

Country Name	<b>EPI/Polio Control Project</b>
Islamic Republic of Pakistan	

**I. Project Outline**

Background	<p>Pakistan has been one of the countries with the highest child mortality rate. At the time of ex-ante evaluation, incidents of polio had been decreasing by donor's support. However, the regular immunization coverage in Pakistan was still not optimal and unless this coverage increased, new polio case would be reported. Therefore, regular immunization was needed to be further strengthened.</p> <p>In the province of Khyber Pakhtunkhwa (KPK), immunization coverage including polio was extremely low as there were many remote areas with limited access to health care facilities and conventionally it was difficult for women to take children to the health facilities alone. On the other hand, health education and health service provided by local Lady Health Workers (LHWs) in rural areas had been successful to some extent. Under this background, Expanded Programme on Immunization (EPI) started with LHWs as vaccinators from 2005.</p>						
Objectives of the Project	<p>The project aimed that children under the age of two are vaccinated in the target districts by (1) Training on EPI service provision to EPI technicians, Lady Health Supervisors and LHWs, and conduct of actual immunization by LHWs in the target districts, (2) Awareness raising activities for parents/caretakers and others in the target districts, (3) Training on quality control to Quality Control Laboratory (QCL)/National Institute of Health (NIH) for the improvement of quality of vaccines, and (4) Training to Federal and Provincial EPI cells on logistics and data management for the supply of appropriate vaccines, thereby contributes to reduction in morbidity due to EPI-targeted vaccine-preventable diseases in the target districts.</p>						
	<ol style="list-style-type: none"> <li>Overall Goal: Morbidity due to EPI-targeted vaccine-preventable diseases is reduced in the target districts.</li> <li>Project Purpose: Children under the age of two are vaccinated in the target districts.</li> </ol>						
Activities of the Project	<ol style="list-style-type: none"> <li>Project site: <ol style="list-style-type: none"> <li>Swat, Shangla, Buner and Haripur districts (in the province of Khyber Pakhtunkhwa (KPK))</li> <li>Islamabad (QCL/NIH is located)</li> <li>Balochistan Province, Punjab Province, Sindh Province and KPK (Training on EPI logistics and data management was implemented)</li> </ol> </li> <li>Main activities: <p>&lt;Target district level&gt;</p> <ol style="list-style-type: none"> <li>Training on EPI service provision to EPI technicians, Lady Health Supervisors and LHWs, and conduct of actual immunization by LHWs.</li> <li>Awareness raising activities for parents/caretakers and others (Not implemented actually due to the worsening security situation)</li> </ol> <p>&lt;Federal level&gt;</p> <ol style="list-style-type: none"> <li>Training on quality control to QCL/NIH for the improvement of quality of vaccines.</li> <li>Training on EPI logistics and on routine EPI data management for the supply of appropriate vaccines to Federal and provincial EPI Cells.</li> </ol> </li> <li>Inputs <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>&lt;Japanese Side&gt;</p> <ol style="list-style-type: none"> <li>Dispatch of experts: 13 persons</li> <li>Acceptance of trainees in Japan: 15 persons</li> <li>Provision of equipment: PCs, printers, projectors, cold chain equipment and others</li> </ol> </td> <td style="width: 50%; vertical-align: top;"> <p>&lt;Pakistan Side&gt;</p> <ol style="list-style-type: none"> <li>Staff allocated: 40 persons</li> <li>Land and facilities: project office, cost of electricity and water supply</li> <li>Local Cost (for whole project period): 16.2 million Pakistan Rupees</li> </ol> </td> </tr> </table> </li> </ol>					<p>&lt;Japanese Side&gt;</p> <ol style="list-style-type: none"> <li>Dispatch of experts: 13 persons</li> <li>Acceptance of trainees in Japan: 15 persons</li> <li>Provision of equipment: PCs, printers, projectors, cold chain equipment and others</li> </ol>	<p>&lt;Pakistan Side&gt;</p> <ol style="list-style-type: none"> <li>Staff allocated: 40 persons</li> <li>Land and facilities: project office, cost of electricity and water supply</li> <li>Local Cost (for whole project period): 16.2 million Pakistan Rupees</li> </ol>
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Ex-Ante Evaluation	2006	Project Period	September 2006 - September 2011	Project Cost	388 million yen		
Implementing Agency	Federal EPI of National Institute of Health (NIH), Quality Control Laboratory (QCL) of NIH, Directorate General Health Service of Government (DGHS) of KPK, Executive District Office-Health (EDO-H) in four districts; Swat, Shangla, Buner and Haripur, and EPI cell-Provinces (Punjab, Baluchistan, Sindh)						
Cooperation Agency in Japan	International Medical Center of Japan (IMCJ), The Research Foundation for Microbial Diseases of Osaka University (BIKEN)						

**II. Result of the Evaluation**

Although the project was planned to be implemented in Swat, Shangla, Buner, and Haripur districts, the activities in Swat, Shangla and Buner districts were suspended in 2008 and never resumed due to the worsening security situation.

**1 Relevance**

<Consistency with the Development Policy of Pakistan at the time of ex-ante evaluation and project completion>

The project was consistent with development policy of Pakistan at the time of both ex-ante evaluation and project completion. National Health Policy 2001 prioritized measures against infectious diseases and strengthening of the system for primary health care service provision including immunization was set as the main strategy. At the time of project completion, National Emergency Action Plan for Polio Eradication (NEAP) 2011 and other documents cited that LHWs were obliged to conduct EPI service.

<Consistency with the Development Needs of Pakistan at the time of ex-ante evaluation and project completion>

The project was consistent with the needs for immunization measures in Pakistan at the time of both ex-ante evaluation and project

completion. At the time of ex-ante evaluation, child mortality of 86/1,000 births (2003) in Pakistan was higher than other South Asian countries. Although many development partners supported immunization in Pakistan, no donors had supported activities in the project target districts except Swat district. At the time of project completion, Pakistan was one of the countries with the highest child mortality rate of infectious diseases and was also one of four countries where polio was not extinct. The regular immunization coverage in Pakistan was not sufficient.

<Consistency with Japan's ODA Policy at the time of ex-ante evaluation>

The project was consistent with Japan's ODA policy at the time of ex-ante evaluation, as Country Assistance Programme to Pakistan 2005 identified three prioritized areas which included "Ensuring human security and human development". "Basic health service" was included in this area.

<Evaluation Result>

In light of the above, the relevance of the project is high.

## 2 Effectiveness/Impact

<Status of Achievement for Project Purpose at the time of Project Completion>

The project purpose was achieved in Haripur district by the time of project completion, as the following indicators set to measure the project purpose were attained: (i) The number of immunized children with measles and pentavalent vaccine (Combination of Hepatitis B vaccine & Hib & DPT (Diphtheria-tetanus-pertussis) vaccine)<sup>1</sup> under one year-old is increased, (ii) reported routine EPI coverage (Pentavalent) is increased and (iii) Drop-out (1<sup>st</sup> dose-3<sup>rd</sup> dose) rate of Pentavalent is reduced. Although the project contributed to this progress mainly by introducing LHWs' involvement in EPI service from 2009, it is difficult to attribute this results solely to the project as the number of vaccination started increasing earlier than the project implementation.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

After the project completion, the number of children with pentavalent vaccine under one year old slightly increased in Haripur except in 2012. The coverage of pentavalent was decreased in 2012, however, was increased again in 2013 and 2014. According to the EDO-H of Haripur, the activities under the project, such as training for EPI technicians and medical doctors, textbooks for EPI technicians and monitoring mechanism developed by the project, review/evaluation of outreach activities and others, contributed to the performance. As to the drop-out rate, although it was increased from 2011 to 2013, it was decreased in 2014.

LHWs keep providing vaccination services at their Health Houses where they are assigned approximately 200 households for taking care of their immunization, while Fix and Outreach activities are task of medical officers and EPI technicians. Vaccination of measles and BCG by LHWs is restricted. The number of vaccination of measles was decreased in 2014. This was not only because there was a shortage of vaccine but also LHWs' visits to outreach destination were restricted due to their active involvement in other assignment. LHWs have not been trained yet on vaccination of BCG to children. BCG is technically skillful task and needs intensive training. Secondly there are more chances of wastage, therefore only trained vaccinators perform BCG vaccination.

The Iceland refrigerators supplied to Haripur district are functional, but proper maintenance is not carried out.

As to the improvement in logistics and data management for the supply of appropriate vaccines, the stock-out days of vaccines and maximum interval of vaccine have been improved in all provinces. Although the project does not directly influence the improvement, the recording forms introduced by the project are still used by the provincial stock keepers and facilitate the procurement of vaccines.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The overall goal has been mostly achieved in Haripur district at the time of ex-post evaluation. Basically, Haripur district has been Polio free since the completion of the project. Conduct of quality campaigns and efficient and strong routine immunization was the main contributing factor. The incidence of neonatal tetanus is reduced in Haripur as a result of better coverage by LHWs. Also timely awareness raising campaign was the main contributing factor. The incidence of measles in Haripur had been reduced during the project period. Although, there was an upsurge in 2012 and 2013, it was reduced in 2014 again. The issues of vaccine procurement created instability in the KPK province. Furthermore, bureaucratic delays in operating the program in the field along with delays in supply of vaccine from federal to provincial government were responsible for the sudden increase of cases in 2012 and 2013.

<Other Impacts at the time of Ex-post evaluation>

No negative impact on natural environment has been observed. No land acquisition and resettlement occurred under this project.

<Evaluation Result>

The project mostly has achieved its project purpose and overall goal in Haripur district. However, it is difficult to judge whether they were achieved in Swat, Shangla and Bruner because intervention was actually not carried out in these target districts<sup>2</sup>. Therefore, effectiveness/impact of the project are fair.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results					
(Project Purpose) Children under the age of two are vaccinated in the target districts.	1. The number of immunized children with measles and pentavalent vaccine under one year-old is increased.	Status of achievement: Achieved in Haripur district					
		(Project Completion)					
		1) pentavalent vaccination					
		1st dose		2nd dose		3rd dose	
		Number	%	Number	%	Number	%
2006	18,608	62.5	18,500	62.1	16,757	56.3	
2007	23,283	72.6	21,018	65.6	21,295	66.4	
2008	27,537	90.7	26,291	86.6	25,975	85.5	

<sup>1</sup> Indicators were DPT in 2006, Combination of Hepatitis B vaccine and DPT (2007-2008) and Pentavalent (2009-2010). The indicators changed since the types of vaccines in EPI in Pakistan changed from time to time.

<sup>2</sup> The data on project purpose and overall goal in Swat, Shangla and Bruner district is not presented in this report since intervention was not made in these districts and therefore, the achievement/non-achievement of the project purpose and overall goal in these districts are irrelevant to the project. In these districts, lack of social mobilization/awareness was found.

2009	26,454	85.2	25,430	81.9	25,603	82.5
2010	31,111	111.5	31,189	111.8	30,692	110.0

2) Measles Vaccination

	2006	2007	2008	2009	2010
Number	Not available	21,061	24,404	26,788	26,153
%	Not available	84%	86%	88%	84%

(Ex-post Evaluation)

1) Pentavalent vaccination \*:

	1st dose		2nd dose		3rd dose	
	Number	%	Number	%	Number	%
2011	31,329	99	30,674	98	30,827	99
2012	27,020	77	27,183	77	27,020	77
2013	30,489	84	31,162	85	30,489	84
2014	31,517	88	32,290	100	31,517	88

\*These figures are official information, though there are some discrepancies (including discrepancies with other indicators). The reason for discrepancies was not answered by the counterpart.

2) Measles Vaccination

	2011	2012	2013	2014
Number	27,927	28,589	32,221	30,202
%	88%	81%	89%	84%

2. Reported routine EPI coverage (Pentavalent) is increased.	<p>Status of achievement: <u>Achieved in Haripur district</u></p> <p>(Project Completion)</p> <ul style="list-style-type: none"> <li>The coverage is shown in the table in the Indicator 1.</li> <li>Although the coverage expanded, interpretation of this figure should be made very carefully as the coverage (immunized population/target population) in Haripur district showed over 100%. The reason of the cause can be assumed that the population data for coverage calculation may be lower than actual number based on the census in 1998.</li> </ul> <p>(Ex-post Evaluation)</p> <ul style="list-style-type: none"> <li>The coverage is shown in the table in the Indicator 1.</li> <li>The coverage was decreased in 2012, however, was increased again in 2013 and 2014.</li> </ul>										
3. Drop-out rate of Pentavalent is reduced.	<p>Status of achievement: <u>Achieved in Haripur district</u></p> <p>(Project Completion) Drop-out rate had been decreased from 2008; The number of drop-out was decreased from 851 cases into 419 cases from 2009 to 2010.</p> <p>(Ex-post Evaluation)</p> <table border="1"> <tr> <td></td> <td>2011</td> <td>2012</td> <td>2013</td> <td>2014</td> </tr> <tr> <td>Drop-out rate (1<sup>st</sup> dose-3<sup>rd</sup> dose/1<sup>st</sup> dose) in Haripur</td> <td>1.65%</td> <td>5.97%</td> <td>7.12%</td> <td>5.00%</td> </tr> </table> <p>*The District Haripur provided the "rate" only.</p>		2011	2012	2013	2014	Drop-out rate (1 <sup>st</sup> dose-3 <sup>rd</sup> dose/1 <sup>st</sup> dose) in Haripur	1.65%	5.97%	7.12%	5.00%
	2011	2012	2013	2014							
Drop-out rate (1 <sup>st</sup> dose-3 <sup>rd</sup> dose/1 <sup>st</sup> dose) in Haripur	1.65%	5.97%	7.12%	5.00%							

(Overall Goal) Morbidity due to EPI-targeted vaccine-preventable diseases is reduced in the target districts.	1. Polio free is maintained.	<p>Status of achievement: <u>Achieved in Haripur district</u></p> <table border="1"> <tr> <td></td> <td>2006</td> <td>2007</td> <td>2008</td> <td>2009</td> <td>2010</td> <td>2011</td> <td>2012</td> <td>2013</td> <td>2014</td> </tr> <tr> <td>The number of polio cases</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>(1)*</td> <td>0</td> <td>0</td> </tr> </table> <p>* The single case of wild poliovirus in 2012 came from an Afghan Settlement Camp. There was a possibility that a child might have brought the virus from Afghanistan during his parent's migration to Pakistan. So it is established fact that at least Haripur's local population has been polio-free since the completion of the project in 2011.</p>		2006	2007	2008	2009	2010	2011	2012	2013	2014	The number of polio cases	0	0	0	0	0	0	(1)*	0	0
		2006	2007	2008	2009	2010	2011	2012	2013	2014												
	The number of polio cases	0	0	0	0	0	0	(1)*	0	0												
2. The incidence of measles is reduced.	<p>Status of achievement: <u>Partially achieved in Haripur district</u></p> <table border="1"> <tr> <td></td> <td>2006</td> <td>2007</td> <td>2008</td> <td>2009</td> <td>2010</td> <td>2011</td> <td>2012</td> <td>2013</td> <td>2014</td> </tr> <tr> <td>The incidence of measles</td> <td>2</td> <td>250</td> <td>17</td> <td>12</td> <td>1</td> <td>116</td> <td>336</td> <td>360</td> <td>107</td> </tr> </table>		2006	2007	2008	2009	2010	2011	2012	2013	2014	The incidence of measles	2	250	17	12	1	116	336	360	107	
	2006	2007	2008	2009	2010	2011	2012	2013	2014													
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3. The incidence of neonatal tetanus is reduced.	<p>Status of achievement: <u>Achieved in Haripur district</u></p> <table border="1"> <tr> <td></td> <td>2006</td> <td>2007</td> <td>2008</td> <td>2009</td> <td>2010</td> <td>2011</td> <td>2012</td> <td>2013</td> <td>2014</td> </tr> <tr> <td>The incidence of neonatal tetanus</td> <td>0</td> <td>2</td> <td>2</td> <td>4</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> </tr> </table>		2006	2007	2008	2009	2010	2011	2012	2013	2014	The incidence of neonatal tetanus	0	2	2	4	0	1	0	0	0	
	2006	2007	2008	2009	2010	2011	2012	2013	2014													
The incidence of neonatal tetanus	0	2	2	4	0	1	0	0	0													

Source : JICA internal documents, questionnaire survey and interviews with the counterparts, WHO Pakistan Office, Islamabad

3 Efficiency

Although the project period was as planned (ratio against the plan: 100%), the project cost exceeded the plan (ratio against the plan:

105%). Therefore, efficiency of the project is fair.

#### 4 Sustainability

##### <Policy Aspect>

The project is supported by the current policy as National EPI Policy 2014 and other policy documents support effective utilization of LHWs including immunization of children and pregnant women.

##### <Institutional Aspect>

After the devolution, each provincial government has more authority and responsibility for EPI implementation while the federal government still has the role of developing policies and guidelines for provinces. The KPK provincial cell is headed by one deputy director with three assistant directors and has various support staffs. Four EPI technicians are arranged to EDO-H of Haripur and at least four staffs are arranged to each EPI center. Nevertheless, the number of staff including EPI vaccinators/technicians of KPK province is insufficient compared to the population.

##### <Technical Aspect>

Most of the staff of the KPK provincial cell and EDO-H of Haripur have necessary skills, however, there is little chance to brush up their skills. In addition, though they have capacity to deal with logistics and data management, further enhancement of technical capacity is necessary as any kind of refresher training has not been conducted.

##### <Financial Aspect>

The budgets of both of the KPK provincial EPI cell and EDO-H of Haripur are insufficient. However, the World Bank will implement National Immunization Support Project of approximately US\$ 400 million including support for KPK province and all its districts in next 5 years.

##### <Evaluation Result>

Some problems have been observed in terms of institutional, technical and financial aspects. Therefore, sustainability of the project effects is fair.

#### 5 Summary of the Evaluation

The project has mostly achieved its project purpose and overall goal in Haripur district as the number of children immunized with measles and pentavalent vaccine has been increased and the Polio free has been maintained, and incidence of measles and neonatal tetanus has been reduced. However, the activities of the project could not be implemented in the rest of the target areas due to the security reason. Therefore, effectiveness/impact of the project are fair. Although the project period was as planned, the project cost exceeded the plan. Therefore, efficiency of the project is fair. Some problems have been observed in terms of institutional, technical and financial aspects. Therefore, sustainability of the project effects is fair. In light of the above, this project is evaluated to be partially satisfactory.

### III. Recommendations & Lessons Learned

#### <Recommendations for Implementing Agency>

1. An adequate amount of budget should be allocated to the provincial government for the refresher training of the LHWs, especially on improvement of their skills for BCG and measles vaccination.
2. The Iceland refrigerators provided to Haripur district have been in use for five years. Although they are still functional, EDO-H of Haripur should introduce proper maintenance manuals and assign persons who should check preserving condition constantly so that vaccines shall be stored at proper temperatures.
3. The districts should request the provincial government to assign personnel preferably female for the services of social mobilization, who will pay weekly visits to the communities to convince them of importance of immunizing their children and adverse consequences of neglecting this important lifesaving task.

#### <Lessons Learned for JICA>

The suspension of activities in the three project districts (Swat, Shangla and Buner) should have been reflected in the revised PDM. This could have showed appropriate evaluation results in terms of revised scope of the project. It could have been better if JICA had selected three another districts replacing the districts in which project activities were closed.



Meeting with the Health Authorities



Checking the data