

CHAPTER 2 EVALUATION PROCESS

2.1 Methodology of Evaluation

The Terminal Evaluation was conducted in accordance with the latest “*JICA Guidelines for Project Evaluations*” issued in June 2010. Achievements and implementation process were assessed based on the evaluation framework, which are consolidated in the evaluation grid (Annex 3), from the aspects of the five evaluation criteria of relevance, effectiveness, efficiency, impact, and sustainability, as well as the Verification of Implementation Process.

The Japanese Terminal Evaluation Team conducted surveys at the project sites through questionnaires and interviews to counterpart personnel (Annex 4), other related organizations, and the Japanese experts involved in the Project to review the Project on the basis of the evaluation grid.

Both Ethiopian and Japanese sides jointly analyzed and reviewed the Project, based on the Project Cycle Management (PCM) concept, including Five Criteria for Evaluation. The evaluation was performed on the basis of PDM Version 5.5 (See Annex 2 for more information), which was revised on the 16th of December 2011 from PDM Version 5. Finally, this Joint Terminal Evaluation Report was compiled .

2.2 Five Evaluation Criteria

Description of the five evaluation criteria that were applied in the analysis for the Terminal Evaluation is given in Table 1 below. Relationship between the Five Criteria and PDM (Overall Goals, Project Purpose, Outputs and Input) are also described in the following matrix (Table 2).

Table 1: Description of Five Evaluation Criteria

Five Criteria	Description
Relevance	Relevance of the project is reviewed by the validity of the Project Purpose, Overall Goal and Super Goal in connection with the government development policy and the needs in the Ethiopia, on the basis of facts and achievements as of the Terminal Evaluation.
Effectiveness	Effectiveness is assessed to what extent the project has achieved its Project Purpose, clarifying the relationship between the Project Purpose and Outputs, on the basis of facts and achievements as of the Terminal Evaluation.
Efficiency	Efficiency of the project implementation is analyzed with emphasis on the relationship between Outputs and Inputs in terms of timing, quality and quantity, on the basis of facts and achievements as of the Terminal Evaluation.
Impact	Impact of the project is assessed in terms of positive/negative, and intended/unintended influence caused by the Project. Impact of the Project is verified in accordance with the necessity and possibility as of the Terminal Evaluation.
Sustainability	Sustainability of the project is assessed in terms of political, financial and technical aspects by examining the extent to which the achievements of the Project will be sustained after the Project is completed. Sustainability of the Project is verified on the basis of extrapolation and expectation as of the Terminal Evaluation.

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Table 2: Relationship between the Five Criteria and PDM

	Relevance	Effectiveness	Efficiency	Impact	Sustainability
Overall Goal	The degree to which the project can be justified in relation to local and national development priorities.			The changes and effects positive and negative, planned and unforeseen of the project, seen in relation to the target group and others who are affected.	The extent to which the positive effects of the project will continue after external assistance has been concluded.
Project Purpose		The extent to which the purpose has been achieved; Whether this can be expected to happen on the basis of the outputs of the project.			
Outputs		How economically inputs are converted into outputs. Whether the Inputs same results could have been achieved in another better way.			
Input					

CHAPTER 3 PROJECT PERFORMANCE

3.1 Inputs

1) Input from Japanese Side

The following are (estimated) inputs from Japanese side to the Project as of May 2012. See Annex 5 for more information.

Components	Inputs
Dispatch of JICA Experts	Number of experts: A total of 24 experts Duration: a total of 191.6 M/M (Long-term experts: 166.8 M/M, short-term experts: 24.8 M/M)
Provision of Equipment	Total Amount: JPY 36,574,680 (as of March 2012) Content: three (3) vehicles for project activities, Laboratory equipment, office supplies, and other necessary equipment for surveillance
Training in Japan	Total number: 15 personnel Content of training: 'Enhancement of Community Health Systems for Infection Control', 'Evidence Based Public Health Concepts', 'Approaches and Tools for Health Policy and Planning', "Health Administration for Regional Health Officer for Africa", and so on Total Duration: 55.4 M/M
Local costs	Local Operational Costs: JPY 74,359,907 (Estimated amount as of the end of the project period)
Others	Construction of facility containing project office space and meeting space Total cost: EHB 1,248,413.23

2) Input from Ethiopian side

The followings are inputs from Ethiopian side to the Project as of May 2012.

- Allocation of Counterparts
- Provision of land for construction of the project office facility in ARHB and office space for annex project office space in the Amhara Public Health Research Institute
- Utility costs for project office spaces
- Appropriation of operational cost
- Provision of operating expenses for project activities

3.2 Achievements of the Project

1) Performances of the Project Activities

Performances of the Project Activities under Outputs are as indicated below.



Output 1	
Effective system of facility-based surveillance is established and verified in pilot area.	
Activities	Performances
1-1. Conduct situation analysis on surveillance system.	<ul style="list-style-type: none"> ● A baseline survey was conducted for situation analysis of facility-based surveillance system in the Amhara region from April to June 2008.
1-2. Select pilot woredas.	<ul style="list-style-type: none"> ● A total of vehicle-accessible 6 woredas (Tukussa/ Dembia, Ebinat/Shimada and Mecha/Buric Zuria) were selected as the target woredas from the target zones of North Gondar, South Gondar and West Gojjam, respectively.
1-3. Find out better methods and train on reporting, data management, analysis and feedback mechanism for health offices.	<ul style="list-style-type: none"> ● Trainings for Data analysis and Management were provided for IDSR officers in the pilot 6 woredas, the target 3 zones and the ARHB from December to March 2009. (6 courses, a total of 120 participants) ● Trainings for PC operation were provided for the target 22 woredas to where fax machine, PC and printer are provided in October 2009. (6 courses, a total of 120 participants) ● In response to the policy alteration of national surveillance system from IDSR to PHEM (public announcement in June 2009, and enforcement in September 2009), trainings for data analysis and management, which are reflecting key changes in PHEM, were provided for PHEM officers in pilot 6 woredas, the target 3 zones and the ARHB from February to June 2010. (6 courses, a total of 127 participants). ● Based on the report spreadsheet and disease occurrence trend spreadsheet that were used by the director of the Dembia Woreda Health Office (WorHO), Table 1 (spreadsheet for monitoring the timeliness and completeness of reports) and Table 2 (spreadsheet for monitoring occurrence trends of PHEM target diseases) were prepared by the Project in early 2011. ● A situation survey with regard to function and capacity of information collection was conducted in the pilot 6 woredas from March to May 2011, simultaneously with supportive supervision for the facility-based surveillance activities. ● The reporting system from individual WorHOs to the ARHB via the Zonal Health Department (ZHD) began operating in April 2011 at the pilot ZHDs and WorHOs by means of introducing a standard format for Table 1 (spreadsheet for monitoring the timeliness and completeness of reports) and Table 2 (spreadsheet for monitoring the occurrence trends of PHEM target diseases).
1-4. Find out better methods and train on epidemic response and preparedness for health offices.	<ul style="list-style-type: none"> ● In June 2008, training on AWD measures and preparations was jointly conducted with the ZHDs for IDSR officers and health center employees in the target 22 woredas. (One time, 39 participants) ● Protocols for dealing with different diseases are currently undergoing confirmation and revision (February 2011~).
1-5. Assist to develop annual PHEM planning model based on analyzed data at health offices in pilot woredas.	<ul style="list-style-type: none"> ● Although work has not progressed to compiling the annual plan for WorHOs, cooperation is being offered for preparation of annual plans within the framework of Woreda Evidence Based Planning.
1-6. Train on surveillance to workers at health facilities.	<ul style="list-style-type: none"> ● From December 2008 to March 2009, training on IDSR target diseases was implemented for health workers and IDSR officers in Burie city and Alefa woreda in addition to the 6 pilot woredas. ● From September to December 2011, follow-up of PHEM activities was conducted in six pilot woredas. Also, guidance was conducted on informing about PHEM revisions, the report setup based around cluster health centers, unification of data collection guidelines, Table 1 and Table 2 (see 2-4 Activities), and thorough enforcement of feedback. ● See activity 1-10 for training in accordance with policy switchover to PHEM
1-7. Monitor and supervise facility-based surveillance activities at health offices and health facilities.	<ul style="list-style-type: none"> ● In the Project, a checklist for use in conducting monitoring and supervision was prepared. ● Since 2008, monitoring and supervision with respect to disease information filing and reporting based on facilities is periodically being implemented at the target health facilities by the Project. ● Due to the transfer and job separation of personnel and geographical difficulty of patrol activities, there are some facilities where periodical activities are not adequately implemented. There are also cases where the staffs in charge lack adequate awareness.

1-8. Produce supplemental materials for workers at health offices and health facilities.	<ul style="list-style-type: none"> ● From February to June 2010, provisional manuals on target diseases that were added in line with the transfer from IDSR to PHEM were distributed to health offices and health facilities in 6 pilot woredas. ● From February to June 2010, the PHEM manuals and PHEM report sheets for weekly reporting for use by HEW and PHEM personnel were provided to health centers and health posts. ● The teaching materials developed and distributed in the Project are as follows: data control manuals (PHEM officers in 22 target woredas), TOT and PHEM training modules (22 target woredas), 20 disease side readers for PHEM (PHEM officers at ZHDs and WorHOs), and improved PHEM surveillance texts (all health centers in the 22 target woredas). ● The Project procured and distributed the Excel and Word texts (PHEM officers in 22 target woredas) to PHEM officers at WorHOs.
1-9. Provide necessary equipment (e.g. computer to health offices).	<ul style="list-style-type: none"> ● Computers, printers, uninterrupted power supply units, facsimile machines and photocopiers were supplied to the 6 target WorHOs in 2009.
1-10. Conduct problem assessment and provide PHEM trainings for PHEM officers in pilot health centers, WorHOs and ZHDs.	<ul style="list-style-type: none"> ● From February to June 2010, because the reporting rate fell dramatically in line with the transfer from IDSR to PHEM, PHEM orientation was conducted for health workers (all HEW and health center staffs) and health offices. (6 times in total, total number of participants: 537) ● TOT, which was conducted under the activity 2-7, included the pilot 6 woredas.

Output 2 Operational capacity of the verified system of facility-based surveillance is developed in all target area.	
Activities	Performances
2-1. Select target woredas.	<ul style="list-style-type: none"> ● 22 woredas were selected as targets in January 2008. (See Annex 6 for more information of 22 target woredas.)
2-2. Develop a scaling-up strategy (training, manuals, follow-up plan).	<ul style="list-style-type: none"> ● In line with the revision from IDSR to PHEM, delays are arising in activities, however, work on establishing training methods and preparing training modules has been completed via the activities in the 6 pilot woredas. ● Implementation plan for PHEM training for 22 target woredas in September 2011.
2-3. Conduct training to health offices and health facilities.	<ul style="list-style-type: none"> ● In October 2009, training on data inputting, counting and analysis was implemented for health offices in the 22 target woredas. ● As for PHEM training in the remaining 16 woredas, it had been completed in three woredas at the time of the final evaluation; however, it is expected to complete training to all the target woredas by the end of the Project.
2-4. Provide necessary feedback and supervision to target WorHOs.	<ul style="list-style-type: none"> ● Since PHEM training for the remaining 16 woredas is being implemented at the time of the Terminal Evaluation, consequent supervisory activities will be implemented aftertime.
2-5. Provide necessary equipment.	<ul style="list-style-type: none"> ● Computers, printers, uninterrupted power supply units and facsimile machines were supplied to the 22 target woredas in 2009.
2-6. Revise produced materials as training and supplemental materials.	<ul style="list-style-type: none"> ● From September to December 2011, the PHEM training materials (Hand-out for PHEM Disease References, and Amharic version translated from WHO Guidelines), PHEM target disease side readers for TOT training (TOT on woreda PHEM Officers) intended for PHEM officers at health centers were reviewed and corrected.
2-7. Provide PHEM Training of Trainers (TOT) for PHEM officers in target HCs, WorHOs and ZHDs.	<ul style="list-style-type: none"> ● Training (TOT) for PHEM officers was implemented in all woredas (50) of the 3 target zones by PHEM and malaria officers of zonal health offices targeting PHEM officers in woredas health offices in March 2012. The target woredas in the Project account for half of the woredas in each zone; however, training was conducted for officers in all woredas upon considering the efficiency of training, etc. (Total XX times, total number of participants: 86). The Pre- and post test was conducted to ascertain the efficacy of the training; and average scores on the pre- and post test from

	<p>71 examinees who took both tests were 67.7 and 83.5, respectively. The average test score on the post test was significantly higher than that on the pre test ($p < 0.0001$).⁶</p> <ul style="list-style-type: none"> ● The main contents were as follows: confirmation of surveillance work for woredas PHEM officers, understanding of PHEM concepts, basic knowledge and practical implementation of reporting and analysis, preparation of training plans.
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Output 3	
System of community-based surveillance is established and verified in pilot area.	
Activities	Performances
3-1. Conduct situation analysis on community-based surveillance and health system in community.	<ul style="list-style-type: none"> ● Baseline survey was implemented in July, September and October 2008 and analysis of surveillance activities and health systems in communities was conducted. ● In August 2008, a survey of health healthcare seeking behavior in communities was implemented.
3-2. Select pilot woreda and kebeles.	<ul style="list-style-type: none"> ● Based on consensus of ARHB, ZHDs and WorHOs, a total of 8 kebeles, i.e. four each from 2 woredas (Mecha and Dembia) were selected as pilots in consideration of the baseline survey.
3-3. Develop strategy with community on surveillance.	<ul style="list-style-type: none"> ● In August 2008, KSOs were selected and a survey of the knowledge level of KSOs was conducted. ● In August 2008, the 8 diseases to be targeted in community-based surveillance were determined upon holding discussions with related officers. (2 diseases were added to the target diseases afterwards. See activity 4-4 for more information)
3-4. Develop manuals and educational tools.	<ul style="list-style-type: none"> ● In October 2008, the referral cards for use by KSOs, community-based surveillance manual and flip charts for use in community activities were prepared and distributed to the KSOs.
3-5. Conduct training for Health Extension Workers (HEWs) and Kebele Surveillance Officers (KSOs).	<ul style="list-style-type: none"> ● From January to June 2009, training was implemented for HEWs and related officials (WorHO staff, kebele leaders and kebele managers) of the 8 kebeles in 2 woredas. ● From January 2009, HEWs and related officers conducted guidance on community-based surveillance methods to the KSOs at monthly meetings. Currently, introductory training for KSOs has been completely finished.
3-6. KSOs engage in surveillance activities and refer suspected patients to HEWs.	<ul style="list-style-type: none"> ● Concerning the reporting cards in Activity 3-4, three types were prepared (Emergency Card for use in suspected cases of AFP/polio, neonatal tetanus, AWD, rabies, measles, meningitis, anthrax and other ailments requiring urgent reporting; Referral Card for suspected cases of malaria, diarrhea in under-5-year-olds, pneumonia in under-5-year-olds and other ailments that require referral to other health care facilities; and Zero Report Card), and the card system was introduced at Mecha woreda in January 2009. ● Use of the Zero Report Cards is difficult and some areas in the expanded kebele following the pilot activities have only introduced the other two types of card. ● Patients accepted by HEWs receive the necessary examinations, treatment and medication, etc. at health posts, and in cases where referral to health centers is necessary, a system has been introduced at Dembia woreda in June 2009 for using the referral papers prepared in the Project. ● There are increasing numbers of referred patients by KSO who visit health posts.
3-7. HEWs register all patient records which include referral patients by KSOs.	<ul style="list-style-type: none"> ● In January 2011, patient records, developed by the Project, were distributed to all pilot health posts, explanations and guidance on how to fill records and so on were conducted at all times in monthly meetings and so on; and recording is being conducted in all health posts.
3-8. Conduct KSO's knowledge assessment test on community target diseases.	<ul style="list-style-type: none"> ● In July 2008, September 2009 and March 2012, assessment was implemented on the performance of KSOs including their knowledge level concerning case definitions of KSO target diseases and their participation rate in monthly meetings. ● The KSO knowledge level of case definitions in 2008 (at the start of the Project) was 55%, but this had increased to 94% by the survey of 2009. Even allowing for replacement of KSOs, a high level of 91% was maintained in the survey of 2012.

⁶ Paired Student's t-test

3-9. Develop health post 5S checklists.	<ul style="list-style-type: none"> In November 2010, a checklist containing 10 items was prepared in both English and Amharic.
3-10. Post health post 5S checklist on the wall of pilot health posts.	<ul style="list-style-type: none"> By September 2011, 5S workshops targeting health extension supervisors (HES) and HEWs were implemented and entailed the introduction of 5S concepts, 5S activities and checklists in 20 health posts. In December 2010, 5S introductory training targeting ARHB, Merawi health center and Project staff was implemented. (2 time) Following the above workshops, monitoring based on the checklists affixed to walls by the HES in KSO monthly meetings has been continued. Monitoring is still not adequate at some health posts; however, improvement of the workplace environment can generally be recognized.
3-11. Monitor and supervise community surveillance and response.	<ul style="list-style-type: none"> In line with promotion of the Health Extension Package (HEP) by the Ethiopian Ministry of Health, periodic monitoring and supervisory guidance by health centers has increased. PHEM officers of WorHOs and health centers accompany visits to the Project health posts and the monitoring is also continued in the KSO monthly meetings.
3-12. Devise and conduct trials of revolving fund activities of hygiene-related products (social marketing).	<ul style="list-style-type: none"> From 2009, a revolving fund system for sanitary goods (soap and water purifying agent) was introduced to 3 kebeles in the Amarat cluster in Mecha based around the KSOs. In June 2011, seed money for drug revolving fund was introduced to the Abiot Fana health center. Currently, both these systems are in operation and continue to generate revenue.
3-13. Evaluate pilot activities.	<ul style="list-style-type: none"> From November 2009 to January 2010, assessment of the pilot activities targeting conveyance of knowledge from KSOs to residents, operating status of the referral system and the conditions of use of materials and so on was implemented. Based on the results of assessment, community-based surveillance was modified for application to Output 4.

Output 4	
Operational capacity of the verified system of community-based surveillance is developed in all target area.	
Activities	Performances
4-1. Select target woredas and kebeles.	<ul style="list-style-type: none"> In addition to the kebeles that were selected as pilot in the 3-2 activity, 17 kebeles and 14 kebeles were additionally selected in Mecha woreda and Dembia woreda respectively from April to October 2010. In response to a request from Ebinat woreda health office for support concerning introduction of community-based surveillance, technical support was started for another 8 kebeles under a cluster health center (Ebinat Zuria) from November 2010 to February 2011. Ebinat WorHO is utilizing its own budget to implement and autonomously extend training to another 34 kebeles in February 2012.
4-2. Conduct training for WorHOs.	<ul style="list-style-type: none"> From April 2010 to February 2011, training on community-based surveillance was implemented for Mecha WorHOs and HEW in the target areas. From April to March 2011, training on community-based surveillance was implemented for HEW in newly targeted kebeles in Dembia woreda.
4-3. Conduct training for HEWs and KSOs.	<ul style="list-style-type: none"> Following the implementation of training, community-based surveillance has been commenced in all the target areas.
4-4. Revise and disseminate manuals and education tools.	<ul style="list-style-type: none"> From August 2010 to October 2011, a review of manuals, reporting tools and other teaching materials was carried out. In line with this, a simplified revised the on community-based surveillance manual was prepared and introduced to the newly targeted areas.
4-5. KSOs engage in surveillance activities and refer suspected patients to HEWs.	<ul style="list-style-type: none"> The referral system, utilizing the reporting cards and referral paper that were introduced in Activity 3-6 is being introduced to the newly targeted areas, and follow-up on this is currently being conducted. There are increasing numbers of referred patients by KSO who visit health posts.

4-6. HEWs keep patient registration records.	<ul style="list-style-type: none"> ● The patient registers that were introduced in Activity 3-7 are being introduced to the newly targeted areas, and follow-up on this is currently being conducted. ● Patient registrations are being utilized at all the targeted health posts, however, some health posts have experienced trouble regarding the method of filling-in, so ongoing follow-up is being conducted.
4-7. Monitor and supervise community surveillance and response.	<ul style="list-style-type: none"> ● Monitoring and supervisory guidance activities are being continued via the KSO monthly meetings that were being conducted in Activity 3-11 by health centers.

Output 5	
Public health and medical responding capacity of infectious diseases based on surveillance data is strengthened in pilot area.	
Activities	Performances
5-1. ARHB provides feedback of surveillance results to pilot 3 ZHDs monthly.	<ul style="list-style-type: none"> ● Reporting frequency has changed from monthly reporting to weekly reporting in line with the change from IDSR to PHEM, however, introduction of the feedback of surveillance results is greatly delayed. ● According to Table 1 and Table 2 introduced in Activity 2-4, monitoring of the timeliness and completeness of reports on the ground level and occurrence trends of PHEM target diseases has been started, however, feedback reporting (monthly reporting) on the region, zone and woreda levels is not being implemented. ● However, on the ground level, based on the results of Table 1 and Table 2, measures (case-by-case handling by telephone or visit) according to necessity are being conducted.
5-2. ZHDs provide feedback of surveillance results to pilot 6 woredas monthly.	
5-3. 6 woredas provide feedback of surveillance results to pilot model cluster health centers monthly.	
5-4. Conduct situational analysis of the response protocol of each PHEM target disease at the PHEM department of the regional health bureau.	<ul style="list-style-type: none"> ● In March 2011, survey of the response protocol of each PHEM target disease was implemented.
5-5. Revise/develop response protocol of each PHEM target disease at the PHEM department of the regional health bureau.	<ul style="list-style-type: none"> ● From January to March 2011, draft response protocols for three high priority diseases (rabies, anthrax and meningitis) of the PHEM target diseases, for which no response protocols had been available at the national level, were prepared based on guidelines of WHO, the WHO Regional Office for Africa and the United States Center for Disease Control and Prevention (USCDC). ● Discussions on the response protocols of rabies and anthrax, which are highly likely to occur among PHEM disease, are taking place with the Federal Ministry of Health (FMOH) to be approved at the national level. The Project will have dialogue with the Agriculture Bureau to ensure the protocol can at least be used as the standard operating procedure (SOP) in Amhara region. After which, it is planned that the Project will discuss with the FMOH to finalize the protocols. ● In June 2011, a simplified response protocol was added to the community manual, and this was distributed to KSOs and HEWs with guidance in the entire 81 target kebeles.
5-6. Zonal health officers develop and enforce protocol for distribution of anti-malarial drugs according to malaria epidemic/non-epidemic area at kebele level.	<ul style="list-style-type: none"> ● The Global Fund to Fight Aids, Tuberculosis and Malaria (GFATM) supports Ethiopia's program to fight malaria (through supplying RDT kits and antimalarial drugs). Since the malaria program runs on its own and this makes it difficult for the Project to become involved in this area, this activity is not being implemented.
5-7. Conduct situational analysis of laboratory capacity of health centers at target area.	<ul style="list-style-type: none"> ● In December 2008, analysis of the current conditions of 1 laboratory examination capacity and instruments was implemented at the 22 target woredas. ● In December 2010, questionnaire survey of laboratory examination functions was implemented to laboratory technicians at the 22 target woredas.
5-8. Select model cluster health centers.	<ul style="list-style-type: none"> ● In November 2010, 7 health centers were selected for laboratory upgrading initially. ● The number of the health centers for laboratory upgrading is increasing in accordance with the allocation of laboratory technicians (See activity 5-10).
5-9. Identify feasible and sustainable laboratory examination items at model cluster health	<ul style="list-style-type: none"> ● Based on the findings of the 2010 survey described in Activity 5-7, laboratory examination diagnosis items that should be introduced at the health centers was decided.

centers.	<ul style="list-style-type: none"> ● The items are as follows: ① malaria microscopic examination, ② fecal microscopic examination, ③ tuberculosis (sputum smear) microscopic examination, ④ HIV examination by RDT ⑤ urine examination and ⑥ bacterial microscopic examination by Gram stain.
5-10. Provide laboratory equipment that are sustainable and effective for model cluster health centers.	<ul style="list-style-type: none"> ● In discussions with ZHDs and WorHOs, it has been decided to supply microscopes through the Project if laboratory technicians are assigned, and laboratory technicians are now being allocated to the health centers. ● From JFY 2010 to JFY 2012, the examination instruments decided in Activity 5-9 (microscopes, centrifugal separators, analytical scales, microscope reflective mirrors, color Atlases and reference books) were supplied to 18 health centers. ● In November 2010, 17 out of 44 health centers were capable of implementing laboratory diagnosis, however, this has increased to 35 as of the time of the Terminal Evaluation. It appears likely that all 44 health centers will be able to conduct laboratory diagnosis by the end of the Project.
5-11. Provide training on maintenance of laboratory equipment and consumption and supply system of reagents/chemicals on the sustainable and effective laboratory examinations selected in 5.9.	<ul style="list-style-type: none"> ● Via the on-site training and integrated laboratory technology training that was implemented in May 2011, the examination capacity and equipment maintenance and reagents/chemicals inventory management techniques of laboratory technicians were improved at 29 health centers. ● In particular, the Project provided hands-on training with regard to not only examination skills but also reagent preparation; and acquisition of skills for reagent preparation will contribute to efficient stock control at laboratory. ● Comprehensive laboratory skill sharing programmes between Tape A and Type B health center laboratories were done in each woreda from June 2011 to January 2012.
5-12. Promote microscopic malaria laboratory examination of suspected malaria cases at model cluster health centers.	<ul style="list-style-type: none"> ● In December 2008, training for standardization and improvement of laboratory techniques was implemented for laboratory technicians at health centers. (One time, 25 participants) ● In December 2010, training for improvement of laboratory techniques for malaria microscopic diagnosis was implemented for laboratory technicians at health centers. (One time, 22 participants) ● In May 2011, supportive supervision geared to following up the training implemented in Activity 5-11 was implemented in 29 health centers. ● Second round supportive supervision was started in May 2012.
5-13. Promote malarial examination with rapid diagnostic test (RDT) at model health posts.	<ul style="list-style-type: none"> ● In KSO monthly meetings, malaria diagnoses based on RDT kits are encouraged at health posts. ● The Project conducted assessments for HEW's technical skill of malaria testing with RDT on site, and simultaneously provided hands-on trainings as needed basis from August 2011 to January 2012. The results showed that HEW's technical skill were generally acceptable.
5-14. Examine drug consumption and supply system at cluster health centers and health posts in target area.	<ul style="list-style-type: none"> ● From August 2011, stock control for medicines at health centers and health posts are monitored at cluster meetings and KSO monthly meetings.

Output 6	
A model of surveillance and response is established which connects facility-based and community-based surveillance.	
Activities	Performances
6-1. Develop and introduce referral system with referral paper to model cluster health centers.	<ul style="list-style-type: none"> ● From March 2011, the system was introduced whereby the Project would bear the health center registration fees for patients visiting the health centers with referral papers from HEWs. ● Currently, discussions have been ongoing toward phasing out of disbursement of health center registration fees by the Project.
6-2. Promote to conduct regular cluster meetings at model cluster health centers.	<ul style="list-style-type: none"> ● In 2011, explanations concerning the objectives, importance and agenda of the 10 cluster health center cluster meetings were conducted starting in Merawi, Ebinat and Dembia woredas. In the Project, personnel periodically visit the cluster meetings and continue to offer technical support as the need arises. ● At the cluster health centers in Mecha woreda, cluster meetings are regularly held

	once a week, while similar meetings are held once a month in other areas.
6-3. Promote participation by HEWs and woreda officers for cluster meetings.	<ul style="list-style-type: none"> ● In the cluster meetings, guidance was offered via the cluster health centers to ensure that at least one member from each health post takes part. The WorHOs are also encouraged to share the cluster meeting schedules and to participate. ● From January 2011, monitoring of the cluster meetings by the Project side is implemented. Moreover, before the cluster meetings begin, participation by the WorHOs is checked and encouraged. ● The participation of WorHOs in cluster meetings vary from one woreda to another, since the responsibility of monitoring and supervision of health posts was transferred from woredas to health centers according to the policy of the FMOH.
6-4. Health center staffs keep referral papers sent by HEWs and take brief note on the referral paper regarding management of referred patients. (individual feedback).	<ul style="list-style-type: none"> ● From March 2011, operation of referral papers with feedback columns was started. ● In the Project, guidance is offered on the importance and objectives of feedback and the operating conditions are periodically monitored. ● Referral papers are used at all the targeted cluster health centers, and feedback is entered into most referral papers and stored at health centers.
6-5. Health Center staff provides feedback to HEWs at cluster health centers monthly. (institutional feedback).	<ul style="list-style-type: none"> ● From January 2011, guidance was offered on implementing case conferences using referral papers in the cluster meetings. ● Case conferences in cluster meetings and feedback to HEWs are gradually being implemented. ● Information on treatment provided, etc. is stated in referral papers; however, currently, forms are not returned to HEWs as counter referrals. In future, it is scheduled to further strengthen operation of referral papers as a counter-referral in the remaining project period.

2) Achievements of the Outputs

Achievements of the Project Output were evaluated against the Objectively Verifiable Indicators (OVIs) specified in the PDM version 5.5 when possible. However, due to the problems in definition of some of the OVIs, including the lack of clear numerical target, or lack of data for comparable measurement, it was augmented with qualitative assessment based on information collected from document review, interviews and direct observations.

a) Output 1

Achievement of Output 1 is high in many aspects. It is expected that the output will be achieved by the end of the Project.

The Project contributed to operationalizing the system of facility-based surveillance in the 6 pilot woredas, in accordance with the change in national policy from IDSR to PHEM. This was achieved through the development of norms and forms, individual capacity development through multiple training and follow-ups, and improvement of communication means. User-friendly, easy-to-use tools introduced by the Project, such as "Table 1" (spreadsheet for monitoring the timeliness and completeness of reports) and "Table 2" (spreadsheet for monitoring occurrence of PHEM target diseases), are highly appreciated by the relevant personnel.

Effectiveness of the project interventions was verified by high level of reporting timeliness (83% for reporting from health centers to WorHOs, 87% for WorHOs to ZHDs) and high level of completeness (85% for reporting from health centers to WorHOs, 87% for WorHOs to ZHDs) in the pilot woredas. It should be reminded that this was achieved against the increase in reporting frequencies from monthly to weekly due to the change from IDSR to PHEM, the increase in reporting facilities due to inclusion of health posts in PHEM and the increase in the



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number of health centers.

However, much improvement is needed in reporting from ZHDs to ARHB for the system to complete. There is limited information about timeliness and completeness of reporting from health posts to health centers even though efforts are being made in the pilot woredas to improve these through regular cluster meeting.

Achievements of the OVI for Output 1 are summarized below.

[Output1]	
Effective system of facility-based surveillance is established and verified in pilot area.	
OVI	Achievements
1-1. Timeliness, and completeness of surveillance report from ZHDs and WorHOs of pilot area improves compared to non-intervened area.	<ul style="list-style-type: none"> ● Since reporting frequency was changed from monthly reporting to weekly reporting in line with the change from IDER to PHEM, data concerning the timeliness and completeness of reporting is used from September 2009 onwards. ● At the time of the Mid-term Review in November 2010, the timeliness and completeness of reporting from health centers in the 6 pilot woredas to WorHOs was 60% and 61% respectively. In April 2012, these figures were 83% and 85% respectively. It can thus be seen that reporting timeliness and completeness from health centers close to communities to WorHOs is increasing. ● The timeliness and completeness of reporting from the 6 pilot WorHOs to the 3 target zones in April 2012 was 87% and 87% respectively, whereas it was 68% and 68% respectively in the non-intervention areas. Therefore, when compared to non-intervention areas, high values are indicated for both the timeliness and completeness of reporting from WorHOs to the ZHDs. ● The timeliness and completeness of reporting from the 3 ZHDs to the ARHB in April 2012 were 43% and 64% respectively, whereas they were 51% and 63% respectively in the non-intervention areas. Therefore, whereas reporting completeness from the ZHDs to the ARHB is almost the same, the timeliness of reporting is conversely lower in the intervention areas, due possibly to limited intervention so far from the Project to ZHDs, compared to other levels. ● Summing up, timeliness and completeness of reporting on the woreda level and below are generally good, however, it hasn't been possible to observe the effects of intervention between ZHDs and the ARHB.
1-2. Data collection and analysis of selected surveillance diseases (malaria, acute watery diarrhoea (AWD), meningitis, acute flaccid paralysis (AFP), measles, neonatal tetanus) improves in ZHDs and WorHOs of pilot area compared to non-intervened area.	<ul style="list-style-type: none"> ● The objective of this indicator was to verify the intervention effect based on comparison with the non-intervention areas, however, due to the extreme difficulty in obtaining data from non-intervention areas, comparative examination couldn't be performed. Accordingly, this indicator cannot be used as an indicator of output achievement either. ● Moreover, over the 6 months from November 2011 to April 2012, it is confirmed that all the 6-targeted WorHOs have filled in Table 2. Moreover, in the ZHDs too, the filling-in ratio has been approximately 100%. ● Factors behind this are that Project intervention has been advanced based around woredas and the degree of intervention in zones and regions has increased. In the remaining period, it is likely that activities will be strengthened with respect to the ARHB and ZHDs.

b) Output 2

Achievement of Output 2 is not high at the time of the evaluation. However, prospect for achieving the output by the end of the project period is high.

Due to the change from IDSR to PHEM and the need for adjustment in norms and forms, there was a delay in initiating some of the project interventions to 16 target woredas. Even though PHEM TOT was extended for all the target woredas, PHEM training was completed in only 3 woredas at the time of the evaluation. As such, reporting performance of 16 target woredas remains at the equivalent level with non-target woredas in 3 zones.

However, the Project is planning to cover all the target Woredas with PHEM training by the end of cooperation period. It is expected that similar level of performance improvement will be achieved in those Woredas. It is expected that the effectiveness of PHEM training package to be further verified through the process, facilitating the future application by the Ethiopian authorities.

Achievements of the OVIs for Output 2 are summarized below.

【Output 2】 Operational capacity of the verified system of facility-based surveillance is developed in all target area.	
OVI	Achievements
2-1. Timeliness, and completeness of surveillance report from ZHDs and WorHOs of target area improves compared to non-intervened area.	<ul style="list-style-type: none"> ● As of April 2012 when PHEM training is not being implemented, the timeliness and completeness of reporting from the expanded 16 WorHOs to the ZHDs were 62% and 62% respectively. Since the timeliness and completeness at the non-intervention areas were 68% and 68% respectively, and those are almost equivalent with that in the target areas where not yet be intervened. ● PHEM training for the 6 pilot woredas was finished in December 2011, and that for the 3 target zones was finished in May 2012. It is now planned to conduct PHEM training in the health offices in the 16 expanded woredas, and this is likely to be completed by the end of the Project. ● The timeliness and completeness of reporting from the WorHOs to the ZHDs were 87% and 87% in the 6 pilot woredas but only 62% and 62% in the expanded 16 target woredas. However, it is anticipated that levels will increase to those experienced in the pilot woredas as PHEM training is implemented more in future.
2-2. Data collection and analysis of selected surveillance diseases (malaria, AWD, meningitis, AFP, measles, neonatal tetanus) improve in ZHDs and WorHOs of pilot area.	<ul style="list-style-type: none"> ● It is now planned to conduct PHEM training in the health offices in the 16 expanded woredas, and future activity will entail the introduction of Table 1 and Table 2, which are the tools for data collection and analysis. However, so far no data have been obtained.
2-3. More than 80% of target 22 WorHOs maintains disease data collection system.	<ul style="list-style-type: none"> ● In the case where “maintenance of system” in the Project is defined as the attainment of 80% or higher timeliness and completeness of reporting for 6 months, as of April 2012, results were obtained in 5 out of 22 WorHOs (23%). Since all the 5 WorHOs were the pilot WorHOs of the Project, it is implied that efficiency of the pilot activities under Output 1.

c) Output 3

Achievement of Output 3 is high even at the time of the evaluation, although long-term sustainability and feasibility remain to be answered.

Through the Project, a community structure of active disease identification and response using volunteers (KSOs), method of reporting and patient referral from KSOs to HEWs using reporting cards, monitoring and feedback through regular KSO meetings organized by HEWs, were introduced to and established in the pilot 8 villages (kebeles) in 2 woredas. It was verified that majority (over 90%) of KSOs, with proper support from the Project, maintained their knowledge on symptoms of major diseases over time, hence they can be reliable agents of disease identification in the community, complementing facility-based surveillance. With the help of HEWs and WorHOs, they have a potential to function as agents of mobilizing community responses.

It is difficult to make conclusion from the available data about cost-benefit of having community-based surveillance in addition to facility-based surveillance simply from PHEM perspective. However, presence of active community volunteers who can support the work of HEWs has positive impacts on other priority health

programs in Ethiopia, such as maternal and child health, nutrition, water and sanitation. Some of the KSOs observed by the Team were active in referring pregnant mothers to the health facility. Their potential as agents of demand-creation is high particularly in rural areas where utilization of formal health care is still low.

As indicated in declining participation rate in monthly KSO meeting in the pilot kebeles, which could be explained partly by seasonality of rural life cycles and other ad hoc events and campaigns, sustaining motivation and commitment to voluntary work over longer period of time may be a challenge. KSOs in Mecha and Dembia woreda and 8 kebeles in Ebinat woreda were provided with one-time, non-monetary incentives by the Project (e.g. T-shirts, umbrellas and bags), but not remunerated for daily activities. The impact of project interventions such as promotion of revolving fund activities and improvement in clinical response at health facilities for patients referred by KSOs on the motivation of KSOs is inconclusive at the time of the evaluation.

Achievements of the OVI for Output 3 are summarized below.

[Output 3] System of community-based surveillance is established and verified in pilot area.	
OVI	Achievements
3-1. 75% participation rate of Kebele Surveillance Officers (KSOs) is maintained for monthly meetings in kebeles (community) of pilot area.	<ul style="list-style-type: none"> The participation rate between June and November 2011 (6 months) was 73.6%, almost achieving the set value. The participation rate from December 2011 to March 2012 (4 months) was well below the setting at 58.3%. The low figure was influenced by schedule revisions arising from religious festivals and the fact that many KSOs didn't have time for KSO activities due to campaigns and farming activities.
3-2. Number of cards submitted to health extension workers (HEWs) (suspected case reporting) in kebeles of pilot area.	<ul style="list-style-type: none"> From June to November 2011 (6 months), 459 emergency cards and referral cards were submitted from 8 kebeles. 496 cards were submitted between December 2011 and March 2012 (4 months) from 8 kebeles . Because no clear target value has been set for this indicator, it cannot be used as an objective indicator. However, even during periods when the participation rate in KSO meetings is low, the fact that cards are regularly submitted indicates that KSO activities are continuing in the communities.
3-3. 80 % of KSOs in community know simple case definition of the community target diseases.	<ul style="list-style-type: none"> The ratio of KSOs who were generally able to answer the main symptoms of 10 diseases targeted for surveillance in communities increased from 54% (49 out of 90) at the start of the Project (2008) to 94% by the survey in December 2009. Since the figure is still 91% in March 2012, this shows that the knowledge level of KSOs is being maintained. In spite of transfers and job separation of KSOs, a high level is maintained and the target value is well exceeded.
3-4. Number of monthly meetings conducted	<ul style="list-style-type: none"> No clear achievement target is indicated for this indicator either, however, 31 monthly meetings were held over 4 months between December 2011 and March 2012. If the scheduled target of 32 meetings is assumed to be the parameter, this means that 96.9% of the scheduled meetings have been held and indicates that monthly meetings have become well established.
3-5. HEWs in pilot area register patient records.	<ul style="list-style-type: none"> It is confirmed that all the HEWs in the pilot areas are registering patient records at the time of the Terminal Evaluation. However, problems have also been confirmed in the operation of documents (referral papers, patient records, etc.), and this is recognized to be one of the issues that need to be addressed in the remaining period.
3-6. 90% of pilot model health posts improve their working conditions based on the "health post 5S checklist".	<ul style="list-style-type: none"> At all health posts where 5S have been introduced, the working environment is maintained based on the 5S checklist. Therefore, it may be said that the target setting has been achieved. Currently, it is being confirmed via project monitoring if this is situation being maintained, however, it is scheduled to include this in the confirmation items for health center supportive supervision to ensure it becomes more established in future.

d) Output 4

Achievement of Output 4 is high at the time of the evaluation.

The system of disease identification by community volunteers is now expanded from the initial 8 pilot kebeles to the total of 81 kebeles covering 3 woredas. A satisfactory level of participation in KSO monthly meeting is maintained in the expanded kebeles in Mecha (66%) and Dembia (76%). KSOs are actively reporting cases and referring patients to health posts in those areas also.

An example of usefulness of the community-based surveillance was demonstrated in detection of NNT. In Mecha woreda, 11 suspected cases were found and reported to ARHB over 3 years after the start of the Project. As these cases were all from the project target kebeles, this incident represents the value of having the community-based surveillance.

However, it will be a challenge for ARHB and other relevant health offices in Amhara Region to replicate the model to other kebeles in the region as these achievements were obtained through intensive support from the Project. Careful designing of expansion strategy will be needed in consideration of additional cost and benefit of having community-based surveillance, though the benefit may not be limited to PHEM.

With regard to the sustainable strategy of scaling-up, the case of Ebinat woreda presents interesting lessons. In Ebinat, the concept of community-based surveillance was adopted spontaneously by the initiative of WorHO. With a minimum technical input from the Project in the initial 8 kebeles, the system was defused to 34 kebeles in the woreda relying mainly on local resources. Another interesting lesson from Ebinat is the integration of KSOs and HDAs in which HDA members perform the function of KSOs. Those HDA members were not even provided with non-monetary incentives such as T-shirts, umbrellas and bags as in other project-supported kebeles. Since HDA is a national policy vigorously implemented in all parts of Ethiopia, such integration will accelerate the scale up of community-based surveillance. According to the latest information, training on PHEM was designated officially as one of the training modules for HDA by FMOH.

Achievements of the OVIs for Output 4 are summarized below.

[Output 4] Operational capacity of the verified system of community-based surveillance is developed in all target area.	
OVIs	Achievements
4-1. 65 % of participation rate of KSO is maintained for monthly meetings in target area.	<ul style="list-style-type: none"> In the 4 months from December 2011 to March 2012, the participation rate was 67.5% in Mecha woreda (16 kebeles) and 75.9% in Dembia (14 kebeles) excluding the 8 pilot kebeles. Since both figures are higher than the target value, this indicator has been achieved.
4-2. Number of cards submitted to HEWs (suspected case reporting) in target area	<ul style="list-style-type: none"> The total number of emergency cards and referral cards over this period (4 months) was 628 in Dembia woreda and 3,042 in Mecha woreda in 14 kebeles and 16 kebeles respectively. Because no clear target value has been set for this indicator, it cannot be used as an objective indicator. Moreover, because the number of reports differs according to the occurring number of patients, there is difficulty in accurately measuring the level of achievement of activities based on figures alone. However, it can be confirmed that the report system based on use of cards is being operated.
4-3. Number of monthly meetings conducted	<ul style="list-style-type: none"> Forty-three (43) in Dembia and 55 in Mecha out of respective expected number of 56 and 64 times were held from December 2011 to March 2012.

	<ul style="list-style-type: none"> Compared to the target figure, the meeting implementation rate was 85% in Mecha and 76.8% in Dembia, so the anticipated level has been more or less achieved in both woredas in spite of differences in local factors, intervention methods and degree of intervention.
4-4. HEWs under the model clusters in target area register patient records.	<ul style="list-style-type: none"> Since all HEWs in the pilot areas keep records of the patients that visit health posts, it may be said that this indicator is achieved 100%. However, problems have also been confirmed in the operation of documents (referral papers, patient records, etc.), and this is recognized to be one of the issues that need to be addressed in the remaining period.
4-5. Participation rate of HEWs for cluster meetings in target area.	<ul style="list-style-type: none"> No clear achievement target is indicated for this indicator either, however, at least one HEW attends cluster meetings from one health post in 94% of cases, so the anticipated level is achieved.

e) Output 5

Achievement of Output 5 is relatively low, except for upgrading of health center laboratories.

The Project, in Output 5, focused on building systematic surveillance results feedback, response protocol development and strengthening laboratory examination functions in order to bolster public health and medical response capacity regarding infectious diseases based on surveillance data. Concerning laboratory functions, it is planned that microscopic and other essential laboratory examinations will be started at 44-target health centers by the end of the project period, and these will open the way to laboratory-based surveillance. Moreover, it is expected to make a major contribution to the improvement of clinical care practices, as definite diagnosis will be available.

However, regular feedback, which incorporates such analysis as disease trend, geographic and population concentration, is not provided in a systematic manner at the level of ZHDs. ARHB has just started feedback and it is beginning to be regularized. It is necessary to have response protocols for PHEM target diseases in place in order to realize consistent response activities, but disease-specific response protocols for some of the PHEM target diseases aren't available even at the national level. The Project supported preparation of the protocols for two high-priority diseases (anthrax and rabies). Currently, draft protocols are shared with the FMOH, and it is planned to accelerate efforts to finalize these in the remaining period of the Project.

Achievements of the OVIs for Output 5 are summarized below.

[Output 5] Public health and medical responding capacity of infectious diseases based on surveillance data is strengthened in pilot area.	
OVIs	Achievements
5-1. ARHB, ZHO, WorHO will provide feedback to each jurisdiction monthly.	<ul style="list-style-type: none"> Case-by-case response (issuing of instructions by telephone, etc.) to disease trends is implemented on all levels. However, as of April 2012, feedback from ARHB has just started and hardly any systematic and regular feedback has been provided from ZHDs to WorHOs.
5-2. Number of response protocol of each Public Health Emergency Management (PHEM) target disease developed/revised at ARHB	<ul style="list-style-type: none"> Because no clear target value has been set for this indicator, it cannot be used as an objective indicator. Concerning the response protocol for the high possibility diseases of rabies and anthrax, discussions are taking place with the FMOH concerning approval on the national level. It is also scheduled for a JICA expert to be dispatched to help with finalization of the draft protocols for these two diseases.

	<ul style="list-style-type: none"> ● It is at least scheduled to advance discussions with FMOH upon coordinating with the Agriculture Department to ensure that the protocol can be used as the standard operating procedure (SOP) for Amhara region. ● In June 2011, a simplified response protocol was added to the community manual, and this was distributed to KSOs and HEWs with guidance.
5-3. Number of health centres which regularly perform microscopic malaria examination without interruption.	<ul style="list-style-type: none"> ● Because no clear target value has been set for this indicator, it cannot be used as an objective indicator. ● According to the findings of the situation analysis report in January 2009, only 8 out of 44 health centers were able to conduct examinations as of January 2009, however, this had increased to 35 by the Terminal Evaluation. It is expected that all 44 health centers will be able to conduct examinations by the end of the Project.

f) Output 6

Achievement of Output 6 is moderate at the time of the Terminal Evaluation.

From the outset, the Project has intended to strengthen facility-based surveillance (Outputs 1 and 2) and community-based surveillance (Outputs 3 and 4), and initiatives that entail organized collaboration from community to the central level have been sought as the basic principle for surveillance. Also, because health posts were included as reporting facilities in line with revision of the national surveillance policy from IDSR to PHEM, Output 6, which entails connecting facility-based surveillance and community-based surveillance by utilizing the cluster approach promoted by FMOH, was added during the Mid-term Review. Promotion of the cluster approach (clustering of several health posts under one health center and strengthening of relations between facilities and communities) was adopted in the national health sector development program (HSDP-IV 2010/11~ 20014/15). Even though a model of surveillance, which connects facility- and community-based surveillance systems, is being established, the linkage need to be strengthened further. The Figure 1 shows the overall reporting performance in Amhara region from health centers to ARHB through WorHOs and ZHDs in April 2012. As there is a gap in each level of reporting, “combined” or accumulated timeliness and completeness when they reach ARHB are still low at 31% and 47% respectively. The result suggests that the linkage should be further strengthened. In order to improve the overall function of the surveillance system, the gaps need to be minimized in all levels, especially at higher levels in the case of 3 pilot zones. This kind of analysis may be extended to cover reporting from health posts in the future, to evaluate the level of achievement of Output 6 or to assess combined performance of facility-based and community-based surveillance.

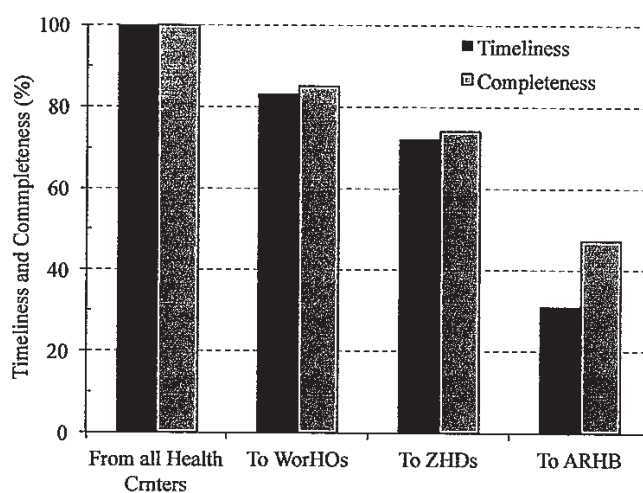


Figure 1: Reporting Performance in Amhara Region

Achievements of the OVIs for Output 6 are summarized below.

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【Output 6】	
A model of surveillance and response is established which connects facility-based and community-based surveillance.	
OVI	Achievements
6-1. Number of referral papers issued by HEWs	<ul style="list-style-type: none"> Over 4 months from December 2011 to March 2012, 2,645 referral cards were issued. Because no clear target value has been set for this indicator, it cannot be used as an objective indicator. Moreover, because the number of issued cards differs according to the occurring number of patients, there is difficulty in accurately measuring the level of achievement of activities based on figures alone. However, registration fees at health centers are covered by the Project as a temporary measure to boost utilization of referrals, and utilization of referral papers is becoming more established. The bearing of registration fees at health centers is helping to promote the utilization of referral papers, however, this may hinder the system autonomy following completion of the Project. In the Project, it is scheduled to conduct discussions with related agencies with a view to graduating from this support before the end of the Project.
6-2. Number of patients referred by HEWs actually going to model health centers.	<ul style="list-style-type: none"> With respect to the 2,645-referral papers that were issued over 4 months from December 2011 to March 2012, 1,630 patients were examined at the health centers, meaning that the consultation rate was 61.6%. Because no clear target value has been set for this indicator, it cannot be used as an objective indicator. Moreover, because the number of reports differs according to the occurring number of patients, there is difficulty in accurately measuring the level of achievement of activities based on figures alone. Meanwhile, because a certain number of patients seek consultation at private health facilities due to the limited consultation time and shortages of medical supplies at health centers, there is a limit to how far the consultation rate can be increased. Moreover, because there are cases where patients who have received referral papers go for consultations without bringing the papers, it is possible that the number of patients receiving consultation at health centers via the health posts is being underestimated. However, from the viewpoint of linking patients to higher-level examinations in tandem with the observations made at the health posts, the Project has been extremely effective. Moreover, because referral papers can be treated as medical records, contribution towards ongoing examination is hinted at.
6-3. Percentage of referred patient who reached health centers receiving proper response (diagnosed, treated, prescribed or referred) at model cluster health centers.	<ul style="list-style-type: none"> Because no clear target value has been set for this indicator, it cannot be used as an objective indicator. Moreover, because the number of reports differs according to the occurring number of patients, there is difficulty in accurately measuring the level of achievement of activities based on figures alone. However, patients who receive consultation at health centers are subject to diagnosis, treatment and referral to medical facilities.
6-4. Number of cluster meetings conducted at model health centers.	<ul style="list-style-type: none"> No clear target value has been set for this indicator either, however, since 34 out of the scheduled 36 cluster meetings (94.1%) were held, this item is generally thought to have been appropriately implemented. Moreover, since meetings are staged with or without project participation, the practice is generally thought to have become established. Since agenda items directly linked to health policy, for example, confirmation of progress of the health extension package, are also included in the cluster meetings, it is expected that meetings will continue to be periodically staged from now on.
6-5. At least one HEW from each kebele participates in 80% of cluster meetings in target area.	<ul style="list-style-type: none"> During the 4 months from December 2011 to March 2012, the ratio of at least one HEW per kebele attending the cluster meetings was 94%, indicating that this indicator was attained.
6-6. Number of WorHOs participates in cluster meetings.	<ul style="list-style-type: none"> During the 4 months from December 2011 to March 2012, 82 health officers from health centers and 23 from WorHOs (total numbers) attended the cluster meetings. Because no clear target value has been set for this indicator, it cannot be used as an objective indicator. Moreover, because the number of reports differs according to the occurring number of patients, there is difficulty in accurately measuring the level of achievement of activities based on figures alone.

	<ul style="list-style-type: none"> Because the cluster meetings are advanced under the initiative of the health centers, there is 100% participation from the health centers. When the indicator was first set, health extension supervisors belonged to WorHOs, however, because they have since been switched to the health centers, the participation numbers from WorHOs have declined. In future, the position of health extension supervisor will be abolished and employees of WorHOs will conduct supervision via the health centers.
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3) Achievements of the Project Purpose

Achievement of the Project Purpose is deemed partial.

Effective facility-based surveillance (Output 1) and community-based surveillance (Output 3) are functioning to some extent in the pilot areas, and it is being scaled-up to other target areas (Outputs 2 and 4). Foundations are being established for a surveillance system in which there is an effective connection from communities up to ARHB as demonstrated in the pilot areas (Output 6), even though gaps still exist in the reporting system.

Challenges remain, however, with strengthening of response capacity based on the surveillance (Output 5). Apart from upgrading of laboratory diagnosis capacity strengthening in health centers and feedback from ARHB which has just started, little systematic change is observed in other aspects of response capacity. Focused input from the Project may be needed for the rest of the project period and even beyond.

Achievements of the OVIs for the Project Purpose are summarized below.

[Project Purpose]	
Effective facility-based and community-based surveillance/response system is functioning in target area.	
OVIs	Achievements
1. Disease data collection system from woreda to the region is functioning in more than 80% of target 3 ZHDs (ZHDs) and 22 WorHOs (WorHOs).	Because no clear target value has been set for this indicator, and there are no conditions for objectively measuring "functioning," this indicator cannot be used.
2. Disease data collection system from health posts (community) to the region and infectious disease control mechanism is functioning in more than 70% of model cluster health centers and model health posts	The Team was informed about examples of response activities at various levels, including communities. However, the Team is in an opinion that such responses are yet to be systematized.

3.3 Implementation Process

1) Progress of Project Activities

The project activities were implemented according to the Plan of Operation (PO); however, progress was impacted by a number of internal and external factors. In particular, although the project activities were initially implemented according to the IDSR, the national surveillance programme, the target diseases and the scope of reporting facilities (extended to include health posts) were changed with the introduction of PHEM, which entailed stronger management and response to public health emergencies, in September 2009. The project activities were also revised corresponding to PHEM. In line with this, activities (revision of teaching materials and

training programs, implementation of PHEM orientation and training, etc.) were implemented again to make adjustment to PHEM. However, this greatly hindered the planned progress of the project activities, thereby negatively impacting the expansion of intervention and implementation of periodic feedback of surveillance results that was scheduled in Outputs 2 and 4 and the attainment of the outputs over the project period. Moreover, reporting timeliness and completeness also declined greatly. However, due to the support for PHEM introduction through the project training and so on, these indicators have been recovered by the time of the Terminal Evaluation. This influence of the policy change reduced the efficiency of the from the perspective of ‘beneficial utilization of time resource’; however, it is considered that the policy change for PHEM was needed and the change would provide significant positive impacts for infectious disease control in Ethiopia if the surveillance and response were realized accordingly.

Additionally, due to transfer of primary counterparts of the Project in Ethiopian side such as the head of the ARHB, PHEM Core Process Owner and his subordinating PHEM officers and new appointment of a vice head and so on, a certain amount of time has been spent on information sharing concerning the Project. The Project was affected by the enforcement of the Business Process Reengineering in Ethiopia in March 2009, resulting in the transfer of five counterparts from the six pilot woredas. As is described above, because of the delays in the project activities, the involvement of ARHB in feeding back the results of surveillance was limited; however, the current PHEM core process owner is actively involved in the project activities. The Project was also affected by the changes in JICA experts.

2) Project Management

The Project has been carried out since January 2008 for the period of five (5) years based on the PDM Version 0 with mutual agreement at the Ex-ante Study and (final agreement was made on August 2007 by signing on the Record of Discussions). The PDM has been subject to as-needed modifications six times in complying with actual circumstances of the Project, as well as setting of quantitative indicators, and the revised PDMs were authorized at the Joint Coordination Committee (JCC). At the time of the Mid-term Review in November 2010, the PDM was subject to modification of logical structure and addition of necessary Outputs (5 and 6) for the development of an ideal surveillance system. Indicators were added and corrected according to the actual conditions, however, target figures and conditions for objectively measuring method of attainment of outputs were not clearly indicated, some of the indicators can't be used in the Terminal Evaluation. The achievement of indicator is not only used for measuring achievement at the time of evaluation, but it is also used in project management from the viewpoint of output control. The implementation of activities was appropriately managed in the PO; however, this has hampered effective project management from the viewpoint of managing the project outputs.

Meanwhile, overall progress of the Project has been monitored by key officials in ARHB such as Bureau Head (Project Director.), Deputy-Head and PHEM Core Process Owner (Project Manager) and his subordinates at a several-month interval. In addition, progress, performances and problems arising from project activities are confirmed and discussed at JCC.

3) Communication amongst parties concerned

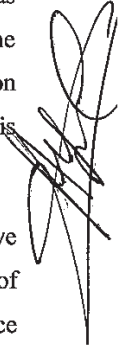
As was also mentioned in “*Progress of Project Activities*,” there have been cases where handover between JICA experts wasn’t conducted adequately. Moreover, communications concerning clerical procedures for purchasing equipment have not always been adequately conducted between the JICA Ethiopia office, the Project and the ARHB, and there have been cases where too much time was taken from the start of the purchasing procedure to installation of the equipment.

Meanwhile, the JCC and the other meetings have generally maintained good communications with the main counterparts and related agencies, and consultations have been appropriately conducted as problems and discussion points arose in project implementation. The ZHDs, WorHOs and health centers, which are the target groups of the Project, utilize training and monitoring opportunities for frequent communication.

4) Ownership and Autonomy

The Project implemented activities for strengthening facility-based surveillance centering on ZHDs and WorHOs and community-based surveillance centering on health centers and health posts. As was explained under “*Progress of Project Activities*”, the overall project activities were delayed, and involvement by the ARHB, which was expected to play the central role in the feedback of surveillance data and preparation of response protocols, was limited. However, the current PHEM Core Program Owner (the Project Manager,) is actively involved in the project activities; therefore, stronger commitment from ARHB is expected. In particular, detailed discussions on compiling equipment purchase plans and implementation plans would be conducted, and ARHB ownership is being nurtured from both the financial and technical aspects.

On the other hand, the ZHDs and WorHOs, which have an instructive role to play in PHEM operation, have generally displayed good ownership, although some of them have tended to rely on the Project due to shortage of funds and so forth. In spite of such circumstances, Ebinat WorHO has implemented community surveillance training and displayed a high degree of autonomy under its own budget. Moreover, a request to provide technical support for community-based surveillance has been received from Simada WorHO, which is a target area of facility-based surveillance, and this is viewed as another sign of growing autonomy.



CHAPTER 4 EVALUATION RESULTS

4.1 Relevance

The relevance of the Project is highly maintained at the time of the Terminal Evaluation for the following reasons.

1) Consistency of the Project Purpose with the Ethiopian Health Policies

As was confirmed at the Mid-term Review, FMOH emphasizes on the importance of the reinforcement of surveillance system for infectious diseases control in the HSDP-IV 2010/11-20014/15, and published PHEM in 2009, which was updated by strengthening IDSR. FMOH has included health posts as reporting health facilities in PHEM and come out with the strengthening of health service provision, including infectious diseases surveillance, at community level. Thus, it is confirmed that the Project Purpose, aiming at the establishment of foundation for facility-based and community-based surveillance system at selected target areas, is substantially consistent with Ethiopian health policies, and high relevance of the Project is being maintained as of the time of the Terminal Evaluation.

International Health Regulations sets the goal for all member countries of WHO to strengthen surveillance and ability of epidemiological response by June 2012, so that they can appropriately prepare for public health crisis. Thus, the Project aiming to strengthen surveillance system meets the Ethiopian needs as well as the international demand.

2) Consistency of the Project Purpose with the needs of target group

Though the target infectious diseases for surveillance that were detected in woredas are obliged to be informed to regional level appropriately, the ARHB was ridden with difficult situation of unmanageable basic surveillance system due to the mal-functioning of reporting system from woredas to zones as well as from zones to ARHB. In addition, since the national surveillance strategy was updated from IDSR to PHEM in 2009 by FMOH, there happened to have an increased need for the development of human resources who can conduct practical operations in accordance with PHEM at zonal, woreda and lower levels.

Besides, as described in the HSDP-IV 2010/11-20014/15, the Ethiopian population still faces high morbidity and mortality rates attributed to infectious diseases and people remains at risk in spite of major improvements of public health in the past decade. Though under-five mortality rate has been reduced from 123/1000 in 2005 to 88/1000 in 2011⁷, it is recognized that the main health problems in Ethiopia are preventable infectious diseases and malnutrition that are easily affected by infectious diseases. In addition, major causes for infant mortality are due to infectious diseases such as pneumonia, diarrhoea, malaria, and HIV/AIDS, or combinations of these conditions.

⁷ Ethiopian Demographic and Health Survey, 2011

Against this background, the Project has been conducting the project activities aiming at development of human resources engaged in PHEM, as well as early detection of infectious diseases and subsequent early treatment at health facilities and awareness raise at communities. Accordingly, the Project is consistent with the respective needs of not only health personnel engaged in PHEM at the ARHB, ZHDs, WorHOs, health centers and health posts, but also community residents; and it was confirmed that the high relevance of the Project Purpose was being sustained at the time of the Terminal Evaluation too. Furthermore, rationale for the implementation of the Project in the Amhara region is also secured, where a number of malaria and other infectious diseases cases are reported.

3) Consistency of the Project Purpose with Japan's Aid Policy

Since Japanese Government announced "Okinawa Infectious Diseases Initiative" at Kyushu-Okinawa Summit 2000, it has been referred in the Mid-term Policy of ODA that tackling infectious diseases as a global issue contributes to "Human Security", and therefore, is vital issue for the Japanese ODA. The purpose of the Project, to enhance the surveillance system of infectious diseases, is just consistent with the Japanese ODA policy. And also, In the Yokohama Action Plan adopted by the Fourth African Development Conference (Tokyo International Conference on African Development/ TICAD IV) (2008), countermeasures to infectious disease is listed as one of the priority items of the health sector; and at the G8 Toyako Summit of the same year, there was an agreement to work on strengthening the health systems including countermeasures to infectious diseases, maternal and child health, and training of health workers.

Importance of preparedness and international collaboration against emerging and reemerging infectious diseases is also cited in "Japan's Global Health Policy 2011-2015" clearly. Moreover, contribution of Japan to the achievement of MDGs is also stated in "Country Assistance Policy" for Ethiopia clearly. Since the major causes of under-five mortality are infectious diseases such as diarrhoea and pneumonia in Ethiopia, the Project, aiming at strengthening surveillance system for infectious diseases in Ethiopia, also meets the Japan's Global Health Policy.

4) Appropriateness of implementation method

① Appropriateness of surveillance reinforcement as the approach to improving infection control

For a public health authority to be able to respond to the outbreak caused by a epidemic-prone infectious disease, first, a surveillance system has to be in place, cases have to be reported, the outbreak has to be detected. Without it, an alert cannot be issued and epidemiological response cannot be conducted. Besides, a surveillance system will provide the national government with an opportunity to come up with or to change a health policy, e.g. an infectious disease control policy, and its importance and impact would be quite large. Therefore, with the consideration of the project period of five years and input scale from Japan side in the circumstance of rural area in Ethiopia as well as above-mentioned rationale, it is considered appropriate to focus on the strengthening surveillance system in the Project.

② Social Considerations

Since some health personnel at the grass-root level have difficulty understanding English, Ethiopian counterpart personnel nurtured by the Project provided lectures in the training courses and materials developed by the Project were prepared in Amharic.



4.2 Effectiveness

The effectiveness of the Project is considered to be moderate at the time of the Terminal Evaluation for the following reasons.

1) Achievement of Project Purpose

The Project aims to achieve the Project Purpose of “*Effective facility-based and community-based surveillance/response system is functioning in target area*” through the fulfillment of following major components in the selected target area in the Amhara region, in order to realize the system be functioning regionwide in the future:

1. To strengthen facility-based surveillance system;
2. To strengthen community-based surveillance system;
3. To establish surveillance/response system; and
4. To conjunct the facility-based surveillance system with the community-based surveillance systems.

Through these efforts, it will become possible to deal with the outbreak of infectious diseases by establishing a system to report information on such outbreaks from the communities to the ARHB. Even though the revision of the national surveillance policy from IDSR to PHEM during the project period has had negative impacts on the progress of the project activities, a number of positive developments were achieved in the project period with a view to ensuring the adequate implementation of actual surveillance operations in line with the PHEM. These included the preparation of a training package, implementation of training on system operation using the said package and introduction of operation formats, equipment required for surveillance and communication. As a result, the timeliness and completeness of reporting steadily improved from the initial decline immediately after the policy change. Those performance indicators at the time of the Terminal Evaluation were higher in project-supported areas than in the non-target areas. Under the IDSR, the surveillance covered health centers only and reporting was required once a month. In contrast, the scope was expanded to include health posts and the frequency of reporting was changed to weekly reporting along with the obligation for all health facilities to comply with this requirement under the PHEM. While these changes have increased potential sensitivity in identifying infectious diseases under surveillance, the new reporting requirement constitutes a heavy burden on the surveillance system. Under these circumstances, the Project supported practical operationalization of PHEM and improved the reporting performance. Moreover, the provision of equipment for microscopic examination to health centers and the training of laboratory technicians on microscopic examination under the Project made a positive contribution to improving quality of diagnosis. The introduction of KSOs, who are community volunteers, is believed to have made a further positive contribution not only to the improved detection of infectious diseases but also to enhancement of the infectious disease awareness among community residents.

Meanwhile, any information obtained by surveillance cannot be considered to be truly useful unless it is actually utilized in subsequent responses (regular feedback of the occurrence trends of infectious diseases, issue of alerts and activities designed to achieve the early containment of disease). From the theoretical point of view, it was suggested at the time of the Mid-Term Review that the efforts relating to such responses were insufficient.

Following the recommendations made by the Mid-Term Review, a couple of activities were added to the PDM as project activities related to Output 5 to strengthen the response capacity. These were the systematized feedback of the surveillance results and the preparation of response protocols to prescribe the necessary responses for major diseases. However, as described in “*Performance of Project Activities*”, the overall progress of the project activities was hindered by some external factors.

As described so far, it is expected that the establishment of the foundations for the surveillance systems from the viewpoint of developing an effective reporting system on disease occurrence will be completed by the end of the project period. In contrast, the strengthening the feedback-related activities to the desired level as part of improved responses may not be completed by the end of the project period. In regard to the development of response protocols, the situation is that consultations with the FMOH are currently taking place on the finalization of the drafts for rabies and anthrax, two diseases with a high priority of which response protocols are currently not available in Ethiopia. Although the development of response protocols for these two diseases is highly significant, it may not be enough in achieving “strengthening of the public health and the medical response capacity for infectious diseases” (Output 5). Tabletop exercise simulating disease outbreaks and other training aimed at strengthening the practical response capacity and verification of the positive effects of such training are essential to prove that “the response capacity is strengthened”. Strengthening of the public health and medical response capacity for infectious diseases is, therefore, considered to be a pending issue at the time of the Terminal Evaluation.

2) Important assumptions for the achievement of Outputs

- ① Confirmation of the current status of “*Attrition rate of trained health workers will not increase*”.

The job transfer and attrition rate among health workers in Ethiopia is relatively high as evidenced by the fact that many health workers trained under the Project subsequently moved to other positions or quit their positions during the project period. Such a change or departure from positions, however, did not severely affect the effectiveness of the Project because of progress made in terms of standardization of the norms and the forms and also of monitoring and supervision. Nevertheless, this issue potentially affects the sustainability of the Project and is discussed in more detail in the section examining the sustainability of the Project.

- ② Confirmation of the current status of “*Budget for project activities is properly allocated by the Ethiopian side*” as an envisaged important assumption.

At some ZHDs and WorHOs, there is no sufficient provision to cover the running cost of some of the provided equipment and the cost of consumables, resulting in the insufficient use of such equipment. Although this issue affects the efficiency and sustainability of the Project, it has not yet caused major negative impact either on the activities in the pilot areas or on the overall effectiveness of the Project.



3) Important assumptions for the achievement of the Project Purpose

No important assumptions were made for the achievement of the Project Purpose.

4) Contributing Factors for Effectiveness

- ① Table 1 (spreadsheet for monitoring the timeliness and completeness of reports) and Table 2 (spreadsheet for monitoring the current trends of the PHEM target diseases) were originally prepared by a person in charge of the PHEM at one of the WorHOs. These were improved by the Project and introduced to other related health offices for monitoring of the reporting performance and trends of diseases. As it has been confirmed that the timeliness and completeness of reports have improved in the pilot woredas compared to other woredas due to the introduction of these spreadsheets, application of simple, locally-invented and easy-to-use tools such as these spreadsheets are considered to be contributing factors for effectiveness.
- ② Through discussions between the Project side and ZHDs/WorHOs, it was agreed that equipment, etc. required for microscopic diagnosis and necessary training would be provided under the Project if laboratory technicians were assigned to health centers. Subsequently, these technicians were gradually assigned to health centers by the Ethiopian side and equipment and training were provided by the Project side. At the start of the Project, only eight health centers were capable of conducting microscopic diagnosis. It is planned that the number will increase to 44 health centers by the end of the project period. The commitment from the Ethiopian side and support provided by the Project in accordance with such commitment accelerated the project achievement.

5) Inhibitory Factors against Effectiveness

There are several inhibitory factors regarding effectiveness. These are the transfer or departure of trained counterpart personnel from their positions, delay of equipment delivery and insufficient budgetary arrangements as discussed in the section on external factors.



4.3 Efficiency

The efficiency of the Project is moderate since several internal and external factors impeded smooth progress of the project activities.

1) Progress of the Project Activities

The progress of the Project was negatively affected by the change in national surveillance policy from IDSR to PHEM in September 2009. It was also affected negatively by staff turnover in both Ethiopian and Japanese sides, as described in 3.3 of this document. These factors reduced efficiency of the Project.

2) Utilization of provided equipment and materials

It has been confirmed that the norms and the forms prepared by the Project have standardized the concrete procedure for surveillance and are routinely used in the field. In particular, Table 1 (spreadsheet for monitoring the timelines and completeness of reports) and Table 2 (spreadsheet for monitoring the occurrence trends of PHEM target diseases), which are improved versions of the spreadsheets originally developed by a person in charge of PHEM at one of WorHOs for routine usage, are now adequately used for the monitoring of reporting performance and disease occurrence trends respectively.

Meanwhile, it was observed that some ZHDs and WorHOs found it difficult to allocate fund for the maintenance of PCs and printers introduced in the first half of the project period to analyze surveillance data, and the procurement of consumables for PCs and other equipment. Moreover, the ability to operate PCs was found to be inadequate in some of the staff members, resulting in the insufficient use of PCs. The use of Table 1 and Table 2 in WorHOs to monitor the timeliness and completeness of reports and trends of target diseases has led to the less use of the computer software introduced earlier for data compilation and analysis. Given the difficulty faced by health offices to utilize complex computer software, however, the decision to change the direction and emphasis of the Project appears to be appropriate. The non-use of some of the provided equipment, such as facsimile machines, uninterruptable power supply systems and copiers, due to the reasons of breakdown, difficulty of procuring consumables and other supplies was directly observed by the Terminal Evaluation Team.

In connection with activities concerning microscopic diagnosis, microscopes, etc. and training on microscopic diagnosis were provided under the Project on the grounds that laboratory technicians would be assigned. This assignment of technicians and the delivery of the necessary equipment have been gradually taking place and it is expected that the microscopic diagnosis service will commence at all 44 health centers by the end of the project period. The procurement procedure for microscopes is found to be lengthier than expected, delaying the actual introduction of microscopes at these health centers. As such, it can be concluded that the efficiency of the Project has been partially impeded by the delay of the start of the microscopic diagnosis service.

Under the Project, it is planned to provide nine motorcycles to assist surveillance activities. However, their procurement procedure by Japan side and their registration procedure by Ethiopian side took much lengthier than

originally thought. All motorcycles are currently in the registration procedure by the Ethiopian side.

3) Collaboration with Existing Resources

① Collaborative activities with other Japanese resources

Japanese grass-roots grant of the Embassy of Japan in Ethiopia has assisted construction of Jangua health post and Meskele Kristos health post of Dembia woreda in 2012. After new health posts are completed, these health posts will be served as a base of community-based surveillance activities of the Project.

Master's course student from a Japanese university was accepted to the Project as an intern in both fiscal year of 2011 and fiscal year of 2012. Each of them worked as an assistant administrator while conducting a survey on a specific theme relating to community health care. The findings by these interns have provided useful information for the Project.

A Japan Overseas Cooperation Volunteer (HIV/AIDS control) assigned to a health center has been helpful for project activities and information gathering while the Project side has provided technical guidance as part of the mutual collaboration arrangements.

② Collaboration with Other Resources

WHO provides assistance for the strengthening of surveillance in the SNNPR (Southern Nations, Nationalities and Peoples Region) and there have been routine information sharing and technical cooperation with the Project, including the dispatch of lecturers to training sessions organized by the WHO or the Project and the supply of training materials developed under the Project to the WHO project. The effective collaboration includes the supply of information of suspected cases of neonatal tetanus, AFP and measles to assist the WHO's surveillance operations. Discussions are currently taking place with a view of incorporating the community-based surveillance aspect of the Project to the PHEM training guidelines and training materials used by the WHO for HEWs and HDAs. In accordance with the WHO Regional Office for Africa, there is an agreement among ARHB, WHO and the Project to provide assistance to enable the Amhara regional laboratory to diagnose measles, which is a PHEM target disease. It is hoped that collaboration with other development partners also will further progress in the coming years to make such cooperation/collaboration more effective.

As the PHEM target diseases include zoonotic diseases such as anthrax and rabies, there has been a call via the FMOH for the cooperation of the agricultural sector to assist the development of response protocols. Discussions have already started with the Amhara Zonal Agricultural Bureau and a rabies workshop led by the ARHB is planned to take place in June 2012 with the participation of officials from the FMOH, FMOA (Federal Ministry of Agriculture) and Zonal Agricultural Departments. The Project will provide indirect support for this workshop.

4) Contributing Factors for Efficiency

① Efficient collaboration with other development partners and other sectors relevant to infection control

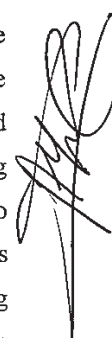
As was stated above, good cooperative relations with other development partners as well as other sectors have been maintained throughout the project period. Since cooperation was obtained from other partners and sectors by exchanging lecturers in the training courses and in the response protocols development work, this can be viewed as a contributing factor to the efficient implementation of project activities.

In addition, a Korea International Cooperation Agency (KOICA) volunteer (expertise in Information Technology) provided an entry-level PC textbook to the Project, which was developed through his voluntary activities; and the textbook was distributed to the target 22 woredas through the Project, and utilized at PC training courses as one of the teaching materials.

② Trainings in Japan

Fifteen (15) counterpart personnel have been dispatched to Japan for training under the topics of '*Health Policy Development*', '*Enhancement of Community Health Systems for Infection Control*', '*Evidence Based Public Health Concepts, Approaches and Tools for Health Policy and Planning*', '*Health Administration for Regional Health Officer for Africa*' '*Clinical Laboratory Technology*' and so on.

There has not yet been definite confirmation of the direct contribution of the knowledge and experience newly gained through the training programs to the achievement of effective and efficient surveillance targeted by the Project. However, it is expected that such knowledge and experience will enhance the sustainability. Indirect but positive impacts are already felt in the forms of strong interest in the improvement of the work environment based on 5S, logical thinking developed after PCM techniques and the planning of malaria control in individual areas. One regional laboratory officer who underwent training on clinical laboratory techniques voluntarily organized a training session after his return to Ethiopia to spread his newly acquired knowledge and technical expertise to his fellow officers. As the same officer has developed a plan to start the culture of bacteria responsible for bacterial meningitis at his laboratory using the knowledge and techniques learned through training, further strengthening of the functions of the regional laboratory is anticipated.



5) Inhibitory Factors against Efficiency

As already mentioned earlier, some inhibitory factors against efficiency have been recognized. These include the change of the national surveillance policy during the project period, delay of equipment delivery, transfer/departure of leading counterpart personnel and staff members who have undergone training from their positions and problems relating to the handing over of the work between JICA experts.



4.4 Impact

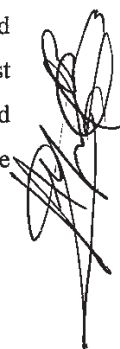
The following positive and/or negative impacts are confirmed and/or expected by the implementation of the Project.

1) Probability of achievement of the Overall Goal

The project set “*Effective facility-based and community-based surveillance/response system is functioning in Amhara region*” as the Overall Goal, which is to be achieved within 3 to 5 years time after the termination of the Project. In particular, the Project is aiming at expanding the system/response to non-intervention areas in the Amhara region in sustainable manner.

As has been stated, the performance of both community-based and facility-based surveillance system was verified at each pilot area. The Project is currently working on introducing the systems to other target areas, and that is supposed to be completed by the end of the project period. Scaling-up the model beyond the target areas of the Project, however, may be affected both positively and negatively, due to several factors indicated as important assumptions in the PDM and other factors.

For autonomous expansion of the facility-based in tandem with the community-based surveillance system by the Ethiopian side, it is anticipated that the Project would compile reference document(s) on the basis of the experiences and outcomes of the Project by the end of the project period. The reference document(s) are supposed to contain the following 2 components; operational procedures of trainings, schedule, lecturers, operational cost which are needed for expansion of the systems; and information on human resources, timeframe, equipment and materials, monitoring mechanism, running costs which are necessary for sustainable operation of the surveillance activities.



2) Important Assumption for Overall Goal

① Current status of “*Budget is secured*”.

As aforementioned in the “Efficiency” section, there are several ZHDs and WorHOs that can’t afford running costs such as printing costs, cost of equipment maintenance and so on. Since the Project defrays the necessary costs for printing of formats, materials and equipment and provision of training, financial issue will arise after the termination of the Project for maintaining and/or deploying the project activities. There is a risk of nonfulfillment of this important assumption.

The detail will be discussed in the “Sustainability” section.

② Current status of “*The current health policy and priority remains unchanged*”.

As was mentioned at “Relevance” section, Ethiopian FMOH prioritizes the reinforcement of surveillance system for infectious diseases control in the HSDP-IV 2010/11-20014/15, and has been exerting efforts to realize it under the strategy of PHEM. The officer of The Ethiopian Health and Nutrition Research Institute,



a subordinating organization of the FMOH, clearly stated in an interview with the Team that the FMOH will continue to address the strengthening of surveillance system under PHEM; and thus, it is anticipated that this important assumption is fulfilled.

3) Other Positive Impacts

① Autonomous expansion of community-based surveillance by trained health personnel

As was stated above, Ebinat WorHO has started to provide training courses in community-based surveillance with their own initiative. Meanwhile, a health extension supervisor, who had been trained by the Project and transferred to non-intervention area, has started the community-based surveillance at his newly assigned health center. This can be recognized as positive side of turnover of counterpart personnel. Turnover of trained health personnel is usually regarded as inhibiting factors for effectiveness, efficiency and sustainability of the Project. However, in this case the transfer will partially contributed to the achievement of Overall Goal.

② Provision of PHEM TOT for non-intervention area

TOT for PHEM officers was implemented in all the target woredas of the 3 target zones by PHEM and malaria officers of ZHDs targeting PHEM officers in WorHOs. The target woredas in the Project account for half of the woredas in each zone; however, training was conducted for officers in all woredas upon considering the efficiency of training, etc. Thus, it is anticipated that trained PHEM officers will start training health center staff and HEWs on PHEM in their own woredas.

③ Contribution for microscopic diagnosis services

ARHB is planning to procure microscopes for all the health centers in the region so that they can provide microscopic diagnosis services in future. The Project has developed a textbook for laboratory technicians. Experience in organizing training courses and technology exchanges among laboratories can also be applied for the trainings for health centers, which are supposed to start the laboratory diagnosis services in the future.

4) Other Negative Impact

No negative impact attributed to the activities of the Project is observed as of the time of the Terminal Evaluation.



4.5 Sustainability

It is difficult to guarantee the sustainability of the project achievements at the time of the Terminal Evaluation for following reasons.

1) Political and Institutional Aspects

As was stated in the “*Relevance*” section, since FMOH emphasizes the importance of the strengthening of surveillance system for infectious diseases control in the HSDP-IV 2010/11-20014/15, it is considered that political sustainability is secured to some extent. As was described in the “*Impact*” section, however, necessary budget for the maintenance and/or expansion of the current surveillance activities hasn’t been prepared; and thus, it is desired that FMOH as well as ARHB will consider providing political and/or institutional support for securing necessary budget for surveillance activities.

On the other hand, as aforementioned in the “*Achievement of Output 3*”, concerning the community-based surveillance system utilizing KSOs, collaboration with health care facilities has been improved through the cluster meeting activities and so on. However, since KSOs are a unique innovation of the Project, there is some doubt over sustainability, and the possibility of collaboration and/or future integration with the HDA, which is implemented as a national policy, is being examined. As an example, in Ebinat woreda, conventional KSO surveillance activities were introduced by the initiative of the WorHO., It did not recruit any new KSOs, when this office started independently extending activities to 34 other kebeles in February 2012, but it provided training to the existing HDAs. In this regard, however, there are several differences in applicant eligibility as well as terms of references in KSO and HDA; and thus, closer discussions and consultation with relevant authorities should be required in case that the Project drives for future integration of KSO with HDA.

2) Financial Aspects

The Project is aiming at disseminating facility-based surveillance system in tandem with community-based surveillance system to non-intervention areas in the Amhara region as an overall goal. In order for dissemination, ARHB, ZHDs and WorHOs should exert further commitment of securing human and financial resources. Even though the Project nurtured personnel in those organizations as supervisors and/or lecturers, it will not be easy to continuously implement introduction trainings, monitoring activities and refresher training courses because of the financial requirements. Since it will also be necessary to obtain the commitment to pay for the travel expenses, venue costs, materials printing expenses required for conducting training courses and monitoring/supervisory activities from each zone and woreda, it is desirable for the Project to estimate the resources requirements that can be used as a reference in planning.

Meanwhile, with regard to maintaining current surveillance activities in the target areas of the Project, it was found that several ZHDs as well as WorHOs could not incur running cost for operation of surveillance activities. Since budget allocation to surveillance varies among zones as well as among woredas, being left in the hands of each government, it is required for ZHDs and WorHOs to enhance efforts to secure necessary budget for it.

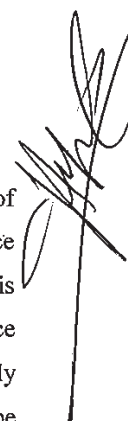
3) Technical Aspects

The JICA experts are conducting activities with a view to ensuring the autonomous development potential of Ethiopian side in the future, and they are mindful that ZHDs and trained WorHOs should take the initiative in conducting PHEM TOT for WorHOs and PHEM training for health centres. Moreover, the Project has exerted efforts for future sustainability to standardize practical operation of surveillance activities through development of surveillance norms and forms, packaged training programme, checklist for monitoring and supervision, drafting response protocol for the standardization of practical response for outbreaks of epidemic diseases and so on.

However, it is considered that technical follow-up activities wouldn't be provided to the newly targeted woredas in light of the remaining project period. On the other hand, monitoring and supportive supervision activities have been conducted at the initiative of the Project, accompanied by WorHO staff members, and the mechanism for monitoring and supervision, which can be operated by Ethiopian side autonomously, has not yet been developed as of the time of the Terminal Evaluation. Taking high turnover of health personnel into consideration, it is desired that the Project should work on the development of a monitoring and supervision mechanism for securing technical sustainability during the remaining project period. Meanwhile, the project activities with regard to regular feedback of surveillance results wasn't conducted as scheduled so far. Therefore, it is required for the Project to work on the activities for introduction of systematized feedback mechanism and for strengthening of capability of analysis and interpretation of reported data at ARHB and ZHDs.

4) Comprehensive Sustainability

Summing up, a certain degree of self-sustainability from technical perspective was secured in the target areas of the Project since the foundation of facility-based surveillance in tandem with community-based surveillance system was developed, and human resources in charge of surveillance are favorably nurtured. However, it is suggested that further technical assistance will be needed for expansion and deployment of the surveillance system to non-intervention areas. Moreover, from the financial and technical aspects, it is difficult to fully guarantee financial and political sustainability. Further commitment from ARHB, ZHDs and WorHOs will be required for maintenance of current activities in the target areas and for the deployment to non-intervention areas. Greater sustainability could be secured if continuous technical assistances including some financial support were obtained by any means in addition to continuous effort from Ethiopian side.



4.6 Conclusion

The Project was successful in operationalizing the facility-based surveillance system in selected woredas in Amhara region, through the transition of national policies from IDSR to PHEM. In addition, the Project was successful in introducing and demonstrating effective model of community-based surveillance system in selected kebeles in Amhara region. Strategically combined and scaled-up, both systems are expected to contribute to timely identification of epidemic-prone infectious diseases, which can cause significant loss of human lives.

On the other hand, several activities such as standardized and regular feedback or finalization of response protocols are unlikely to be completed during the remaining period of the Project, since unexpected external factors hindered progress of project activities. Furthermore, several activities including development of response protocols for important diseases and the practical training of response activities should be added, in order to functionalize the response system. As it takes certain period to establish functional surveillance/response system, extension of project period should be considered.



CHAPTER 5 RECOMMENDATIONS AND LESSONS LEARNT

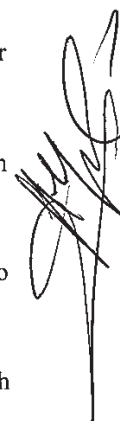
5.1 Recommendations

<JICA >

1. JICA should consider the extension of project period for approximately 2 years, which is considered necessary for the completion of the project activities that cannot be completed by the end of the current project period (implementation of regular feedback based on the surveillance results, finalization of draft response protocols, development of a mechanism for monitoring and supervision, and so on) as well as for the implementation of necessary activities to realize effective surveillance and response system (development of response protocols for important infectious diseases, practical training for response activities, and so on).

< The Project (ARHB and JICA) >

1. The Project should work on for the consolidation of the surveillance system introduced in the target areas.
2. The Project should commence the technical assistance for practical operations of regular feedback especially from ARHB and ZHDs. Efforts should be made to improve reporting performance of ZHDs in target areas.
3. The Project should facilitate the discussion among stakeholders such as FMOH, ARHB, WHO and other relevant organizations for the finalization of the response protocols for rabies and anthrax.
4. The Project should develop a mechanism of monitoring and supervision for surveillance activities, which Ethiopian side can continue by themselves.
5. The Project should elaborate the future collaboration and/or integration between KSO and HDA in order to maintain and scale-up the functions of KSO in communities in sustainable manner.
6. The Project should compile the reference document(s) for the scale-up of the surveillance system, which includes experiences and achievements, human resources, cost, materials and equipment, time frame, etc. necessary for the activities.
7. The Project should develop a draft of modified PDM by taking the duration of extension into consideration, if the extension is officially determined.
8. The Project should conduct systematic assessment of the functionality of surveillance systems, in addition to the regular monitoring and evaluation of the project process, before the termination of the Project.
9. The Project should study the progress and future plan of HMIS development, as there may be changes in communication, reporting and data analysis environment in all levels of health systems in the near future.



<FMOH>

1. FMOH should enhance the efforts to finalize the response protocols for rabies and anthrax through the closer discussions with the stakeholders such as the Project, WHO and ARHB.

<ARHB>

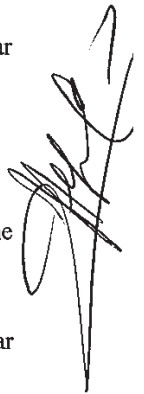
1. ARHB should continue the practical activities for regular feedback of the surveillance results.
2. ARHB should provide support to ZHDs and WorHOs so that they can secure budget necessary for the operation of the surveillance system.
3. ARHB should facilitate the dialogues among relevant departments such as Health Promotion and Disease Prevention Core Process and PHEM Core Process about integration of community-based surveillance into HDA activities.

<ZHDs>

1. ZHDs should commence the practical activities for regular feedback of the surveillance results.
2. ZHDs should enhance the efforts of monitoring and supervision for maintaining and improving the quality of surveillance activities.
3. ZHDs should appropriately utilize the equipment provided by the Project, and should ensure regular maintenance.

<WorHOs>

1. WorHOs should enhance the efforts of monitoring and supervision for maintaining and improving the quality of surveillance activities.
2. WorHOs should appropriately utilize the equipment provided by the Project, and should ensure regular maintenance.
3. WorHOs should ensure assignment of PHEM officers continuously for consistent surveillance activities.
4. WorHOs should ensure functionality of cluster health centers for sustainable surveillance system connecting facility and community.



5.2 Lessons Learnt

1. Since the achievement of the project output and project purpose is evaluated against the OVIs specified in PDM, definition of OVIs should be clear, and it should have clear numerical target for quantitative assessment. If it is difficult to set appropriate target figure at the time of commencement of the Project, such figures should be set shortly by conducting baseline survey. In many cases, OVIs are revised at the time of Mid-term Review. In such case, it is desirable to choose indicators for which retrospective data is available, as much as possible.
2. Contribution from community volunteer was essential for the Project. It is considered that presence of relatively strong community in Ethiopia and the procedure to select reliable persons in each community contributed to the success. In order to introduce and utilize community volunteer effectively, it is necessary to carefully study the situation of community in each society, to utilize existing community volunteer system, as well as to apply appropriate method of selection and appointment.
3. Even in a project working mainly at the regional level and below, close communication and collaboration with FMOH and other central government agencies is critical, as the activities are affected by the changes in national policy and institutional framework.
4. In a country where health systems are in transformation, project should be designed and implemented as flexibly as possible, allowing for adjustments to changes in policy, institution and organization along the course of project implementation. Increase (or decrease in other cases) in resource requirement should be anticipated, as number of target health offices and officers, health facilities and workers are likely to increase (or decrease).
5. Scaling-up successful models piloted in confined geographical areas to wider area requires careful assessment of not only effectiveness of the models but also technical, financial and other resource requirement. It requires deliberate and concerted effort of various stakeholders therefore clear scaling-up strategy should be in place. However, prospect for spontaneous diffusion relying on local initiatives should also be considered whenever possible.

