

Ethiopia

Amhara National Regional State Health Bureau

**Ethiopia, Amhara Region Infectious
Disease Surveillance (AmRids)
Project
Completion Report**

February 2015

Japan International Cooperation Agency

Japan Anti-Tuberculosis Association

Abbreviations

AFP	Acute flaccid paralysis
ARHB	Amhara National Regional State Health Bureau
CDC	Centers for Disease Control and Prevention
EPHI	Ethiopia Public Health Institute
EPI	Expanded Programme on Immunization
FETP	Field Epidemiologist Training Programme
FMoH	Federal Ministry of Health
HC	Health Centre
HDA	Health Development Army
HEP	Health Extension Programme
HEW	Health Extension Worker
HP	Health Post
IDSR	Integrated Disease Surveillance and Response
IHR	International Health Regulation
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
KSO	Kebele Surveillance Officer
NNT	Neonatal Tetanus
PHEM	Public Health Emergency Management
SNNPR	Southern Nations, Nationalities, and Peoples' Region
SOP	Standard Operating Procedures
TOT	Training of Trainers
WHO	World Health Organisation

Federal Democratic Republic of Ethiopia
JICA Amhara Regional Infectious Disease Surveillance
(AmRids) Project Completion Report
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1. Background of the Project

Public health surveillance is the continuous, systematic collection, analysis and interpretation of health-related data needed for the planning, implementation, and evaluation of public health practice. Such surveillance can:

- serve as an early warning system for impending public health emergencies;
- document the impact of an intervention, or track progress towards specified goals; and
- monitor and clarify the epidemiology of health problems, to allow priorities to be set and to inform public health policy and strategies.¹

The objectives of having public health surveillance in a country, thus, are mainly to (1) detect any disease outbreaks or unusual events, (2) to contribute to the evaluation and monitoring of prevention and control programmes, and (3) monitor trend in communicable disease over time to assess the present situation. For example, measles surveillance is meant to detect even a small number of possible cases so that the health authority could initiate outbreak investigations on the cases early and, if confirmed, should take actions to prevent and contain the spread of the disease to other areas. On the other hand, since malaria in Ethiopia is mostly endemic, the objectives of malaria surveillance are to monitor trend in the disease and, perhaps, to evaluate the impact of the malaria control programme. Trend in malaria could be monitored with a sentinel surveillance system and it may not require all the malaria cases be reported.

There are two types of public health surveillance systems: indicator-based and event-based surveillance. Event-based surveillance complements indicator-based surveillance. Both systems should be seen as essential components of a single national surveillance system.² Indicator-based surveillance is routine reporting of cases of disease, including notifiable disease surveillance, sentinel surveillance, and laboratory-based surveillance systems. It is commonly health care facility-based and requires weekly, sometimes monthly reporting. Event-based surveillance, on the other hand, requires rapid detection, reporting, confirmation, assessment of rare and new public health events that are not specifically included in indicator-based surveillance or events that occur in populations which do not access health care through formal channels, including clusters of disease, rumours of unexplained deaths and thus commonly requires immediate reporting.

A public health surveillance system could possibly be assisted by selected community volunteers, in terms of reporting disease outbreaks or unusual events to government health

¹ World Health Organization (http://www.who.int/topics/public_health_surveillance/en/) Accessed on 4 November 2014.

² pp 4, A guide to establishing event-based surveillance, Regional Office for Western Pacific, World Health Organization, Manila, the Philippines.

offices, as event-based surveillance system mentioned above, to help an early warning system. Community volunteers could be mobilised in relation to active surveillance of cases in outbreak investigations and in some response activities, such as vaccine campaigns. In special occasions, the community volunteers were trained to report cases with specific signs and symptoms suspected of avian influenza³ and vaccine preventable disease such as acute flaccid paralysis (AFP), measles and neonatal tetanus (NNT).⁴

In the World Health Assembly, the governing body of the World Health Organisation (WHO) in 2005, the Member States agreed on the revision of the International Health Regulations (IHR). Under IHR (2005) the Member States of the WHO have now become obliged to initiate epidemiological investigations on outbreaks and epidemics and to start dialogues with WHO within 24 hours of their detection if the events are deemed to constitute public health emergency of international concern (PHEIC). To be able to do that, the Member States have had until 15 June 2012 to meet their IHR core surveillance and response requirements, including at designated airports, ports and certain ground crossings. This was partly a response to severe acute respiratory syndrome (SARS) outbreaks that occurred in 2003, affecting more than 8000 people worldwide, of which over 700 died.

To meet the core requirements of IHR (2005), the Federal Ministry of Health (FMoH) of Ethiopia, in collaboration with the United States Centers for Disease Control and Prevention (US-CDC) and Addis Ababa University, established the Field Epidemiology and Laboratory Training Programme (FELTP) at the Ethiopian Health and Nutrition Research Institute (EHNRI, now has been known as Ethiopian Public Health Institute or EPHI) in Addis Ababa in 2009. This is meant to be a part of a national effort to improve research capacity for the epidemiology of infectious diseases in the country. The aim of the two year programme is to develop a cadre of epidemiologists capable of performing outbreak investigations, epidemiological research, and surveillance at an international standard. In September 2011, Mr Belay Bezabih, a graduate of the first batch of the FELTP, has become the chief of Public Health Emergency Management (PHEM) programme of the Amhara National Regional State Health Bureau (ANRS-HB).

FMoH initiated surveillance and response activities under the scheme of the Integrated Disease Surveillance and Response (IDSR) programme in 1999, with technical assistance from the

³ Azhar (2010). Participatory Disease Surveillance and Response in Indonesia: Strengthening Veterinary Services and Empowering Communities to Prevent and Control Highly Pathogenic Avian Influenza. *Avian Diseases*: March 2010, Vol. 54, No. s1, pp. 749-753.

⁴ Curry et al., (2013). Reaching beyond the health post: Community-based surveillance for polio eradication, *Development in Practice*, 23:1, 69-78, A/CO; CCDRE Group Ethiopia (2012) AFP case detection and status of surveillance in pastoralist and semi-pastoralist communities of CORE Group Polio Project implementation districts (woredas) in Ethiopia

African Region Office of the WHO. Since 2009, the newer scheme, the PHEM has been introduced, under which there were two kinds of changes: (1) health facilities now have been required to report 13 notifiable diseases immediately and other 7 diseases weekly, rather than monthly under the IDSR, a part of the response to meet the requirement of the IHR (2005), and (2) health posts have been required to report 13 diseases or conditions defined besides 20 communicable diseases mentioned above.

Under these circumstances, the Japan International Cooperation Agency (JICA) and the Health Bureau of the Amhara National Regional State agreed on starting a five year project on strengthening communicable disease surveillance and response in Amhara Region of Ethiopia in 2007. The project, named Amhara Region Infectious Disease Surveillance (AmRids) Project, started in January 2008.

Since then the AmRids project has worked on strengthening communicable disease surveillance system, in which the health centres and hospitals send communicable disease surveillance data to ANRS-HB through the woreda (district) health offices (WorHOs) and the zonal health departments (ZHDs), in line with the Integrated Disease Surveillance and Response (IDSR) and, later, with the Public Health Emergency Management (PHEM). Second, the Project piloted a sort of surveillance system at a community level, in which newly introduced community volunteers, called Kebele Surveillance Officers (KSOs), collect health-related information and send it to health extension workers (HEWs) working at the health posts (HPs), which are the most peripheral health facilities in the country, to supplement the facility based surveillance.

The Project had added following two more terms of reference based on the recommendations made by the Mid Term Review conducted in November 2011. First, the Project is to strengthen the capability of public health response, i.e., the capacity of conducting outbreak investigations and making public health interventions, in line with the core surveillance and response requirements of IHR (2005), and, second, to streamline the community-based activities with facility-based surveillance.

In May 2012, the final evaluation mission of the JICA Headquarters recommended the extension of the duration of the project for about two years, including (1) strengthening dissemination of surveillance data, (2) strengthening monitoring and supervision for surveillance activities, (3) exploring supporting the integration/transition of KSOs to Health Development Armies (HDAs), (4) conducting surveillance system evaluation, and (5) explore the possibility of supporting e-PHEM system.

2. Project Activity

2.1 Strengthening surveillance system

2.1.1 Monitoring on weekly surveillance data

The Project has been collecting the data on weekly report from 22 project woredas through ANRS-HB, and monitoring and analysing the data every week. Timeliness (% of reported health facilities out of total in time) and completeness (% of reported health facilities out of total within a month) of weekly reports has reached and maintained over the target of 80% in most woredas.

2.1.2 Training

The Project held PHEM Training of Trainers (TOT) for PHEM officers at a woreda level for five times: one each for North and South Gondar in December 2013, another for South Gondar and West Gojjam in January, for North Gondar late May, and for three zones in August 2014. The training included the principle of public health surveillance, case definitions of reportable disease, orientation of reporting format, steps in outbreak investigation, basic knowledge of epidemiology, case study on an outbreak investigation, etc. The PHEM officers from ANRS-HB, Zonal Health Department took part as the lecturers to secure the sustainability of the project activities.

To strengthen the HEW's knowledge and skills on PHEM activities, the project also held two to three day training sessions in Dembia, Ebinat, Mecha and Semada from March to October 2014 to capacitate the WorHO and HC staffs. They are expected to act as trainers for HEWs after the completion of the training. WorHO PHEM and Malaria officers who attended the PHEM training served as facilitators. The training covered the principle of public health surveillance, the overview of PHEM and 20 notifiable diseases, steps of outbreak investigation and the importance of community engagement in surveillance and response activities. In terms of knowledge attainment, average score of Post-test improved to 83 points from average score of 64 points in Pre-test.

After the discussion of the participants on how to cascade the knowledge to HEWs, the participants agreed upon to conduct on-the-job training by utilising monthly cluster meetings as well as daily monitoring visits to health posts. In addition, Amharic version of the training materials were prepared and distributed to the health centres to be utilised as training materials

for HEWs. According to the interviews with HCs during supportive supervision, each HC conducted orientations not only to HEWs but also to HC staffs for half to 2 days. After the orientations were conducted, there have been increased reporting of PHEM target diseases which had been rarely reported such as dysentery, acute febrile illness and influenza like illness.

2.1.3 Ebola Orientation Workshop

Since December 2013, there has been an ebola virus disease (EVD) outbreak in Western Africa: Guinea, Liberia, Sierra Leone. As of 1 January 2015, over 17 000 cases were reported, of which about 6000 died. To prepare for possible spill over of the cases to Ethiopia, FMoH instructed the Regions to hold orientation workshops on EVD. In response to the request of EPHI, the project supported holding two workshops in Bahir Dar on 6 September and in Gondar on 26 October 2014. The participants to the workshops were the ANRS-HB staff, staff of Zonal Health Departments, the Flege Hiwot Regional Hospital, Bahir Dar and Gondar Universities, Metama Zonal Hospital, Bureau of Migration, and police departments. The contents of the workshops were overview of EVD based on the fact sheet of WHO on EVD, infection control, safe burial of the dead body, etc. The participants gained knowledge related to EVD to be able to prepare for possible spread of EVD in the country.

2.1.4 Supportive supervision

The Project developed a checklist for supportive supervision in May, 2013 and it is now being used in supportive supervision. The project staff have advised the WorHO to strengthen sharing the result of data analysis of weekly reports to HC and have implemented to introduce the method of data sharing including the suggestion and explanation of the format. In supportive supervision, the Project has been paying more attention to CHC (Cluster Health Centres) to (1) verify the completeness of the hard copies of the weekly reports submitted by the HPs filed at the CHCs, (2) check whether CHCs are disseminating surveillance data to the HPs, (3) interview regarding the participation of HDAs in various PHEM related activities, and (4) share the result of the data analysis of weekly reports.

From July 2013 to December 2014 for the 6 pilot WorHO, and from January to December 2014, the project staff have visited all the 22 project woreda health offices, 59 cluster health centres, and one health post. The average completeness of the weekly report at the CHC visited sent by the HPs was over 80%. Fifteen (15 [68%]) out of 22 WorHO provided written feedback to CHC. On the other hand, 32% of monthly feedback have been provided from CHC to HPs.

Additionally, utilization of rumour logbooks was checked at the CHCs (See 2.1.10 for more detail).

2.1.5 Production of materials

The project produced following materials in relation to PHEM activities.

Materials	Distributed to
PHEM Calendar (1600 copies)	HP, HC, WorHO, ZHD, Hospital
Malaria monitoring chart (1600 copies)	HC, HP
Rumor log book (260 copies)	HC, WorHO
PHEM weekly reporting pad (980 copies)	HC, HP
Leaflet for measles campaign (10,500 copies)	Campaign targeted area
Banner for polio campaign (43 copies)	Campaign targeted area
Brochure for health festival (6000 copies)	ANRS-HB

2.1.6 Workshops on the issues related to HDA introduction to community

Two workshops were held on the introduction of HDAs in the community and how to functionalize the HDAs in Mecha and Dembia in March 2013. The woreda health offices, the HCs, the woreda offices for women's affairs attended the meetings. In the gathering, the participants raised the issues related to the HDAs, such as issues of delayed or no introduction of HDAs in the community, requests from the community, and came up with action plans for six months to a year.

As of December 2014, however, most HCs that the AmRids have been monitoring reported they have seen involvement of HDAs in various PHEM related activities, such as measles or polio vaccine campaigns, malaria control activities, including distribution of insecticide-treated nets (ITNs), operation of intra-house residual spraying (IRS), and other environmental activities, and active case finding in outbreak investigations.

2.1.7 Visit to the Southern Nations, Nationalities, and People's Region (SNNPR) on community surveillance

In April 2013, the project staff with an PHEM focal point of ANRS-HB visited Southern Nations, Nationalities, and People's Region (SNNPR), where the WHO is piloting community IDSR, to learn how the community volunteers involve in surveillance system. It was found that it was next to impossible for the project to emulate what was happening in SNNPR in Amhara

Region, though the practice of community IDSR in SNNPR was quite interesting. The reasons for the conclusion were twofold: (1) the number of HPs in SNNPR is much higher than Amhara Region and the access of the community to the HP is much easier in SNNPR, and (2) the access of cellphone network is much better in SNNPR than in Amhara Region. In SNNPR, the volunteers, including female HDAs had weekly meetings with HEWs, not monthly, and they reported malaria suspects to HPs in the weekly meetings with HEWs. The HEW then visited the community in a week, because the distance to and from the HP is normally within 30 minutes walk, and test the suspect with RDT and if positive, the case was reported along with PHEM system. If the community or gote is farther than 30 minutes walk, they still can call the HEWs to report the suspects. The situation of density of HPs and cell phone network are quite different in Amhara Region.

2.1.8 Support of transition of community volunteers to health development armies (HDAs)

In response to the request of woreda health office and the office of women's affairs of Mecha, the project provided support in holding orientation sessions in four (4) kebeles in Mecha for the HDA leaders on surveillance activities to help the transition of community volunteers to HDAs. The orientation held a session to share the experience of the former KSOs with newly assigned HDA leaders. Also, the project staff emphasized the importance of informing HEWs of unusual health events and potential outbreaks.

2.1.9 Meetings with ANRS-HB on involvement of community volunteers in surveillance and response

The project had discussion with ANRS-HB staff, including PHEM and the Health Promotion Department on 29 May and 11 June 2013 on the issues related to the involvement of community volunteers in surveillance and response. The role of community volunteers in strengthening surveillance and response had not been clarified enough even though the project was mobilizing community volunteers as kebele surveillance officers (KSOs) in referring sick patients from the community to HPs. Since the policy change of the Federal Ministry of Health (FMoH) on community volunteers from male dominant ones to female dominant ones (Health Development Army) in early 2012, HDAs have been promoted in most woredas. However, partly caused by male-dominant society in western Amhara, in particular, HDAs have not functionalized well in most places. The meetings concluded that the main roles of the community volunteers in strengthening surveillance system would be (1) to inform and alert government facilities (mainly HPs and HCs) on any communicable disease outbreaks and unusual health events, which is conceptualized as event-based surveillance system mentioned in the introduction, and

(2) to collaborate with health care workers and woreda health office in active surveillance in case finding in an outbreak investigation and various campaigns in vaccination in response to outbreaks and epidemics.

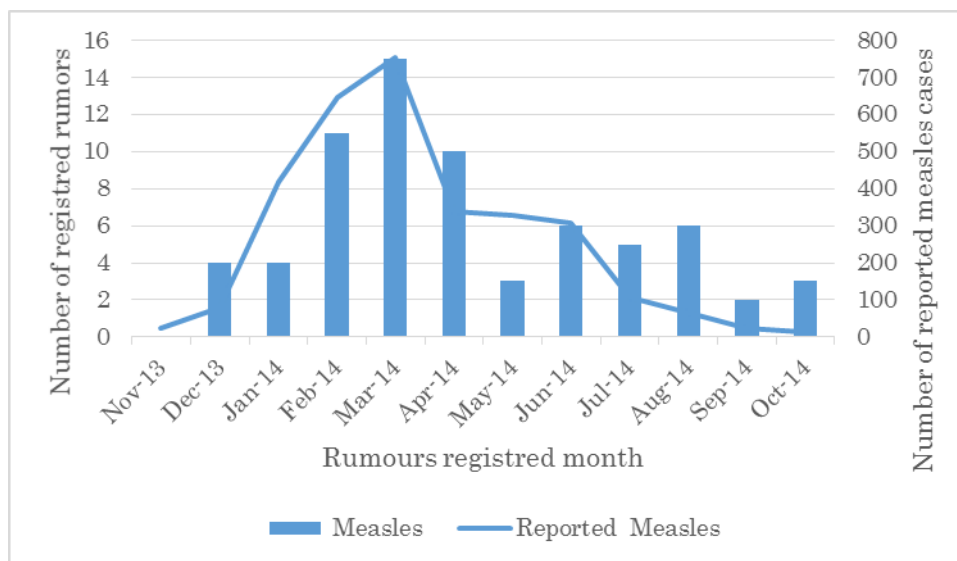
2.1.10 Rumour Log Books for cluster health centres

After the intensive and long discussion with ANRS-HB on community engagement in surveillance activities, it was agreed upon that the essence of it was (1) to collaborate health activities in the community such as immunisation campaigns as well as (2) reporting rumours on outbreak or public health emergencies to HEWs or cluster health centres to prompt public health actions against the events. Accordingly, the project prepared the rumour logbook and distributed copies of it to the health centres in 22 project woredas so that rumours that were notified to cluster health centres are recorded. In order to facilitate the usage of the rumour log book, on-the-job training to PHEM focal points at health centres was conducted during monitoring visits. Also, the lecture on how to use the log book was included in the training of trainers for HEWs (see 2.1.2 above). Its usage has also been checked during the monitoring visits since October, 2013 when the distribution of the rumour logbooks was completed. By November 2014, 38 out of 59 visited HCs registered a total of 126 rumours on outbreaks or public health emergencies. Among the 126 rumours registered, 81 (64%) rumours were verified and necessary response activities were taken. Probably reflecting measles outbreak happened in Amhara Region since December 2013, 89 (71%) rumours were on measles (Table 1). In terms of registered month on the rumours of measles, they are following almost similar pattern to the reported measles cases to Regional Health Bureau (Graph 1).

Table 1: Details of registered rumours

	(n)	(%)
Measles	89	71%
Rabies	14	11%
Anthrax	5	4%
Whooping cough	4	3%
NNT	2	2%
AFP/Polio	4	3%
Others	8	6%
Total	126	100%

Graph 1: Trend of measles cases and registered rumours



In terms of the source of rumours, reports from community members is the highest of 30%, followed by HEWs who are informed on the rumours from the community (Table 2). This indicates that community health volunteers have been functionalised to fulfil the one of their responsibilities in surveillance; reporting rumours on outbreak or public health emergencies to HEWs or cluster health centres to prompt public health actions against the events.

Table 2: Source of rumours

	(n)	(%)
Community members	38	30%
HEW/HPs	36	29%
HCS	26	21%
Other HFs	2	2%
School	2	2%
No Data	22	17%
Total	126	100%

2.1.11. Documentation of former activities of community surveillance activities

According to the recommendations of the Final Evaluation Mission of the JICA Headquarters in Tokyo conducted in May 2012, the AmRids has documented the activities of formerly community surveillance system piloted in three woredas, namely Mecha, Dembia, and Ebinat. The project has already compiled documents related to (1) revolving fund activities in Mecha, (2) card fee waiver scheme in Mecha, and (3) qualitative research on community surveillance

among health care workers at the HPs and community volunteers in Mecha. An analysis was performed to assess to what extent the project intervention has strengthened the timeliness/completeness of reporting from HPs to cluster HCs. The summary was prepared both in English and Japanese. English version was submitted to the regional health bureau to share the lessons learned among the stakeholders. (Annex 8)

2.2 Strengthening surveillance and response

2.2.1 Dissemination of surveillance data to the lower authorities

Dissemination of surveillance data was one of the recommendations made by the final evaluation carried out in May 2012, because it was not commonly practiced before then.

However, according to findings in the monitoring visits as of December 2014, 15 (68%) out of 22 WorHO provided written feedback at least once a month. ANRS-HB, ZHD and WHO will continue monitoring the practice when supportive supervision is conducted.

2.2.2 Outbreak investigation

Typhoid fever outbreak investigation

An outbreak of typhoid fever was detected through weekly surveillance report in September, 2013 in Tach Gaint woreda, South Gondar. ANRS-HB PHEM department and the project sent the officers to investigate and characterize the cases, and to eventually control the situation. About 190 typhoid fever cases were reported in the end.

Measles outbreak investigation

Since December 2013, Ethiopia, including Amhara Region has been facing with measles outbreaks nationwide. Some project areas were also affected, such as Sekela (December 2013) and Yilmana Densa (January 2014) of West Gojjam, Dembia (January 2014) and West Bellessa (February 2014) of North Gondar, and Mecha (March 2014) and again Sekela (April 2014) of West Gojjam. The project consultants and national technical staff visited the woreda health offices and cluster health centres that had measles cases and provided technical assistance, including analysis of epidemiological record collected. Also, the project participated in the partners' meeting held by the Regional Health Bureau involving WHO, and UNICEF in February 2014, in which the Project Chief Adviser and the national technical staff contributed in terms of epidemiology of the measles outbreaks and response to the outbreaks. The project also involved in and contributed to supplementary immunization activities (SIAs) conducted in

Sekela (December 2013) and in North Gondar (February 2014) surrounding Dembia, including provision of transport and monitoring of the campaign. In July 2014 in Sekela woreda, the project conducted a case-control study, in which measles cases and non-measles controls aged less than 5 years old were investigated in terms of vaccination history. The preliminary results shows that the odds of developing measles were almost the same between the cases and controls (cases were 1.06 times more likely to have been vaccinated against measles), suggesting there might have been a serious problem in cold chain or vaccination practice in that woreda.

Anthrax outbreak assessment in Waghimra

In September 2014, the ANRS-HB, in collaboration with EPHI and AmRids, conducted preliminary assessment on anthrax in Waghimra Zone. Part of the zone experiences high incidence rates of anthrax with more than 200 per 100 000 population. The investigation revealed low anthrax vaccination coverage with less than 30% among animal population, which may have caused anthrax in human population as well. The investigators recommended that FMoH, ANRS-HB, and ANRS Livestock Agency should step up surveillance against anthrax both in human and animal population. Also, the Waghimra Zone and woredas in the zone should make efforts to raise awareness about anthrax and its causes among human population.

Verification of neonatal tetanus (NNT) in Dembecha

In November 2014, three cases of NNT deaths were reported from Dembecha woreda. WHO, the woreda health office and the AmRids conducted a field investigation to verify the outbreak. The investigators visited the household of two out of three deaths and interviewed the mother and grandmother. Since either case was weak or underweight at the births, they were unlikely to be NNT, cases of which are most of the time normal at the birth. The remaining case of the deaths is to be investigated by the woreda health office. (Annex 9)

2.2.3 PHEM review meetings

The National PHEM review meeting was held in April, 2013 in Bahir Dar and in August, 2014 in Awassa. The Regional PHEM review meeting was held in August 2013 in Konbolcha and August 2014 in Debre Markos. The experts and project staffs participated in and contributed to both meetings.

National review meeting held in Awassa in August 2014 pointed out that there were variations in timeliness and completeness (T/C) of PHEM weekly reports depending on regions; while 90% of T/C was achieved in Amhara region, some regions, such as Afar and Ganbera, did not

reach even to the national target of 80%. This high achievement of T/C in Amhara Region led EPHI to award Amhara region as the best performing region in the year.

During the regional review meeting held in Debre Markos in August, 2014, there was extensive discussion whether or not the quality of the weekly reports were properly assured in response to the reported high T/C in the region. In this respect, the project shared the experience of cross-checking hard copies of the weekly reports from HPs to HCs to ensure the quality of the reports. South Gondar Zone, one of the project zone was awarded as the second best performing zone in the region.

Measles outbreak review meeting

Following measles outbreak nationwide, ANRS-HB held a review meeting on measles, inviting PHEM officers from measles affected woredas in May 2014 to share information and situation on measles outbreaks in woredas and to discuss challenges and ways forward. The project assisted in developing presentation templates for the presenters. In addition, Dr Ota, the project chief advisor, presented measles outbreak investigations conducted by the project. He also shared Japan's successful measles elimination in the past five years.

2.2.4. Surveillance system evaluation

Dr Komiya, the short-term consultant from Wakayama Red-Cross Hospital, conducted surveillance system evaluation. He visited Dembia and Ebinat woredas to monitor the practice of surveillance reports at the facilities, including HPs. He also reviewed the relevant articles and documents on surveillance and response in Amhara Region. His recommendations to the ANRS-HB included: (1) to allocate the budget and resources for the surveillance activity appropriately, (2) to build up capacity of PHEM focal persons at peripheral levels, (3) to strengthen feedback of the results of analysis for the surveillance data and the laboratory test to all reporting sources in a timely fashion, and (4) to build capacity of laboratory at peripheral levels.

2.2.5 Field visit and training on malaria microscopy

Laboratory expert, Ms. Narita, conducted a field visit in July 2013 to assess the gaps and problems that laboratory technicians were facing with and identify the necessary training to laboratory technicians at the HCs in the project pilot woredas (Mecha, Burie Zuria, Dembia, Takusa, Simada and Ebinat). Based on the findings of the field visit and a consultation with the Amhara Regional Health Research Laboratory Centre, the Project held the training on malaria

microscopy diagnosis to 44 health centre laboratory technologists/technicians. The remarkable improvement was observed in participants' knowledge and practical skills.

In July 2014 Ms. Narita visited Ethiopia, again, to re-evaluate the current situation of the performance on malaria microscopy after the training conducted by the project a year before, and to conduct OJT on malaria microscopy, if necessary. After the field visit to HCs, it was observed that after the training some HCs continue the good practice such as following guidelines and making standard operating procedures (SOP), adjusting their situation while others have various technical and managerial challenges such as inappropriate procedures, insufficient microscopy maintenance, and shortage of reagent/materials. In addition, some HCs are not able to conduct necessary laboratory tests because of the shortage of laboratory technologist/laboratory technician caused by FMOH's decision to suspend the training school for laboratory technologist/laboratory technician since 2009. Based on the findings of the field visit, the project suggested (1) standardization of malaria microscopy at HCs and expansion of external quality assessment (EQA) programme, which has been introduced at selected HCs, (2) training and regular supportive supervision, (3) appropriate human resource allocation, supply of reagent and material, and working environment, (4) collaboration between ANRS-HB and Regional Laboratory.

2.2.6 Procurement and distribution of laboratory equipment and materials to HCs

Based on the needs assessment conducted for each HC, the project donated 2 general purpose centrifuges, 8 hematocrit centrifuges, 22 LED solar battery lights and 22 copies of Bench Aids for Malaria Microscopy (WHO publication) to HCs in 6 woredas (Mecha, Burie Zuria, Dembia, Takusa, Simada and Ebinat) to strengthen their laboratory activities. Orientation on how to use the equipment was given to laboratory technicians when the project handed over the equipment. In July 2014, the project visited 20 HCs including 12 HCs that received laboratory equipment from the project and gave advice on use and maintenance of equipment when necessary.

2.3 Other activities

2.3.1 Joint Coordination Committee (JCC) meeting

The 6th Joint Coordination Committee meeting was held on 22 June 2013 to discuss (1) the progress of the project and PHEM activities and (2) the revision of project indicators of project design matrix (PDM) version 6.51. Mr Ali, the vice head of ANRS-HB, the PHEM officers,

including Mr Belay, the core process owner, the heads and PHEM officers of North and South Gondar and West Gojjam Zonal Health Departments, and 22 project woredas attended. Also, Mr Jin, the Chief Representative of JICA Ethiopia Office and Ms Kotoura of JICA HQ participated in the meeting. Mr Teklehaimanot, the Early Warning Case Team officer, presented the progress of the PHEM in the past year. Mr Belay reported to the plenary session that the PDM 6.51 was approved. After the meeting, both Mr Belay, the chief of the PHEM and Dr Ota, the Chief Adviser to the ANRS-HB have signed the minutes of the meeting. (MM)

The 7th Joint Coordination Committee meeting was held on 16 December 2014, attended by more than 80 people from North and South Gondar and West Gojjam Zonal Health Departments, and 22 project woredas and other related organizations, such as the Bureau of Finance and Economic Development (BoFED) and Amhara Media Agency. Mr Jin, the Chief Representative, and Ms Fukuda of JICA Ethiopia office also attended the meeting. Mr Teklehaimanot, the Early Warning Case Team officer, presented the progress of the PHEM in the past year and a half and reported that Timeliness/Completeness of Amhara region has exceeded 97% and several outbreak investigations were conducted in collaboration with the AmRids project, suggesting functionality of the surveillance system in the Region. The project reported activities conducted in the last two years and achievement based on PDM indicators. Project Purpose and Overall Goal were achieved. (See 3.3 for details of achievement of each indicator.)

2.3.2 Participation in European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE)

The European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE) was held on 5-7 November 2013 in Stockholm, Sweden and two PHEM officers with a project consultant attended the meeting. Ms Abadit, a PHEM officer presented in the poster session on an epidemic typhus outbreak in Awi Zone, Ethiopia that occurred in 2012. The project has supported revising her abstract to submit and also preparation of the poster. In November 2014, also two participants from ANRS-HB, supported by the project, attended the ESCAIDE conference in Stockholm. (Annex 10)

2.3.3 Donation of furniture

The project identified the necessary furniture to be installed in HCs in Mecha Woreda in order for the PHEM officers to be able to work more efficiently on the communicable disease surveillance. The project donated 65 shelves, 58 chairs, 39 benches, and 33 desks to 11 HCs.

Four hundred file folders were also distributed to HCs to strengthen filling PHEM weekly reports at HCs.

2.3.4 Public relations

The project had an interview crew from JICA's PR magazine titled 'JICA's World' and project was featured on the magazine in July 2013. In September 2013, Japanese medical students from Tottori University and Kyoto University visited the project. The project also attended Japan Festival in November 2013 and 2014, ANRS-HB Health Festival in November 2013 and National Malaria Symposium in May 2014 to present the concept of the project, activities and achievements to the participants at the exhibition booth.

3. Project evaluation

3.1 Mid-term evaluation (November 2010)

JICA conducted a mid-term review in November 2010, three years after the initiation of the project. The evaluation team, headed by a public health physician, evaluated that indicators for Project Purpose showed the positive results for the pilot 6 woredas, while activities for the other 16 woredas had not started yet and expected that it would start shortly. Because of the surveillance policy change of the FMoH from IDSR to PHEM in 2009, the health facilities were required to submit PHEM reports not monthly but weekly and HPs also had to report, likewise, leading a sharp decline in timelines/completeness. It was expected, however, that the timeliness/completeness would improve gradually though taking time for the indicators to reach the target. In the Joint Coordination Committee in November 2010 right after the mid-term review, the project design matrix (PDM) was revised to be in line with the PHEM and the indicators of project purpose added those related with analysis and feedback of surveillance data and public health response.

3.2 Final evaluation (May 2012)

The final evaluation conducted in May 2012 concluded that the achievement of the project purpose was deemed partial. Effective facility-based surveillance and community-based surveillance were functioning to some extent in the 6 pilot woredas, and it was being scaled-up to other target areas. The core functions were being established for a surveillance system, under which there was somehow connection from community up to ANRS-HB as demonstrated in the pilot areas. However, gaps still existed in the reporting system. Challenges had remained with strengthening response capacity based on the surveillance information. Thus, the evaluation mission recommended the extension of the project for about two years. It was advised that the

project should (1) strengthen dissemination of surveillance data, (2) strengthen response capacity, (3) support the integration/transition of KSOs to HDAs, (4) summarize experience on community surveillance and (5) conduct surveillance system evaluation, in addition to sustaining the surveillance system by supportive supervision.

3. 3 The project's self assessment at the end of the project

Achievement of goal and project purpose and each output is shown in the following table.

Project Purpose /output	Indicators	Achievement
Overall Goal	The number of woredas applied project's pilot model	- Timeliness/completeness of PHEM reports from HCs/Hospitals and HPs is 97% region wide. - Actions to communicable disease outbreak/epidemic (e.g. malaria, mass hysteria, anthrax, etc.) are taken region wide.
Project Purpose	1. Disease data collection system from woreda to the Region is functioning in 80% of target areas.	- Timeliness/completeness of PHEM reports from HCs is over 90% on average in all project woredas.
	2. Disease data collection system from HPs to the Region is functioning at 80% of model HPs and Infectious disease control mechanism is functioning at 80% of model cluster HCs and model HPs	-Timeliness/completeness of PHEM reports from HPs is over 90% in all project woredas. -In terms of response to communicable disease epidemic e.g. malaria or measles, response/action mechanism is functioning in cluster HCs and HPs in all target woredas.
Output 1 and 2	1. Timeliness and completeness of report from health facilities is more than 80%.	- Timeliness/completeness of PHEM reports from HCs is over 90% on average in 22 project woredas.
	2. WorHO analyze disease data such as Malaria regularly.	Almost all WorHOs analyze data weekly by utilizing Malaria Monitoring Charts and tallying weekly report, comparison of data with last week or same period last year
Output 3 and 4	1. Rumours registered in the Logbooks	- Thirty-eight (38 [64%]) out of 59 HCs visited registered rumours. - One hundred twenty-six (126) rumours were registered by December 2014.
	2. HDAs' involvement in PHEM	- HDAs involved in PHEM activities at all visited HCs. - Examples of activities: - Malaria control campaigns; - Vaccination campaigns; - Outbreak investigations; - Reporting unusual health events; - Messenger between HCs and HPs, etc.

Output 5	1. ANRS-HB, ZHDs, WorHOs provide written feedback to each subordinate authorities monthly.	ANRS-HB provides feedback weekly and three ZHDs monthly. Fifteen (15) out of 22 WorHOs (68%) provide feedback to cluster HCs. [Breakdown of WorHO] 1WorHO (5%): Weekly 4WorHO (18%): Every two weeks 10WorHO (45%): Monthly 7WorHO (32%): Quarterly
	2. The number of guidelines developed by ANRS-HB	Draft of anthrax and rabies guidelines had been developed and submitted to EPHI (EHNRI) in 2012.
	3. The number of outbreak investigations and related disease specific interventions	Eleven (11) outbreak investigations performed: Typhoid fever: Tachigaint Measles: Sekela (including case-control study), Y/Densa, W/Balessa, Dembia, Mecha, and Alefa (7 times in 6 woredas). Whooping cough: West Balessa Anthrax: Waghimra NNT: Dembecha (false alarm)
	4. The number of PHEM review meeting	- Regional review meeting in August 2013. - Regional review meeting in August 2014. - Review meeting on measles in May 2014. - South Gondar review meeting in October 2014.
Output 6	1. Timeliness of weekly PHEM reports from HPs to HCs.	Timeliness is over 80% on average from HPs in 22 project woredas.
	2. Monthly written feedback from HCs to HPs is more than 50%	A 30% of monthly feedback was provided from cluster HCs to HPs and 77% of HCs (44/59HC) provided written feedback at least once.

3.3.1 Relevance

Communicable disease surveillance system is one of the important public health programme that all the Member States of the WHO should establish stipulated in the IHR (2005). Besides, in Ethiopia there have occurred various communicable disease outbreaks, including meningococcal meningitis, measles (2013-2014), polio (2013), and dengue fever (2013), suggesting the importance of having public health surveillance system could not be emphasized enough to be able to detect outbreaks early, to know the trend of the diseases, and to evaluate the impact of public health interventions against the diseases. The Japanese Government has also pushed toward control of communicable disease since 2000 when the prime minister of Japan, Mr Hashimoto, pledged to contribute to the global communicable disease control in G8 summit in Okinawa. Thus, the project's goal and objective are in line with the global and the country's, as well as Japanese health policy.

3.3.2 Effectiveness

As mentioned before, the project objective, "A facility- and community-based surveillance and response system is functional in the project area," has been achieved, since the timeliness of the weekly surveillance reports is more than 90% in project areas and actions are taken against outbreaks or health events, including measles, whooping cough, anthrax and NNT.

An indicator for the output 1 and 2, timeliness and completeness are, as mentioned above, over 90% in project areas, suggesting the target has been met. The other indicator, the number of woreda health offices that analyze the surveillance data every week is all the 22 woredas, achieving 100%.

An indicator for the output 5, dissemination of the surveillance data, is carried out every week by the Regional Health Bureau and every month by the Zonal Health Department. Five woreda health offices (23%) disseminate the data weekly or fortnightly, while 10 (45%) do every month, and the remaining seven (32%) do every quarter, indicating less than a third woredas have not reached the target of every month. Another indicator, the number of communicable disease guidelines prepared by the project, is so far two: for rabies and anthrax, which have already been submitted to the ANRS-HB and EPHI in 2012. There is no target set in terms of the number, however, the project strongly believe that there is no need of developing additional guidelines on specific communicable disease for control. The third indicator for the output 5, number of outbreak investigations and public health emergency the ANRS-HB tackled on, has been 11 since October 2012 when the project design matrix (PDM) version 6.0 newly included the activity. There is no target set for the number of outbreak investigations since it cannot be predicted or set how many outbreak investigations should be conducted, however, the project believes sufficient number of investigations have been taken on in the past two years. The other indicator: the number of review meetings on public health emergency, has been three at the Regional level, including the meeting on measles outbreaks, and one at the Zonal level. There is no target set for the meetings, however, it is moderate that the once a year a review meeting was held at the Regional level to discuss the findings and challenges in terms of surveillance and come up with possible solutions.

An indicator for the output 3 and 4, the number of rumors registered on the rumor logbook was 126 at 38 cluster health centres (64%) out of 59 in 22 woredas the project has been monitoring since July 2013, suggesting an event-based surveillance is becoming functional in the project area. Another indicator, the involvement of HDAs in surveillance and response, is somehow

achieved in all the 59 cluster health centre areas the project has been monitoring in a year. The HDAs activities related to surveillance and response were reporting rumors related to outbreaks, such as measles, participating malaria control, such as distributing insecticide treated nets (ITNs) and carrying out intrahouse residual spraying (IRS), and assisting vaccine campaigns such as measles and polio, indicating HDAs have now involved communicable disease surveillance and response.

An indicator for the output 6, the timeliness of the weekly surveillance reports from HPs to HCs is overall more than 90%. This was also attested by the existence of the hardcopies of the reporting pads sent from the HPs to the cluster health centre, physically monitored in the monitoring visit. Another indicator, the dissemination of surveillance data from the HC to the HPs, however, has not achieved well. In the third quarter of 2014, still only a little bit less than 30% of monthly feedback of the surveillance data was provided in written forms from HCs to HPs and the target is 50%.

Overall, an indicator for the output 5 and another for the output 6, both related to dissemination of surveillance data, have not achieved the target. Otherwise most indicators have met the target or been acceptable at the end of the project period, suggesting that the project was quite effective. The project purpose has also been met as mentioned above, further attesting the notion.

3.3.3 Efficiency

From the project's point of view, the efficiency of the activities were quite high after April 2013 when the current management took over the project, because the project focused more on the crucial and essential areas and restructured ones where sustainability was under question mark.

The major input of the current project was four review meetings at the Region and the Zonal levels, five training of trainers (TOT) sessions on surveillance and response for 22 woredas, four HEW TOT sessions for woreda and HCs, and quarterly monitoring visits to cluster health centres: for Mecha, Dembia, and Ebinat after the second quarter of 2013 and for the other 19 woredas after the third quarter of 2013. In addition, laboratory training on malaria microscopy was held twice for 44 laboratory staff at HC level in 6 woredas in summer 2013 and some furniture was distributed to HCs in Mecha. These somehow moderate input enabled the 22 woredas to achieve timeliness over 90% and the region to take on 11 outbreak investigations overall, suggesting the project management was quite efficient in the past two years. Of course, the importance of the continuous activities, particularly training on surveillance and response

for 22 woredas that was organized in 2012, cannot be underestimated. Also, political commitment of the ANRS-HB and the FMoH for communicable disease surveillance and response, visible increase in the number of staff at the PHEM department and FETP residents, should be appreciated here.

3.3.4 Impact

The major objectives of having public health surveillance system in a country, as mentioned in the background, is to (1) detect any disease outbreaks or unusual events, (2) to contribute to the evaluation and monitoring of prevention and control programmes, and (3) monitor trend in communicable disease over time to assess the present situation. Thus, the impact of the project should be measured with the number of actions taken using the current surveillance system in the country, including outbreak investigations, public health interventions or perhaps, changes in public health policy at the Regional or the federal levels. After October 2012, when the PDM ver. 6.0 recovered outbreak investigations as the project activities, 11 outbreak investigations have been conducted by the project in close collaboration with the ANRS-HB. One of which was actually conducted in Waghimra zone on high incidence rate of anthrax cases in response to the request of ANRS-HB, indicating a part of the overall goal of the project has already been accomplished. The project also carried out an assessment on malaria situation in three woredas in Amhara Region and verified that the incidence rates of malaria have gone down in the last three years using surveillance data, thanks to the uninterrupted public health malaria control efforts. The project has conducted a small scale outbreak investigations in 7 woredas where measles outbreaks were reported and has provided on-the-job training at the woredas in doing descriptive epidemiology in terms of time, place, and person. Even a case-control study was conducted in Sekela woreda on vaccine status and development of measles, leading to measuring the vaccine effectiveness of -6%, meaning the vaccine inoculated in the affected kebeles in Sekela was totally useless. Unfortunately, since the FMoH was not able to procure sufficient number of measles vaccines up to now and has been unable to carry out massive measles vaccination campaigns yet, failing to demonstrate the impact of having public health surveillance system. A possible negative impact of having surveillance system would perhaps be that the health care workers have become a bit busier to collect communicable disease data from OPD and laboratory registers and tally the data on the weekly reporting pads. However, the total time necessary to do those tasks would not be more than an hour at HC level and not more than 20-30 minutes at HP level, compensating the benefit of having public health surveillance system.

In conclusion, the project strongly believe that its impact has been huge and cannot emphasize the impact enough.

3.3.5 Sustainability

As one of the Member States of WHO and the host country of African Union, it is obligation of Ethiopia to have a public health surveillance system in the country, and thus, the project strongly believes that sustainability of maintaining communicable disease surveillance system is very high. The establishment of the Field Epidemiology Training Programme (FETP) at the Ethiopian Health and Nutrition Institute (EHNRI, now known as Ethiopian Public Health Institute: EPHI), training highly skilled epidemiologists to be deployed at the regional and zonal levels, has been further contributing to sustainability of surveillance system in the country.

Since 2012, ANRS-HB has dramatically increased the number of staff at the PHEM department to about 10, almost fulfilling all the positions at the regional level. In terms of fiscal affairs, the ANRS-HB has shared a half of the cost for the PHEM review meetings in the past couple years and the project strongly believe that they will cover all the cost after the project has phased out. ANRS-HB also conducts supportive supervision for zonal, woreda, and health centre levels in the prioritized area, suggesting that even after the phase out of the project ANRS-HB has sufficient capacity and budget to continue supervision for lower authorities.

At the zonal level as well, the project believes surveillance system is sustainable in terms of human resources and finance.

At woreda level, almost all the districts assign PHEM officers and almost all of them have attended the PHEM training. However, the project has some reservations toward the sustainability of surveillance and response, particularly at woreda and HC levels, where attrition of staff is quite frequent. Perhaps, donors and partners related communicable disease surveillance, particularly WHO, will continue to involve in strengthening surveillance and response activities at woreda and HC levels could sustain with their support.

In conclusion, the project has some reservations toward sustainability of surveillance and response at woreda and HC levels, it is believed that overall activities are sustainable.

3.3.6 Conclusion

The AmRids project, from our point of view, has succeeded in achieving not only the project objectives, but also the overall goals, which is expected to be achieved within 3-5 years of the end of the project, though the project was considered to be poorly performed in the mid-term and final evaluations conducted by the JICA and having had various difficulties caused by the policy change of FMoH on HDAs. One of the factors in successful completion of the project would be the political commitment of the ANRS-HB, headed by Mr Ayeligne, leading to dramatic increase in human and financial resources. In terms of the project management, there are a few factors that may contribute to the success: the Japan Anti-Tuberculosis Association (JATA), which had extensive experience in communicable disease control in developing countries, was selected as the leading consultant. Another would be that one of graduates of the Japanese FETP and also the former WHO staff was the project chief adviser. These factors must have highly contributed to mobilizing experts in communicable disease surveillance and response from the Research Institute of Tuberculosis (RIT) and the National Institute of Infectious Diseases (NIID) of Japan, and to the fact that the project has been managed in line with the global and standard concepts in communicable disease surveillance and response.

On the other hand, as mentioned previously, there are some reservations in the programme sustainability, particularly at woreda or HC levels where attrition of staff is not uncommon. The project wishes, with the efforts of FMoH and ANRS-HB, that political commitment of the woreda level will be strengthened and activities in surveillance and response would further be strengthened.

4. Challenges and Recommendations

(1) Political commitment in surveillance and response

At woreda level or lower, two to three officers, including one or two PHEM officers and one malaria officer, are assigned to surveillance and response activities. However, they are frequently transferred or they just quit, sometimes leading to reduced activities. Thus, at woreda and HC levels, PHEM officer or focal point should be assigned to sustain surveillance and response activities.

Likewise, at zonal and woreda levels, training, review meetings and outbreak investigations are supported by the project. After the project phasing is out, zones and woredas should secure fund for surveillance and response activities.

At regional level, the number of PHEM officers has increased to 10 since July 2012, having been able to do many activities, including analyzing surveillance data and carrying out outbreak

investigations. At zonal level, there are 2-3 PHEM and malaria officers having been assigned. In terms of finance, the regional PHEM has secured fund for review meetings and outbreak investigations.

(2) Continuous provision of training on surveillance and response

Since there is frequent transfer and attrition of staff at HC and woreda levels, it is recommended that the region, the zone, and woredas should hold training on surveillance and response as frequent as every year.

(3) Dissemination of surveillance data

At woreda level, dissemination of surveillance data is variable: some are disseminating weekly bases, others are doing quarterly. Because the surveillance data are collected weekly, the data should be disseminated at least monthly, preferably weekly.

(4) Integration of the community case definition to the standard case definition

After the introduction of PHEM, HPs have now been required to report 14 diseases and conditions specified as the community case definitions. However, over 99% of cases that HPs report are malaria confirmed with RDTs and other conditions are rarely reported, except a few cases of acute febrile illness (AFI). This is basically caused by the fact that HEWs are trained for a year and do not have much skills and experience in clinically diagnosing, for example, measles. At HC level, AFI has to be reclassified into various communicable disease, such as typhoid fever, dysentery, relapsing fever, epidemic typhus, measles, yellow fever, etc., requiring the very case to attend HC and being seen by a clinician, which may or may not be possible, leading to be just ignored by the HCs and not be reported to the woreda health office. This means that the community case definitions are totally useless and it needs quick revision. The project recommends that the community case definitions should be abolished and only the standard case definitions should be used. HEWs' skills and experiences are not enough to clinically diagnose cases with communicable disease, except malaria but this should still be useful to track the malaria situation at HP level.

(5) Event-based surveillance and use of rumour logbooks

The PHEM guideline instructs that the community volunteers, including HEWs, should use the community case definitions in reporting cases with communicable disease. However, as discussed in 4 (4) above, it is nonsense to expect that the volunteers, who do not have any formal education on health, could clinically diagnose cases with communicable disease, such as measles and NNT. Even, HEWs who have been trained for a year on health could not clinically diagnose and report the conditions other than malaria that has confirmatory test with RDT, suggesting that the FMoH should revise the policy on the indicator-based surveillance for HEWs and volunteers using the community case definitions.

Thus, the project strongly recommends that event-based surveillance should be adopted to be carried out by community volunteers, including HEWs. Specifically, the community volunteers should report to HPs and HCs any communicable disease outbreaks and unusual health events, particularly any events with simultaneous multiple deaths with unknown cause. The events or rumors should be recorded on the rumor register at the cluster HC level and the utilisation of rumor logbooks should be monitored by the woreda health offices and zonal health departments in supportive supervision.

AFRO-WHO has been promoting mobilising the community volunteers in actively detecting and reporting cases with vaccine preventable diseases (i.e. polio myelitis [AFP], measles, and neonatal tetanus [NNT]) for years in various pilot sites, such as Oromia and SNNP Regions, named "community surveillance." However, the project would consider it counterproductive, if the entire health sector could not possibly take effective actions on those conditions, as being seen in the huge epidemic of measles in early 2014, in which the FMoH was not able to procure sufficient number of measles vaccines and the epidemic, in the end, was left virtually unintervened. Perhaps, WHO should recommend the FMoH should prepare for possible measles outbreaks, which the project strongly believes will come back frequently, and should stockpile measles vaccines. WHO should stop promoting "community surveillance" until effective preparation and stockpiling vaccines have been ready.

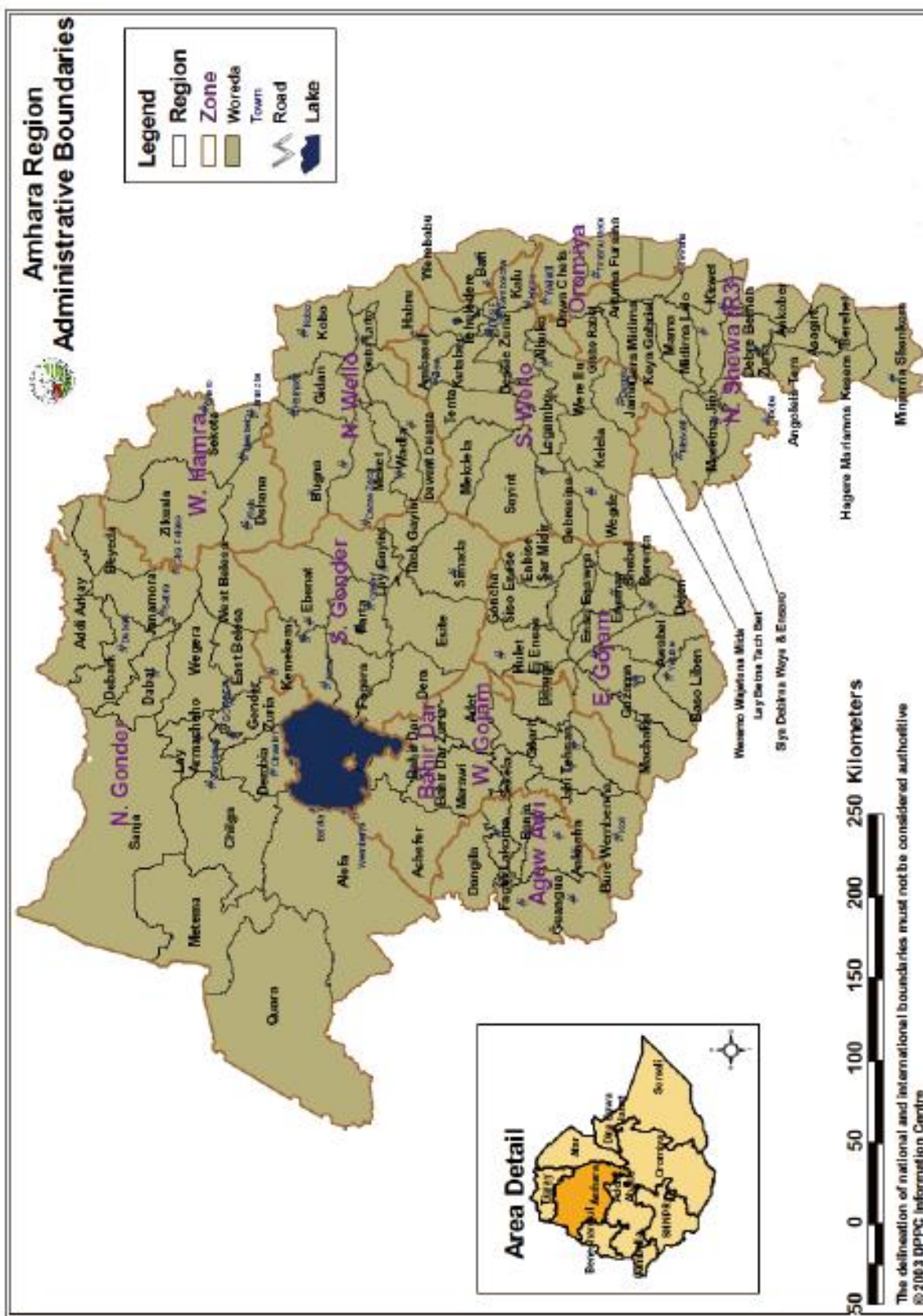
(6) Continuous implementation of monitoring on HCs and woreda health offices

The project recommends that the ANRS-HB and the zonal health departments should continue monitoring woreda health offices and HCs every quarter for at least five years, using the monitoring checklist that the project came up with, in collaboration with the ANRS-HB and WHO. This is important, the project believe, to continue based on the experience in the past a couple of years to maintain the practice in reporting surveillance data at woreda and HC levels.

Annex

1. Project map
2. PDM (Version 6.51)
3. Plan of Activities
4. Schedule of Experts' Dispatches
5. List of trainings in Japan
6. List of equipment provided by the Project
7. PHEM surveillance data 2013-2014
8. Lessons learned from the community surveillance activities (**Undisclosed**)
9. Outbreak investigation report
10. Presented abstracts for European Scientific Conference on Applied Infectious Disease Epidemiology (ESCAIDE)
11. Minutes of Joint Coordination Committee Meeting
12. Photos

Amhara Region



Project Design Matrix (PDM)

Project Name: Strengthening Infectious Disease Prevention, Control and Response in Amhara National Regional State / Amhara Regional Infectious Disease Surveillance (AmRids)
Counter Part: Amhara National Regional Health Bureau (ARHB)

Version 6.51
Date: June 2013

Target Area:
22 woredas for facility-based surveillance (6 woredas as pilot) and 3 woredas for community-based surveillance (2 woredas as pilot) in 3 zones in Amhara Regional State

Target Group: Health and medical service providers and health administrative officers in target areas; indirect beneficiary: people living in target areas;
Ultimate Beneficiary: Health and medical service provider and people living in Amhara region
Duration: 17th January 2008 - 16th January 2015.

Narrative Summary		Objectively Verifiable Indicators	Means of Verification	Assumptions
Overall Goal	Effective facility-based and community-based surveillance/response system is functioning in Amhara region.	Number of woredas applied project's pilot model.		
Project Purpose	Effective facility-based and community-based surveillance/response system is functioning in target area.	- Disease data collection system from woreda to the region is functioning in more than 80% of target 3 Zonal Health Departments (ZHDs) and 22 woreda Health Offices (WorHOs). - Disease data collection system from health posts (community) to the region and infectious disease control mechanism¹ is functioning in more than 70% of model cluster health centres² and model health posts		• Budget is secured. • The current health policy and priority remains unchanged.
Output	1 Effective system of facility-based surveillance is established and verified in pilot area ³	1-1 Timeliness, and completeness ⁴ of surveillance report from health facilities to ZHDs to ARHB maintains over 80%. 1-2 Analysis of selected surveillance diseases (malaria, acute watery diarrhoea (AWD), meningitis, acute flaccid paralysis (AFP), measles, neonatal tetanus) is routinely conducted in 80% of WorHOs of pilot area.	WorHO/ ZHD archive for surveillance	(no assumption)
	2 Operational capacity of the verified system of facility-based surveillance is developed in all target area ⁵ .	2-1 Timeliness, and completeness of surveillance report from health facilities to ZHDs to ARHB of target area achieve over 80%. 2-2 Analysis of selected surveillance diseases (malaria, AWD, meningitis, AFP, measles, neonatal tetanus) is routinely conducted in ZHDs and 80% of WorHOs of target area.	WorHO/ ZHD archive for surveillance	

¹ Described in Output 5

² Cluster health centre located in the model cluster (type B cluster health centre is located in each cluster)

³ Pilot area of output 1 (facility)=6 pilot woredas (district) of 22 target area

⁴ Timeliness=indicator to measure surveillance report on time, Completeness=indicator to measure completeness of surveillance report

⁵ Target area of output 2 (facility)=target 22 woredas

3	System of community-based surveillance is established and verified in pilot area ⁶ .	3-1 The numbers of rumours on unusual health events registered in the Rumour Logbook at the cluster health centres. 3-2 The numbers of surveillance and response activities to the PHEM target diseases, in which the community volunteers are mobilised.	WorHO archive for surveillance, report of monthly meetings, interview with woreda PHEM officers
4	Operational capacity of the verified system of community-based surveillance is developed in all target area ⁷ .	4-1 The numbers of rumours on unusual health events registered in the Rumour Logbook at the cluster health centres. 4-2 The numbers of surveillance and response activities to the PHEM target diseases, in which the community volunteers are mobilised.	WorHO archive for surveillance, report of monthly meetings, interview with woreda PHEM officers
5	Public health and medical responding capacity of infectious diseases based on surveillance data is strengthened in pilot area	5-1 ARHB, ZHDs, WorHOs provide feedback to each subordinate authorities monthly. 5-2 Number of response protocols of each PHEM target disease are developed/ revised at ARHB 5-3 Number of outbreak investigations and related disease specific interventions are carried out in pilot area. 5-4 Number of annual review meetings on progress of PHEM held.	Feedback report at regional health bureau, ZHD & WorHO, Report of outbreak investigations at ARHB
6	A model of activity linking facility-based and community-based surveillance and response is established. (see the next page)	6-1 Timeliness and completeness of the weekly PHEM reports from health posts to cluster health centres is at least 80%. 6-2 At least a 50% of the expected number of monthly written feedback is provided from the cluster health centres to the health posts based on the PHEM reports.	WorHO/ZHD/ARHB archive for surveillance,
Activities		Input Japanese side - Long-term experts (4) - Short-term experts (2-5) - Provision of necessary equipment - Training (In-country / Japan / Third country) Ethiopian side - Counterparts allocation - Project office (at ARHB) - Training facility - Custom clearance and legal administration for equipment supply - Logistic arrangement	Attrition rate of trained health workers will not increase. Pre-condition There will be no severe economic disruption.

⁶ Pilot area of Output 3 (community)=Selected kebeles of pilot woredas in pilot 2 woredas

⁷ Target area of Output 4 (community)=Selected kebeles/ clusters in target 3 woredas

Activities

Output 1

Effective system of facility-based surveillance is established and verified in pilot area.

- 1-1 Conduct situation analysis on surveillance system.
- 1-2 Select pilot woredas.
- 1-3 Find out better methods and train on reporting, data management, analysis and feedback mechanism for health offices.
- 1-4 Find out better methods and train on epidemic response and preparedness for health offices.
- 1-5 Assist to develop annual PHEM (Public Health Emergency and Management) planning model based on analysed data at health offices in pilot woredas.
- 1-6 Train on surveillance to workers at health facilities.
- 1-7 Monitor and supervise facility-based surveillance activities at health offices and health facilities.
- 1-8 Produce supplemental materials for health offices and health facilities.
- 1-9 Provide necessary equipment (e.g. computer to health offices).
- 1-10 Conduct problem assessment and provide PHEM training for PHEM officers in pilot HCs, WorHOs and ZHDs.

Output 2

Operational capacity of the verified system of facility-based surveillance is developed in all target area.

- 2-1 Select target woredas.
- 2-2 Develop a scaling-up strategy (training, manuals, follow-up plan).
- 2-3 Conduct training to health offices and health facilities.
- 2-4 Provide necessary monitoring and supervision to target WorHOs.
- 2-5 Provide necessary equipments.
- 2-6 Revise produced materials for training as supplemental materials

- 2-7 Provide PHEM TOT trainings for PHEM officers in target HCs, WorHOs and ZHOs.

- 2-8 Support progress of implementation of e-PHEM

Output 3

System of community-based surveillance is established and verified in pilot area.

- 3-1 Select pilot woreda and kebeles.
- 3-2 Develop strategy with community on surveillance.
- 3-3 Develop manuals and educational tools.
- 3-4 Conduct training for Health Extension Workers (HEWs) and KSOs.
- 3-5 KSOs engage in surveillance activities and refer suspected patients to HEWs.
- 3-6 HEWs register all patient records which include referral patients by KSOs
- 3-7 Conduct KSO's knowledge assessment test on community target diseases.
- 3-8 Develop health post 5S checklists.
- 3-9 Post health post 5S checklist on the wall of pilot health posts.
- 3-10 Monitor and supervise community surveillance and response.
- 3-11 Devise and conduct trials of revolving fund activities of hygiene-related products (social marketing).
- 3-12 Evaluate pilot activities.

Output 4

Operational capacity of the verified system of community-based surveillance is developed in all target area.

- 4-1 Select target woredas and kebeles.
- 4-2 Conduct training for Woreda Health Offices (WorHOs).
- 4-3 Conduct training for HEWs and KSOs.
- 4-4 Revise and disseminate manuals and education tools.
- 4-5 KSOs engage in surveillance activities and refer

suspected patients to HEWs.

4-6 HEWs keep patient registration records

4-7 Monitor and supervise community surveillance and response.

4-8 Explore optimal strategy of integration of KSOs into HDAs in pilot woredas.

4-9 Support transition of KSO activity to HDAs in pilot woredas.

4-10 Document project experience on community-based surveillance and cluster approach including cost, equipments, personnel and timeline.

Output 5

Public health and medical responding capacity of infectious diseases based on surveillance data is strengthened in pilot area.

5-1 ARHB provides feedback of surveillance results to target 3 ZHDs every two weeks.

5-2 ZHDs provide feedback of surveillance results to pilot 6 woredas every two weeks.

5-3 6 woredas provide feedback of surveillance results to model cluster health centres every two weeks.

5-4 Cluster health centres in the pilot woredas provide feedback of surveillance results to health posts every two weeks.

5-5 Revise/develop response protocol of each PHEM target disease at the PHEM department of the regional health bureau.

5-6 Conduct situational analysis of laboratory capacity of health centres at target area.

5-7 Select model cluster health centres.⁸

5-8 Identify feasible and sustainable laboratory examination items at model cluster health centres.

5-9 Provide laboratory equipments that are sustainable and effective for the health centres.

5-10 Organise training on laboratory at the health centres including skill sharing of laboratory techniques, maintenance of equipment and logistics.

⁸ The project selected 10 model cluster health centres after which the lab activities expanded to the remaining health centres in the pilot area.

5-11 Promote microscopic malaria laboratory examination of suspected malaria cases at health centres.

5-12 Promote malarial examination with RDT at health posts.

5-13 ARHB, ZHDs and WorHOs conduct outbreak investigations and related disease specific interventions.

5-14 ARHB prepares training modules and excises on public health response to unusual health events.

5-15 ARHB conducts training on public health response against unusual health events⁹ to ZHDs and WorHOs.

5-16 ARHB holds an annual review meeting on progress of PHEM.

5-17 Conduct surveillance system evaluation by the end of the project

Output 6

A model of activity linking facility-based and community-based surveillance and response is established.

6-1 Develop and introduce referral system with referral paper to model cluster health centers.

6-2 Promote to conduct regular cluster meetings at model cluster health centers.

6-3 Promote participation by at least one HEW from each health post and woreda officers for cluster meetings

6-4 HC staff provides feedback to HEWs based on the submitted referral papers at cluster health centers monthly.

⁹ An unusual health event is defined as an increase, often sudden, in the number of cases of the diseases above what is normally expected in that population in that area.

Plan of Activities

[illegible]

Activity	Term	2013												2014											
		FY2013												FY2014											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
4-7	Monitor and supervise community surveillance and response																								
4-8	Explore optimal strategy of integration of KSOs into HDAs in pilot woredas																								
4-9	Support transition of KSO activity to HDAs in pilot woredas																								
4-10	Document project experience on community-based surveillance and cluster approach including cost, equipments, personnel and timeline.																								
Output5 : Public health and medical responding capacity of infectious diseases based on surveillance data is strengthened in pilot area		2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
5-1	ARHB provides feedback of surveillance results to target 3 ZHDs every two weeks																								
5-2	ZHDs provide feedback of surveillance results to pilot 6 woredas every two weeks																								
5-3	6 woredas provide feedback of surveillance results to model cluster health centres every two weeks.																								
5-4	Cluster health centres in the pilot woredas provide feedback of surveillance results to health posts every two weeks																								
5-6	Conduct situational analysis of laboratory capacity of health centres at target area																								
5-9	Provide laboratory equipments that are sustainable and effective for the health centres																								
5-10	Organise training on laboratory at the health centres including skill sharing of laboratory techniques, maintenance of equipment and logistics.																								
5-11	Promote microscopic malaria laboratory examination of suspected malaria cases at health centres																								
5-12	Promote malarial examination with RDT at health posts																								
5-13	ARHB, ZHDs and WorHOs conduct outbreak investigations and related disease specific interventions																								
5-14	ARHB prepares training modules and excises on public health response to unusual health events																								
5-15	ARHB conducts training on public health response against unusual health events to ZHDs and WorHOs																								
5-16	ARHB holds an annual review meeting on progress of PHEM.																								
5-17	Conduct surveillance system evaluation by the end of the project																								

Activity	Term												2014											
	2013												FY2013											
	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1
Output6 : A model of activity linking facility-based and community-based surveillance and response is established.																								
6-2 Promote to conduct regular cluster meetings at model cluster health centers																								
6-3 Promote participation by at least one HEW from each health post and woreda officers for cluster meetings																								
6-4 HC staff provides feedback to HEWs based on the submitted referral papers at cluster health centers monthly																								
Send a mission to the Southern Nations, Nationalities and People's Region (SNNPR) to review the community-based integrated disease surveillance and response (CB-IDSr) piloted in the regions supported by the country office of the WHO																								

凡例 : ——事前作業期間

Ethiopia

Japan

報告書の説明

1. Ethiopia

Name	Rank	Plan/Actual	FY2013												FY2014												Total Days	Total M/M
			2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1		
Masaki Ota (Chief Advisor/Surveillance Response)	2	Plan Actual																									550	18.33
																											550	18.33
Shuko Nagai (Communicable Disease Surveillance)	3	Plan Actual																									61	2.03
																											61	2.03
Yumi Toyama (Surveillance/Cluster Approach)	3	Plan Actual																									299	9.97
																											299	9.97
Takashi Yoza (Health Management)	3	Plan Actual																									540	18.00
																											540	18.00
Chika Narita (Laboratory Examination)	3	Plan Actual																									90	3.00
																											90	3.00
Nobuhiro Komiya (Surveillance System Evaluation)	3	Plan Actual																									45	1.50
																											45	1.50
Mami Kon (Project Coordinator/Communicable Disease Surveillance)	5	Plan Actual																									595	19.83
																											595	19.83
Kosuke Okada (Public Health)	3	Plan Actual																									40	1.33
																											40	1.33
			Ethiopia												(Plan)												2220	74.00
			Ethiopia												(Actual)												2220	74.00

2. Japan

Masaki Ota (Chief Advisor/Surveillance Response)	2	Plan Actual																									6	2.30
																											6	0.20
Shuko Nagai (Communicable Disease Surveillance)	3	Plan Actual																									13	0.65
																											13	0.65
Chika Narita (Laboratory Examination)	3	Plan Actual																									4	0.20
																											4	0.20
Kosuke Okada (Public Health)	3	Plan Actual																									17	0.85
																											17	0.85
			Japan												(Plan)												57	1.90
			Japan												(Actual)												57	1.90

Training	Name and Title		Organization
HEALTH ADMINISTRATION FOR REGIONAL HEALTH OFFICER FOR AFRICA 2013/6-2013/8	1	Gebru Abuhay	North Gondar Zonal Health Department
		Health Extension executive Officer	
	2	Mezgebu Eshetu	Oromia Zonal Health Department
		Hygiene & Sanitation Officer	
Seminar on Viral Hepatitis - Epidemiology, Prevention and Treatment 2013/9-2013/10	1	Dr. Daniel Girma	Debank Hospital
		General Practitioner, Emergency Department	
Strengthening of Community Health Systems for Infectious Disease Control 2014/1-3	1	Michaele Nebro Teklie	Jawi Woreda Health Office, Awi Zonal Health Department
		Public Health Emergency Management Officer	
	2	Tiruwork Alemnew Amara	Wadla Woreda Health Office, Semien Wollo Zonal Health Department
		Public Health Emergency Management Officer	
Countermeasure for Communicable Diseases 2014/2-3	1	Taklehaymanot Gebrehiwot Kidanemariam	Amhara Regional Health Bureau
		Early warning officer, Public Health Emergency Management	
	2	Aberach Abie Nihret	Amhara Regional Health Bureau
		Regional TB/HIV prevention and control officer, Disease Prevention and health Promotion	
Strengthening of Community Health Systems for Infectious Diseases Control 2014/7-9	1	Addisu Workineh Kassa	Amhara Regional Health Bureau
		Leishmaniasis and other vector-borne diseases (NTDs) officer, Public Health Emergency Management	
	2	Yeshiwork Amogne Mekonnen	Amhara Regional Health Bureau
		Health Promotion and Behavioral science officer, Health Promotion and Disease Prevention Process	
Countermeasure for Communicable Diseases 2015/2-3	1	Abadit Niguse W/Giorgis	Amhara Regional Health Bureau
		Preparedness Officer, Public Health Emergency Management	

No.	Item	Model	Qty	Handed over to	Date of Handover
1	Projector	EPSON, EB-1751, Model H479D	1	ARHB	9-Jan-15
2	Laptop PC	Toshiba Satellite Pro A200	1	ARHB	9-Jan-15
3	Printer	1) HP2600N color lazer	1	ARHB	9-Jan-15
4	Printer	2) HP 4250 lazer jet	1	ARHB	9-Jan-15
5	Photocopier	RICHO AF3030	1	ARHB	9-Jan-15
6	Projector	LCD VPL-ES3 Sony (Black)	1	ARHB	9-Jan-15
7	Desktop PC	Dell/ Optiplex 745 Pentium D Desk Top	2	ARHB	9-Jan-15
8	Generator	ROBIN 4KW	1	ARHB	9-Jan-15
9	Laptop PC	Toshiba Satellite Pro L300-EZ1004X	1	ARHB	9-Jan-15
10	Desktop PC	Dell/ Optiplex GX780 Desk Top	1	ARHB	9-Jan-15
11	Laptop PC	Toshiba Satellite A505	1	ARHB	9-Jan-15
12	Laptop PC	Toshiba Satellite C660-15N	2	ARHB	9-Jan-15
13	Desktop PC	Dell Optilex 780	1	ARHB	9-Jan-15
14	Desktop Computer	Optiplex 780, Ser # 8C9MS2X	1	ARHB	9-Jan-15
15	Scanner	HP 8300 Digital scanner	1	ARHB	9-Jan-15
16	Trash paper Shredder	ATLAS:SCO540	1	ARHB	9-Jan-15
17	External Hard Disk	My Passport	1	ARHB	9-Jan-15
18	Digital Camera	Canon 1XY 200F Green	1	ARHB	9-Jan-15
19	Digital Camera	Canon IXY PC 1158 (DC4.3V) - Silver color	1	ARHB	9-Jan-15
20	Digital Camera	Sony Cyber-shot with Tripot, Silver	1	ARHB	9-Jan-15
21	Digital Recorder	OLYMPUS	1	ARHB	9-Jan-15
22	Printer (Mobile)	HP Officejet H470	1	ARHB	9-Jan-15
23	Printer	HP LaserJet AIO M1212NF	1	ARHB	9-Jan-15
24	Printer	HP Deskjet 1280, Sr# CN6C5JZOG7	1	ARHB	9-Jan-15
25	Printer	HP Office jet 7000a series, Sr# MY3T11194, FPU # C9299-64001	1	ARHB	9-Jan-15
26	TV	Panasonic	1	ARHB	9-Jan-15
27	Projector	Sony, White	1	ARHB	9-Jan-15
28	Fax	CANON L-100	1	ARHB	9-Jan-15
29	UPS	INFOSEC, X2LT-1000IEC	1	ARHB	9-Jan-15
30	UPS	INTEX, 1050VA	1	ARHB	9-Jan-15
31	Stabilizer	GATO, AVR-1000VA	1	ARHB	9-Jan-15

No.	Item	Model	Qty	Handed over to	Date of Handover
32	Stabilizer	JONCHN, AVR-500W	1	ARHB	9-Jan-15
33	Stabilizer	JONCHN, AVR-1500W	2	ARHB	9-Jan-15
34	Stabilizer	IVAR, SCV-1500VA	1	ARHB	9-Jan-15
35	Router	CISCO Linksys E2500	2	ARHB	9-Jan-15
36	Microscope	Olympus Microscope CX-21	1	ARHB	9-Jan-15
37	Safe Box	2Number lock, 80x60x55	1	ARHB	9-Jan-15
38	Refrigerator	Samsung	1	ARHB	9-Jan-15
39	Shelf	80cm*40cm*110cm	1	ARHB	9-Jan-15
40	File Cabinet (small)	85x40x85cm, with lock, Brown (Wooden)	10	ARHB	9-Jan-15
41	File Cabinet (small)	100*45*80cm	1	ARHB	9-Jan-15
42	File Cabinet	40*80*190cm, with Glass Door	2	ARHB	9-Jan-15
43	Cupboard with glass doors	78*34*175cm	1	ARHB	9-Jan-15
44	Desk	75*180*75cm	3	ARHB	9-Jan-15
45	Desk	75*160*75cm	16	ARHB	9-Jan-15
46	Desk	75*120*75cm	2	ARHB	9-Jan-15
47	Desk	43*102*70cm	1	ARHB	9-Jan-15
48	Drawer	40*40*60cm	6	ARHB	9-Jan-15
49	Pigeon Box	100*40*140cm	1	ARHB	9-Jan-15
50	Low table	60*120*43cm	1	ARHB	9-Jan-15
51	table	70*160*75cm	1	ARHB	9-Jan-15
52	small desk with drawer	60*120*75cm	1	ARHB	9-Jan-15
53	Chair	with armrest	40	ARHB	9-Jan-15
54	Chair	with casters	5	ARHB	9-Jan-15
55	Chair	without armrest	12	ARHB	9-Jan-15
56	Store material display Shelf	90*40*195cm	5	ARHB	9-Jan-15
57	Fixed Line Telephone Aparatus	Panasonic, Model# KX-T7730X, Ser # 8DBKC232591	1	ARHB	9-Jan-15
58	Fixed Line Telephone Aparatus	EMERALD- Tele-Twins, AZ-711, Beetel Sr# 056566B	1	ARHB	9-Jan-15
59	Fixed Line Telephone Aparatus	EMERALD- Tele-Twins, AZ-711, Beetel 8/03 Sr# 056589B	1	ARHB	9-Jan-15
60	Fixed Line Telephone Aparatus	Emerald, beetel, F07-0001, Sr#: 050600742394, BHARTI Teletech limited	1	ARHB	9-Jan-15
61	Paper cutter	30cm X 22cm	1	ARHB	9-Jan-15
62	Binder	S 100 for plastic comb	1	ARHB	9-Jan-15

No.	Item	Model	Qty	Handed over to	Date of Handover
63	Stove with Cylinder	Three Burner gas stove	2	ARHB	9-Jan-15
64	Digital Thermometer	-	6	ARHB	9-Jan-15
65	Digital Thermometer	TERMO ET-C203P01	2	ARHB	9-Jan-15
66	Digital Thermometer	TANITA, TT533	2	ARHB	9-Jan-15
67	BP measurement	SPHYGMOMANOMETER	1	ARHB	9-Jan-15
68	Mobile phone	NOKIA	2	ARHB	9-Jan-15
69	Internet devise	EVDO	2	ARHB	9-Jan-15
70	Bed	for security gurads	1	ARHB	9-Jan-15
71	Fan	super crown	1	ARHB	9-Jan-15
72	Flipchart stand	—	1	ARHB	9-Jan-15
73	Took Kit	—	1	ARHB	9-Jan-15
74	Laminating machine	—	1	ARHB	9-Jan-15
75	Manual centrifuge	—	4	ARHB	9-Jan-15
76	Puncher (big)	gray	2	ARHB	9-Jan-15
77	Vehicle	TOYOTA Land Cruiser, Model#VDJ200L-GPMNZV	1	ARHB	4-Jul-14
78	Vehicle	TOYOTA Land Cruiser, Model#VDJ200L-GPMNZ	1	ARHB	4-Jul-14
79	Vehicle	TOYOTA Hi-Lux Double cab 4X4, Model#LAN25L-PRMDEN	1	ARHB	4-Jul-14
80	Hematocrit Centrifuge	KHT410	8	ARHB	Mar-Jul 14
81	General Purpose Centrifuge	PLC-05	2	ARHB	Mar-Jul 14
82	Malaria Color Atlas	Bench Aids for Malaria Microscopy (WHO publication)	22	ARHB	Mar-Jul 14
83	LED solar light	GH-LED6-SC2W	22	ARHB	Mar-Jul 14
84	Shelf	different types	65	Mecha WorHO	May-Jul 14
85	Chair	different types	58	Mecha WorHO	May-Jul 14
86	Bench	different types	39	Mecha WorHO	May-Jul 14
87	Desk	different types	33	Mecha WorHO	May-Jul 14

