Review of 'Imunizasaun Proteje Labarik' Project
In the
Democratic Republic of Timor-Leste

Program Review Report

17 September - 21 October 2013

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List of Acronyms and Abbreviations

BSP:	Basic Service Package
CCT:	Clinic Café Timor
CCVM:	Cold Chain and Vaccine Management
CHC:	Community Health Center
DHS:	District Health Service
DPHO:	District Public Health Officer
DPT3:	Third dose of Diphtheria, Pertussis and Tetanus Vaccine
EPI:	Expanded Program on Immunization
GAVI:	Global Alliance for Vaccines and Immunization
Hib:	*Haemophilus influenzae* type b
HIP:	Health Improvement Project (local known as HADIAK)
HMIS:	Health Management Information System
HP:	Health Post
HSS:	Health System Strengthening
IIP:	Immunization In Practice
INS:	*Instituto Nacional da Saude* (National Health [training] Institute)
JSI:	John Snow, Inc.
MCC-TPI:	Millennium Challenge Corporation – Threshold Program on Immunization
MCH:	Maternal and Child Health
MCHIP:	Maternal and Child Health Integrated Program
MDM:	*Medicos do Mundo*
MLM:	Mid-Level Management
MOE:	Ministry of Education
MOH:	Ministry of Health
NGO:	Nongovernmental Organization
PMP:	Project Monitoring Plan
PSF:	*Promotor Saúde Familia* (Community Health Volunteer)
RDTL:	Democratic Republic of Timor-Leste
RSF:	Family Health Register
SISCa:	*Serviço Integrado da Saúde Comunitária*
SS:	Supportive Supervision
TAIS:	Predecessor USAID-funded child health project
TLDHS:	Timor-Leste Demographic and Health Survey
UNICEF:	United Nations Children's Fund
USAID:	United States Agency for International Development
WHO:	World Health Organization

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Acknowledgments

This review was planned by Ms. Kathleen O'Hara, Australian Red Cross Volunteer, and Dr. Ruhul Amin, Chief of Party, with support from MCHIP headquarters. Two Timorese consultants served as data collectors: Ms. Cesaltina Soares Amaral and Ms. Simforosa De Deus Soares. The data were analyzed by Mr. Gordon A. Larsen, International Consultant, and Mr. Agustinho Caet and Mr. Emilio de Araujo Tilman, local consultants. The report was drafted by Mr. Larsen, with contributions and editing by project staff in Timor-Leste and MCHIP staff in Washington, DC.

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Disclaimer

Executive Summary

The Millennium Challenge Corporation's Threshold Project on Immunization in Timor-Leste was implemented by John Snow, Inc., through USAID's global Maternal and Child Integrated Program (MCHIP), from April 2011 to October 2013. Known as *Imunizasaun Proteje Labarik* (Immunization Protects Children or IPL), the project worked in partnership with the Ministry of Health (MOH) at national, district, and local levels to increase child immunization coverage.

As the end of implementation approached, IPL, with endorsement from the MOH and other national partners, agreed to undertake a "program review" aimed at extracting lessons learned and recommendations for continuing and expanding IPL's tools and approaches. Project staff, supported by an Australian Red Cross volunteer, designed the study and drafted interview guides. The project contracted a team of Timorese consultants and one international consultant to implement the study, analyze the data, and draft a program review report. The field work – interviews and group discussions at national, district, and local levels – took place in September and October 2013. A draft report was ready in early November, and the main results and recommendations were presented to USAID on October 31 and to a large workshop of partners, including representatives of many of the country's 65 community health centers, on November 13-14.

The document review encompassed IPL studies and reports, MOH reports, supportive supervision checklists and reports, and others. The interviews and discussions took place at national level and in four districts selected to represent the seven IPL focus districts.

IPL did not achieve its extremely ambitious goal of raising the national average of DTP3 and measles vaccination in infants from 67.5% to 81.5%. However, it might have achieved that coverage target in its seven focus districts and come close nationally had there not been a national stock-out of measles vaccine in the first half of 2013. Various analyses of vaccination coverage, including comparisons between IPL and non-IPL focus districts and analyses based solely on numbers of children vaccinated (a logical approach, given the unreliability and yearly ups and downs in target populations), show significantly better coverage in IPL districts.

The review found that in general, IPL was viewed as a very effective project and that this was the result of its very collaborative working relationships and of the project's balanced approach that addressed both the supply (immunization services) and demand (public understanding and participation) deficiencies. IPL's tools and approaches were generally viewed positively at all levels, although many were more valued by respondents at sub-district and *suco* levels, which were most directly involved. IPL's major activities are summarized briefly below.

Micro-planning: IPL worked with national partners to adapt the standard WHO micro-planning guidelines, then helped facilitate annual micro-planning and quarterly updates at district and sub-district levels.
Support to community-based services and outreach: This support included resources (new motorcycles and gasoline) as well as practical assistance (transport in project vehicles, help in vehicle management and providing services) and mentoring of health staff and volunteers.
Performance improvement: IPL helped develop standard tools for supportive supervision at district, sub-district, and outreach levels and participated in most SS visits. The project also mentored local staff and participated in in-service training.

Community monitoring: The project introduced a tool that enabled local volunteers to monitor vaccinations of their community's infants and guided home visits to motivate parents when a child fell behind.
Information and registration: IPL designed new tools (a *suco*-level vaccination register, an out-of-catchment-area form) and also worked to improve staff skills in registering, reporting, using the immunization monitoring chart, among other key skills.
Community leader training: Project staff gave day-long training sessions on immunization and other health topics to community leaders in many low-coverage *sucos*.
School orientations: IPL gave orientations on vaccination and other health topics in middle schools throughout its focus districts.
Advocacy and communication: As a member of the high-level national EPI Working Group[1], IPL joined other partners to provide regular support and guidance to the MOH and played an active role in reviewing and formulating policy papers, strategic guidelines, and training and communication materials for both EPI and for the wider health system. IPL participated actively in special national-level EPI initiatives.

The review respondents considered IPL's support for micro-planning as the most effective of IPL's interventions, with 93% ranking it among the top four. Support to outreach and community-based services, the community monitoring tool, and supportive supervision were seen as top interventions by 64% of respondents. These were followed by the support to monitoring and reporting of immunization coverage, health workers training, and to CHCs to coordinate and collaborate on yearly implementation planning, with 43%, 29%, and 21% responses respectively. School orientations on immunization were viewed as less critical in the short run but as having long-term benefits.

[1] The EPI WG is a committee consisting of the MOH/EPI, UNICEF, WHO, INS, and a few additional immunization partners, including IPL. The group normally meets monthly to discuss technical, policy, and practical issues related to the national immunization program.

1. Introduction

The Government of Timor-Leste and its Ministry of Health (MOH) are committed to improving the health status of all East Timorese people, and the Expanded Program on Immunization (EPI) is considered central to this effort. The MOH works with various partners to overcome enormous challenges, including a scattered population, many hard-to-reach areas, low rates of public access to health services, limited health facilities with poor capacity to offer quality health services, difficult communications and limited management capacity. In spite of the many challenges, great progress has been made in health and development over the decade since independence. Access to basic health services has improved, immunization coverage rates for children have risen, and the Millennium Development Goals for infant and under five-year old mortality rates have been reached. An increasing number of births are supervised by health care professionals, contraceptive prevalence rates have increased, and the total fertility and population growth rates and maternal mortality ratio have all declined significantly. Aiming to further increase immunization coverage, the MOH gives priority to improving service access for previously unreached communities and by promoting active community participation and mobilization.

Funded by the Millennium Challenge Corporation (MCC), through its Threshold Project on Immunization (MCC-TPI), *Imunizasaun Proteje Labarik* (IPL) provides support to the MOH with the aims of improving immunization coverage and strengthening routine immunization services. The main project goal is to reach the MCC 'Immunization Coverage' target indicator, which is defined as the average of DPT3[2] and measles coverage rates in a number of countries receiving MCC support. At project start-up, the MCC target indicator to be reached over the project lifetime was an average DPT3 /measles coverage rate of 81.5%. The project is administered by John Snow, Inc. (JSI) as a partner in the Maternal and Child Health Integrated Program (MCHIP), with local oversight by USAID. IPL was funded for a 27-month implementation period, beginning in April 2011. It was later granted a six-month, no-cost extension, which re-scheduled completion of the implementation phase to 31 October 2013 and the final administrative and financial close-down to 13 December 2013.

2. Background

The Democratic Republic of Timor-Leste (RDTL) finally restored independence in 2002 after decades of conflict. The country covers the eastern half of the island of Timor, the nearby islands of Atauro and Jaco, and the district of Oecussi, a separate exclave within the Indonesian province of West Timor located some 60 km inside Indonesia. The total land area is 14,870 sq. km, and a 2010 national census showed a population of 1,066,409, with an estimated 42,188 children below one-year of age. The republic is classified as a 'least developed, lower-middle income country' on the UN Human Development Index (2013), with a GDP per capita estimated at US$ 1,709 and an infant mortality rate of 46 per 1,000 live births, both for 2013.

[2]Third dose of diphtheria-pertussis-tetanus containing vaccine.

3. Immunization Services in Timor-Leste

Immunization services in Timor-Leste were developed initially in the 1980s during the period of Indonesian occupation, but were increasingly disrupted during a long struggle for independence and effectively halted by 1999. Services were revived once independence was achieved in 2002, but as much infrastructure and system capacity had been destroyed or lost, considerable efforts were required to rebuild the system, an effort that continues until the present day. The national immunization schedule adopted is in accordance with WHO global recommendations (**Table 1**). The DPT vaccine originally used was progressively upgraded to the DPT-HB (DPT + hepatitis B) vaccine in 2008, and more recently to the DPT-HB-Hib (pentavalent) vaccine in 2012. The pentavalent vaccine is funded through GAVI for the period 2012-2016, but all other vaccines and immunization supplies are funded by the government and supplied through UNICEF procurement services.

Table 1: Timor-Leste National Immunization Schedule, 2012

Vaccines	No. of Doses	Ages of Administration
BCG	1	As soon as possible after birth; 0 - 1 year
DPT-HepB-Hib	3	6 weeks, 10 weeks, 14 weeks
OPV	4	0-2 weeks, 6 weeks, 10 weeks, 14 weeks
Measles	1	9 months
TT	5	Pregnant women; 1st contact + 1 month + 6 months + 1 year + 1 year

Administrative and official immunization coverage rates in infants are among the lowest in the South-East Asia region. Official MOH data for the main EPI antigens, as reported to WHO and published on the WHO website for the period since independence, are as shown in **Table 2**. It will be noted that until 2012, rates for all antigens had steadily declined from 2008 onwards, and most were well below the levels reached in 2003. Reported data for 2012 shows a sharp increase over 2011. However, WHO/UNICEF estimated rates, which based on but sometimes differ from reported MOH data, show no increase between 2011 and 2012, except for a small rise in BCG.

Immunization coverage rates in Timor-Leste should not be considered as very precise, as there is rarely consistency in either target populations or in different sources of numerator data (immunization registers vs. Health Management Information System [HMIS] reports). The HMIS is responsible for collecting and compiling all official data on EPI coverage in RDTL, and all health facilities and districts report monthly on numbers of immunizations given. HMIS issues summary updates every three months and provides official country data annually via the WHO/UNICEF 'Joint Reporting Form'.

Table 2: Nationally Reported Immunization % Coverage in Infants, HMIS, 2002-2012

Antigen	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
BCG	71	68	71	71	85	74	74	70	72	80	83
DTP1	82	69	75	76	85	76	71	64	65	80	79
DTP3	83	67	72	72	79	70	63	55	57	70	57
OPV3	83	66	72	78	79	70	62	55	57	70	55
HB3	83	67	72	72	79	-	-	-	-	-	-
Measles	73	62	66	70	73	63	61	48	55	60	-
Av. DTP/M	**78.0**	**64.5**	**69.0**	**71.0**	**76.0**	**66.5**	**62.0**	**51.5**	**56.0**	**65.0**	

Values for the MCC 'Immunization Coverage' indicator (i.e., the average of DPT3 /measles coverage) are also shown in **Table 2**. At project start-up in 2011, IPL needed to raise the indicator by 17% to reach the target of 81.5%.

The RDTL health infrastructure comprises only three administrative levels – one national hospital located in the capital with five referral hospitals, 67 government community health centers (CHCs) located at sub-district level, and 192 health posts (HPs) at *suco* level. The MOH is generally under-funded and under-staffed in all areas, particularly in many rural locations, due to a concentration of staff in urban areas. The private sector, with 26 facilities, is estimated to provide around 25% of all basic health services in the country (although a much lower percentage of vaccinations).

Many CHCs offer daily immunization services, although some vaccinate only on a weekly basis. HPs, which function as an extension of CHCs in villages (*sucos*), offer basic primary health care services for populations of 1,000 to 5,000. Some HPs are staffed by a resident midwife, a nurse, or an assistant nurse, but others function only during monthly outreach activities, and in this case, vaccinators travel from the supervising CHC to provide immunization services. The vaccinators are either qualified nurses or midwives. The smallest rural community unit is the hamlet (*aldeia)*, and a typical *suco* may comprise five or more *aldeias*. The village chiefs (*chefes suco),* with the support of *suco* councils, coordinate all sector activities and programs at the village level and, through the hamlet chiefs *(chefes aldeia)*, communicate with the rural population.

In 2008, the MOH introduced an outreach community health service known as *Serviço Integrado da Saúde Comunitária* (*SISCa*), which offers integrated health services, including immunization, one day per month in every community down to *suco* level. Supervised from the CHC level, currently around 400 *SISCas* operate regularly, although it is estimated that only some 30% of *aldeias* have access to a *SISCa.* The majority of immunizations are given either in CHCs and *SISCa*s, or in more remote areas, by health workers who travel by motorcycle or car to provide integrated services every one to three months.

The national vaccine cold chain system comprises a central store in the capital with a walk-in cold room and chest freezer, refrigerators and freezers at district level, and refrigerators at CHCs. Some HPs also have refrigerators, but many use passive vaccine storage only during the outreach activities, when vaccines are carried from the supervising CHC facility by the vaccination teams. Most refrigerators below the district level are powered by LP gas, or increasingly, by solar energy, and both UNICEF and GAVI plan to expand the use of solar-powered refrigerators, at the periphery, to replace aging LP gas-operated equipment.

Management of vaccine stocks remains a critically weak area, and national supplies have been disrupted several times in recent years – BCG was completely out of stock for several months in 2012, and there was no measles vaccine from April to June 2013. The reporting forms examined for three districts show up to 550 immunizations given for most antigens in June 2013, but only one dose of measles given in all three districts. Even when adequate stocks are available, distribution of supplies from the national level appears to be highly inefficient, and district staff report that it is common for vaccines to arrive with very little of their useful shelf life remaining and with quality indicators showing that substantial heat exposure occurred before receipt. Cold chain monitoring and vaccine handling also appear seriously weak. Of six health facilities inspected during this review (3 CHCs and 3 HPs), none were found to keep regular temperature records for vaccine storage, and none kept any records of vaccine stocks. A CHC refrigerator thermometer showed -2^{o}C (below zero) and another showed above 12^{o}C, but health staff had apparently not noticed, showed no concern, and took no action. Vaccine quality was clearly at risk, and protection of those immunized could not be assured.

4. The Imunizasaun Proteje Labarik (IPL) Project

The purpose of the project was to assist the MOH to reverse the decline in national immunization coverage that was evident in reported data up to 2011, and to increase coverage to reach or exceed the MCC 'Immunization Coverage' indicator of 81.5%. The project targeted seven of the 13 districts in RDTL, namely Ainaro, Baucau, Dili, Ermera, Liquiça, Manufahi, and Viqueque, in which more than 65% of all infants and 75% of all under-vaccinated infants under one-year of age were believed to reside. (Beginning in June 2013, IPL expanded to work in two additional districts, Manatuto and Oecusse, in collaboration with HADIAK, the USAID-funded bilateral MCH project.) The health infrastructure within the seven project districts comprised a total of three hospitals, 35 CHCs, and 102 HPs. A complementary project goal was to strengthen EPI management to enable the MOH to sustain and expand on the gains and achievements secured during the IPL project lifetime. IPL aimed to reach these goals by focusing on four key programmatic areas of EPI, with a series of complementary project activities that would contribute to each of these main areas. These were:

6.2.1 Planning, Rationalizing and Expanding Immunization Services
- Introduction and support of micro-planning
- Expansion of services through developing health partnerships

6.2.2 Strengthening Program Management Capacity and Technical Skills
- Health worker training
- Supportive supervision, training and mentoring of vaccinators
- Community leader training on immunization

6.2.3 Strengthening Service Delivery
- Support to *SISCa*, mobile clinics and outreach
- Temporary attachment of Indonesian midwives

6.2.4 Monitoring and Reporting of Program Performance
- Community-based tracking of children's vaccinations through the Uma Imunizasaun (UI) tool
- District-level monitoring and reporting of immunization coverage

6.2.5 Immunization Orientation Program for Schools

While these were the approaches planned before IPL began, in fact the project also developed a major emphasis on promoting community demand and participation for vaccination. Community participation in micro-planning, community leader training, and use of the Uma Imunizasaun tool all contribute to strengthening demand, as does the project's initiative to orient school children on immunization. This latter activity will be discussed separately, as it does not fall neatly into one of the main categories.

IPL's main mechanism for offering support in the districts and sub-districts was the deployment of a team of field technical officers, with one officer based in each of the seven focus districts. These technical officers were supervised and coordinated by two field coordinators who covered three or four districts each and who acted as a link between project management in the capital and staff in the districts. One Dili-based technical coordinator supported and monitored the quality of different activities. Field staff generally spent 75% of each month in their respective districts and 25% in Dili, where all project staff would assemble to review progress, discuss issues, and plan next steps. The management team comprised a project director/MCHIP country representative (known as the 'chief of party'), who was responsible for IPL overall, and a number of administrative, financial activities and supporting personnel with the assistance of an office manager. For the final six months of IPL's implementation phase, the project had additional support from a volunteer monitoring and evaluation officer from the Australian Red Cross's 'AVID' program.

From its outset, IPL tracked the implementation and progress made on its various activities through use of a detailed project monitoring plan (PMP). Updated and disseminated every quarter, the PMP provides information on a large number of key indicators that reflect the status and progress on the main project activities.

Shortly after beginning operations in early April 2011, IPL conducted a comprehensive baseline assessment of immunization services in the seven target districts. This was required for detailed planning of project activities and initiatives, and also to provide a basis for measuring progress and achievements. The study, which assessed immunization services in all seven districts and all 34 CHCs in the project area, included interviews with 250 *chefes suco*, 34 sub-district administrators or deputies, and 34 CHC directors and District Public Health Officers (DPHOs).

The assessment highlighted a number of critical weaknesses in existing immunization services, including low (and falling) coverage rates for the key EPI antigens, a fact that was manifested by an outbreak of measles while the study was actually in progress. Some key reasons identified for low coverage included weak community participation and mobilization for immunization: only 4% of *suco* councils had established health committees, only some 30% of *chefes suco* knew the schedule for *SISCas* in their area, less than 10% of family health registers (*RSFs*) were up-to-date, only some 55% of districts had established District Health Councils, and only 20% of health facilities or DHSs had developed micro-plans for 2011. For service delivery, it was noted that while the national EPI policy and Basic Service Package (BSP) recommended that all antigens be available daily in all CHCs, only 50% of the CHCs included were found to do this, while others offered only one or two antigens daily. This, along with staff shortages and fear of running out of vaccine, likely contributed to low immunization coverage rates in many locations.

In the area of vaccine management and logistics, the baseline report, citing a 2011 EVM assessment, noted important weakness in temperature monitoring, stock management and distribution management. Finally, for data management, the baseline noted apparent recording and reporting problems, with differences seen between coverage, as shown in CHC registers, for various antigens and that reported in the corresponding HMIS returns.

In addition to targeted activities in the seven focus districts, IPL also provided support to MOH at the national level, including assisting with a 2011 country-wide measles catch-up campaign; the 2012 introduction of DPT-HepB-Hib (pentavalent) vaccine to replace DPT-HepB, with efforts to resolve the 2013 crisis when measles vaccine was completely out of stock for several months; and joining with other partners, including WHO, UNICEF and USAID, as members of a standing high-level EPI working group. IPL and MOH staff were also involved in conducting a 2012 research study into service and user-related determinants of low vaccination coverage rates in an urban setting, entitled 'Factors Limiting Immunization Coverage in Urban Dili, Timor-Leste'. The findings guided a number of changes in the district intended to make services more convenient and accessible.

In the final months of IPL's operational phase, a plan was developed to extend activities into two more districts – Oecussi and Manatuto. Expansion to these areas was for two main reasons: 1) given the low immunization coverage in both districts, particularly in Oecussi, and its impact on national coverage rates, this was seen as important step towards reaching IPL's national goal; and 2) HADIAK, a sister USAID-funded project with an MCH/RH focus, was already implementing activities in both districts and could continue the use of IPL tools and approaches beyond the project's lifetime. In collaboration with HADIAK, IPL commenced work in both districts in June 2013 with a rapid assessment at each CHC. Activities undertaken in the two new districts included micro-planning support, community leader training, supportive supervision, school orientations and introducing the project's community-based

vaccination monitoring tool for *aldeias* (see below). Extra IPL staff were recruited to support the expansion, and IPL assisted HADIAK to prepare a new integrated micro-planning template that included MCH/RH activities.

Synopsis of IPL's Main Activities at District and Local Levels

Micro-planning: IPL worked with national partners to adapt the standard WHO micro-planning guidelines, then helped facilitate annual micro-planning at district and sub-district levels. This meant that for the first time local planning was data-based, and it was done by civil society representatives as well as health staff. Micro-planning resulted in better placement of existing community-based services and new outreach services. It also resulted in a better engagement of local leaders, who held health staff accountable when planned services were not provided.

Support to community-based services and outreach: This support included resources (new motorcycles and gasoline) as well as practical assistance (transport in project vehicles, help in vehicle management and providing services) and mentoring.

Performance improvement: IPL helped develop standard tools for district, sub-district, and outreach supportive supervision (SS) and participated in most SS visits. The project also mentored local staff and participated in formal in-service training on IIP, MLM, and CCVM.

Community monitoring: IPL adapted the My Village Is My Home from India and introduced it various pilot *sucos*. The tool enables community volunteers to list all infants, record the dates of each of their vaccinations, and make home visits to motivate parents when a child falls behind. The main objectives were community mobilization and building a sense of joint responsibility between communities and health staff for ensuring that every child is immunized. Through a partnership with an NGO, IPL helped expand the use of the tool to many more *sucos*.

Information and registration: These are quite weak areas in Timor-Leste. IPL developed new tools (a *suco*-level vaccination register, an out-of-catchment-area form) and also worked to improve staff skills in registering, reporting, using the immunization monitoring chart, etc.

Community leader training: IPL developed a one-day training package, including take-home materials (Q&A booklet, etc.) for community leaders (elected officials, lay church officers, teachers, and community health volunteers). Given in many low-coverage *sucos*, these sessions enabled the leaders to better promote vaccination in their communities and to respond to widespread concerns over side effects.

School orientations: In collaboration with the MOH and MOE, IPL developed a two-hour orientation on vaccination for middle school students and gave the sessions in most schools in its focus districts. The objectives were to increase students' knowledge and understanding, to encourage them to promote vaccination in their families and communities, and to make them better disposed to have their own children vaccinated.

5. The Project Review

As IPL approached the end of its implementation period, it proposed this review to assess its main tools and strategies and to determine which could and should be continued and replicated in the future. The review would also document intermediate impacts, outcomes and the lessons learned from IPL's interventions and give recommendations to the EPI Working Group on the future direction of support to EPI. This could be either through the MOH, through one or more of the current group of partners, or through follow-on funding mechanisms expected to become available (e.g., the GAVI- HSS funded project expected to begin in early 2014). The MOH and partners endorsed the objectives and proposed framework for the review, and WHO agreed to sponsor a final workshop to share its findings and disseminate recommendations.

The specific objectives of the review were to:

- analyze changes in immunization coverage occurring during program implementation and the extent to which they may be attributable to IPL support;
- describe IPL's contribution to tools and approaches for strengthening service delivery;
- document perceptions and views of stakeholders (including MOH, health staff and community members) on the effectiveness and quality of IPL support activities;
- identify problems, constraints and lessons learned;
- explore the effectiveness of IPL at national level in formulating policies, developing training materials and job aids, and in presenting relevant evidence for advocacy; and
- make recommendations regarding continuation of program strategies.

The methodology for the review was a combination of qualitative and quantitative modes of enquiry and assessment, and for the former, a series of structured interview questionnaires and focus group discussion guides were prepared, field tested and translated. Questionnaires used a mixture of both 'closed' and 'open-ended' type enquiries, designed to maximize the range of data collected, and for the 'closed' enquiries, multiple-choice, five-level responses are provided, ranging from 'extremely effective' and 'excellent quality' through 'uncertain' to 'not effective' and 'poor quality'.

As time and budget constraints did not permit qualitative assessments to be conducted in all of the IPL areas, four districts (Dili, Ermera, Manufahi, and Viqueque) were selected to represent the seven focus districts. The review protocol and sampling plan were endorsed by MOH and approved by the Internal Review Board (IRB), managed by John Snow, Incorporated (JSI), USA. For the quantitative component of the review, existing sources of information such as IPL's program monitoring reports and records, supportive supervision checklists, and HMIS updates were analyzed. To complement the review objectives, where possible, the review compared its findings with the baseline data and with data compiled in PMP updates at different periods during IPL's implementation phase.

Table 3: Study Sample

Types of Participants	Methodology	No. of Participants	IPL's activities which were reviewed
Community Leaders and PSF	Interviews	48	Community leader training and micro-planning
	Focus group discussions (FGDs)	45 (6 FGDs)	Uma Imunizasaun tool
Vaccinators	Interviews	16	Supportive supervision, training, micro-planning, outreach and SISCa, community leader training, and Uma Imunizasaun tool
Health Managers: DPHO, CHC Director/Deputy, DHS Director/Deputy	Interviews	16	Supportive supervision, training, micro-planning, outreach and SISCa, community leader training, Uma Imunizasaun tool , Indonesian midwives and school orientations
National Level: MOH and partners	Interviews	20: MOH (12) and Partners (8)	IPL's overall performance, effectiveness , supportive supervision, training, micro-planning, outreach and SISCa, community leader training, and Uma Imunizasaun tool

6. Review Results and Findings

Qualitative assessments in the four selected districts commenced in mid-September 2013 with two data collection teams working in parallel and each covering two districts. Interviews and focus group discussions were mostly conducted in accordance with the sampling plan (**Table 3**), but some intended interviewees were unavailable within the allotted timeframe, and some newly-appointed staff declined to be interviewed as they had not been involved in IPL activities. Data collection for the quantitative assessments commenced in late September 2013 and was mainly carried out at the central level through a review of official MOH records of immunization coverage in the RDTL and a study of available project reports, presentations and records of activities.

6.1 Changes in Immunization Coverage

HMIS data over the project implementation period was reviewed, and since IPL activities began in April 2011, data for 2010 were taken as the baseline for assessing project achievements. For 2013, 1st, 2nd and 3rd quarter data were available and reviewed. The dataset used to assess project achievements thus covered 1st January 2010 to 30 September 2013, and included both immunization coverage and numbers of children immunized. For graphical representations, data from 1st January 2006 to 30 December 2009 were also included to give a historical context, and it has been counted the first three quarters for 2013.

Figure 1: National Immunization Coverage: 2006-2013

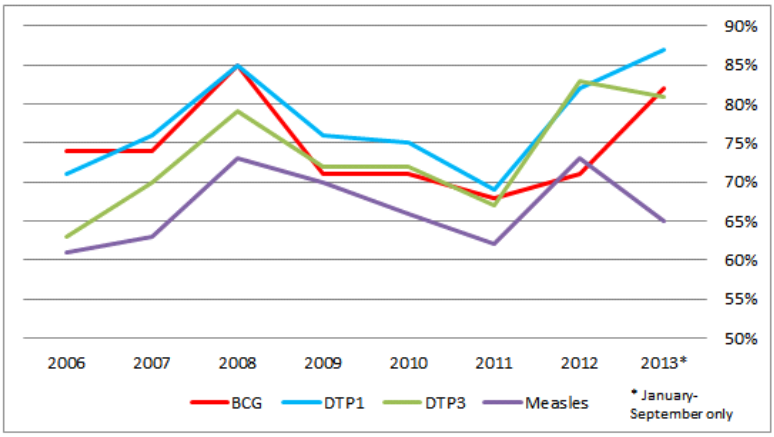
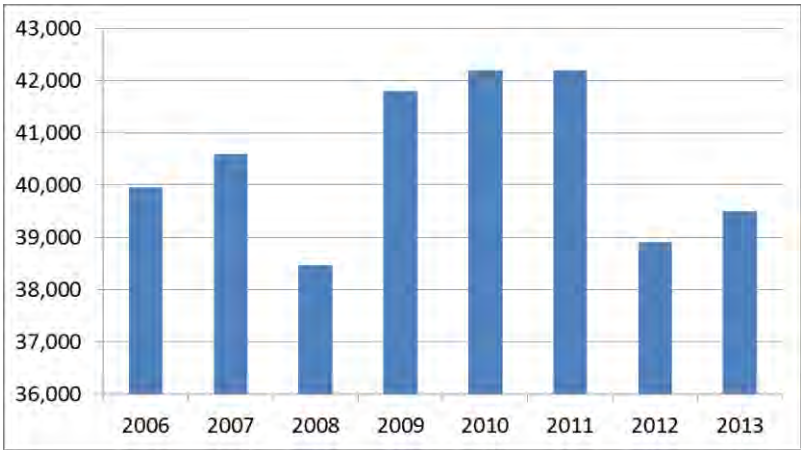


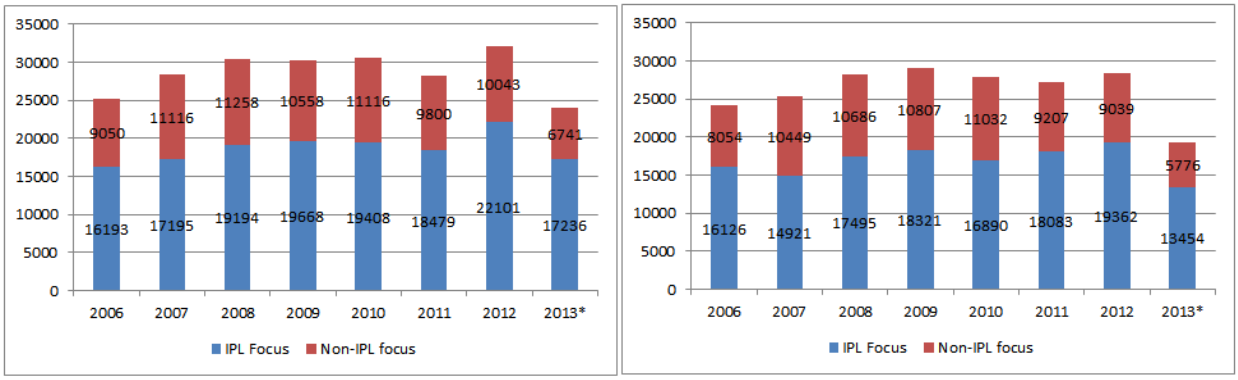
Figure 2: Population Target for Vaccination (<1 year) by Year



Changes in immunization coverage over IPL's lifetime, including the historical data, are shown in **Figure 1**. **Figure 1** confirms trends previously shown in **Table 2**, with rates for all antigens falling year-by-year from the highs reached in 2008 to a low in 2011, immediately prior to the start of IPL activities. The 2012 data show a sharp rise in coverage for all antigens, which coincided with IPL's field interventions. The dramatic fall of measles coverage rates in 2013 is due to measles vaccine being completely out of stock nationwide for much of the first six months in 2013, as noted above.

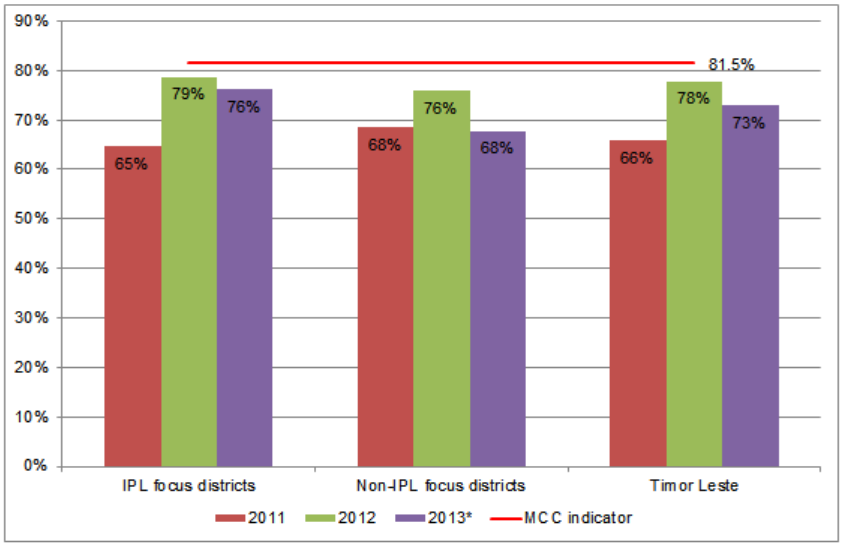
It will be noted that year-by-year changes are affected heavily by fluctuations in the official target population (**Figure 2**). Given the uncertainty over the "real" denominators, an analysis of the absolute numbers of children immunized over this period has been made. **Figure 3** shows that the total number of children who received DPT3 vaccine in 2012 is significantly higher than any other year and clearly increased more rapidly in the seven IPL focus districts than in the six non-focus districts. The gains continue into 2013 for some antigens, although the rate for penta 3 (i.e., DPT3-HepB3-Hib3) declines in **Figure 1** and only continues to rise in the seven IPL focus districts.

Figure 3: Absolute Number of Children Vaccinated: DPT3 (left) and Measles (right)



* January-September 2013

Figure 4: MCC 'Immunization Coverage' Indicator



Changes in the MCC 'Immunization Coverage' indicator over the lifetime of the project, together with historical data before IPL commenced, are shown in **Figure 4**. The indicator for all districts show a rise of some 13 percentage points between 2011 and 2012, corresponding to the initial implementation phase

of IPL's activities. The rise for the IPL focus districts alone is almost 16 percentage points over the same period, while that for the non-focus districts is only seven percentage points. All MCC indicators show a sharp fall in 2012-2013, however, again reflecting the national shortage of measles vaccine for the first half of 2013, as already mentioned. The maximum MCC indicator reached for all districts was 77.7%, and for the IPL districts alone was 78.6%, so both fell short of the MCC target of 81.5%. It will be noted that coverage of both 'penta 1' and 'penta 3' continues to rise in 2013 for the IPL districts, but the MCC indicator is inevitably pulled down by low measles coverage.

The extent to which these changes in immunization coverage are attributable to IPL support cannot be determined conclusively, although it seems very likely that this was a key contributing factor. It was noted, however, that while the MCC indicator increased by almost 16% between 2011 and 2012 in the seven IPL focus districts, it also increased by 7.4% points in the six non-focus districts over the same period. It thus appears that factors other than IPL support also played a part, and changes in target population were an obvious contributing factor. According to official data, target population in the six non-focus districts decreased by 9.6% between 2011 and 2012, and this more than offsets the 7.4% point gain in the MCC indicator over this period. For the IPL districts, the 15.9% rise in the MCC indicator between 2011 and 2012 will also be offset, but target population in this case decreased by only 6.9% over the period, so the overall result is still positive, with a net rise of 9%. Thus, the changes attributable to IPL support still appear to be significant, and while the individual effects of various interventions cannot be identified, it seems very likely that together, the package of activities was responsible.

It must be noted that all changes in immunization coverage are based on official HMIS reports and that the accuracy of these reports was one of the issues raised by the IPL baseline study. At that time, differences were noted between coverage data as recorded in CHC registers and coverage data according to HMIS reports for the same period. Clearly, such discrepancies could have been due to errors or omissions in the EPI records, or to errors or omissions in the HMIS reports, or to both.

During its implementation phase, IPL has supported MOH, DHS, CHC and the national EPI Working Group to improve recording and reporting on the immunization side by designing better registers and by strengthening routine collecting and compiling of EPI coverage data (see section 6.2.4 below). At the same time, WHO has supported the strengthening of data collection systems and procedures on the HMIS side, and in particular, the upgrading of technology for consolidating and transmitting data. Routine monthly data reporting guidelines for each level have been standardized. **Table 4** shows the periods in each month during which EPI data should be reported from each level.

Table 4: HMIS Data Collection System for EPI

Data sent from/to:	Reporting period:
SISCa's /HPs to CHC	1 to 3rd of each month
CHC to district (DHS)	4 to 5th of each month
District to central (HMIS)	6 to 10th of each month

As a result of the combined efforts of MOH and district officials, and with the support of IPL and WHO, the accuracy and timeliness of both HMIS reports and EPI registers hopefully have improved since 2011 when the discrepancies referred to in the IPL baseline report were noted. One innovation introduced by IPL in (sub-district) CHCs in its seven focus districts was *suco*-specific registers, which for the first time provided a convenient way to track coverage by *suco*. IPL also devised an "out of catchment area" form to enable CHCs in Dili district to easily exchange information on vaccinations given out of the child's home sub-district (an estimated 10% of the total).

6.2 Contribution to Tools and Approaches for Strengthening Service Delivery

When data from the qualitative assessments were reviewed, the most immediate finding was that responses during all structured interviews were overwhelmingly positive towards IPL support, irrespective of the level or location of the interviewee. Adverse or critical comments were relatively few and when they occurred, they were mostly implied rather than overt. This could be interpreted as a highly satisfactory and complimentary reflection on the project's activities and interventions, although it should be considered that in an Asian context, respondents are often anxious to give the "desired" response and reluctant to be directly or overly critical.
A summary of responses to the key 'closed' questions for the complete series of structured interviews was compiled, and for this, the original five-level responses were summarized into 'positive', 'negative' and 'no response' categories only. Thus, responses such as 'extremely effective', 'good quality' and 'agree' were all considered as positive, while those less decisive or neutral, such as 'slightly effective', 'low quality', or 'disagree' were classified as negative. The "uncertain" responses were classified as "no response" and were excluded from data analysis. The negative responses could obviously be interpreted either way, but it was decided to err on the conservative side, and classify any response that could not be clearly identified as a positive as being negative. All data were then further divided into the different categories of interviewees and by their responses to questions addressing the two main objectives of this review, namely, the perceived effectiveness and quality of IPL's support activities.

Each key IPL activity was then ranked by the number of responses received from across the series of structured interviews, in order to determine which interventions were seen by respondents as being the most effective and of highest quality. It was noted, however, that although questions relating to IPL's activities were generally similar across all questionnaires, the wording and responses elicited were often different, depending on which respondent group and which administrative level was being addressed. Therefore, grouping responses to similar questions was not entirely valid in all cases, and the resulting ranking of activities should be seen as a general overview of opinions, rather than an exact statement of fact. **Table 5** shows the results of ranking IPL activities by effectiveness according to views expressed by the MOH and national partners. They were asked to select top four activities among the 10 given options.

Table 5: IPL Activities Considered Most Effective

MOH/National Partners views*	
Support micro-planning with immunization focus	93%
Uma Imunizasaun Tool - Support communities track immunization coverage	64%
Supportive supervision	64%
Support *SISCa*, MC, outreach (motorbikes, fuel, transport & staff mentoring)	64%
Support community leader training in immunization	50%
Support monitoring and reporting of immunization coverage	43%
Support health worker training	29%
Support CHC to coordinate and collaborate yearly implementation planning	21%
Support school student immunization orientation	14%
Support to provide Indonesian midwives to CHC	14%
** Respondents selected their top 4 activities*	

The review respondents considered IPL's support for micro-planning as the most effective of IPL's interventions, with 93% ranking it among the top four. One health manager said "I give score of A+ to IPL as it really contributes to making quarterly plan." Support to *SISCa*, mobile clinics, and outreach (the provision of transport, fuel and mentoring), the Uma Imunizasaun tool (which enables communities to track their children's vaccinations), and supportive supervision were seen as top interventions by 64% of respondents. These were followed by the support to monitoring and reporting of immunization coverage, health workers training, and to CHCs to coordinate and collaborate on yearly implementation planning, with 43%, 29%, and 21% respectively. School orientations on immunization were viewed as less critical in the short run but as having long-term benefits. The temporary assignment of Indonesian midwives was considered a top four activity by only 14% each of persons interviewed.

Table 6: Strengths of IPL Program

MOH/National Partners views *	
Planning and coordination	100%
Transport and outreach support	85%
Communication	85%
Collaboration	69%
Management	54%
Leadership	54%
Technical officer competence	40%
** Respondents selected their top 4 characteristics*	

The same process was repeated for national respondents' perceptions of the strength of IPL activities, and results of this analysis are shown in **Table 6**. All respondents selected planning and coordination as the topmost strength of IPL. This was followed by the communication and transport support, each with an 85% score. Many participants mentioned that IPL focused specifically on immunization and that this really helped the Ministry of Health. The project scored fairly well on collaboration and management. Project aspects considered weaker were leadership, in particular district-level leadership, and technical officers' competence.

In addition to summarizing data from the qualitative assessments according to different criteria, each of the review teams assessed IPL's activities through available program data and specific responses from the qualitative assessments. As described above, IPL's activities focused on four key programmatic areas, and within each of these, a number of activities complemented and contributed to the main project goal of assisting the MOH to increase national immunization coverage rates. The following section summarizes feedback from the review on these four program areas and related activities.

6.2.1 Planning, Rationalizing and Expanding Immunization Services

Introduction and support of micro-planning. This was an incipient MOH activity prior to IPL's start-up in which CHC staff would meet quarterly to prepare micro-plans for their sub-district. IPL helped the MOH to revise and develop national-level micro-planning formats that focused on the use of data and catchment area maps to identify and target areas of low immunization coverage in order to develop

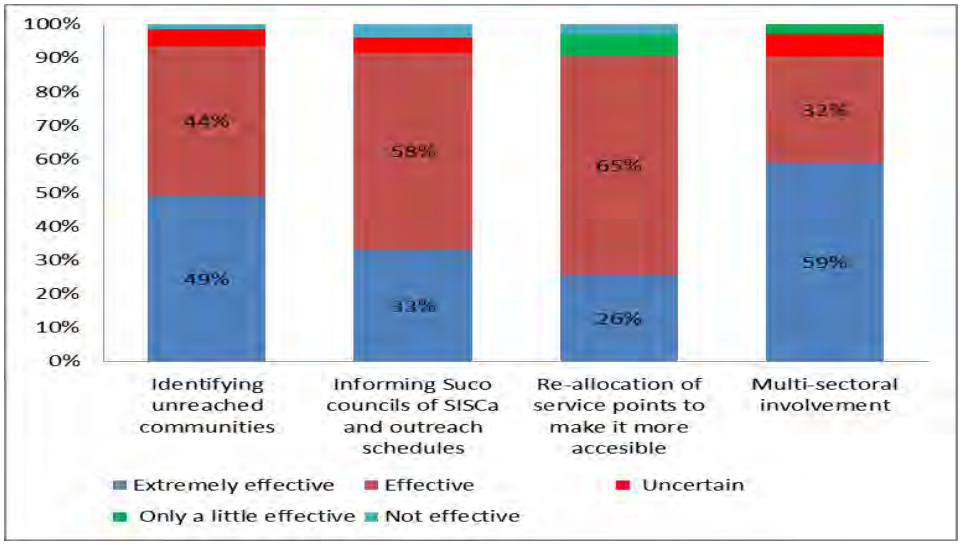
micro-plans appropriate to local needs. IPL also worked with CHC staff and local leaders to strengthen their skills and involvement in the planning process. Prior to IPL's input, community members did not participate in micro-plans. CHCs were encouraged to work closely with local leaders, including the *chefes suco*, *suco* council representatives and the PSF volunteers, as an essential step in ensuring local involvement and ownership of health and immunization services. Micro-planning was initially carried out only in the seven IPL focus districts, but once its effectiveness was shown, the national EPI Working Group, with support from WHO and UNICEF, decided to extend its use to the six non-focus districts from early 2013. The MOH and national partners have pledged to continue quarterly micro-planning in all CHCs in the country's 13 districts. **Table 7** compares the latest PMP data on this activity with the baseline situation as measured on IPL's start-up.

Table 7: Micro-Planning Indicators

Indicators	Baseline 2011	2012	2013	Change 2011-13
% CHCs with EPI micro-plans	19	97	92	+73
% Micro-planning meetings with *suco chefes*	47	97	92	+45

Feedback on the effectiveness and value of this activity was highly positive, and many respondents saw this as one of IPL's most successful interventions. Ninety-two percent of participants rated IPL's support to micro- planning as either "Extremely Effective" or "Effective". The majority of respondents rated this as extremely effective or effective in locating under-immunized communities, and 91% gave it a similar rating for identifying unreached communities, informing *suco* councils of *SISCa* and outreach schedules, re-allocating service points to make them more accessible, and multi-sectoral involvement (**Figure 5**). When participants were asked about the reasons for improved coverage in IPL-focused districts, one reason cited was that micro-planning involved community leaders. A health manager said: "If possible, continue these plans, as it helps health staff reach the most remote areas, identify and decide the place for outreach and resolve the problems."

Figure 5: Effectiveness of Micro-planning, All Respondents



Ninety-seven percent of respondents on micro-planning rated the quality of IPL support as excellent or

good, and 91% of community members considered this an important activity to mobilize their community. One community leader mentioned: "We need to continue micro-planning even when IPL stops because it helps communities increase their understanding on immunization." Many respondents said that micro-planning was an important activity to be continued in their districts after IPL's closure, and they perceived the following advantages from the micro-planning:

- It enables health workers to better perform their tasks.
- Health workers can now target the most remote areas, and cover areas not reached before.
- It helps to increase communities' awareness of the areas with low immunization.
- Local leaders can identify children in their own community who are missing immunizations and encourage them to get immunized.
- It reinforces good relations among health staff and community leaders.
- It promotes good collaboration as it involves many sectors.
- It increases leaders' commitment to having their communities protected from vaccine-preventable diseases.

Many respondents recommended initiating micro-planning at *suco* level, while some wanted to revise the micro-plan tool to ensure more participation of rural communities. They noted that sometimes the implementation of the activities did not comply with the planned schedule, which affected the CHC's relationship with community leaders. Some community leaders recommended that after making the plans, the CHC should implement them as scheduled. While follow-up was certainly a concern for IPL, the reasons for non-implementation, insufficient staff, transport, per diem, etc., were often beyond IPL's control.

Expansion of services through developing health partnerships. IPL has cooperated and developed partnerships with a number of organizations and projects, including HADIAK, a sister USAID-funded project with an MCH/RH focus, and Clinic Café Timor (CCT), a coffee-producers' cooperative that has established a number of health clinics. Active since October 2011, HADIAK is already implementing activities in a number of the IPL focus districts and could support and continue the use of IPL tools beyond the project's lifetime. To facilitate this, IPL assisted HADIAK with development of a new integrated micro-planning template for district use that includes MCH/RH as well as EPI indicators. This has been used in the two districts that both IPL and HADIAK support.

CCT clinics were originally set up for staff and workers in the coffee-growing areas but have since been made accessible to the public. They offer a range of health services, including immunization for children. IPL has cooperated with CCT to expand the use of its Uma Imunizasaun (UI) community-based tool for community monitoring of individual children's vaccinations. Through CCT, the tool has now been introduced into a further 26 *sucos* in three districts (see also section 6.2.4 below).

6.2.2 Strengthening Program Management Capacity and Technical Skills

Health worker training. IPL identified a number of health facilities with no staff member who had been formally trained on immunization. At the request of the MOH, IPL helped plan and facilitate refresher training courses for selected health staff from different levels, including CHC directors, immunization supervisors and vaccinators from HPs and hospitals in each of the seven focus districts. Training programs included the WHO-designed Immunization in Practice (IIP) and Cold Chain and Vaccine Management (CCVM) modules that have been adapted by the MOH. These refresher training sessions were held through a collaborative effort of the MOH, UNICEF, WHO, and IPL. **Table 8** illustrates the progress in numbers of staff in IPL focus districts that received training on IIP, CCVM and Cold Chain

Repair and Maintenance courses.

Table 8: Health Worker Training

	2012	2013
No. of staff trained on IIP	70	263
No. of staff trained on CCVM	27	263
No. of staff trained on CC R & M	1	0

'MOH and national partners' and IPL technical officers did not consider this training to be one of IPL's most effective activities. Respondents in the 'Health Managers' category were more positive, and more than three-quarters of vaccinators interviewed agreed that knowledge of immunization among vaccinators had increased as a result of IPL training programs, and 93% rated the quality of training provided as excellent or good.

Figure 6: Quality of Training

Supportive supervision, training and mentoring of vaccinators. IPL's predecessor project (the USAID-funded TAIS child health project) worked with the MOH to develop EPI SS tools and procedures. Together with the MOH, WHO, UNICEF, HADIAK, and MDM, IPL helped update this checklist and develop new formats to assess the quality of EPI service delivery and vaccinators' performance. New formats were also developed for EPI session observations. A data entry system in Microsoft Excel was created to monitor the progress. SS is now conducted quarterly with on-site visits by DPHO/IPL teams using the updated checklists to carry out a detailed assessment of health staff skills and performance and quality of service delivery.

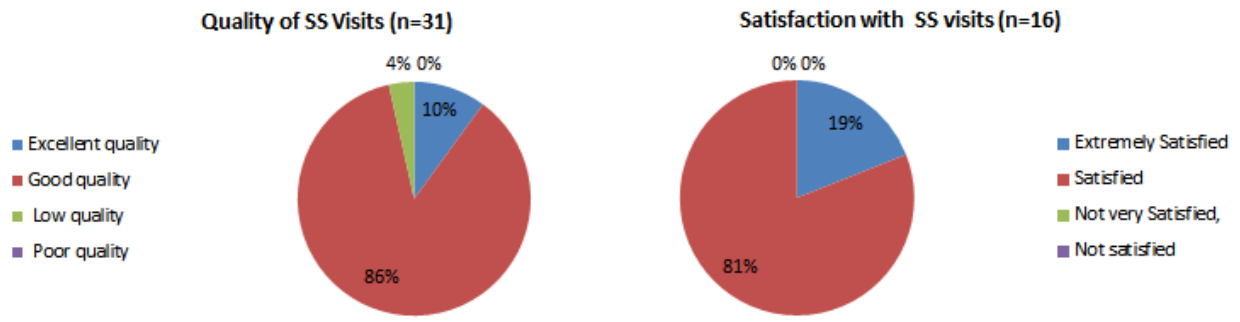
On-the-job training, mentoring and support were also provided for health staff to ensure that service delivery standards were maintained, and IPL assisted supervisors to build trust and confidence with vaccinators on the supportive nature of supervision. The project has also conducted training sessions for both supervisors and vaccinators. Both new and old SS tools were used by IPL during 2011-2013. The changes in the SS forms and systems did not allow the evaluation team to measure and compare the progress on several key areas of SS.

Table 9: Supportive Supervision

	2011	2012	2013
Total supervision visits paid at different health facilities	32	104	92
Improved vaccinator quality measures (average)	16%	55%	68%

Feedback on this activity was quite variable. Every vaccinator interviewed felt that SS should continue and that, if it were stopped, program implementation would suffer. This group also referred to new knowledge, information and experience they were exposed to as a result of SS visits, and suggested more mentoring to familiarize them with these ideas. One vaccinator said, "When many people come to *SISCa*, we sometimes forget to register the names, so they tell us to register, they have us sit with them and explain minor mistakes we've done and provide feedback on how to improve in the future." Another vaccinator mentioned: "I learned from them how to check temperature and check vaccines brought back from the field." The 16 vaccinators were asked four questions to assess their knowledge level and almost all of them answered all four knowledge questions correctly – just one wrong answer in total.

Figure 7: Quality and Satisfaction, Supportive Supervision



Although levels of perceived quality and satisfaction were very high among vaccinators and health manager, some respondents in the MOH and national partners' category considered the competence of IPL technical officers as limiting the impact of SS.

Community leader training on immunization. The project has supported local DHS and CHC health staff to provide training on immunization for *suco* leaders and other prominent community members. The purposes of such training are to educate leaders on the benefits of immunization and to encourage them to pass on this information to parents and caretakers so they will seek vaccination for their children. *Sucos* with low immunization coverage rates were prioritized for this training, and participants were the *chefes suco*, *chefes aldeia*, teachers, religious educators, youth and women council members and other key members of the community. This training program began in November 2011 and, close to the project end, had reached 138 out of 250 focus *sucos*. **Table 10** shows some changes in key indicators related to community leaders training.

Table 10: Community Leaders Training

	Baseline 2011	2013	Change 2011-13
% *suco* councils trained on EPI	0%	55%	+55%
% of *sucos* with PSF's trained on EPI	0%	55%	+55%

Community leaders in particular remarked that their learning about vaccination side effects enabled them to respond to common concerns of families in their communities. All community leaders considered this training an important way to educate and engage them. A leader mentioned during an

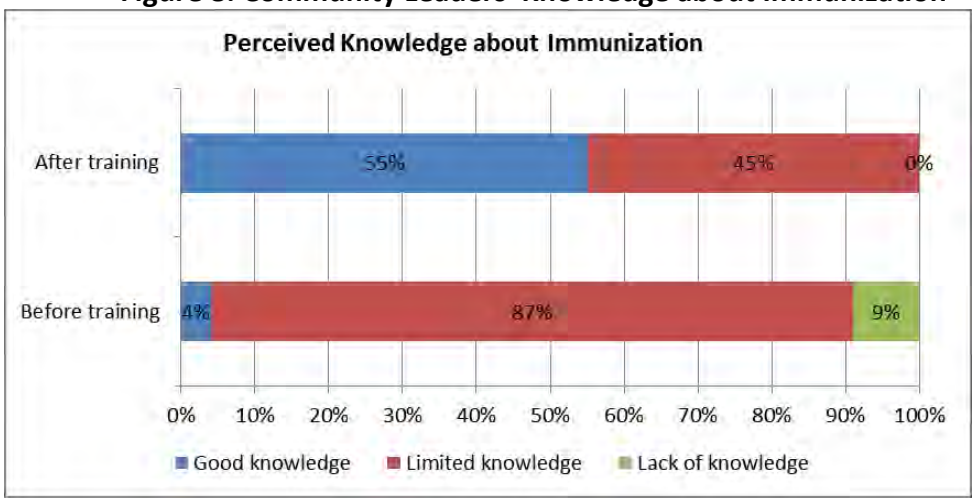
interview: "When there was a meeting ... I stood up and talked about the importance of encouraging the community to bring their children to be immunized." This was seen as a highly effective activity by the majority of respondents: overall 89% of respondents considered the training to be effective in educating and motivating leaders to mobilize their community to obtain immunization, and 100% rated it as being of high quality. However, the 'MOH and national partners' rated this initiative slightly lower than did other respondents (**Table 11**).

Table 11: Perceptions of Community Leader Training

	Community Leaders and PSF	Vaccinators	Health Managers	MOH & National Partners	Combined
Importance	N=48, 81% Extremely important, 19% Important	-	-	-	100%
Effectiveness	-	N= 15, 86% Extremely Effective or Effective	N=15, 100% Extremely Effective or Effective	N=17, 80% Extremely Effective or Effective	89%
Quality	-	-	N=14, 21% Excellent Quality, 79% Good Quality	-	100%

Figure 8 shows that participants of the community leader training perceived that they have better knowledge about basic immunization after attending the training. However, while most respondents (79%) knew the correct age for measles, half of them answered that two doses of pentavalent were needed instead of the required three. A majority mistakenly thought that the vaccination schedule included an antigen for malaria, but nearly all respondents (94%) knew that a mild fever following vaccination was normal.

Figure 8: Community Leaders' Knowledge about Immunization



A number of health managers and vaccinators commented that this activity should be continued. In addition, they suggested that such training:

- Be expanded to all *sucos*,
- Be conducted four times a year,
- Be more inclusive: invite youth, parents and community at large, as some leaders are passive and don't pass on information to the community,
- Be extended beyond one day, as this is not sufficient to absorb necessary information and knowledge related to immunization,
- Have more stakeholders involved.

6.2.3 Strengthening Service Delivery

Support to SISCa, mobile clinics and outreach. Beginning in 2012, IPL has supported the operation of mobile health clinics, outreach services and the *SISCa's* by providing motorcycles for transport, fuel and maintenance costs for operational activities, and technical mentoring for health staff to help improve their performance and strengthen services.

Table 12: Effectiveness and Quality of Support to SISCa and Outreach

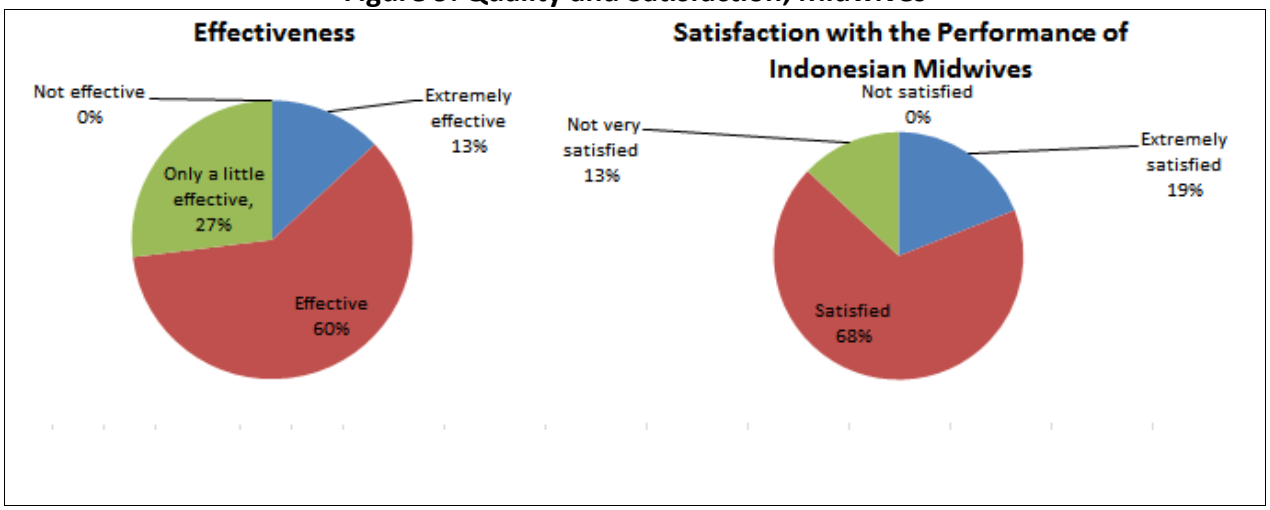
	Health Managers (n=16)	MOH/P (n=20)	Combined
Effectiveness of this support to improve immunization coverage	88% either "Extremely Effective or Effective"	97% either "Extremely Effective or Effective"	93%
Rate the quality of this IPL activity	88% either "Extremely Effective or Effective"	86% either "Extremely Effective or Effective"	87%

Feedback indicates that this is another highly successful and valued intervention, the second strongest of the IPL program according to the MOH and partners' staff (**Tables 5, 12**). Most respondents (both health managers and MOH and partners' staff) rated this as extremely effective or effective in improving immunization coverage and service quality for remote and previously underserved areas. The majority also considered the quality of IPL support as excellent or good for this activity, and comments from interviews noted that the support helped staff to manage time, resources and service locations, and that many children not previously reached in difficult areas were now identified and immunized. IPL staff were described as very active and supportive in the community, even on non-immunization issues. The type of transport provided was said to be very reliable and to help to fill an existing gap in MOH services, enabling outreach to be provided even to the most isolated communities.

IPL equipped vaccinators at different CHCs with 28 motorcycles in order to conduct more outreach sessions in-the-hard to reach *aldeias* and *sucos* that four wheel vehicles cannot access easily. CHC directors were responsible for managing the use of motorbikes. The bikes were kept in the office for the use of those who were responsible for immunization. One health manager said: "IPL really helps us with the provision of motorbikes, so now we can reach the unreached." However, many vaccinators claimed that they could not reach many communities with motorcycles due to poor road conditions. IPL wishes to donate all of the 28 motorcycles to the MOH. Many respondents were concerned with who would continue to provide fuel and maintenance after IPL. Some respondents claimed that vehicle support from IPL was not regular but others said the opposite.

Temporary attachment of Indonesian midwives. The MOH had used this approach prior to IPL's start-up to overcome personnel shortages in various grades in the short term by hiring or borrowing suitably qualified staff from Indonesia. The MOH's TPI proposal identified a serious shortage of midwives, and at the MOH's request, the project provided funding to bring 10 midwives from Indonesia to work in under-staffed CHCs for a period of 17 months. The assessment indicated that few respondents considered this among the most effective strategies (**Table 5**, **Figure 9**). Overall, however, health managers, MOH and partners' staff scored the effectiveness of this support at 73% (13% extremely effective and 60% effective), and 87% respondents were found satisfied with work performance of Indonesian midwives (**Figure 9**).

Figure 9: Quality and Satisfaction, Midwives



The fact that the midwives did not always focus on immunization may account for some negative views. Respondents also referred to communication difficulties in communities that did not understand Bahasa Indonesia, the fact that the Timorese midwives received a lower salary than the Indonesian midwives received and had limited information about local services. Many commented that the MOH should invest in training Timorese staff and, in the future, should use only local staff where possible. There were also positive comments, including that the midwives possessed good skills, showed dedication to their service, and that their numbers should be increased to provide extra midwives for all CHCs.

6.2.4 Monitoring and Reporting of Program Performance

Community-based tracking of children's vaccinations through the Uma Imunizasaun (UI) tool. UI is a community-based tool for listing newborn children and infants, which enables community members to track each infant's vaccinations. The tool was introduced by IPL at a national workshop in September 2011, and then phased into a number of nine pilot *sucos* in each of the seven IPL districts. Its introduction has been accompanied by training of local leaders, health staff and PSFs in its use. Introduction has also proceeded via a partnership between IPL and Clinic Café Timor (CCT), which phased the tool into another 26 *sucos* in three districts, where it has active health programs. Finally, as part of an intensification strategy prior to IPL's closure, the project introduced a small version of the tool in 21 low-performing sub-districts.

Sixty-four percent of respondents in the 'MOH and national partners' category viewed this as one of IPL's most effective activities and more than 80% consider it an extremely effective or effective activity. Most participants during focus group discussions mentioned that they were satisfied with the training,

although some commented that the scheduling could have been better coordinated. Participants cited several benefits from applying this tool. It helps them to track the immunization status of the children, to know whether the children, in a given *aldeia*, are up to date on their immunizations and which specific children are and are not. It enables them to motivate parents of children who have not received all immunizations to get them immunized. Community leaders and PSF are now taking responsibility for mobilizing the community. One participant said: "It is easy to identify children under one year and follow up for the next immunization. We also understand the immunization and interval dates."

Most community leaders hoped that the government would continue with this activity. Similar findings were found during interviewing vaccinators and health managers. Many participants commented that use of the tool should be expanded to all other *sucos* and that its use should continue into the future. However, several noted that this would require continued support with meals, fuel, etc., and that the MOH should take over responsibility for this and also for the costs of printing the tool. One community leader claimed that the local volunteers did not receive regular follow-up from IPL staff. Other respondents from the vaccinators and health managers' category commented that although it was a good tool, it increased their workload.

An Analysis of UI Data

Several months before the program review, IPL agreed to conduct an analysis of data on the UI tools to try to learn the impact of UI on the timeliness and completeness of infant vaccination. Based on feedback from frequent field visits and a monitoring study of the UI tool in the spring of 2012, it appeared that the tool was well understood and well used in the field. But particularly because use of the UI also implied costs (modest costs for per diem and food, and one day per month of the CHC vaccinators' time), IPL wanted to assess if use of the tool was really making a difference in vaccination coverage and timeliness (i.e. reducing the time when infants were eligible for but had not received vaccinations, leaving them unnecessarily more vulnerable to vaccine-preventable diseases). IPL's Australian Red Cross Volunteer undertook this analysis. She encountered many data problems, including illegible and incorrect data, incomplete data, too few children in some *sucos* to make a meaningful analysis, and significantly different population data from different sources. Nonetheless, she was able to complete an analysis of three *sucos* in three districts for 2011 (before UI) and 2012 (when they used UI). The main findings were as follows:

- The data on timeliness show mixed results, but overall the UI tool has provided a positive impact to timeliness of vaccinations – more children are being vaccinated at younger ages, and within the recommended age range.
- In the 3 pilot *suco*'s reviewed, no conclusive benefit to completeness of vaccination was observed compared to the previous year.
- Pentavalent vaccinations – once commenced, are more likely to have a shorter interval time – within or closer to the recommended 4 week period.
- While the age of the child for pentavalent 1, 2 and 3 may be outside the recommended age range, a greater percentage of children on the UI tool received the second and third dose of pentavalent within the 4-7 weeks interval period than children prior to UI. So while a child may start the penta series late, an increased number of children maintain the 4-7 week interval period.
- The data indicate a serious problem in vaccinators giving vaccinations to children who are too young (not yet eligible) and therefore who are unlikely to achieve maximum protection from disease. This problem, unrelated to use or non-use of UI, is particularly serious for penta 1 and measles vaccinations. *The MOH/EPI needs to address this problem via training, supportive supervision, perhaps in a written communication to all vaccinators.*
- Some doses of OPV0 are given to children over 14 days of age. This may reduce the antigenic response to the OPV1 vaccination, depending on the interval between OPV0 and 1.
- There were few missed opportunities by vaccinators, that is, there were only very small numbers of children recorded as receiving measles or penta 3 but not BCG or penta 1 or penta 2.
- Some of the positive trends observed in the analysis were more evident in Ainaro and Manufahi districts, but not as evident in Liquiça.
- Finally, the prevalence of inconsistent and unexpected data implies continued problems with data

completeness and reliability both on the UI tool and other records. The MOH/EPI should continue efforts to improve data quality.

Although this exercise yielded several useful findings, particularly regarding the high percentage of vaccinations that are given to children before they are eligible by age, it did not yield conclusive evidence on the value of the UI tool. This analysis should be considered alongside other sources of information on the UI initiative, including the IPL monitoring study and program review, to inform decisions on modifying or expanding use of the UI tool.

District-level monitoring and reporting of immunization coverage. Recording of immunization activities depended on the use of simple tally sheets in the past, and registers were poorly kept. There was no systematic recording of children and their immunization status by *suco,* and monthly returns were often incomplete and late. IPL's baseline study found major differences between immunization coverage for various antigens between the CHC registers and HMIS reports (but neither source consistently higher or lower). Noting these discrepancies, IPL identified data recording and reporting procedures as an area to try to understand and improve. IPL has worked with the MOH, DHSs, and CHCs to improve recording and reporting of immunizations by introducing better EPI registers and strengthening routine collection and compilation of performance data. At field level, IPL technical officers have assisted health staff with maintaining their EPI registers, tracking immunization coverage, and completing HMIS reporting forms.

IPL's work on this basic but essential activity was not seen as being especially effective according to respondents, and only 43% of those in the 'MOH & partners' category listed this as one of IPL's effective activities. Overall, district-level monitoring and reporting of coverage was rated as the fourth most effective of IPL's activities with 76.6% positive responses, and also as the fourth highest-quality intervention with 73% positive responses.

6.2.5 Immunization Orientation Program for Schools

In coordination with the MOH and MOE, IPL in mid-2012 developed an orientation package for junior high school students on the benefits of immunization. The idea was to give presentations to groups of students in order to increase their awareness of this important health intervention. Once sensitized, it was anticipated that they would discuss and disseminate information on immunization and other health issues amongst their families, siblings and communities, and would retain a positive attitude towards immunization in the future when they have their own families. An orientation package on immunization for school students was approved by the MOH and MOE, and a number of schools in selected areas have received this training.

Feedback on this activity was mixed: almost 50% of MOH and partner respondents could not comment on its effectiveness or quality. Questioned on the impact of school orientations on local immunization services, a number of respondents said it had not yet shown any impact, and that it was too early to attempt to measure impact. It was tied for lowest percentage of respondents who considered it the most effective intervention (**Table 5**). Respondents suggested developing a similar version of the orientation package for parents, expanding the activity to all schools, providing the orientations annually, and including primary schools, as this information was useful for students at that age. One health manager said: "Through schools we can spread information to parents and for the students themselves. It's useful information for when they get older."

Less positive suggestions were to ensure that facilitators were active and familiar with the topic, implying that the quality of presentations may not always have been good, and to focus more on rural

schools, implying that these areas may feel deprived of access to IPL's work.

6.3 Effectiveness of IPL at the National Level

In addition to targeted activities in the seven focus districts, IPL has also provided support to the MOH at the national level, including assisting with a 2011 country-wide measles catch-up campaign, with the 2012 introduction of DPT-HepB-Hib (pentavalent) vaccine to replace DPT-HepB, and with efforts to resolve the 2012 and 2013 supply crises when some vaccines were completely out of stock for several months. The project joined other partners, including WHO and UNICEF, as a member of the high-level national EPI Working Group that provides regular support and guidance to the MOH. This body has played an active role in reviewing and formulating various policy papers, strategic guidelines, and training and communication materials for both EPI and for the wider health system. In this capacity, IPL has contributed as a full and equal member of the group alongside other national partners, and has evidently been very effective in advising and advocating on issues of national importance. Thus, although there are no indicators for formally assessing IPL's effectiveness at the national level, it is clear that the project has established itself as an important and valued player in the field, where its achievements in reversing the decline in national immunization coverage rates speak for themselves.

6.4 Problems, Constraints and Lessons Learned

A major limitation identified was the project's very short funding lifetime, which has led to concerns over how many of the gains achieved over the two-year implementation phase could be sustained into the future.

A question commonly asked by respondents during the qualitative assessments, especially among the 'health managers' and 'MOH and national partners' groups, was, *why IPL activities were coming to end so soon?,* just when they appeared to be achieving some positive results. Several interviewees warned that it was far too soon to expect any gains made by IPL to be sustainable because there had been insufficient time for the tools and approaches used to be adopted locally and institutionalized. As a result, many believed that improvements seen, such as the gains in immunization coverage, would soon be reversed, because the support on which they depended would be withdrawn, with nothing available to replace it.

However, there are several opportunities for the MOH and its partners to continue some of IPL initiatives after phasing out of IPL. The GAVI HSS project, due to commence in early 2014, includes micro-planning and other community mobilization approaches. CCT plans to continue using the UI tool in its catchment areas. Integrated micro-planning will be supported by HADIAK in Manatuto and Oecussi districts. HADIAK may continue immunization focused micro-planning sessions in Ermera, Baucau and Viqueque. In the IPL district-level closing workshops, district health officials committed to continuing some specific IPL initiatives. Still, although a number of possible donor funding mechanisms have been mentioned, neither the MOH nor other support agencies has made a comprehensive commitment to continue IPL's efforts to strengthen both the supply and demand sides of the immunization equation, so the concerns expressed by review respondents that gains seen in EPI may soon be reversed appear to be valid.

Given the fragile state of development in the republic, with its weak health systems and poorly-performing health programs, these are clearly highly relevant issues. It must therefore be questioned why a project such as MCC-TPI, which offers only strictly time-limited support and sets highly ambitious performance targets, that must be reached in order to trigger additional support, was ever considered

appropriate for RDTL in the first instance.

Thus, two critical lessons emerge from this experience – first, that short bursts of support can only rarely be expected to have sustainable impacts. In weak and low-performing programs, continuity of support needs to be built in from the project outset or at least planned well ahead of any funding deadlines. Without secured, longer-term support, any short-term gains risk being immediately reversed once support is ended. Sufficient time must be allowed for local capacity to be built and strengthened, for advances to be consolidated, and for interventions to be adapted and integrated locally. IPL began but could not complete these processes. Project closure is now imminent, and while there are follow-up plans and commitments of continued support, these do not encompass the entire package of IPL interventions, which is probably a key to their effectiveness.

The second critical lesson is that strictly time-limited funding, which comes with conditions such as reaching highly ambitious performance targets, needs to be viewed with a degree of caution. It appears that projects designed to achieve a sustainable impact on national indicators such as immunization coverage rates, should be planned with an initial duration of at least five years, and possibly longer, and that therefore, intensive, short-term support is not an appropriate funding mechanism.

6.5 Conclusions and Recommendations

Based on available data, it appears that IPL has achieved its main purpose of assisting the MOH to reverse a decline in national immunization coverage rates. These have shown a substantial rise over the lifetime of the project, and although 2013 data show some rates falling in the first two quarters of the year, this is almost certainly due to serious failures in national vaccine supplies. Regular supplies have now been restored, and it is anticipated that signs of recovery will be seen in data for the 3rd and 4th quarters of 2013, and will hopefully be consolidated in the future. The target for IPL's MCC indicator (81.5% average coverage for DPT3/measles immunization nationally) was not met, but this appeared largely due to factors beyond the project's control, including the failures in national vaccine supplies. It seems likely that had vaccine and other supplies not been disrupted, there was a good chance the MCC target might have been reached, at least in the project focus areas, although perhaps not on a national level until 2014 or later.

The project has initiated a wide range of initiatives aimed at supporting and strengthening immunization services, and although a direct link between these activities and increased coverage cannot be proved, it seems likely that together, these have resulted in the rise in coverage rates observed. The extent to which any of these initiatives may have contributed individually to improvements in coverage cannot be readily determined, however. Although the qualitative assessments carried out have shown that some activities are viewed as being more effective or of higher quality by the survey respondents, there is no actual evidence to support these opinions.

The likely impact of individual activities may be estimated, however. Interventions that had the most impact on achieving gains in coverage during IPL's lifetime are likely to be those with a direct impact on service delivery and demand generation, such as support to *SISCas*, mobile and outreach services with fuel, transport, maintenance and mentoring; use of the UI tool to increase community participation and stimulate demand; and the introduction and support of micro-planning in districts and sub-districts. It is therefore recommended that at least these activities should be maintained if at all possible after the close of IPL's operational phase, and that efforts to ensure continuation of the project in some form to include at least these core components should be intensified. Clearly, staff training, orientation and supervision activities are also important components, but these will have a less immediate impact on

services and immunization coverage, and to this extent, may be seen as being of somewhat lower priority in achieving MOH's main goals. However, as already noted, it appears to have been the complete package of interventions that has been the key to IPL's success. To what extent gains achieved in Timor-Leste to date can be sustained or expanded if employing only part of the package cannot be determined.

Prospects for continuing and replicating some or all of IPL's initiatives elsewhere may also be assessed, although most of them are not innovative globally (although many are in the local context). The unique feature of the IPL program in Timor-Leste was the series of multi-component and complementary activities which were simultaneously used to target specific weaknesses in health services that existed on project start-up. These then combined to have a significant impact on the EPI nationally, and to begin addressing the various shortcomings identified in the IPL baseline study. Whether such a combination of activities could be repeated with similar impact elsewhere is unclear, but given similar issues, such as low rates of public access to health service, low community participation and mobilization for immunization, a weak health infrastructure, difficult communications and limited management capacity, use of a similar multi-component approach would appear to be an appropriate and logical strategy.

For the immediate future in Timor-Leste, the key consideration for the MOH and the national partners is how any of these clearly successful interventions can be supported and continued once IPL is no longer operational. Identifying alternative support mechanisms for this is obviously a high priority.

The qualitative assessments, and especially the 'open-ended' narrative questions, posed to the various groups of respondents have generated a large amount of feedback and comment on EPI operational issues and IPL's activities to support them. A full and detailed analysis of these data would have been too time consuming and labor intensive to complete during the period of this review, and in any case, would have yielded far too much information for inclusion in this review report. However, these data will provide a valuable source of information and feedback for the MOH, and it is recommended that efforts to recover and compile as much of this as possible should continue as a separate activity after IPL closes. It is suggested that this work could be carried out by a consultant under the supervision of EPI/MOH and to be contracted by the MOH or one of the national partners.