,213	4,660	14,562	1,553	4,660
Kouibia	117,815	4,713	29,454	471	627	2,507	1,880	5,876	627	1,880
Labe	322,465	12,899	80,616	1,290	1,716	6,862	5,147	16,083	1,716	5,147
Lelouma	175,204	7,008	43,801	701	932	3,728	2,796	8,738	932	2,796
Mali	270,777	10,831	67,694	1,083	1,441	5,762	4,322	13,505	1,441	4,322
Tougue	146,648	5,866	36,662	587	780	3,121	2,341	7,314	780	2,341
Dalaba	175,586	7,023	43,897	702	934	3,736	2,802	8,757	934	2,802
Mamou	302,747	12,110	75,687	1,211	1,611	6,442	4,832	15,100	1,611	4,832
Pita	306,126	12,245	76,532	1,225	1,629	6,514	4,886	15,268	1,629	4,886
Beyla	214,710	8,588	53,678	859	1,142	4,569	3,427	10,709	1,142	3,427
Gueckedou	446,255	17,850	111,564	1,785	2,374	9,496	7,122	22,257	2,374	7,122
Lola	172,187	6,887	43,047	689	916	3,664	2,748	8,588	916	2,748
Macenta	360,351	14,414	90,088	1,441	1,917	7,668	5,751	17,973	1,917	5,751
N'Zerekore	362,723	14,509	90,681	1,451	1,930	7,719	5,789	18,091	1,930	5,789
Yomou	173,366	6,935	43,342	693	922	3,689	2,767	8,647	922	2,767
Total	9,469,700	378,788	2,367,430							

Source: Ministry of Health

Required quantity of vaccines = Target population × Times of vaccination × Vaccination coverage rate × Wastage factor × Reserve rate factor ÷ Doses per vial

Note:

- Rate of increase in population: Conakry Region: 6% per year; Other Regions: 2.8% per year (Both estimated)
- Estimation of target population: Infants under 1 year old = Total population × 4%; Women at childbearing age (15 to 45 years old) = Total population × 25%
- Diseases for vaccination: Tetanus (for women at childbearing age), BCG, Measles, Polio, DTP, Yellow fever, Hepatitis B (for infants under 1 year old)
- Times of vaccination: BCG (once), Measles (once), DTP (3 times), Tetanus (2 times), Polio (4 times), Yellow fever (once), Hepatitis B (once)
- Vaccination coverage rate: Percentage of target population for which it is estimated that vaccination can be implemented.
- Wastage rate: Tetanus (60%), BCG, Measles, DTP, Polio, Yellow fever, Hepatitis B (80%)
The vaccines procured will be provided in multi-dose vials (multiple doses are contained in a vial). If all the quantity of vaccines in opened vials is not used out, the remaining quantity has to be disposed. The rates of waste vaccines are: BCG (50%), Measles, DTP, Tetanus, Polio, Yellow fever, Type-B hepatitis (25%)
- Wastage factor: 100 / (100 - Wastage rate)
- Reserve rate: Estimated rate of breakdowns during transport and unusable vaccines: 20%
- Reserve rate factor: 100 / (100 - Reserve rate)

For the above percentages (%), the figures used for estimation of the required quantities by Ministry of Health, Guinea are used.

Table 2-6 Required Capacities of Walk-in Freezer in 2005

Vaccine	Vials	Doses/vial	Capacity/doses (cm ³)	Total capacity (cm ³)
BCG	37,878	20	1.5*	1,136,340
Measles	50,384	10	3.0*	1,511,520
Polio (OPV)	201,510	10	2.5	5,037,750
Yellow fever	50,384	10	2.5*	1,259,600
Total				8,945,210
* Capacity exclusive of solution liquid				Approx. 9m ³

Table 2-7 Required Capacities of Walk-in Refrigerator in 2005

Vaccine	Vials	Doses/vial	Capacity/doses (cm ³)	Total capacity (cm ³)
Tetanus	472,305	10	2.5	11,807,625
DTP	151,141	10	2.5	3,778,525
Hepatitis B	152,041	10	2.5	3,801,025
Total				19,387,175
				Approx. 19m ³

2) Ice-lined Refrigerator/Icepack Freezer

Both of the equipment have been used for over 8 to 10 years and have too many damages and failures to continue to store vaccines. Thus, it was decided that one set of equipment (refrigerator/freezer) would be procured for the Prefectural Direction of each of 33 Prefectures in 7 Regions and 2 sets for each of 5 Prefectures in Conakry Region with a high target population for vaccines, totaling 43 sets for 38 Prefectures in 8 Regions. The suitable capacity of refrigerator is deemed to be about 200 liters in consideration of the quantity of vaccines to be stored in the Prefectures. They can be operated with the current power conditions without any problem. And the suitable capacity of freezer is also deemed to be about 200 liters in consideration of the quantity of vaccines to be distributed in the Prefectures and the current power conditions. Table 2-8 shows the quantities of equipment to be distributed by Prefecture.

3) Vaccine cold box (large)

The required quantities of cold boxes for the transportation from the Central Warehouse to the Region and Prefecture levels were examined. For replacement of icepacks, it was determined to procure the required quantities of icepacks having the same specifications of the standard accessories to the vaccine cold box (large). Table 2-8 shows the quantities to be distributed by Prefecture. The vaccine cold box (small) as initially requested by Guinea was excluded because the vaccine cold box

(large) can provide the required capacity.

Table 2-8 Quantities of Ice-lined Refrigerators/Icepack Freezers/Vaccine Cold Boxes (Large) to be distributed by Prefecture

(DCS/DPS)	Icelined Refrigerator	Icepack Freezer	Large Vaccine Cold Box
Dixinn	2	2	9
Kaloum	2	2	5
Matam	2	2	5
Matoto	2	2	5
Ratoma	2	2	5
Boffa	1	1	5
Boké	1	1	9
Fria	1	1	5
Gaoual	1	1	5
Koundara	1	1	5
Dabola	1	1	5
Dinguiraye	1	1	5
Faranah	1	1	9
Kissidougou	1	1	5
Kankan	1	1	9
Kérouané	1	1	5
Kouroussa	1	1	5
Mandiana	1	1	5
Siguiri	1	1	5
Coyah	1	1	5
Dubrêka	1	1	5
Forécariah	1	1	5
Kindia	1	1	9
Télimélé	1	1	5
Kouibia	1	1	5
Labé	1	1	9
Lélouma	1	1	5
Mali	1	1	5
Tougué	1	1	5
Dalaba	1	1	5
Mamou	1	1	9
Pita	1	1	5
Beyla	1	1	5
Gueckédou	1	1	5
Lola	1	1	5
Macenta	1	1	5
N'Zérékoré	1	1	9
Yomou	1	1	5

4) Kerosene and Electronic Refrigerator

The existing kerosene and electronic refrigerators were installed by UNICEF at the local health centers and health posts in and after 1988, but they have much difficulty in storage of vaccines after they have been subject to repairs and failures beyond their duty years. To implement the immunization program safely and securely, it is necessary to replace all the existing kerosene and electronic refrigerators (at 237 installations). In addition, it was decided that one unit of new refrigerator would be procured for each of 13 health centers to be newly built in considering the program to expand the vaccination areas. The adequate capacity for the new refrigerator is deemed to be approximately 170 liters in consideration of the quantity of vaccines to be required in the Prefectures. The names of centers planned for distribution of refrigerators are shown in Appendix-6 attached to the end of this document.

5) Vaccine carrier

The vaccine carriers are mainly used for vaccine transportation to the places of vaccination. These carriers have been used for 8 to 10 years and so frequently used that some of them have been fairly damaged. Thus, their cooling capacity has been so low that the rate of vaccine losses has been very high. Therefore, it was decided to procure the vaccine carriers for the Central level, for the health centers built before 1992 nationwide, for the health centers to be newly built and for the health posts. The adequate capacity of each vaccine carrier is deemed to be about 1.7 liters in consideration of the quantity of vaccines to be transported to each place of vaccination. In addition, the icepacks for replacement would be procured in the necessary quantity and their specifications will be the same as those of the standard accessories to the vaccine carriers. Table 2-9 shows the quantities of vaccine carriers to be distributed by Prefecture.

Table 2-9 Quantities of Vaccine Carriers to be distributed by Prefecture

(DCS/DPS)	Distributed to health centers built before 1992	Distributed to health posts	Distributed to health centers to be newly built
Dixinn	1	0	0
Kaloum	1	0	0
Matam	1	0	0
Matoto	2	0	0
Ratoma	4	1	0
Boffa	5	6	0
Boké	2	6	2
Fria	1	4	0
Gaoual	5	2	0
Koundara	5	4	0
Dabola	3	6	0
Dinguiraye	4	6	0
Faranah	6	7	0
Kissidougou	8	8	0
Kankan	8	8	2
Kérouané	1	6	0
Kouroussa	6	6	2
Mandiana	4	6	2
Siguiri	7	7	0
Coyah	2	4	0
Dubréka	4	6	0
Forécariah	6	6	2
Kindia	7	9	0
Télimélé	6	5	8
Kouibia	4	4	0
Labé	8	9	0
Lélouma	4	5	0
Mali	5	6	6
Tougué	6	6	2
Dalaba	8	9	0
Mamou	7	5	0
Pita	9	7	0
Beyla	6	4	0
Gueckédou	6	8	0
Lola	5	7	0
Macenta	9	7	0
N'Zérékoré	13	6	0
Yomou	5	4	0

(4) Vehicles

The initial request by Guinea included 2 pick-up trucks for surveillance, 5 vehicles for communications, 35 motorcycles, one truck and one maintenance vehicle. For the Project, the necessity of these vehicles were examined as described below:

1) Pick-up trucks/Vehicles for communication

Guinea possesses a total of 57 vehicles for surveillance/communications at present. Three of 6 vehicles in possession of Conakry Central Warehouse have failures and the cost of maintenance of the remaining three vehicles that are also deteriorated are high due to frequent repairs. However, it is essential to make the Information/Education/Communication (IEC) activity as well as the publicity via radio broadcasts in order to promote the necessity of vaccination nationwide. In addition, as there are many opportunities to go to mountainous areas for immunization study, 4WD vehicles are required. Therefore, it was examined that the deteriorated pick-up truck possessed for the Central Warehouse would be replaced under the Project.

2) Motorcycles

For 35 motorcycles in the initial request, which Guinea desired for the replacement in 2005, were excluded from the Project because 15 motorcycles supplied by UNICEF are in possession of Conakry Central Warehouse and there will be no urgent necessity for such quantity of 35 motorcycles for the time being.

3) Cargo truck

Three cargo trucks to transport vaccines and cold chain equipment from the Central Warehouse to local transit points were supplied by UNICEF in 1988. They are all deteriorated. One is unusable due to heavy failures and remains left at Kankan, one of the transit points. Two other trucks have been apt to have failures, resulting in increased expenses of repairs and having difficulty in vaccine transportation. In these circumstances, it was decided to procure one cargo truck in the Project to replace the unusable one.

4) Maintenance vehicle

It was initially requested by Guinea to procure a cargo truck for traveling in local areas with necessary tools and parts for maintenance and repairs of cold chain equipment, vehicles and motorcycles. However, it was made clear that there was no problem in repairs of cold chain equipment because the central repair team is dealing with it. The repairs of vehicles and motorcycles are dealt with at private

repair shops located in local sites. Thus, it is unnecessary to secure maintenance vehicles, and were excluded from the Project.

2-2-2 Basic Plan (Equipment Plan)

The names, specifications, purposes and quantities of equipment to be procured in the Project are shown in Table 2-10.

Table 2-10 List of Equipment to Be Procured

No.	Equipment	Specifications	Purpose	Quantity
Vaccines:				(Vials)
1.	BCG Vaccine	20 doses/vial	Prevention of tuberculosis	33,000
2.	Measles vaccine	10 doses/vial	Prevention of measles	44,000
3.	DTP (diphtheria-tetanus-pertussis) vaccine	10 doses/vial	Prevention of diphtheria, tetanus and pertussis	132,000
4.	Tetanus toxoid vaccine	10 doses/vial	Prevention of tetanus for women at childbearing age	410,000
Syringes:				(Pieces)
5.	Auto-disable syringe (0.05 m_)	0.05 m_ capacity	BCG vaccination	48,000
6.	Auto-disable syringe (0.5 m_)	0.5 m_ capacity	Measles/DTP/Tetanus Toxoid vaccination	637,000
7.	Syringe for reconstitution	5 m_ capacity	Dissolution of BCG, measles vaccine	8,000
8.	Safety box	Capable of accommodating about 100 pieces of 0.05m_- and 0.5m_- capacity syringes	For storage of auto-disable syringes from collection to incineration	6,900
Cold chain equipment:				(Units)
9.	Pre-fabricated type walk-in freezer	Approx. 9m ³	Storage of vaccines	1
10.	Pre-fabricated type walk-in refrigerator	Approx. 19m ³	Storage of vaccines	1
11.	Generator	60kVA, 220VAC, 50Hz, Diesel	Power supply to freezers, refrigerators and central vaccine warehouse	1
12.	Kerosene and electronic refrigerator	Capacity of about 170 liters, kerosene type	Storage of vaccines	250
13.	Ice-lined refrigerator	Capacity of about 200 liters, 220VAC	Storage of vaccines	43
14.	Icepack freezer	Capacity of about 200 liters, 220VAC	Icepack cooling	43
15.	Vaccine cold box (large)	Capacity of about 20 liters, polyethylene type, with replacing icepacks	Vaccine transportation	300
16.	Vaccine Carrier	Capacity of about 1.7 liters, polyethylene type, with replacing icepacks	Vaccine transportation	500
Vehicles:				(Unit)
17.	Pick-up truck	4-wheel drive, double-cabin, Displacement: about 2,500cc	Surveillance, evaluation and training concerning the Expanded Program on Immunization	1
18.	Cargo truck	Maximum load: about 5 tons	Transportation of vaccines and equipment for the Expanded Program on Immunization	1

The names of vaccines and equipment to be procured in Japan and any third country under the Project and the reasons of selection are shown in Table 2-11. There are no vaccines and equipment that will be procured locally in Guinea.

Table 2-11 Vaccines and Equipment to Be Procured in Japan and any Third Country and Reason of Selection

No.	Materials and Equipment	Country of Procurement		Reason of Selection
		Japan	Third Country	
1 .	BCG Vaccine			Products of manufacturers are to be pre-qualified by WHO/UNICEF. Produced by only one company in Japan
2 .	Measles vaccine			Products of manufacturers are to be pre-qualified by WHO/UNICEF, but not produced in Japan
3 .	DTP (diphtheria-tetanus-pertussis) vaccine			
4 .	Tetanus Toxoid vaccine			
5 .	Auto-disable syringe (0.05 m_)			To comply with the WHO/UNICEF standards, but not produced in Japan
6 .	Auto-disable syringe (0.5 m_)			
7 .	Syringe for reconstitution			The quality to comply with international standards such as ISO, and produced also in Japan
8 .	Safety box			To comply with WHO/UNICEF standard, but not produced in Japan
9 .	Pre-fabricated type walk-in freezer			There are more than two companies in Japan, which produce the equipment and are able to provide local maintenance services
10 .	Pre-fabricated type walk-in refrigerator			
11 .	Generator			
12 .	Kerosene and electronic refrigerator			
13 .	Ice-lined refrigerator			To comply with WHO/UNICEF standards, but not produced in Japan
14 .	Icepack freezer			
15 .	Vaccine cold box (large)			
16 .	Vaccine carrier			
17 .	Pick-up truck			There are more than two companies in Japan, which produce the equipment and are able to provide local maintenance services
18 .	Cargo truck			

supply of the products and the services under the verified contact, from customs duties, internal taxes and other fiscal levies which may be imposed in Guinea

- (4) To accord Japanese nationals, whose services may be required in connection with the supply of the products and the services under the verified contact, such facilities as may be necessary for their entry to Guinea and stay therein for the performance of their work
- (5) To use properly and effectively, and maintain the equipment provided under the Grant
- (6) To bear all the expenses, other than those to be borne by the Grant, necessary for the transportation and installation of the equipment
- (7) To remove the existing walk-in freezer and refrigerator at Guinea's cost.

2-4 Project Operation Plan

The operation and maintenance of the Project will be undertaken by the personnel of the PEV at Ministry of Health. The educational programs that have already been conducted will also be continued by those personnel. This activity is intended to increase the number of new engineers to ensure and to re-train the participants who experienced in the past training programs. The technical level of the personnel in charge of the projects in Guinea is deemed to be high enough to maintain the equipment and materials to be procured in the Project.

2-4-1 Operation and Maintenance Cost

The rough costs of operation and maintenance of the existing equipment in use at PEV/SSP/ME in Guinea are shown in Table 2-13. The increased cost in the Project was roughly estimated to be 2.65 million Guinea franc (for 13 units of kerosene and electronic refrigerators), an increase of approximately 0.9% of the existing total cost of operation and maintenance cost. It was confirmed that the increased cost would be covered by the budgets of PEV/SSP/ME of Guinea.

Table 2-13 Rough Estimate of Operation and Maintenance Costs

Unit: million Guinea Franc

Item	Base of Estimation	Total
Kerosene and Electronic Refrigerator, 237 units	$240 \text{ } \text{C}/\text{year} \times 850 \text{ G franc}/\text{C} \times 237 \text{ units}$	48.35
Ice-lined Refrigerator, 43 units	Average rents: $3,570 \text{ G franc}/\text{day} \times 365 \text{ days} \times 43 \text{ units}$	56.03
Icepack Freezer, 43 units	Average rents: $4,500 \text{ G franc}/\text{day} \times 365 \text{ days} \times 43 \text{ units}$	70.63
Pick-up Truck, 55 units	$(\text{Distance run}/\text{year } 10,000\text{km}) \div (\text{Fuel consumption rate } 8\text{km}/\text{C}) \times (850 \text{ G franc}/\text{C}) \times (55 \text{ units})$	58.44
Cargo Truck, 3 units	$(\text{Distance run}/\text{year } 8,000\text{km}) \div (\text{Fuel consumption rate } 5\text{km}/\text{C}) \times (850 \text{ G franc}/\text{C}) \times (3 \text{ units})$	4.08
Total		237.53

Source: Ministry of Health

Chapter 3 Project Evaluation and Recommendations

3-1 Project Effect

(1) Direct effects

- 1) The immunized rate against BCG, Measles, DTP and Tetanus that is critical in Guinea will become higher.
- 2) The replacement of the walk-in freezer and refrigerator at the Central Warehouse will ensure to keep the vaccines cool in appropriate temperature till delivery to the entire country.
- 3) The replacement of the cold chain equipment installed at the Regional Inspection, Prefectural Direction of Health, the local health centers and health posts will ensure to keep the vaccines cool in appropriate temperature till vaccination.
- 4) The efficient vaccine delivery to the regions in the distance will be implemented by placing vehicles for vaccine transportation. The vehicle for surveillance will be used for epidemiology researches and activities for vaccination promotion.

(2) Indirect effects

- 1) The burden of costs and time of traveling of local residents to receive vaccination will diminish as vaccination is carried out in the vicinity of their houses.
- 2) The regular implementation of vaccination will enhance the reliability for local health centers and posts and facilitate their health and sanitation guidance to local residents. Thus, the Project will greatly contribute to the health of children, mothers and their families in Guinea, and it is deemed to be appropriate and reasonable as one of the Grant Aid projects of the Government of Japan.

3-2 Recommendations

- (1) The typical life of cold chain equipment is 5 to 7 years. To implement the replacement of equipment timely when the life expires, it is essential to make up a plan with long term and secure the necessary budget based on the plan.
- (2) Vaccines are the products that require strict temperature control, and if given temperatures for them are exceeded, their effects would be lost in a short while. In Guinea, it has been reported in the past that there had been the cases in which the procured vaccine had already been invalid at their arrival at the final places of vaccination, as they had been stored under the burning sun or at the room temperature for a long time. The causes of these invalid vaccines are likely the adverse way of handling not only by the import customs agents, but also by the forwarders entrusted

with inland transportation by cars, ships or aircraft of vaccines to the storage places in the Central Warehouse in Conakry City or the storehouses of the Regional Inspection and Prefectural Direction of Health that are located at 4 Regions, Labé, Kankan, N'zérékoré and Faranah. Therefore, it would be necessary to provide the guidance on the way of handling vaccines not only to the staff in charge of medical care but also to the forwarders handling the transportation of vaccines. The appropriate education for the way of handling vaccines in the related agencies and organizations will contribute to the substantial improvement of losses of vaccines as have been expected so far.

- (3) The supply of vaccines has to be conducted continuously in order to maintain the effects of vaccination and decline the rate of morbidity. The Government of Guinea has already made various requests for aids for future procurement of vaccines to WHO/UNICEF, GAVI and the Government of Japan (ESPFIDC). In addition, it has also been proceeding with its own programs with its self-supporting efforts. To promote these programs and to implement vaccination efficiently, it is important to coordinate with donors, and any technical advice would be helpful for them when they plan vaccination program.

Appendix 1 Member List of the Study Team

1. Team leader
Kazumi Jigami
Second Project Management Division
Grant Aid Management Department
Japan International Cooperation Agency

2. Planning and Administration
Masaru Kozono
Second Project Management Division
Grant Aid Management Department
Japan International Cooperation Agency

3. Survey and Equipment Planning 1
(Equipment Planning)
Motoo Hatano
Grant Aid Management Department
Japan International Cooperation System

4. Survey and Equipment Planning 2
(Procurement Planning)
Tomoko Nikai
Grant Aid Management Department
Japan International Cooperation System

5. Interpreter (French)
Hiroaki Inoue
Training Coordination Department
Japan International Cooperation Center

Appendix 2 Study Schedule

			Schedule		Place of Lodging
Days	Date		Officials	Consultant's Member	
1	July 5	SAT		Narita 11:30 (SN208) / Brussels (17:20)	Brussels
2	July 16	SUN		Brussels 11:00 (SN619) / Conakry (17:45)	Conakry
3	July 17	MON		9:00 Courtesy call at Japanese Embassy in Guinea and Meeting 10:30 Courtesy call at Secretariat d'Etat 11:30 Courtesy call at Ministry of Health 14:00 Courtesy call at PEV and Meeting	Conakry
4	July 18	TUE		9:00 Discussion with PEV	Conakry
5	July 19	WED		9:00 Discussion with PEV	Conakry
6	July 20	THU		8:00 Move from Conakry to Labé 15:50 Discussion with Regional Inspection of Labé	Labé
7	July 21	FRI		9:00 Discussion with Regional Inspection of Labé Visit to Health Center, Health Post and Village Meeting Hall	Labé
8	July 22	SAT	Narita 11:30(SN208)Move to Brussels	9:00 Discussion with Regional Inspection of Labé and Prefectural Direction of Health of Labé 13:30 Move from Labé to Conakry	Conakry
9	July 23	SUN	Brussels (SN619) Move to Conakry	Arrangement of documents	Conakry
10	July 24	MON		9:30 Courtesy call at Japanese Embassy in Guinea and Meeting 11:00 Discussion with WHO 14:15 Discussion with PEV	Conakry
11	July 25	TUE		9:30 Move from Conakry to Kindia 11:30 Courtesy call at and Discussion with Health Control Bureau of Kindia Region 12:00 Visit to Health Center and Health Post 17:30 Courtesy call on Governor of Kindia Region 18:00 Move from Conakry to Kindia	Conakry
12	July 26	WED		9:00 Meeting among Team Members 14:00 Discussion with PEV	Conakry
13	July 27	THU		10:00 Courtesy call at Secretariat d'Etat 11:30 Discussion with UNICEF 14:00 Discussion on Minutes at PEV	Conakry
14	July 28	FRI		12:00 Signature of Minutes (at Secretariat d'Etat) 13:00 Report to Japanese Embassy in Guinea	Conakry
				20:00 Conakry (AF765) / Paris	Arrangement of documents
15	July 29	SAT	To other missions	Arrangement of documents	Conakry
16	July 30	SUN		Arrangement of documents	Conakry
17	July 31	MON		10:00 Meeting among Team Members 14:00 Discussion with PEV	Conakry
18	August 1	TUE		10:00 Study on Forwarder (Pan African Shipping Trading, SARL) 10:45 Study on Forwarder (SOCOPAO Guinea) 11:30 Study on Forwarder (GETMA Guinea) 14:00 Discussion with FAC 15:00 Discussion with PEV	Conakry
19	August 2	WED		9:30 Discussion with PEV	Conakry
20	August 3	THU		11:00 Discussion with PEV, Visit to Pharmacie Central of Essential Drugs 15:00 Discussion with USAID	Conakry
21	August 4	FRI		10:00 Report to Japanese Embassy in Guinea 20:30 Conakry (AF765) / Paris (06 : 00)	On board
22	August 5	SAT		Paris 20 : 00 (NH206) / Narita (15 : 30)	Paris/On board
23	August 6	SUN		Narita 15:30	

Appendix 3 List of Parties Concerned in the Recipient Country

1. Embassy of Japan in Guinea
Yoshiharu Kamijo Minister
Tomoyuki Ono Second Secretary

2. Secrétariat d'Etat à la Coopération
Mory Kaba Secretary
Sékouba Bangoura National Director
Ahmed Tidiane Kane Bilateral relations Director
Elhadj Abou Sylla Far East Section Manager
Pauline M.R.Turpin Asia-Middle East Section
Mohamed Keita Asia-Middle East Section

3. Ministry of Health
Mohamed Sylla Secretary General
Momo Camara National Coordinator
Malifa Balde P.E.V./S.S.P./ M.E.
Mohamed Keita P.E.V./S.S.P./ M.E.
Ibrahima F.Diallo P.E.V./S.S.P./ M.E.
Djamilatou Diallo P.E.V./S.S.P./ M.E.

4. Regional Inspection of Labe
Kalifa Bangrua Regional Inspector

5. Prefectural Direction of Health
Mamadou Diouhe Diallo Director

6. Central Pharmacy Centre of Labe
Gnalen Camara Person in charge

7. Deposit P.E.V./S.S.P./ M.E. Labe
Ismadotou Bah Person in charge
Hadiatou Diallo Assitant

- | | |
|-------------------------------------|--|
| 8. Ley Saare Health Center, Labe | |
| Asmadu Diallo | Director |
| Mariama Dalanba Diallo | Person in charge, P.E.V |
| Aissatou Baïllo Bah | Person in charge, P.E.V |
| 9. Hafia Health Center, Labe | |
| Aboulaye Sow | Director |
| Djema Bombaldé | Person in charge, P.E.V |
| Sékou I Camara | Person in charge, P.E.V |
| 10. Hindi Health Post, Labe | |
| Aboulaye Dramé | Director |
| 11. SIAC, Labe | |
| Amadou Baïlo Diallo | Person in charge |
| 12. Administrative Region of Kindia | |
| Ousmane Camara | Governor |
| 13. Regional Inspection of Kindia | |
| Alpha Oumar Barry | Regional Inspector |
| 14. Manquepas Health Center, Kindia | |
| Leonie Yvonne Toure | Director |
| 15. Wohdi Health Center, Kindia | |
| Misbao Diallo | Director |
| Fatou Matacherif | Person in charge, Prenatal Care Consultation |
| 16. WHO | |
| Ibrahima Kane | Person in charge, P.E.V |
| 17. UNICEF | |
| Facinet Yattara | Administrator of Health Project |


PROCES-VERBAL
RELATIF A L'ETUDE
POUR
LE PROJET D'APPUI AU PROGRAMME ELARGI DE VACCINATION
EN REPUBLIQUE DE GUINEE

Suite à la requête adressée par le Gouvernement de la République de Guinée (désignée ci-après "Guinée"), le Gouvernement du Japon a décidé de procéder à une étude sur le Projet d'Appui au Programme Elargi de Vaccination (désigné ci-après "le Projet") et a confié ladite étude à l'Agence Japonaise de Coopération Internationale (abrégée ci-après "JICA").

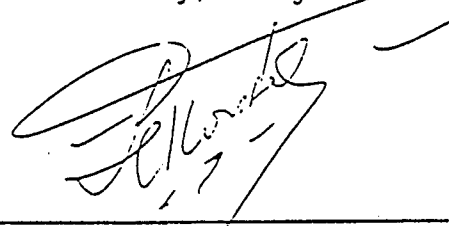
La JICA a envoyé du 17 juillet au 04 août 2000 en Guinée une Mission d'étude (désignée ci-après "la Mission"), dirigée par Monsieur Kazumi JIGAMI, Directeur de la Deuxième Division de Gestion de Projet, Département de Gestion de l'Aide financière non-remboursable, JICA. La Mission a fait une série de discussions avec les autorités compétentes du Gouvernement de Guinée et mené l'étude sur le terrain dans les sites du Projet.

A l'issue des discussions et des enquêtes menées sur le terrain les deux parties ont confirmé les principaux points mentionnés dans le document ci-joint.

Fait à Conakry, le 28 juillet 2000



Monsieur KAZUMI JIGAMI
Chef de Mission
JICA



Monsieur SEKOUBA BANGOURA
Directeur National
Direction Nationale de la Coopération
Secretariat d'Etat à la Coopération



Dr. JOHANA AUSTIN LUCINDA
Directrice Nationale de la Santé Publique
Ministère de la Santé

DOCUMENT

1. Objectif

L'objectif du Projet consiste dans la fourniture des vaccins, des équipements de la chaîne de froid, etc., à des fins de réduction de la morbidité et de la mortalité dues aux maladies évitables par la vaccination, visant ainsi à améliorer la santé des enfants et des femmes en Guinée.

2. Site du Projet

Toute l'étendue du territoire national constitue le site du Projet.

3. Ministère responsable et Organisation d'exécution

3-1 Ministère responsable: Secrétariat d'Etat à la Coopération

3-2 Organisation d'exécution: Ministère de la Santé

(Programme Elargi de Vaccination / Soins de Santé Primaire /
Médicaments Essentiels)

4. Contenu de la requête par le Gouvernement de Guinée

4-1 A l'issue des discussions avec la Mission, le Gouvernement de Guinée a formulé la requête définitive sur les matériels indiqués dans l'Annexe-1. La JICA procède à l'évaluation sur une pertinence de cette requête et recommande au Gouvernement du Japon de la consentir.

4-2 Le Gouvernement de Guinée a établi l'ordre prioritaire à chaque matériel dans l'Annexe-1.

A= Première priorité / Essentiel

B= Deuxième priorité / Nécessité à examiner

C= Troisième priorité / Si possible

5. Programme d'aide financière non-remboursable du Japon

5-1 Le Gouvernement de Guinée a compris le Programme d'aide financière non-remboursable du Japon, exposé par la Mission en indiquant dans l'Annexe-2

5-2 En cas d'exécution du Projet après la décision prise par le Gouvernement du Japon, le Gouvernement de Guinée prend en charge les mesures indiquées dans l'Annexe-3 pour la bonne conduite du Projet.

6. Calendrier de l'étude

- 6-1 Les consultants poursuivent leurs études sur place jusqu'au 04 août.
- 6-2 La JICA rédige un rapport et le soumet au Gouvernement de Guinée vers la fin novembre 2000.

7. Autres relatifs au Projet

- 7-1 Le Gouvernement de Guinée affecte des personnels et un budget nécessaires pour l'exécution du Projet.
- 7-2 Le Gouvernement de Guinée prendra toutes les mesures nécessaires pour assurer le transport à l'intérieur du pays entre le port de débarquement et le site.
- 7-3 Le Gouvernement de Guinée compte tenu de la vétusté des matériels roulants et les volumes des bagages à transporter sollicite la fourniture des véhicules de supervision et un camion chargé de l'approvisionnement des centres de santé.
- 7-4 Le Gouvernement de Guinée par l'intermédiaire de ses fonctionnaires ou toute autre personne qu'il aurait spécialement déléguée à cet effet, opérera toute forme de contrôle sur les conditions d'utilisation et l'état des véhicules.
- 7-5 Le Gouvernement de Guinée garantit que ces véhicules ne seront utilisés que dans le cadre strict des activités du Programme Elargi de Vaccination (PEV).
- 7-6 Pour ce qui est du vaccin anti-amaril, le Ministère de la Santé remettra un plan de financement post-projet (après 2002) aux consultants avant leur départ.
- 7-7 S'agissant des seringues auto-bloquantse, la fourniture est conditionnée aux préalables suivants: choix d'une zone pilote et la mise en place des dispositions pour la destruction des matériels usés. -
- 7-8 Pour ce qui est des chambres froides positive/négative les consultants procèdent à l'étude sur le site envisagé pour s'assurer de l'existence d'un local approprié.
- 7-9 La Mission a expliqué à la partie guinéenne les difficultés pour la fourniture en VPO liées à la disponibilité de ce vaccin auprès des fournisseurs; la partie guinéenne a pris bonne note.

8. Le Gouvernement de Guinée remercie le Japon pour un appui au développement du secteur santé notamment pour la survie des enfants et des mères. De même la partie japonaise remercie la Guinée pour hospitalité et les facilités accordées pour l'exécution de sa Mission.

Liste du Matériel

N°	Désignation	Quantité Souhaitée	L'ordre prioritaire
1	Vaccin BCG (Ampoule de 20 doses)	Pour 1 année	A
2	VPO (Flacon de 10 doses)	Pour 1 année	B
3	VAR (Flacon de 10 doses)	Pour 1 année	A
4	DTC (Flacon de 10 doses)	Pour 1 année	A
5	VAT (Flacon de 10 doses)	Pour 1 année	A
6	VAA (Flacon de 10 doses)	Pour 1 année	B
7	Seringue auto-bloquante 0.05ml	369,000	B
8	Seringue auto-bloquante 0.5ml	1,475,000	B
9	Seringue 5ml	148,000	B
10	Boîte de sécurité	19,000	B
11	Chambre froide négative	1	B
12	Chambre froide positive	1	B
13	Générateur	1	B
14	Réfrigérateur pétrole et électrique (Mixte)	250	A
15	Réfrigérateur/Congélateur électrique	50	A
16	Congélateur pour accumulateur	50	A
17	Accumulateur de froid	800	A
18	Glacière (Grande)	300	A
19	Glacière (Petite)	300	A
20	Porte Vaccins	500	A
21	Véhicules de supervision	7	B
22	Moto Tout terrain	35	C
23	Camion ridelle	1	B
24	Camion atelier	1	C

PROGRAMME D'AIDE FINANCIERE NON-REMBOURSABLE DU JAPON

1. Procédure de l'aide financière non-remboursable

Le programme d'aide financière non-remboursable est exécuté selon la procédure suivante.

1) Demande (requête effectuée par le pays bénéficiaire)

Etudes (étude préliminaire/étude du concept de base effectuées par la JICA)

Estimation et approbation (estimation par le gouvernement du Japon et approbation par le Conseil des ministres du Japon)

Détermination de l'exécution (Echange de Notes entre les deux gouvernements)

Exécution (Mise en oeuvre du Projet)

2) Lors de la première étape, la requête présentée par le pays bénéficiaire, est examinée par le gouvernement du Japon (Ministère des Affaires étrangères) afin de déterminer si elle est pertinente dans le cadre de l'aide financière non-remboursable. Au cas où il serait confirmé que la requête est prioritaire en tant que projet d'aide financière non-remboursable, le gouvernement du Japon demande à la JICA de procéder à une étude.

Lors de la seconde étape, l'étude (étude du concept de base) est effectuée par la JICA ayant conclu un contrat avec une société de consultation japonaise chargée de l'exécution.

Lors de la troisième étape (estimation et approbation), le gouvernement du Japon décide, sur la base du rapport d'étude du concept de base élaboré par la JICA, si le Projet convient au cadre de l'aide financière non-remboursable. Il est ensuite soumis pour approbation au Conseil des ministres.

Lors de la quatrième étape (détermination de l'exécution), l'exécution du Projet approuvé par le Conseil des ministres est officiellement déterminée par la signature de l'Echange de Notes entre les deux gouvernements.

Au fur et à mesure de l'exécution du Projet, la JICA accélérera le processus d'exécution en apportant son soutien au pays bénéficiaire pour la procédure d'appel d'offres, les signatures des contrats et les

autres opérations nécessaires.

2. Contenu de l'étude

1) Contenu de l'étude

Le but de l'étude (étude du concept de base) effectuée par la JICA est de fournir un document de base permettant de déterminer si un projet est exécutable ou non dans le cadre du Programme d'aide financière non-remboursable du Japon. Le contenu de l'étude est le suivant:

- a) confirmer l'arrière-plan de la requête, les objectifs et les effets du Projet ainsi que les capacités de maintenance du pays bénéficiaire nécessaires à l'exécution du Projet
- b) évaluer la pertinence de l'aide financière non-remboursable du point de vue technologique et socio-économique
- c) confirmer le concept de base du plan convenu après discussions entre les deux parties
- d) préparer un plan de base du Projet
- e) estimer les coûts du Projet

Le contenu de la requête n'est pas obligatoirement approuvé en tant que contenu de l'aide financière non-remboursable. Le concept de base du Projet doit être confirmé par rapport au cadre d'aide financière non-remboursable du Japon.

Le gouvernement du Japon demande au gouvernement du pays bénéficiaire de prendre toutes les mesures qui pourraient s'avérer pour assurer son indépendance lors de l'exécution du Projet. Ces mesures doivent être garanties même si elles n'entrent pas dans la juridiction de l'organisme du pays bénéficiaire en charge de l'exécution du Projet. Par conséquent, l'exécution du Projet doit être confirmé par toutes les organisations concernées du pays bénéficiaire par la signature des minutes des discussions.

2) Sélection des consultants

En vue de la bonne exécution du Projet, la JICA effectue une sélection parmi les consultants enregistrés auprès de la JICA après avoir procédé à un examen des propositions soumises par ces derniers. Le consultant sélectionné procède à l'étude du plan de base et élabore le rapport sur la base des références fournies par la JICA.

A l'étape de conclusion du contrat entre le consultant et le pays bénéficiaire après l'Echange de Notes, la JICA recommande le même consultant que celui qui a participé à l'étude du concept de

base afin d'assurer une cohérence technique entre l'étude du concept de base et le plan détaillé et d'éviter tout délai indu provoqué par la sélection d'un autre consultant.

3. Plan de l'aide financière non-remboursable du Japon

1) Qu'est qu'une aide financière non-remboursable?

Le Programme d'aide financière non-remboursable accorde au pays bénéficiaire des fonds non-remboursables qui permettront de fournir les installations, les équipements et les services (main d'oeuvre ou transport, etc.) pour le développement socio-économique du pays, selon les principes suivants et conformément aux lois et réglementations afférentes du Japon. L'aide financière non-remboursable n'est pas effectuée sous forme de don en nature au pays bénéficiaire.

2) Echange de Notes(E/N)

L'aide financière non-remboursable du Japon est accordée conformément aux Notes échangées entre les deux gouvernements et dans lesquelles sont confirmés, entre autres, les objectifs, la durée, les conditions et le montant de l'aide.

3) La "durée de l'aide" s'inscrit dans l'année fiscale dans laquelle le Conseil des ministres a approuvé le Projet. Toutes les procédures d'aide, Echange de Notes, conclusion des contrats avec le consultant et le contractant et paiement final à ceux-ci, doivent être achevées durant cette année fiscale.

Toutefois, en cas de retard lors de la livraison, de l'installation ou de la construction due à des éléments incontrôlables tels que les conditions météorologiques, la durée de l'aide financière non-remboursable pourra être prolongée d'une année fiscale supplémentaire après accord entre les deux gouvernements.

4) L'aide doit être en principe réservée exclusivement à l'achat de produits provenant du Japon ou du pays bénéficiaire, et aux services des ressortissants japonais ou du pays bénéficiaire.

Le terme "ressortissant japonais" signifie les personnes physiques japonaises ou les personnes morales japonaises dirigées par des personnes physiques japonaises.

Lorsque les deux gouvernements le jugent nécessaire, l'aide financière non-remboursable peut être utilisée pour les produits ou les services tel que le transport d'un pays tiers (autre que le Japon ou le

pays bénéficiaire).

Toutefois, dans le cadre de l'aide financière non-remboursable, les principaux contractants, à savoir le consultant, l'entrepreneur et la société de commerce nécessaires à l'exécution de l'aide doivent en principe être exclusivement des ressortissants japonais.

5) Nécessité de la vérification

Le gouvernement du pays bénéficiaire ou son représentant autorisé conclura les contrats en Yen japonais avec les ressortissants japonais. Ces contrats seront vérifiés par le gouvernement du Japon. Cette vérification est nécessaire car les fonds de l'aide financière non-remboursable proviennent des taxes des citoyens japonais.

6) Dispositions à prendre par le gouvernement du pays bénéficiaire

Lors de l'exécution de l'aide financière non-remboursable, le pays bénéficiaire devra prendre les dispositions suivantes:

- (1) Acquérir, dégager et niveler le terrain nécessaire pour les sites du Projet, avant le commencement des travaux de construction,
- (2) Assurer les installations de distribution d'électricité, d'approvisionnement et d'évacuation des eaux ainsi que les autres utilités nécessaires à l'intérieur et aux alentours du site,
- (3) Prévoir les bâtiments nécessaires avant les travaux d'installation dans le cas où le Projet consiste à fournir des équipements,
- (4) Prendre en charge la totalité des dépenses et l'exécution rapide du déchargement, du dédouanement dans le port de débarquement et le transport terrestre des produits achetés dans le cadre de l'aide financière non-remboursable,
- (5) Exonérer les ressortissants japonais de droits de douane, taxes intérieures et ou autres levées fiscales imposées dans le pays bénéficiaire eu égard à la fourniture des produits et des services spécifiés dans les contrats vérifiés,
- (6) Accorder aux ressortissants japonais dont les services pourraient être requis en relation avec la fourniture des produits et des services spécifiés dans les contrats vérifiés, toutes les facilités

nécessaires pour leur entrée et leur séjour dans le pays bénéficiaire pour l'exécution des travaux.

(7) "Usage adéquat"

Le pays bénéficiaire est requis d'entretenir et d'utiliser les installations construites et les équipements achetés dans le cadre de l'aide financière non-remboursable de manière adéquate et efficace et de désigner le personnel nécessaire pour le fonctionnement et la maintenance ainsi que de prendre en charge toutes les dépenses autres que celles couvertes par l'aide financière non-remboursable,

(8) "Réexportation"

Les produits achetés dans le cadre de l'aide financière non-remboursable ne doivent pas être réexportés à partir du pays bénéficiaire.

(9) Arrangement bancaire(A/B)

a) Le gouvernement du pays bénéficiaire ou son représentant autorisé devra ouvrir un compte à son nom dans une banque de change agréée au Japon (ci-après dénommée la "Banque"). Le gouvernement du Japon exécutera l'aide financière non-remboursable en procédant aux paiements en Yen japonais pour couvrir les obligations du gouvernement du pays bénéficiaire ou de son représentant autorisé conformément aux contrats vérifiés.

b) Les paiements seront effectués lorsque les demandes de paiement seront présentées par la Banque au gouvernement du Japon conformément à l'Autorisation de Paiement émise par le gouvernement du pays bénéficiaire ou de son représentant autorisé.

Principaux travaux à exécuter par chaque gouvernement

N°	Eléments	Couvert par la coopération financière non-remboursable	Couvert par le pays bénéficiaire
1.	Prise en charge des commissions suivantes de la banque de change japonaise pour les services bancaires basés sur les B.A		
	1) Commission de notification de l'A.P		●
	2) Commission de paiement		●
2.	Déchargement et dédouanement au port de débarquement du pays bénéficiaire		
	1) Transport vers le pays bénéficiaire par mer (air) de produits originaires du Japon	●	
	2) Exonération d'impôts et dédouanement des produits au port de débarquement du pays bénéficiaire		●
	3) Transport à l'intérieur du pays entre le port de débarquement et le site	●	●
3.	Accorder aux ressortissants japonais dont les services pourraient être requis dans le cadre de la fourniture des produits ou dans le cadre du contrat toute l'aide nécessaire pour assurer leur arrivée dans le pays bénéficiaire et y permettre leur séjour afin qu'ils puissent exécuter lesdits services.		●
4.	Exploitation en maintenance correcte et efficace des installations construites et des équipements fournis dans le cadre de la coopération financière non-remboursable.		●
5.	Prise en charge de toutes dépenses, autres que celles couvertes par la coopération financière non-remboursable, nécessaires à la construction des installations et au transport et montage des équipements.		●

Appendix 5 References

1. GUINEE, VISION 2010 (STRATEGIE DE DEVELOPPEMENT SOCIO - ECONOMIQUE AL'HORIZON 2010), VOLUME 1: STRATEGIE GLOBALE
2. GUINEE, VISION 2010 (STRATEGIE DE DEVELOPPEMENT SOCIO - ECONOMIQUE A L'HORIZON 2010), VOLUME 2: STRATEGIES SECTORIELLES ET REGIONALES
3. POLITIQUE SECTORIELLE DE SANTE 1997-2010
4. EXPERIENCES GUINEENNE DANS LA MISE EN OEUVRE SOINS DE SANTE PRIMAIRES "INITIATIVE DE BAMAKO"
5. RAPPORT ANNUAL 1999 DE L'INSPECTION REGIONALE DE LA SANTE DE KINDIA
6. PLAN D'OPERATIONS SECTORIAL 1997-2001, SANTE - NUTRITION, PERENNITE NUTRITION PROMOTION
7. FAC (FOUNDS D'AIDE A LA COOPPERATION)
INTERRVENTIONS DE LA COOPERATION FRANCAISE, DANS LE SECTEUR DE LA SANTE
8. FABRICATION D'UN INCINERATEUR
9. EXPERIENCE GUINEENNE DANS LA GESTION DU PEV DE ROUTINE
10. THE STATE OF THE WORLD'S CHILDREN 1998, 1999, 2000
11. IMMUNIZATION PROFILE - GUINEA, 1999

Appendix 6 Kerosene and Electronic Refrigerator Distribution Plan

No.	Prefecture	Health Center	Kerosene and Electronic Refrigerator	
			Quantity of replacements	Quantity of new units
1	Kindia	Manquépas	1	-
2		Cassia	1	-
3		Souguéta	1	-
4		Madina oula	1	-
5		Kolente	1	-
6		Friguiagbe	1	-
7		Molota	1	-
8		Bangouya	1	-
subtotal			8	-
9	Dubreka	Dubreka centre	1	-
10		Tanéné	1	-
11		Bady	1	-
12		Tondon	1	-
13		Faléssadé	1	-
14		Ouassou	1	-
subtotal			6	-
15	Coyah	Coyah centre	1	-
16		Manéah	1	-
17		Wonkifond	1	-
18		Kouriah	1	-
subtotal			4	-
19	Telimélé	Telimélé centre	1	-
20		Sinta	1	-
21		Kollet	1	-
22		Konsotamy	1	-
23		Santou	1	-
24		Missira	1	-
25		Sarékalé	1	-
26		Sogolon	1	-
27		Bourouwal	0	1
28		Gougoudjé	0	1
29		Koba	0	1
30		Tarihoye	0	1
subtotal			8	4
31	Forécariah	Foécariah centre	1	-
32		Maférinyah	1	-
33		Moussayah	1	-
34		Sikhourou	1	-
35		Benty	1	-
36		Famoriah	1	-
37		Kaback	1	-
38		Kakossa	1	-
39		Allasoya	0	1
subtotal			8	1
40	Boké	Boké centre	1	-
41		Kollaboundy	1	-

No.	Prefecture	Health Center	Kerosene and Electronic Refrigerator	
			Quantity of replacements	Quantity of new units
42	Boké	Sangaredie	1	-
43		Kanfarandé	1	-
44		Sansalé	0	1
subtotal			4	1
45	Boffa	Boffacentre	1	-
46		Tougnifily	1	-
47		Koba	1	-
48		Kolia	1	-
49		Douprou	1	-
50		Mankountan	1	-
51		Lysso	1	-
subtotal			7	-
52	Gaoual	Gaoual centre	1	-
53		Koumbia	1	-
54		Touba	1	-
55		Weendou M'boorou	1	-
56		Kakoni	1	-
subtotal			5	-
57	Koundara	Koundara center	1	-
58		Saré boïdho	1	-
59		Guingan	1	-
60		Termesse	1	-
61		Kamabi	1	-
62		Sambailo	1	-
63		Youkounkoun	1	-
subtotal			7	-
64	Labé	Leysaré	1	-
65		Daka	1	-
66		Bowloko	1	-
67		Daralabé	1	-
68		Kaalan	1	-
69		Diari	1	-
70		Kouramangui	1	-
71		Popodara	1	-
72		Sannou	1	-
73		Noussi	1	-
74		Dionfo	1	-
75		Hafia	1	-
76		Garambé	1	-
77		Tountouroun	1	-
78		Dalein	1	-
subtotal			15	-
79	Mali	Mali centre	1	-
80		Yembéring	1	-
81		Dougountounni	1	-
82		Donghel Sigon	1	-
83		Madina Wora	1	-
84		Téliré	1	-
85		Balaki	0	1
No.	Prefecture	Health Center	Kerosene and Electronic Refrigerator	

			Quantity of replacements	Quantity of new units
86	Mali	Touba	0	1
87		Salamandé	0	1
subtotal			6	3
88	Lélouma	Lélouma centre	1	-
89		Sagalé	1	-
90		Korbé	1	-
91		Tyagel Bori	1	-
92		Linsan Saran	1	-
93		Parawol	1	-
subtotal			6	-
94	Koubia	Koubia	1	-
95		Fafaya	1	-
96		Pilimili	1	-
97		Matakaou	1	-
98		Missira	1	-
99		Gadha Woundou	1	-
subtotal			6	-
100	Tougué	Tougué centre	1	-
101		Koin	1	-
102		Kollet	1	-
103		Konah	1	-
104		Fatako	1	-
105		Komatongo	1	-
106		Bourouwal	0	1
subtotal			6	1
107	Mamou	Mamou centre	1	-
108		Dounnet	1	-
109		Bouliwel	1	-
110		Porédaka	1	-
111		Saramoussayah	1	-
112		Timbo	1	-
113		Kégnéko	1	-
subtotal			7	-
114	Dalaba	Dalaba centre	1	-
115		Mitty	1	-
116		Ditinn	1	-
117		Kebaly	1	-
118		Bodié	1	-
119		Kankalabé	1	-
120		Kaala	1	-
121		Mombéya	1	-
122		Koba	1	-
123		Mafara	1	-
subtotal			10	-
124	Pita	Pita centre	1	-
125		Ninguélandé	1	-
126		Donghol Touma	1	-
127		Timbi Touni	1	-
128		Bantiguel	1	-

No.	Prefecture	Health Center	Kerosene and Electronic Refrigerator
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			Quantity of replacements	Quantity of new units
129	Pita	Sintaly	1	-
130		Timbi Madina	1	-
131		Bourouwal Tappé	1	-
132		Gongoré	1	-
133		Maci	1	-
subtotal			10	-
134	Faranah	Faranah centre	1	-
135		Banian	1	-
136		Maréla	1	-
137		Tiro	1	-
138		Héramakono	1	-
139		Sandénia	1	-
140		Nialia	1	-
141		Passaya	1	-
subtotal			8	-
142	Dabola	Dabola centre	1	-
143		Dogomet	1	-
144		Banko	1	-
145		Bissikrina	1	-
146		Kankama	1	-
subtotal			5	-
147	Kissidougou	Madina	1	-
148		Hermakono	1	-
149		Yombiro	1	-
150		Yendé Millimono	1	-
151		Banama	1	-
152		Kondiadou	1	-
153		Sangardo	1	-
154		Bardou	1	-
subtotal			8	-
155	Dinguiraye	Dinguiraye	1	-
156		Salouma	1	-
157		Kalinko	1	-
158		Dialakoro	1	-
159		Diatifère	1	-
subtotal			5	-
160	Kankan	Kabala	1	-
161		Salamani	1	-
162		Baténafadji	1	-
163		Tokounou	1	-
164		Karafamoriah	1	-
165		Balandou	1	-
166		Sabadou	1	-
167		Tinti Oulen	1	-
168		Boula	0	1
subtotal			8	1
169	Kérouané	Kérouané centre	1	-
170		Komodou	1	-
171		Damaro	1	-

No.	Prefecture	Health Center	Kerosene and Electronic Refrigerator
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			Quantity of replacements	Quantity of new units
subtotal			3	-
172	Siguiri	Siguiri Koro	1	-
173		Doko	1	-
174		Norassoba	1	-
175		Niandankoro	1	-
176		Franwalia	1	-
177		Kintinian	1	-
subtotal			6	-
178	Mandiana	Mandiana	1	-
179		Morodou	1	-
189		Nyantania	1	-
181		Koundian	1	-
182		Saladou	1	-
183		Koundianakoro	1	-
184		Kiniéran	1	-
185		Faralako	0	1
subtotal			7	1
186	Kouroussa	Kouroussa centre	1	-
187		Balato	1	-
188		Baro	1	-
189		Bafèlé	1	-
190		Cisseia	1	-
191		Koumana	1	-
192		Sanguiana	1	-
193		Kignero	1	-
194		Boula	0	1
subtotal			8	1
195	N'zerekore	Commercial	1	-
196		Gonia	1	-
197		Horoya	1	-
198		Mohomou	1	-
199		Dolota	1	-
200		Womey	1	-
201		Koropara	1	-
202		Palé	1	-
203		Goucké	1	-
204		Kobéla	1	-
205		Bounouma	1	-
206		Soulouta	1	-
207		Koulé	1	-
208		Yalenzou	1	-
subtotal			14	-
209	Gueckedou	Madina	1	-
210		Tékoulo	1	-
211		Guéndembou	1	-
212		Nongoa	1	-
213		Ouendé Kénéma	1	-
214		Fangamadou	1	-
215		Koundou	1	-

No.	Prefecture	Health Center	Kerosene and Electronic Refrigerator	
			Quantity of replacements	Quantity of new units

216	Gueckedou	Téméssadou	1	-
subtotal			8	-
217	Macenta	Hermakono	1	-
218		Bowa	1	-
219		Balizia	1	-
220		Boffossou	1	-
221		Binikala	1	-
222		Kouankan	1	-
223		Sérédou	1	-
224		Panziazou	1	-
225		Daro	1	-
226		Wassérédou	1	-
227		Patrice	1	-
subtotal			11	-
228	Lola	Lola centre	1	-
229		N'zoo	1	-
230		Kokota	1	-
231		Gama	1	-
232		Bossou	1	-
subtotal			5	-
233	Beyla	Beyla centre	1	-
234		Boola	1	-
235		Sinko	1	-
236		Sokourala	1	-
237		Fouala	1	-
238		Gbéssoba	1	-
239		Koumandou	1	-
subtotal			7	-
240	Kaloum	Kassa	1	-
241		Boulbinet	1	-
242		Kouléwondy	1	-
subtotal			3	-
243	Ratoma	Sonfonia	1	-
244		Lambandji	1	-
245		Simbaya Gare	1	-
246		Kobaya	1	-
subtotal			4	-
247	Matam	Madina	1	-
subtotal			1	-
248	Dixinn	Dixinn	1	-
subtotal			1	-
249	Matoto	Matoto	1	-
250		Gbéssia port	1	-
subtotal			2	-
		subtotal	237	13
		Total	250	