

Internal Ex-Post Evaluation for Grant Aid Project

conducted by Madagascar Office: January, 2014

Country Name	Project for Reinforcement of Expanded Programme on Immunization
Republic of Madagascar	(Le Projet de Renforcement du Programme Elargi de Vaccination)

I. Project Outline

Background	In the Madagascar National Action Plan 2007-2012 (MAP: Plan d'action pour Madagascar), the reduction of infant mortality by half was one of the national goals of the health sector. The promotion of the Expanded Programme on Immunization has been prioritized to achieve the national goal. Preventive care, including vaccination, has been one of key activities to reinforce disease control. As a part of infectious disease control, it was necessary to improve vaccine management by the increased coverage of cold chain in order to increase child vaccination rate. However, the limited budget constrained to replace the aged cold chains and to newly install them at the health institutions not equipped.		
Objectives of the Project	To improve in the vaccine storage capacity of health institutions by replacement and installation of cold chain equipment at the target health institutions (note 1) in Madagascar, and thereby contributing to an increase in child vaccination rate. (note 1) 568 sites of the all the 22 Regional Office of Health and Family Planning (DRSPF: Directions Régionales de la Santé et Planning Familial), all the 87 District Service of Health and Family Planning (SDSPF: Service de District de la Santé et Planning Familial), 42 District Hospitals (CHD: Centre Hospitalier de District), 414 Basic Health Centers (CSB: Centre de Santé de Base), 1 Regional Reference Hospital (CHRR: Center Hospitalier Régional de Référence), 1 Pediatric Hospital (CHP: Centre Hospitalier Pédiatrique), and Service of Vaccination of Ministry of Health, Family Planning and Social Protection (SV: le Service de la Vaccination)		
Outputs of the Project	1. Project Site: the whole country of Madagascar 2. Japanese side 657 items of cold chain equipment, including switching type of electric refrigerator-freezers, electric refrigerator-freezers, electric/oil type refrigerator-freezers for ice packs, solar battery type refrigerator-freezers for ice packs) 3. Malagasy side: Clearance of existing equipment and preparation of installed places.		
E/N Date	June 12, 2008	Completion Date	September 21, 2009
Project Cost	E/N Grant Limit: : 228 million yen, Contract Amount: 175 million yen		
Implementing Agency	Implementing Agency : Division of Vaccination (SV: Service of Vaccination), Ministry of Public Health (the former Ministry of Health, Family Planning and Social Protection)		
Contracted Agencies	ITEC Corporation, Toyota Tsusho Corporation		
Related Studies	Basic Design Study: October 2007 – April 2008		
Related Projects (if any)	Japan's Cooperation: • Expanded Programme of Immunization (EPI) (Grant Aid, 2003) Other Donors' Cooperation: • Support on Expanded Programme on Immunization (World Health Organization, 2006-now) • Support on Expanded Programme on Immunization (UNICEF, 2007-now) • Immunization Service Support (Global Alliance for Vaccines and Immunization (GAVI), 2001-now)		

II. Result of the Evaluation¹

1 Relevance
This project has been highly consistent with Madagascar's development policy, such as reduction of under 5 mortality rate and increase in the portion of children vaccinated for all target infectious diseases under the Madagascar National Action Plan 2007-2012, and development needs to increase storage capacity of cold chain equipment for vaccines, as well as Japan's ODA policy to support improvement of healthcare situation. Therefore, relevance of this project is high.
2 Effectiveness/Impact
The project has partially achieved its objectives, "to improve the vaccine storage capacity of health institutions by replacement and installation of cold chain equipment at the target health institutions in Madagascar." According to SV, the Majority of the target health institutions which received cold chain equipment have utilized the equipment for storage of vaccines. The total number of health institution equipped with cold chain equipment increased from 1,753 in 2007 to 2,383 in 2013 and exceeded the target value in 2010*. The Week for Mother and Child health (SSME: Semaine de la Santé de la Mère et de l'Enfant) has been carried out twice a year in order to increase the vaccination ratio in Madagascar. However, the site survey for this ex-post evaluation found some broken cold chain equipment other than the 2 broken cold chain recorded in the report of SV. The fact indicates the possibility that reporting and monitoring of cold chain equipment at

¹ The site survey for this ex-post evaluation covered only 10 health centers.

health institutions is not done appropriately. Regarding indicator 3, the coverage ratio of health institutions with well-functioning cold chain equipment was expected to reach 92% in 2010 from 78% in 2007. In 2013, this ratio was calculated as 61% **. The capacity of cold chain equipment was 58% of the planned volume in 2013 which was lower than the target rate of 70% despite that the actual volume of vaccine stocked in 2013 considerably exceeded the planned volume. On the other hand, according to SV, CSBII Isotry Annexe and DRSP Vakinankaratra, the disposal rates of vaccines have generally been in declining trend to level expected at the time of installation of cold chain equipment. As for impact, the vaccination rate for the target infectious diseases dramatically improved during the period from 2007 to 2012: 72% to 78% for BCG, 59% to 84% for Measles, 63% to 86% for Polio, 0% to 86% for Hib type B. The expansion of vaccination attributed not only to the enhanced capacity of vaccine storage by cold chain equipment but also to sufficient procurement of vaccines supported by such donors as UNICEF, WHO and the GAVI Alliance. Therefore, effectiveness/impact of this project is fair.

Quantitative Effects

Indicators	(Before the project) 2007 Actual	(After the project) 2010 Planned	2010 Actual	(Ex-post Evaluation) 2013 Actual
Indicator 1: No. of cold chain equipment installed by the project which are utilized for storage of vaccines	-	657	657	655
Indicator 2: No. of health institutions equipped with cold chain equipment*	1,753	2,059	2,059	2,383*
Indicator 3: Coverage ratio of health institutions with well-functioning cold chain equipment	78%**	92%**	N.A.	61%**
Indicator 4: The proportion of capacity of cold chain equipment against the planned volume of vaccines	-	70% (19,345,000cm ³ ***/ 27,632,216cm ³)	-	58% (19 345 000 cm ³ ***/ 33,080,000cm ³)
Indicator 5: Volume of vaccine stocked	-	(planned volume: 27,632,216cm ³)	56,057,000cm ³	47,590,000cm ³
Indicator 6: The proportion of actual volume of vaccines stocked against the planned volume	-	-	181.88%	143.86%

Source : Data provided by SV, CSBII Isotry Annexe, and DRSP Vakinankaratra

Note:* 2,383 health institutions with cold chain equipment among the total number of health institutions of 2,863 in Madagascar.

2,383 consist of 2,059 contributed by the project and 324 by another donor (UNICEF).

** 61% is "effective coverage" of cold chain, which is the percentage of health centers with functional cold chain. All equipment aged more than 8 years are considered as nonfunctional. The data of 2007(78%) and 2010(92%) were not calculated by the same denominator and principle as those of 2013.

*** This is based on the capacity of 2,059 health institutions targeted by the project.

3 Efficiency

Although the project cost was within the plan (ratio against the plan: 77%), project period exceeded the plan (ratio against the plan: 147%) due to the delay in delivery of equipment to some target health institutions caused by the limited accessibility in rainy season and the procedure requiring long process of budget disbursement of the Malagasy side. The outputs of the project were produced as planned. Therefore, efficiency of this project is fair.

4 Sustainability

The operation of cold chain equipment provided by the project has been carried out by each target health institution and SV while the EPI staff (le responsable PEV: Programme Enlargi Vaccination) at district level are responsible for the basic maintenance of facilities of CBSs. The current healthcare service system has been well-functioning to implement the Expanded Program on Immunization (EPI) in Madagascar. Also, the advanced strategy of "ACD (Atteindre chaque District) and ACV (Atteindre chaque Village)" (Reach to each district and reach to each village) endorsed promotion of vaccination throughout the country. Cold chain equipment, including refrigerators and freezers, do not require specialized knowledge and skills to use. Also, the EPI staff and technician of the Division of Facilities, Equipment and Maintenance (SIEM: Service des Infrastructures, Equipments et Maintenance) of the Ministry of Public Health have sufficient knowledge and skills to check and repair cold chain equipment. Also the medical staffs have been well trained and have sufficient knowledge and skills to implement EPI. As for the financial aspect, around 2 million MGA has been allocated to cover the maintenance cost since 2008. However, the budget to cover fuel cost is not sufficient and some health institutions have difficulty to afford fuel cost for the equipment. Although the majority of cold chain equipment has been fully utilized, some of them have been broken and not repaired. Unstable voltage can be one of the reasons for the troubles of electric refrigerators and freezers. The sharp increase in the fuel price and the shortage of electricity in rural areas has constrained full utilization of the equipment. In the case that the equipment cannot be used, the health staffs need to transfer vaccines to the nearest health institutions equipped with the cold chain equipment. As there are some problems in the financial aspects and the current status of operation and maintenance, the sustainability of this project effect is fair.

5 Summary of the Evaluation

The project has partly achieved its objective, “to improve in the vaccine storage capacity of health institutions” since the installation of cold chain equipment provided by the project partially contributed to the increase in the volume of vaccine stocked in Madagascar. Therefore, effectiveness/impact of this project is fair.

As for sustainability, there is no problem in maintaining cold chain equipment and implementing EPI in terms of institutional and technical sustainability, as the health care system have been well-functioning and the health staff and the technical staff has been well-trained. However, there are some minor problems observed in terms of financial aspect and current status of operation and maintenance due to the insufficient budget to procure vaccines and to cover maintenance cost for cold chain equipment and some malfunctioning cold chain equipment. As for efficiency, the project period exceeded the plan due to the procedure requiring the long process of budget disbursement.

In light of the above, this project is evaluated to be partially satisfactory.

III. Recommendations & Lessons Learned

Recommendations to implementing agency:

- For full utilization of cold chain equipment installed by the project, it is necessary to ensure budget to cover the cost of operation and maintenance, including fuel and repair.
- For stable supply of vaccines, it is recommended to elaborate procurement plan of vaccines including budgeting and to consult with the donors to support EPI if necessary.

Lessons learned for JICA:

- At the planning stage, the specifications of cold chain equipment should have been more carefully considered in order to fully utilize cold chain equipment to keep quality of vaccines in any conditions. In order to cope with unstable electricity supply or higher fuel cost, it is better to add some back-up energy source such as solar power (PV) system.



The refrigerator donated by the Project



Health Center where Cold Chain was installed