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**Ethiopian Public Health Institute**



EPHI'S Main Building (heritage)

**MIDTERM EVALUATION of The 2nd BSC Based EPHI's STRATEGIC PLAN(2015/16-2019/20)**

September 2018

# Mission

The mission for Ethiopian Public Health Institute is to improve the health of the general public of Ethiopia through undertaking research on priority health and nutrition issues for evidence based information utilization and technology transfer; effective public health emergency management; establishing quality laboratory system; and training public health researchers and practitioners for best public health interventions.

# Vision

To be a center of excellence in public health in Africa.



**EPHI's upcoming state of the art laboratory building**

**MIDTERM EVALUATION of The 2<sup>nd</sup> BSC Based EPHI'S STRATEGIC  
PLAN (2015/16-2019/20)**

**Comprehensive Technical Report**

**ADDIS ABABA, ETHIOPIA**

**SEPTEMBER 2018**

## **Foreword**

In alignment with the Health Sector Transformation Plan (HSTP) the second EPHI's five years strategic plan (2015/16-2019/20) has been designed in a way to accommodate its mandate areas, i.e. to improve the health of the general public through undertaking research on priority health and nutrition issues for evidence based information generation and technology transfer, effective public health emergency management, establishing quality laboratory system, and training public health researchers and practitioners for best public health interventions. Based on its mandate areas, the institute has cascaded from HSTP and set its strategic objectives, initiatives, and indicators with respective targets to deliver results for evidence based decision making, effective public health emergency management and quality laboratory services.

The strategic plan has been implemented for the last three years, for which the institute's cross-functional and multidisciplinary evaluation team has been established to evaluate the SPM progress to date and suggest recommendations for improvement in the remaining strategic periods and beyond. The midterm evaluation provides key actors with necessary information on the progress made to achieve expected outputs and outcomes of the last three years, enabling conditions and challenges faced and lessons learnt to possibly maximize and redirect the actions and interventions to optimize results. It has also pointed out focused areas/ issues and forwarded recommendations for actions to be taken on the remaining years of the current strategic plan and used as best lesson and input for the next SPM to design and implementation.

I believe the findings of this midterm evaluation would be used as an input for the efforts that we have been making to improve the SPM achievements. I also take this opportunity to express my gratitude to Planning, Monitoring and Evaluation Directorate for the effective coordination of the midterm evaluation. I extend my thanks to the evaluation team and all who have been instrumental in the successful completion of this evaluation.

Ebba Abate (PhD)  
Director General  
Ethiopian Public Health Institute

## **Acknowledgement**

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All EPHI's technical and administrative staffs are appreciated for their active involvement & participation during the SPM implementation towards realizing the institute's common vision and mission, and unrestricted access to information and documents during this midterm evaluation. We would like to thank the EPHI's top management for allocating the budget and overseeing the midterm evaluation.

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## *Acronyms and abbreviations*

<b>AcMAM</b>	Acute malnutrition management
<b>AMR</b>	Antimicrobial resistance
<b>ANC</b>	Antenatal care
<b>ART</b>	Anti-retroviral treatment
<b>AWD</b>	Acute watery diarrhea
<b>BSC</b>	Balanced scorecard
<b>BSL</b>	Biosafety level
<b>BPR</b>	Business process & re-engineering
<b>CDC</b>	Center of Disease Control
<b>C</b>	Community
<b>CB</b>	Capacity building
<b>CBN</b>	Community based nutrition
<b>CBS</b>	Community based surveillance
<b>CD</b>	Communicable disease
<b>DHIS2</b>	D health information system
<b>DoT</b>	Directly Observed Therapy Short Course
<b>DTRA</b>	Defense Threat Reduction Agency
<b>EID</b>	Early infant diagnostic
<b>EDK</b>	Emergency Drug Kit
<b>EmONC</b>	Emergency Obstetric & new born care
<b>EOC</b>	Emergency Operation Center
<b>e-PHEM</b>	Electronic PHEM
<b>ETB</b>	Ethiopian Birr
<b>EDHS</b>	Ethiopian demographic and health survey
<b>EFY</b>	Ethiopian fiscal year
<b>EFY</b>	Ethiopian Fiscal Year
<b>EHNRI</b>	Ethiopian Health and Nutrition Research Institute
<b>EPRP</b>	Emergency Preparedness and Response Plan
<b>EPHI</b>	Ethiopian Public Health Institute
<b>EQA</b>	External quality assessment
<b>FMoH</b>	Federal Ministry of Health
<b>Fig</b>	Figure
<b>F</b>	Financial Stewardship
<b>FELTP</b>	Field Epidemiology and Laboratory Training Program
<b>FGD</b>	Focus Group Discussion
<b>FMHACA</b>	Food, Medicine and Health Care Administration and Control Authority
<b>FMoH</b>	Federal Ministry of Health
<b>FY</b>	Fiscal Year
<b>GCLP</b>	Good clinical laboratory practice
<b>GMP</b>	Good manufacturing practice
<b>GTP</b>	Growth and Transformation Plan
<b>HDA</b>	Health development army
<b>HIV</b>	Human Immuno-deficiency Virus
<b>HSTP</b>	Health Sector Transformation Plan
<b>I</b>	Indicator
<b>ICT</b>	Information communication technology

<b>IFMIS</b>	Integrated financial management information system
<b>IEQA</b>	International external quality assessment
<b>ISO</b>	International Organization for Standardization
<b>KII</b>	Key Informant Interview
<b>LIS</b>	Laboratory information system
<b>LC</b>	Letter of credit
<b>LLINS</b>	Long lasting insecticide nets
<b>LQMS</b>	Laboratory quality management system
<b>LSA</b>	Laboratories accredited with limited scope Accreditation
<b>LLINS</b>	Long lasting insecticide nets
<b>LTT</b>	Long term training
<b>MCH</b>	Maternal and child health
<b>MDG</b>	Millennium Development Goal
<b>MDR-TB</b>	Multi-drug resistance tuberculosis
<b>MIS</b>	Malaria indicator survey
<b>MoCS</b>	Ministry of Civil Service
<b>MoFEC</b>	Ministry of Finance and Cooperation
<b>MOST</b>	Ministry Of Science and Technology
<b>MTE</b>	Midterm Evaluation
<b>NDMC</b>	National health research data
<b>NCD</b>	Non Communicable Diseases
<b>NGO</b>	Nongovernmental Organization
<b>NTD</b>	Neglected Tropical Diseases
<b>NNP</b>	National Nutrition Program
<b>NPHTC</b>	National Public Health Training Center
<b>PFSA</b>	Pharmaceuticals Fund and Supply Agency
<b>PMED</b>	Planning, Monitoring and Evaluation Directorate
<b>P</b>	(Internal) process
<b>PT</b>	Proficiency test
<b>PHEM</b>	Public health emergency management
<b>PHEOC</b>	Public Health Emergency Operation Center
<b>QA</b>	Quality assure
<b>R&amp;D</b>	Research and Development
<b>RDT</b>	Rapid diagnostic test
<b>REQA</b>	Regional external quality assessment
<b>SARA</b>	Service availability and readiness assessment
<b>SLIPTA</b>	Stepwise Laboratory Improvement process towards accreditation
<b>SI</b>	Strategic initiative
<b>SLMTA</b>	Strengthening laboratory management towards accreditation
<b>SO</b>	Strategic objective
<b>SOP</b>	Standard operation procedure
<b>SPM</b>	Strategic management plan
<b>SWOT</b>	Strengths, weaknesses, opportunities and threats
<b>TB</b>	Tuberculosis
<b>UNICEF</b>	United Nations Children's Fund
<b>VRAM</b>	Vulnerability and risk assessment and mapping
<b>WASH</b>	Water, sanitation and hygiene
<b>WHO</b>	World Health Organization

## Executive summary

The Ethiopian Public Health Institute (EPHI) has been reestablished as an autonomous federal government institute having its own legal entity as the main government body in charge of three main objectives as expressed in the regulation number 301/2013: Research (based on national public health research agenda) on priority public health and nutrition issues, generate, translate and disseminate scientific and technological knowledge; Surveillance for the early identification and detection of public health risks and prevent public health emergencies through adequate preparedness, alert, timely information during public health emergency, respond effectively and timely and ensure rapid recovery of the affected population from the impact of public health emergency; referral diagnostic and analytical tests and support the capacity building of health and food science laboratories at the national level for quality laboratory services. In order to better fulfill its mission in alignment with the second growth and transformation plan (national development priorities) in general and health sector transformation plan (HSTP) in particular, EPHI developed its second five years (2015/16 - 2019/20) strategic plan that envisions ‘to be a center of excellence in public health in Africa’ through high engagement of its relevant stakeholders. The Balanced Score Card (BSC) approach was followed as a strategic planning and management system in developing and managing the strategic plan. The plan was built on four strategic themes and expected results:

- Excellence in research and technology transfer with ultimate strategic result ‘evidence that will be translated into policies, programs, public education, product packages and products’,
- Excellence in public health emergency management with strategic result ‘protected and rehabilitated community from consequences of public health emergency’,
- Excellence in quality laboratory system aspiring strategic result ‘Quality assured laboratories and services’, and
- Excellence in leadership, management & governance with strategic result ‘Effective and efficient management and governance system’.

To realize the Institute’s mission and vision the 15 strategic objectives have been designed in cause and effect relationship under thematic areas to come up with strategic results. Under each strategic objective strategic initiatives have been set so as to achieve the respective objective as well as aligned objective (s). Performance measures (indicators) and respective targets have been also set to measure the achievements of each strategic objective. With this framework the SPM has been cascaded with annual plans and implemented in managing the institute with collective vision and gearing organizational initiatives towards achievement of institutional targets and results. So, the main objective of the midterm evaluation was to assess the implementation of the five years strategic plan over the first three years in order to provide key actors with necessary information on the progress made, challenges faced and lessons learnt to possibly redirect the actions and interventions to optimize results.

The mid-term evaluation utilized standard evaluation criteria of effectiveness (the progress made to achieve strategic objectives); relevance (the extent to which the strategic themes and objectives were consistent with beneficiaries’ requirements, country and global priorities); efficiency (how economically resources/ inputs (funds, expertise, time, etc.) were converted to results); and sustainability (continuation of benefits from an intervention after it has been completed and to what extent the results/processes sustainable beyond the SPM implementation). Based on the evaluation parameters, the evaluation conducted based on analytical framework of judgment criteria and indicators to guide the midterm evaluation (MTE).

Primary data and secondary data were also collected from EPHI, Federal Ministry of Health, and other stakeholders. Much of the information, for the mid-term evaluation, was availed and organized from documented routine monitoring reports of EPHI. The primary data collection was conducted to obtain in-depth

qualitative first-hand information about the implementation of the strategic plan and its accomplishments, strengths and weaknesses from the point of view of a range of stakeholders. The primary data sources for the mid-term evaluation were the various internal and external stakeholders that have direct and indirect relationship with EPHI. The data collection tools included focus group discussion, desk reviews, and key informant interview. Different types of documents, relating to overall implementation of the strategic plan, were reviewed to build up background information and verify whether the set targets were achieved or not. The strategic plan, annual operational plans, periodic monitoring reports, grant agreements, research/surveillance projects finalization technical reports, research proceedings, peer reviewed journals, standard procedures and manuals, audit & financial reports, relevant websites and other relevant materials throughout the course of the implementation were reviewed. All expected organs of the institute provided information and documents that were requested to facilitate the desk review tasks. Selected key informants (56), who represent various stakeholders that closely tied with the institute, were interviewed using interview guide/questionnaires. Three focus group discussions (FGD) were also organized and conducted at different levels.

The strategic plan along with its themes and objectives were found well aligned and important with sustainable development goals, national and health sector transformation priorities. The major findings of the evaluation of how far the intended outcomes or strategic objectives were achieved against targets set have been summarized in research & technology transfer, PHEM, establishing quality laboratory system, and leadership & management thematic areas as follows:

EPHI has conducted researches and surveillances on diseases and their determinants traditional & modern medicines, food and nutrition issues, policy and program evaluation, health system, environmental/occupational health and their determinants, and reproductive health for generating and disseminating evidence based information for decision making (on policies, programs and interventions) and end users. It has also conducted surveillances on diseases and their determinants, drug and insecticide resistances, food and nutrition issues, reproductive health issues, maternal death, environmental tracking and climate sensitive diseases (dengue fever, yellow fever, rift valley fever). In total, EPHI had managed to publish 115 research outputs (68.5% of the three years target) in peer reviewed journals, which was fairly effective. The Institute has also conducted research, survey/surveillances, evaluations, and generated 92 research outputs (18.5% of the three years target) in the form of technical reports, which was not effective. Even if EPHI generated a lot of research technical reports and peer reviewed journals' articles, it did not generate synthesized evidence based information on diseases epidemiology, prevention, control, treatment and diagnosis of key communicable and non-communicable diseases issues as per the plan for comprehensive decision making process on policy and program by decision makers. In sum, the Institute was fairly effective (only partially achieved) in generating research outputs as published articles in peer reviewed journals where as it was not effective in generating research outputs in the form of technical reports. EPHI was very effective in developing traditional medicine production packages in three years' time as per the target. As a technical arm of the Federal Ministry of Health (FMOH), the inclusion of excellence in research and technology as a strategic priority was relevant and appropriate for the institute and the health sector.

The Institute has managed public health emergencies through strengthening surveillances, preparing emergency preparedness plan, early warning, rapid field assessment, outbreak investigation, prevention and control activities, monitoring, mobilization of drugs, vaccines, medical supplies, and nutritional supplements and other relevant materials as well as funds to regions in case of public health emergency to reduce morbidity and death, and increase rehabilitation/recovery. This thematic area, one of the HSTP objective, is relevant to address and reduce morbidity and mortality due to public health emergency. EPHI, together with stakeholders, was effective in health outbreak investigations and on time responses. The rehabilitation of affected people and epidemics control measures were effective as compared to the targets,

too. Proportion of health facilities reporting completeness and timeliness of weekly routine diseases' surveillance report was effective as per the guideline and increasing from year to year. There has been great improvement and achievement on priority diseases detection and reporting, alerting and following-up public health events, early verification of rumors and the occurrence of disease outbreaks, responding to outbreak and on capacity building of professionals. In each year epidemic preparedness response plan (EPRP) and humanitarian requirement document were developed as per the PHEM guideline. The resource mobilization was less effective as per the requirement shown in EPRP and humanitarian requirement document in each fiscal year. Stockpiling resources (medications & equipment) were mostly done after public health outbreak observation and communication. Even if the institute made remarkable progress in managing PHEs, it should also give attention to focus on prevention as importantly as control of disease outbreaks/emergencies.

The Institute has worked for laboratories to implement comprehensive quality assurance measures and to achieve accreditation to international standards for capable of generating accurate and reliable information that is critical for the diagnosis of diseases, monitoring of treatment and prognosis as well as prevention at individual and community levels. SLIPTA was implemented at all tiers of the national laboratory network whereby the national and regional reference laboratories, hospital laboratories and those of Health Centers with high test volumes were given priority. The institute strategic thematic area of establishing quality laboratory system is relevant to the nation as it contributes to improve health infrastructure and quality healthcare service delivery. The institute has set the target to enable hospital and regional laboratories with star 3 to 5 levels quality and accomplished 10(5.5%), 15(5.8%), and 29 (11.2%) cumulatively in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. SLIPTA was also implemented to enable health centers laboratories with star 1 to 5 levels and accomplished 120(4%), 340(11%), and 103(3.33%) cumulatively in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. In three years, seven laboratories have been accredited in limited scope ISO 15189 and/or 17025 accreditation scheme, which accounted 4% achievements from the 3 years target.

In Ethiopian laboratories of all tiers have been striving to implement laboratory quality management system (LQMS) over the past 3 years that 50.2%, 66%, and 69 % laboratories implemented LQMS in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. All tiers of laboratories have also implemented external quality assessment (EQA) and the result was 65.3%, cumulatively, in 2017/18 fiscal year. EPHI has capacitated national clinical and public health reference laboratories and additional 20 (80%) health facilities for detection and characterization of epidemic prone disease and other diseases of public health importance. The institute had performed referral and back up testing services for more than 206,322 tests in the past 3 fiscal years.

It is concluded that the institute was not effective in achieving SLIPTA initiative and accreditation in the three fiscal years as compared to the targets, even if there was an increasing trend. However, in the implementation of the SLIPTA program alone, EPHI did well in enabling laboratories to improve their quality through capacity building, supportive supervision and mentoring. Indeed, the numbers of laboratories that have been enrolled in the SLIPTA program, star level recognition, and accreditation were negligible as compared to the number of laboratories targeted and demand of quality laboratory/health services in the country. Laboratory quality management system (LQMS) implementation of all tiers over the past 3 years was fairly effective as per the plan. The external quality assessment (EQA) implementation achievement was also fairly effective against the target set.

The institute has formulated/revised institutional policies, procedures, manuals and guidelines to improve its services and systems, and implemented programs/projects monitoring, mentoring and evaluation to enhance its outputs in research & technology transfer, PHEM and quality laboratory system thematic areas. Annual joint review and planning with regions, quarterly PHEM review forum, and quarterly quality

laboratory system forum have been established and conducted with respective stakeholders to coordinate the implementation and enhance achievements of the SPM. Different research outputs dissemination workshops and conferences have been conducted with the management and leadership commitment to increase the outputs dissemination and utilization. Even if the review, monitoring and supervisions have been conducted as per the target, the frequencies were not enough in order to have repeated and closed follow up as in need in each region to come up with quality and intended outcomes and enhance achieved targets.

EPHI was fairly effective in proportion of total financial resource mobilization and proper utilization of the mobilized financial resources within the 3 fiscal years (2015/16-2017/18), as compared to the planned and mobilized resources. The institute mobilized significant amount of resources from donors taking advantage of available funding opportunities for the health sector in the country as compared to government budget. The institute utilization of mobilized financial resource was fairly effective and relatively increasing in 2017/18 fiscal year through execution of its activities, procurement/logistic supplies, monitoring, evaluation and inspection of programs and projects. There is a holistic approach of government and donor inputs utilization that are much better integrated and coordinated into the overall budget of the Strategic Plan.

Even if the management and leadership of the Institute had focused on activities (in most conditions) rather than strategies, there was much effort exerted in managing the Institute with collective vision and gearing organizational initiatives towards achievement of institutional strategic results. The midterm evaluation has indicated performed and as well as ambitious targets to perform. This mid-term evaluation identified areas of good progress to date, as well as many areas that need improvement and strengthening so as to achieve the planned objectives and targets until the end of the strategic year (2019/20) and beyond. There is no significant conditions to change on the thematic areas and strategic objectives for the remaining short period of the SPM rather it is important to see the targets and adjust for implementable levels in the remaining period of the SPM, which covers from 2018/19 to 2019/20 fiscal years. The main recommendations to improve the implementation in the remaining period of the SPM are as follows:

- As the EPHI strategic plan had been prepared in alignment with the HSTP, the review and adjustment of the EPHI's SPM based on this mid-term evaluation should also consider the HSTP midterm evaluation that has been undertaken by FMOH so as to ensure the strategic priorities, objectives and initiatives are relevant and well aligned to continue with that of the HSTP.
- Jointly working with stakeholders such that regional health bureaus/laboratories/public health institutes, partners and others in planning, implementation, and performance reviews is highly recommended to ensure ownership, facilitate implementation and cascading of the strategic plan, and ensure its achievements.
- EPHI is recommended to increase deliverables of more research outputs in the form of technical reports & peer reviewed articles, translated evidence based information, developed and disseminated production packages, and products through designing & implementing multidiscipline mega projects, strong collaboration & partnership, strong fund mobilization, enhancing staffs commitment & capacity, fulfilling appropriate infrastructure and on time procurement of inputs/services. The Institute should also decide and focus on types and number of production packages/products to generate and disseminate within the remaining period of the SPM, and take fast action on deliverable ones (on pipelines) through creating strong research and development(R&D)/industry linkages.
- EPHI should provide oversight and coordination of public health research in the country, and much work should also be done in this regard and bringing stakeholders together in ways that reduce duplication of research activities, avail public health studies in one database and improve efficient utilization of research results. Although consultations and collaboration with stakeholders such as regions have been improved over the years, the manner in which the research agenda has been set was not that much participatory and consultative to ensure alignment with regional and federal priorities.

- EPHI has to strengthen the recently established national health research data management center for proper data documentation, organization, and translating evidence based information for decision making and enhance the utilization of evidence based information at all levels through strong communication, review, evaluation and feedback system. In all areas and levels there should be strong data documentation, sharing and utilization.
- The Institute as well as the stakeholders/partners should pay attention on prevention as importantly as response/control of disease outbreaks/public health emergencies response and rehabilitation activities for sustainable management of public health emergency management. It is important to strengthen appropriate emergency preparedness by establishing social/pool fund and increasing government fund to have sustainable resource mobilization for planned prevention and response actions.
- For effective, efficient, and sustainable implementation of initiatives to increase quality assured laboratories and services towards achieving outputs, there should be optimized targets and endeavors as per the existing demand (number of laboratories in the country), capacity, leadership and resource availability at each level. Allocating enough resources and properly cascading the quality assuring initiative/program to increase ownership at head office, regional level and in-turn increase number of accredited laboratories alarmingly to have quality-assured laboratory health services throughout the country as demanded.
- It is critical to increase professional and leadership commitment through improving incentive mechanism to reduce staff attrition and increase skilled/caliber professionals by applying attractive salary scale. In all areas and levels there should be wise use and management of knowledge for sustainable implementation of the SPM
- There should be clear and demarcated responsibilities and accountability between EPHI and regional health bureaus/public health institutes and others to do shared activities sustainably.
- Decentralizing research & technology transfer, equipment maintenance and others to regions by building adequate capacity, strengthening joint planning and progress review with regions/other stakeholders, and developing mechanisms to retain staffs at all levels are recommended to ensure sustainability of results.
- There should be organized and strong international, regional and local collaboration and partnership through strengthening public relation and communication system.

In sum, for the effective and efficient implementation of the SPM so as to achieve its objectives and targets it is important to have conducive institutional structure & infrastructure, committed skilled & incentivized human power, and sustainable fund mobilization to secure budget so as to increase outputs achievements and minimize donor dependency, and committed leadership and management that focus on strategic targets towards realizing vision. It is paramount to have also effective and efficient procurement and logistics system that entertains public health emergency management and laboratories unique chemicals/reagents procurement, too.



## 1: Introduction

Ethiopian Public Health Institute (EPHI), the former Ethiopian Health and Nutrition Research Institute (EHNRI), has been reestablished as an autonomous federal government institute having its own legal entity as the main government body in charge of three main objectives as expressed in the regulation number 301/2013: Research (based on national public health research agenda) on priority public health and nutrition issues, generate, translate and disseminate scientific and technological knowledge; Surveillance for the early identification and detection of public health risks and prevent public health emergencies through adequate preparedness, alert, timely information during public health emergency, respond effectively and timely and ensure rapid recovery of the affected population from the impact of public health emergency; Referral diagnostic and analytical tests and support the capacity building of health and food science laboratories at the national level for quality laboratory services. In order to better fulfill its mission, EPHI has aligned its second BSC based 5 years SPM with the second Growth and Transformation Plan (national development priorities) in general and Health Sector Transformation Plan (HSTP) in particular. EPHI developed its second five years (2015/16 - 2019/20) Strategic Plan that envisions 'to be a center of excellence in public health in Africa' through high engagement of its relevant stakeholders.

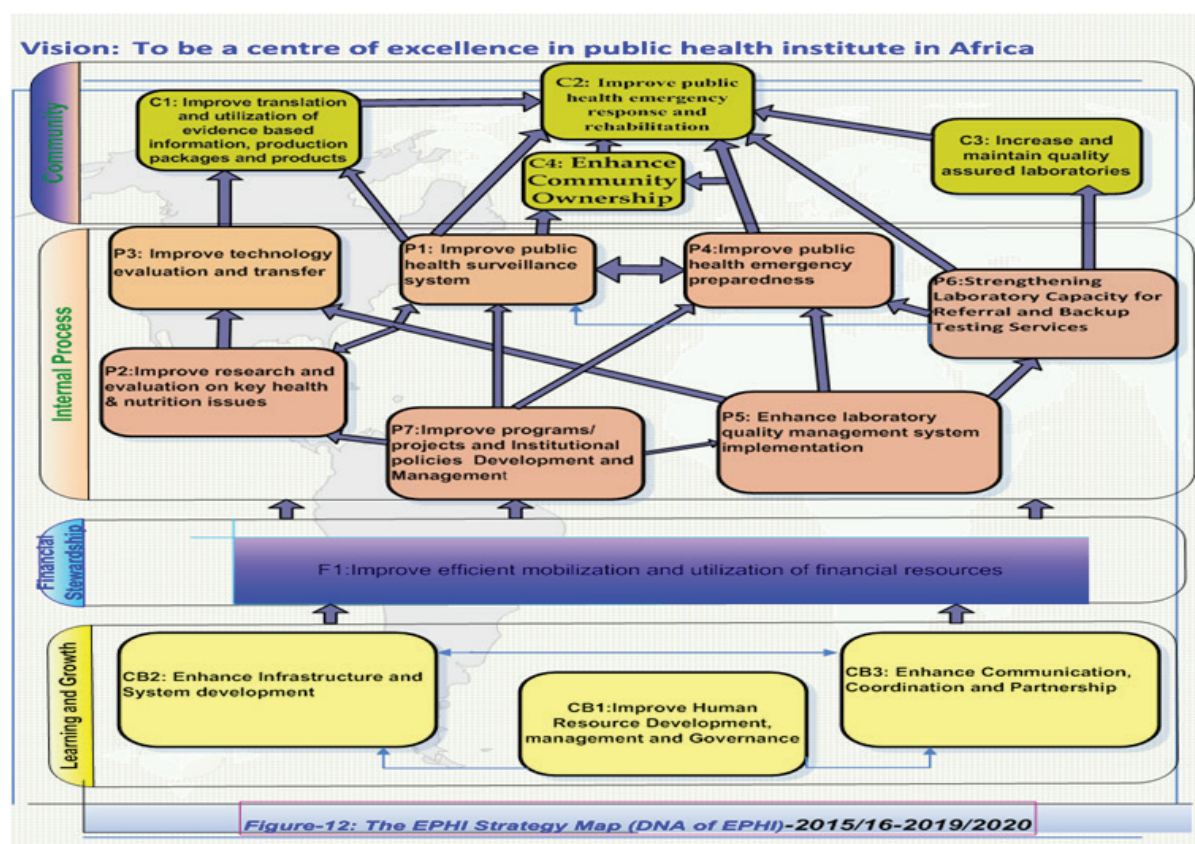
The Strategic Plan (2015/16-2019/20) has been designed in a way to accommodate EPHI's mandate areas. The mandate of the Institute is to improve the health of the general public through undertaking research on priority health and nutrition issues for evidence based information utilization and technology transfer, effective public health emergency management, establishing quality laboratory system, and training public health researchers and practitioners for best public health interventions. In order to better fulfill its mandate and align with national development priorities, EPHI developed its strategic plan (2015/16-2019/20) through active participation of relevant stakeholders. The organizational assessment report produced from the first EPHI's SPM implementation midterm evaluation and the health sector transformation plan (HSTP) served as basis to the development of the strategic plan.

The balanced score card (BSC) approach was followed as a strategic planning and management system in developing the strategic plan. The BSC approach was considered helpful in cascading the SPM into annual plans to individual staff levels and linking inputs and activities to desired results. To realize the Institute's mission and vision the 15 strategic objectives have been designed in cause and effect relationship under thematic areas and four perspectives to come up with strategic results. Under each strategic objective strategic initiatives have been set so as to achieve the respective objective as well as aligned objective (s). The strategic map depicted in figure 1 presents a visual representation of the strategy employed by EPHI. Under each strategic objective, performance measures were designed to measure achievements. Performance measures (indicators) and respective targets have been also set to measure the achievements of each strategic objective. With this framework the SPM has been cascaded with annual plans and implemented in managing the institute with collective vision and gearing organizational initiatives towards achievement of institutional targets and results. So, the main objective of the midterm evaluation was to assess the implementation of the five years strategic plan over the first three years in order to provide key actors with necessary information on the progress made, challenges faced and lessons learnt to possibly redirect the actions and interventions to optimize results.

The strategic plan has been implemented for the last three years, for which a decision was made by the institute to evaluate the progress to date and suggest recommendations for improvement during the remaining strategic periods & beyond. The mid-term evaluation was undertaken internally by a cross-functional and multidisciplinary technical working group established from the institute.

The midterm evaluation aimed to assess the implementation of the five years strategic plan (2015/16-2019/20 fiscal years) over the first three years (2015/16-2017/18 fiscal years) in order to provide key actors with necessary information on the progress made to achieve expected outputs and outcomes of the three years (July, 2015–June, 2018), enabling conditions and constraints/challenges faced and lessons learnt to possibly redirect the actions and interventions to optimize outputs/outcomes, and to highlight issues and recommend for actions to be taken on the remaining years of the current strategic plan & beyond.

The EPHI SPM mid term evaluation (MTE) report findings are structured and presented in four major sections: section-1 provides general introduction, section-2 outlines the evaluation methodology employed, section-3 presents the findings of the evaluation & discussions in line with the strategic objectives performance measures (indicators) achievements against targets using evaluation parameters, and section-4 lessons learnt, conclusions, and recommendations have been presented.



**Fig.1: EPHI's Strategy Map**

## 2: Evaluation methodology and framework

### 2.1. Evaluation approach

The midterm evaluation was conducted from March to August 2018. The midterm evaluation was done following the participatory approach involving all relevant EPHI directorates, including EPHI staffs and management, partner organizations, regional laboratories, PHEM, public health institutes, health bureaus and federal hospitals, universities, professional associations, and other stakeholders in the evaluation process. The evaluation considered EPHI's works at federal and regional levels; following the set indicators and targets. The midterm evaluation followed the balanced scorecard principles and process. Effectiveness, efficiency, relevance, sustainability, implementation arrangement and partnership, and lessons learned were evaluation dimensions and criteria during data collection and analysis. Analysis was conducted as per the framework criteria and indicators.

## 2.2. Evaluation Team

The mid-term review team was composed of individual evaluators from Planning, Monitoring & Evaluation directorate, Food Science & Nutrition Research Directorate, Traditional & Modern Drugs Research Directorate, Vaccines & Diagnostics Research Directorate, Public Health Emergency Management Directorate, National Laboratory Capacity Building Directorate and Technology Transfer and Research Translation Directorate. The multi-disciplinary composition evaluation team allowed the team to cover all the objectives of the mid-term review of the institute's strategic plan and played a pivotal role to provide valuable inputs to the data collection tools and guides, data collection, and identification of key informants. Moreover, the mid-term evaluation was undertaken internally by a cross-functional and multidisciplinary technical working group to facilitate the review process.

## 2.3. Study areas and sampling method

The data was collected from all the concerned internal and external clients of the institute using the purposive sampling techniques. The level of EPHI implementation with regions and their conditions were considered to stratify and purposively select the regions for the assessment. Data was collected from four major regions (Oromiya, Amhara, Tigray, South Nations and Nationalities and Peoples Regions), two special support needing regions (Afar and Gambella; selected among 4 special support needing regions using lottery method) and one city administration (Addis Ababa; selected among 2 City Administration using lottery method) of respective health bureaus, regional laboratories, and public health Institutes. Primary data and secondary data were also collected from EPHI, Federal Ministry of Health, and other stakeholders shown in table-1.

## 2.4. Evaluation framework

Building upon the principles of Balanced Scorecard which guided the development of EPHI's Strategic Plan, the mid-term evaluation utilized standard evaluation criteria of effectiveness (the progress made to achieve strategic objectives); relevance (the extent to which the strategic themes and objectives were consistent with beneficiaries' requirements, country and global priorities); efficiency (how economically resources/ inputs (funds, expertise, time, etc.) were converted to results); and sustainability (continuation of benefits from an intervention after it has been completed and to what extent the results/processes sustainable beyond the SPM implementation). The definition of evaluation parameters along with the key questions have been shown in Annex-2. Based on the evaluation parameters, the evaluation team evaluated based on analytical framework of judgment criteria and indicators to guide the midterm evaluation (MTE) (EPHI, 2013). The evaluation framework matrix has been shown in Annex-1.

Progress and effectiveness against targets set for indicators that were identified to measure achievements of strategic objectives were averaged and rated using the following rating scale (EPHI, 2013):

- i. 91 to 100% = Very effective = fully achieved, very few or no shortcomings;
- ii. 76 – 90% = Effective = largely achieved, despite a few shortcomings;
- iii. 51-75% = Fairly effective = only partially achieved;
- iv. 21-50% = Less effective = very limited achievement, extensive shortcomings;
- v. 20% or less = Not effective = not achieved.

Much of the information for the mid-term evaluation was availed and organized from documented routine monitoring reports of Ethiopian Public Health Institute, and Ministry of Health (MoH). Primary data was collected from a range of sources to complement available secondary information (see table 1). The primary data collection was conducted to obtain in-depth qualitative first-hand information about the implementation of the strategic plan and its accomplishments, strengths and weaknesses from the point of view of a range of stakeholders. The primary data sources for the mid-term evaluation were the various internal and external stakeholders that have direct and indirect relationship with EPHI (see table1).

**Table-1: Selected Stakeholders for midterm evaluation data collection**

<b>Government Counterparts</b>	<b>Partners</b>	<b>Federal and Uniformed Hospitals</b>	<b>Federal Universities</b>	<b>Professional Associations</b>
(a) EPHI (all directorates and offices)-Management members/Staffs-(8 KIIs) (b) Ministry of Health-(4 KIIs) (c) Regional Health Bureau (1KII for each region) (d) Regional PHEM (1 KII/region) (e) Regional Laboratories (1KII/region) (f)Regional Public Health Institute (4 KIIs/region) (g) House of Peoples Representatives-social affairs (1KII) (h) Ministry of Finance and Economic Cooperation (1KII) (i) Ministry of Science and Technology (1 KII)	(a).Center for Disease Control and Prevention (CDC)-Ethiopia(1KII)  (b).World Health Organization (WHO) Ethiopia (1KII)  (c) UNICEF (1 KII)  (d) WFP (1KII)  (e)International micronutrient (1KII) (f)ICAP-Ethiopia (1KII)	(a)Alert Hospital (1KII)  c) Armed Forces Hospital (1 KII)	(a)Addis Ababa University (1KII)  (b)Gondar University (1 KII)	(a). Ethiopian Medical Laboratory Association(1 KII)  (b) Ethiopian Public Health Association c) (1 KII)  (c)Food & Nutrition Society of Ethiopia (1 KII)

### 2.5. Data Collection Tools

Primary and secondary data were collected. Qualitative data was collected and analyzed from March to August 2018 from a range of sources. The data collection tools included focus group discussion, desk reviews, and key informant interview. Desk Reviews: Different types of documents, relating to overall implementation of the strategic plan, were reviewed to build up background information and verify whether the set targets were achieved or not. The evaluation team reviewed strategic plan, annual operational plans, periodic monitoring reports, grant agreements, research/surveillance projects finalization technical reports, research Proceedings, peer reviewed journals, standard procedures and manuals, audit & financial reports, relevant websites and other relevant materials throughout the course of the implementation and review period. All expected organs of the institute provided information and documents that were requested by evaluation team to facilitate the desk review tasks.

Key Informant Interview (KII): Selected key informants (56), who represent various stakeholders (see table-1) that closely tied with the institute, were interviewed using interview guide/questionnaires to gather qualitative information on the implementation of the strategic plan activities accordingly. Key Informant Interviews were taken place with main stakeholder representatives working at national (including EPHI) and regional levels across Ethiopia. The management group and key experts expected to provide valuable inputs; were included as key informants. The targets of the assessment were the EPHI's management group/other staffs, stakeholders' representatives including parliament-social standing committee, federal ministries, regional health bureaus/laboratories, public health emergency management centers, research units/departments, and public health institute, partners, professional associations and other stakeholders (see table-1).

Focus Group Discussion (FGD): To assess the level of achievements of the target outputs and expected outcomes, 3 Focus Group Discussions (FGD) were organized and conducted at different levels such that South Nations Nationalities and Peoples Region Health Bureau (composed of laboratory, PHEM and research persons), at EPHI (management group), and Federal Ministry of Health (composed of laboratory, PHEM and programs persons). The FGD was designed and conducted to engage key stakeholders using predetermined FGD check-list to assess the knowledge, attitude and practice towards the SPM.

## 2.6. Data analysis

Descriptive statistics and qualitative analyses techniques were utilized to review the data for MTE. The primary qualitative data was synthesized to complement the secondary numerical data that were analyzed in tabular and graphical descriptive techniques using excel software. Descriptive narration, tables and graphs were used to present the evaluation findings.

## 2.7. SWOT analysis tool

Different management tools were applied to identify the internal and external environments of the institute. Among the tools, SWOT (strength, weakness, opportunity, threat) tool was applied for this mid-term strategic plan evaluation. The SWOT (tool) was used for the identification of the strengths, weakness, opportunities, and threats of the strategic plan implementation, i.e. enabling factors and constraining factors for SPM implementation. The strength, weakness, opportunities and threats were analyzed to identify the factors for the success or the failure of the strategic plan implementation for the last three years.

## 2.8. Ethical clearance

The evaluation proposal was prepared as per standard and submitted to Scientific and Ethical Review Committee of Ethiopian Public Health Institute. Based on the standard, the Scientific and Ethical Review Committee approved the proposal and the full-fledged implementation of evaluation was conducted accordingly. All information have been kept confidential and analyzed anonymously.

## 2.9. Limitation of the evaluation

Even if we believed to involve stakeholders and consultants outside EPHI, we couldn't include them because of budget constraint.

# 3. Evaluation findings and discussions

The findings of the midterm evaluation are presented below according to the key evaluation criteria: Effectiveness, relevance, efficiency, sustainability, and implementation arrangement.

## 3.1. Effectiveness: progress against strategic objectives and targets

The major findings of the evaluation of how far the intended outputs/outcomes or strategic objectives were achieved in relation to targets set at the beginning of the strategic period are presented under each of the four strategic themes.

### **Strategic objective (SO)-C1. Improve translation and utilization of evidence based information, production packages and products**

Improve translation and utilization of evidence based information, production packages and products strategic objective (SO) is one of the strategic objectives of the SPM that designed under community perspective and underlines initiatives to address translation and utilization of evidence based synthesized information on diseases epidemiology, prevention, control, treatment and diagnosis of key communicable and non-communicable diseases, nutrition issues, traditional medicine and health system for appropriate use by the end users. And has also been designated for transfer and utilization of production packages and products, respectively. The Institute's progress to date on 8 performance indicators identified to measure progress on the strategic objective is summarized in table 2.

EPHI's progress in terms of disseminating synthesized evidence based information as research outcomes to influence policies was less effective (below average). The Institute has only managed to prepare 4 research outcomes in the form of policy briefs (out of a target of fifteen) during the last three years (see table

2). The four policy briefs were developed and released: on improving antenatal care services utilization in Ethiopia, improving the health workforce in remote & rural areas of Ethiopia, improving nutritional status through consumption of quality protein maize in Ethiopia, and improving modern contraception utilization in Ethiopia. Policy dialogue was also conducted with relevant stakeholders on 3 policy briefs. The institute has established national health research data management center (in 2017/18 fiscal year) for proper data management, evidence synthesis, translation and facilitation for evidence base decision making and utilization.

In total, EPHI had managed to publish 115 research outputs (68.5% achievements of the three years targets) in peer reviewed journals (see figure 2), conducted 14 different workshops & one scientific congress to disseminate different research findings to stakeholders, and publish its biannual journal five times within the last three years. Totally, 92 research outputs in the form of technical reports were also generated and disseminated to different stakeholders within the last three years, which represents 18.5% rate of achievement from the three years targets.

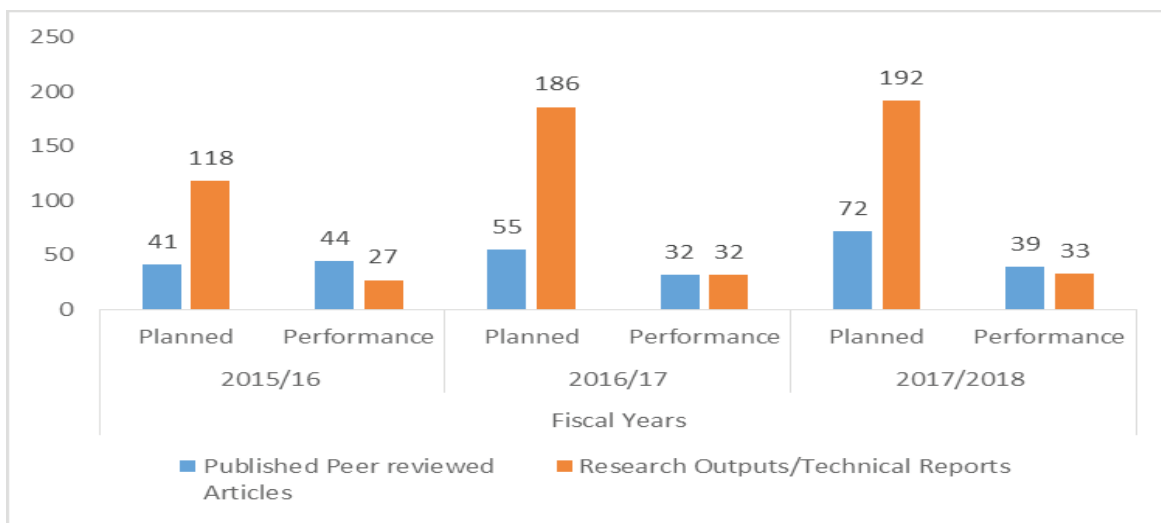


Fig. 2: Number of Published peer reviewed articles and technical reports (research outputs) disseminated

Even if EPHI generated a lot of research technical reports and peer reviewed journals, it did not generate synthesized evidence based information on diseases epidemiology, prevention, control, treatment and diagnosis of key communicable and non-communicable diseases issues as per the plan for comprehensive decision making process on policy and program by decision makers. There was no any translated synthesized evidence-based information from EPHI in the past three fiscal years (2015/16-2017/18). Therefore, there was no any translated synthesized evidence-based information utilized by decision making. The main limitation in this regard was that there was less commitment, less attention and lack of integrated approach/ownership to deliver translated evidence based synthesized information. Even if there was no translated synthesized evidence-based information generation and dissemination as intended for decision making, the institute has conducted a lot of national comprehensive surveys and researches, and delivered comprehensive technical reports that have been used as programs and intervention inputs by decision makers, implementers and professionals.

The expected production packages developed from traditional medicines as well as vaccines and Anti-Sera that have potential for commercialization and products were not disseminated because the production packages have not been finalized (not ready) for dissemination. Therefore, there was no any developed technology production packages disseminated in the form of technology briefs in an attempt to transfer the outcomes for the industries.

The EPHI has managed to produce and distribute only one rabies vaccine (Fermi type) production to save life (Table 2, figure 3), i.e. the institute produced and distributed 31,638 dozes (88%), 33292 dozes (92%), and 32,717 dozes (91%) for users in 2015/16, 2016/17 and 2017/18 fiscal years, respectively. It was planned to interrupt Fermi type rabies vaccine production and substitute it by cell culture rabies vaccine since the end of 2016/17 fiscal year; but still its production and distribution has been continued because cell culture rabies vaccine is not ready to substitute.

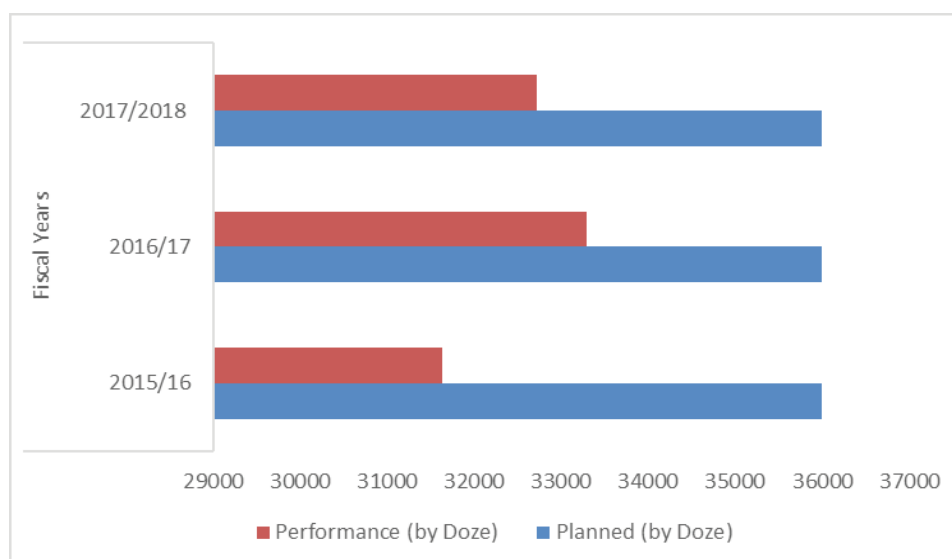
**Table-2: Progress of strategic objective (SO)-C1: targets and performances**

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performance	%
C1.I1	Proportion of synthesized evidence-based information utilized by decision making	%	Not Available	78	-	-	60	0	78	0	0	-
C1.I2	Number of synthesized evidence-based information generated and disseminated for decision making	#	1	15	-	-	10	3	5	1	4	26.7
C1.I3	Types of vaccines and serum products distributed	#	1*	4**	1*	1*	1*	1*	4**	1*	1*	25
C1.I4	Proportion of doses/vials of vaccines and Anti-Sera products utilized	%	Not Available	90	80	92	85	95	90	96	90	96
C1.I5	Production packages disseminated.	#	1	5	1	0	3	0	1	0	0	0
C1.I6	Proportion of production packages utilized.	%	Not applicable	75	100	0	86	0	75	0	0	0
C1.I7	Types of diagnostic technologies disseminated	#	2	35	10	4	13	1	12	2	7	20
C1.I8	Proportion of types of diagnostic technologies utilized	%	100	92	70	75	77	100	92	86	86	-

**NB:**

\* The same product (Fermi type) at the baseline has been continued for production.

\*\* The old (Fermi type) plus the intended newly developed products.



**Fig. 3: Fermi type rabies vaccine production and distribution**

Lack of research and development linkage with industries, shortage of caliber professionals in traditional medicine and vaccine development, shortage of appropriate facilities for production package generation to fulfil good clinical laboratory practice (GCLP) and/or good manufacturing practice (GMP), shortage of budget, and long/interrupted procurement process were the major challenges to deliver/disseminate production packages and products for users.

Seven types of diagnostic technologies were disseminated and scaled up for use in health facilities from 2015/16 to 2017/18 (see table 2): BD FACSPresto for CD4, Genotyping MTBDRplus VER-2 LPA for MDR-TB, Gene Xpert evaluation for extra-pulmonary TB diagnostic capacity and malaria RDT lot testing in 2015/16; malaria rapid test (RDT) kit in 2016/17 fiscal year and recommended for use; malaria RDT lot testing and evaluation of Gene Xpert for early infant viral load diagnostics (EID) were evaluated in 2017/18 fiscal year. As compared to the target, performance of diagnostic technologies adoption was not effective (20%) whereas the evaluated diagnostic technologies scaled up and utilization in type were effective (86%) in the past three years as compared to target (percent estimated out of the evaluated diagnostic technologies in the fiscal years).

In sum, considering the rates of achievements on identified indicators and implementation status of planned activities, EPHI was less effective to improve translation and utilization of evidence based information, production packages and products. So it is recommended that the Institute should give attention to bring strong researchers' commitment, attention and ownership to deliver translated evidence based synthesized information so as to come up with highly utilized evidences by decision makers, professionals, and practitioners at international, national, regional, and woreda level. It is also important to follow and evaluate the extent of evidence base information utilization and its impact in detailed manner. There should be effective and efficient production packages delivery and promotion for industry inputs for production, and creating strong research and development (R&D) industry linkage which is important for sustainable production packages generation, dissemination and utilization. It is critical to have quality assured laboratories to ISO standard laboratory set up that fulfil good clinical laboratory practice (GCLP) and/or good manufacturing practice (GMP) for production packages & products production. Capable formulation experts, vaccinologist, and other caliber professionals are in need to generate, disseminate and produce production packages and products. The demand for production packages and products should be studied in detail because the investment is too high to return and compensate. Targets should be optimized to achievable level based on the available facilities, human capacity, secured budget and overall project execution capacity of the institute. Diagnostic technologies adoption, evaluation, scaling up and utilization should be given great attention so as to bring quality assured laboratory services in the country. It should be done on studied, standardized, and integrated/holistic approach. Its impact should be also evaluated.

### **SO-C2: Improve health emergency response and rehabilitation**

This strategic objective, which is under community perspectives and includes a set of activities that are rapid field assessment, outbreak investigation, prevention and control activities, monitoring, mobilization of drugs, vaccines, medical supplies, and nutritional supplements and other relevant materials as well as funds to regions in case of public health emergency to reduce morbidity and death, and rehabilitation/recovery.

EPHI, together with stakeholders, was effective in health outbreak investigations and on time responses. In 2015/16 and 2017/18 fiscal years the rehabilitation of affected people were effective as compared to the targets, 70% and 84%, respectively (see table 3). During the second year implementation of the SPM (2016/17 fiscal year), there was no known heavy public health emergency event(s) that affected people so that there was no any rehabilitation report (table 3). On top of this, there was no known heavy public health emergency event(s) that affected health facilities in the last three years' time so that there was no any rehabilitation intervention on health facilities. Epidemics control measures were effective from 2015/16 to 2017/18 fiscal years, i.e. 40%, 58% and 80% against planned targets 50%, 60% & 75%, respectively.



There was no proper risk prediction (in each year ahead of time) so that it was impossible to capture the proportion of potential public health emergencies averted. There were gaps in leadership and coordination to mobilize and organize the existing human and other resources for effective public health emergency prediction, communication, response and rehabilitation. Limitation in data capturing system, data use and availability/sharing to staffs and release of staffs without data handover. Limitation to have appropriate PHEM structure at all levels. There is also limitation in trained staffs at national, regional, zonal and woreda levels for proper PHEM implementation. Limitation of budget for proper emergency response and rehabilitation works. Absence of budget for risk assessment and public health emergency prevention (lack of partners' direct and appropriate support in this aspect), and absence of timely logistics/supplies procurement in EPHI for PHEM and others related works were critical challenges.

**Table-3: Progress of SO-C2: targets and performances**

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performance	%
C2.I1	Proportion of affected people provided	%	36	85	80	70	85	*	85	84	84	-
C2.I2	Proportion of health facilities rehabilitated	%	Not available	95	85	*	90	*	95	*	-	-
C2.I3	Proportion of public health risks averted	%	Not available	85	50	**	75	**	85	**	-	-
C2.I4	Proportion of epidemics controlled within the standard of mortality	%	Not available	75	50	40	60	58	75	80	80	-

\*There were no affected people and/or health facilities by heavy public health emergency events in the fiscal year so that there was no any rehabilitation intervention.

\*\*There was no proper risk prediction (in each year ahead of time) so that it is impossible to estimate proportion of public health aversion.

It is recommended that there should be proper public health prior risk assessment and prediction in each year and proper prevention should be designed and implemented to avert the potential risks. There should be organized and integrated leadership and coordination at each level for proper public health emergency management from national to grass root level for effective and efficient resource mobilization and organizing the existing human and other resources for effective public health risk prediction, communication, response and rehabilitation. There should be strong rapid assessment/outbreak investigation, quarantine & isolation centers, case management, health information and communication system, and post emergency assessment and recovery (damaged health system and affected communities rehabilitation) to have effective and efficient PHE control and prevention measures. Data capturing system, data use and availability/sharing and handling should be effective and sustainable. Workable PHEM structure should be in place, at all levels. There should be enough trained staffs at national, regional, zonal and woreda levels and maintaining them by devising incentive mechanisms to have effective PHEM implementation at all levels. It is paramount to establish and properly manage PHEM pool fund & allocate enough budget, and implement effective/efficient logistics/supplies procurement system in EPHI/all levels that applicable for sustainable and proper public health emergency management at all levels in the country.

### **SO-C3: Increase and maintain quality assured laboratories**

This SO, increase and maintain quality assured laboratories, has been set under community perspective designated to ensure the provision of quality laboratory services by implementing the Stepwise Laboratory Improvement Process towards Accreditation (SLIPTA) initiative and accrediting laboratories at all tiers of

the national laboratory network. Laboratories implementing comprehensive quality assurance measures or have achieved accreditation to international standards are capable of generating accurate and reliable information that is critical for the diagnosis of diseases, monitoring of treatment and prognosis as well as prevention at individual and community levels. As such, implementation of initiatives that enhance the efforts of laboratories in the national system towards sustainable improvement thus accreditation is the strategic priority of EPHI.

EPHI's progress on the number of laboratories enabling for quality improvement towards accreditation and accredited laboratories is presented in table 4. SLIPTA was implemented at all tiers of the national laboratory network whereby the National and Regional Reference Laboratories, hospital laboratories and those of Health Centers with high test volumes were given priority. The institute has set the target to enable 72 (40%), 156(60%), and 208 (80%) hospital and regional laboratories with star 3 to 5 levels and accomplished 10(5.5%), 15(5.8%), and 29 (11.2%) cumulatively in 2015/16, 2016/17, and 2017/18 fiscal years, respectively (see table 4). SLIPTA was also implemented by regional laboratories to enable 300(10%), 618(20%), and 1238(40%) health centers laboratories with star 1 to 5 levels and accomplished 120(4%), 340(11%), and 103(3.33%) cumulatively in 2015/16, 2016/17, and 2017/18 fiscal years, respectively (see table 4). EPHI's accomplishment on planned number of Regional & Hospital laboratories to enable them star 3-5 level recognition, which has continuously increasing achievement trend, was only 11.2% of the three years target; not effective. Cumulative number of health centers laboratories star levels recognition in three years was not effective (3.33%), which decreased from 340 (11%) to 103 (3.33%), from 2016/17 to 2017/18 fiscal years, instead of increasing, due to limitation of continuous quality improvement/maintenance in each laboratory, follow up and mentorship. In three years, seven laboratories (National reference laboratories of EPHI: Food science & Nutrition, Clinical Bacteriology & Mycology, TB, Clinical Chemistry and HIV molecular; St. Peter Specialized Hospital Laboratory, and Adama Regional Laboratory) have been accredited in limited scope ISO 15189 and/or 17025 accreditation scheme, which accounts 4% from the 3 years targets. Even if it is not effective achievement as compared to the target set, it is the highest output as compared to the previous EPHI's 5 years SPM (2010/11-2014/15) achievement (only 2 laboratories were accredited with limited scope accreditation). Even if the institute was not effective in achieving accreditation target (LSA), this is one of the best achievement for EPHI as compared to the toughest and tiresome process of accreditation.

In the implementation of the SLIPTA program alone, many stakeholders seem to agree that EPHI did well in enabling laboratories to improve their quality through capacity building, supportive supervision and mentoring. On top of that participants of the SLIPTA program have brought visible change in their laboratory quality and service provision in the first three years. The customer satisfaction assessment, which conducted on 60 laboratories (primary hospitals, general hospitals, referral hospitals, and specialized hospitals) participated in quality laboratory management system, came up with 78.6% customer satisfaction level.

In general, EPHI was not effective in terms of increasing the number of quality assured laboratories against its target set. Indeed, the numbers of laboratories that have been enrolled in the SLIPTA program, star level recognition, and accreditation were negligible as compared to the number of laboratories and demand of quality laboratory/health services in the country. However, it is very important to note that in the SLIPTA

initiative implementation course the human capacity, structure and leadership commitment (at all levels) were not in the right position and orientation as intended to achieve the ambitious targets. According to key stakeholders, absence of continuous laboratory supply and equipment management system, staff attrition at all levels and limitation in ownership to handle quality assurance (QA) initiatives at regional level, instrument calibration and traceability problem, shortage & competency problem of mentors and weak monitoring and feedback mechanism of laboratory services between EPHI and regional health bureaus as intended were the major challenges that affected the effectiveness of SLIPTA and accreditation implementation during the last three years.

**Table-4: Progress of SO-C3: targets and performances**

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performance	%
C3.I1	Proportion of hospital and regional laboratories* with SLIPTA Star-levels 3-5	%	20	80	40	5.5	60	5.8	80	11.2	11.2	11.2
C3.I2	Proportion of health center laboratories* with SLIPTA Star-levels 1-5	%	1	40	10	4	20	11	40	3.33	3.33	3.33
C3.I3	Number of limited scope accredited (LSA)	#	2	180	45	1	60	3	75	3	7	4
C3.I4	Number of full scope accredited laboratories to ISO 15189 and/or 17025	#	0	30	6	0	6	0	18	0	0	0
C3.I5	Proportion of labs improving their LSA status	%	0	100	100	0	100	0	100	40	40	40
C3.I6	Proportion of labs maintaining their accreditation status	%	NA	100	100	100	100	100	100	100	100	100
C3.I7	Percent of customer satisfaction	%	Not available	75	50	**	60	**	75	78.6	78.6	78.6

**NB:**

\* Number of denominators taken for functional hospitals & regional laboratories were 180; 260; 260, and for functional health centers laboratories were 3000; 3090; 3095 in 2015/16, 2016/17, and 2017/18, respectively.

\*\* Customer satisfaction evaluation was not conducted for the respective years.

The targets should be optimized as per the existing demand (number of laboratories in the country), capacity, leadership and resource availability at each level. It is also critical to increase professional and leadership commitment, improving incentive mechanism to reduce staff attrition and increase skilled/caliber professionals, allocating enough resources and properly cascading the quality assure (QA) initiative/program to increase ownership at head office, regional level and in-turn increase number of accredited laboratories alarmingly to have quality-assured laboratory health services throughout the country as demanded. On top of this, it is paramount to enhance functional interfaces between the laboratory system, clinical services, PHEM system and health researchers at large to come-up with quality diagnostic laboratory services, quality public health laboratory services and laboratories that generate quality data for health research outputs.

#### SO-C4: Enhance community ownership

Enhancing community ownership, under community perspective, refers to the end result of empowering communities to produce their own health. It implies community understand individual health behavior can affect the public and hence each member of the community behaves responsibly to carry out surveillance of reportable diseases and any unusual events at the community level using the existing structures such as households, 1 to 5 networks and development teams. Model family, model development team, model Kebeles and model Woredas were expected as an output but there was no any defined outputs (Table 5) against set targets. Only draft community based surveillance (CBS) protocol and standard operational procedure (SOP) have been drafted.

*Table-5: Progress of SO-C4 targets and performances*

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years achievement	
					Planned	performed	Planned	performed	Planned	performed	performance	%
C4.II	Proportion of kebeles that implemented community based surveillance	%	0	40	0	0	10	0	40	0	0	0

The institute failed to establish community surveillance model families, model development teams, model Kebeles and model Woredas due to lack of attention and commitment, shortage of PHEM staffs, and its high financial, coordination, training, and effort demands. Absence of budget allocation and absence of assigned staffs dedicated for the implementation were also the critical limitations.

So it is important to finalize the draft CBS guideline and SoP, allocate budget to run activities, provide proper training at each level, and fulfill appropriate logistics timely. Assign responsible and dedicated staffs for CBS implementation program. Strongly advisable to assign responsible and dedicated staffs for CBS implementation program with proper alignment and cascading to regions, zones, woredas and kebeles.

It is paramount to give leadership and staff attention and commitment at all levels from national to community ownership, establish workable community surveillance system to make effective community surveillance, outbreak response and prevention.

#### SO-P1: Improve public health surveillance system

This strategic objective, under internal process, has been designated to capture both indicator-based and event-based components of public health and nutrition surveillances on communicable and non-communicable diseases (NCDs), demographic and behavior, utilization of fortified foods, micronutrient status of population and salt iodization coverage, drug resistance and drug utilization related resistance on its irrational utilization. It also designed to include insecticide resistance activities from selected areas, reproductive health, environmental tracking, identifying and closely monitoring of public health threats, predicting the risk it poses on the health of the public and the health system. The ultimate aim is provision of timely and complete information for proactive prevention of health threats by decision makers for improving quality of life.

The last three years of the institute's progress in achieving the strategic objective as measured by the six performance indicators is summarized in Table 6. EPHI had generated and disseminated a lot of surveillance

outputs in peer reviewed journals and in the form of technical reports that could be used as inputs for informed decisions in policy, programs and interventions. Limited progress was made in achieving the targets set for the performance indicators that were identified to measure progress on generating national surveillance data and technical reports on diseases, drug/insecticide resistance, maternal death, and reproductive health issues; in which the three years performance accounted 28.8% of the three years targets (Table 6), respectively. Compared to the six indicators, the Institute was effective in publishing 28 (90.3 %) journal articles in 3 years, which were produced in peer reviewed journals from surveillances on diseases and their determinants and drug/insecticide resistance problems which were of great national importance. Thirty four (28.8%) surveillance technical reports generated out of 118 national surveillances that planned to be undertaken on diseases and their determinants, drug & insecticide resistance, maternal death, and reproductive health issues initiatives, which were conducted and disseminated in the form of technical reports during the past three years. In this regard, the institute has achieved very limited outputs (less effective). The institute did not conduct any surveillance activities on food and nutrition issues, and environmental tracking in the past three years' time.

Proportion of health facilities reporting completeness and timeliness of weekly routine diseases' surveillance report was effective as per the guideline and increasing from year to year, i.e. 75.7%, 79.2%, and 95% in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. This health facilities reporting included identifying and closely monitoring public health threats, predicting the risk it posed on the health of the public and the health system, and the provision of timely and effective information that allowed preparing for effective response or taking action to avoid or reduce risk throughout the country. Proportion of PHEM weekly diseases' reports (epidemiological bulletins) distribution was fairly effective and increasing from year to year, i.e. 50%, 57% and 78% in 2015/16, 2016/17, and 2017/18 fiscal years, respectively.

Overall, the achievement of the objective was fairly effective (only partially achieved). Major challenges were identified as constraints to the less effective achievement of planned targets to improve diseases' surveillances. The major ones were: lack of mega project designing (shortage of fund) due to shortage of adequate and skilled researchers, limitation in staff commitment, delay in project inputs such as chemicals and reagents were some of the key challenges. The targets in executing surveillances is too ambitious as compared to the existing human capacity and fund mobilization situation.

There was no any post epidemic/emergency assessment after any public health intervention had been done due to lack of attention and shortage of financial and human resources. Electronic based reporting system (e-PHEM) was not established due to withdrawal of the promised partner (TULANE) that the program agreed up on to establish the system was phased-out without any achievement. And also less attention was given in system building rather than running to control the emergency conditions.

It is paramount to design and implement mega projects to mobilize enough fund that enable to execute nationally important and priority surveillance activities. It is important to increase skilled researchers and staff commitments and logistic delivery effectiveness to deliver on time quality inputs for surveillance activities.

It is advisable that the surveillance (evaluation) technical report targets should be readjusted to achievable level in relation to the existing human capacity, fund mobilization and overall project execution capacity of the institute. Weekly routine diseases' surveillance report completeness and timeliness from health facilities should be further strengthened by establishing strong e-PHEM system. To this concern, allocate adequate budget for PHEM, following DHIS2 implementation by high level managers and leaders, recruiting enough number of experienced personnel to have strong event monitoring and communication. There should be also proper post epidemic/emergency evaluation after public health emergency interventions to learn from strength, weakness/failure and good practices/success for the next public health risk identification, preparedness, communication and intervention.

**Table-6: Progress of SO-P1: targets and performances**

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performance	%
P1.I1	Number of publications produced on peer reviewed journals from surveillance	#	71	31	7	11	10	8	14	9	28	90.3
P1.I2	Number of technical reports produced from surveillance	#	24	118	21	10	53	7	44	17	34	28.8
P1.I3	Proportion of health facilities reporting complete and timely weekly diseases report	%	77	95	85	75.7	90	79.2	95	95	95	-
P1.I4	Proportion of health facilities using e-PHEM reporting	%	Not Available	50	30	0	45	0	50	0	0	-
P1.I5	Proportion of PHEM weekly diseases reports (bulletins) distributed	%	77	95	85	50	88	57	95	78	78	-
P1.I6	Proportion of post epidemic assessment conducted	%	50	85	70	0	75	0	85	0	0	

**SO-P2: Improve research and evaluation on key health and nutrition issues**

This strategic objective, under internal process, has included research and evaluation of communicable and non-communicable diseases and their determinants, traditional and modern medicine, food and nutrition, policy, strategy and programs, health system, environmental and occupational health and their determinants and reproductive health so as to generate evidence based information in the form of technical reports & peer reviewed journals that have been used and utilized by decision and policy makers.

The EPHI's progress, in the last three years, in achieving the strategic objective as measured by the two performance indicators is summarized in Table 7. On key health and nutrition issues, EPHI had generated and disseminated a lot of research and evaluation outputs in peer reviewed journals and in the form of technical reports that could be used as inputs for informed decisions in policy, programs and interventions improvement. Limited progress was made in achieving the targets set for the performance indicators that were identified to measure progress on generating national surveys', researches' and evaluations' outputs in the form of technical reports on diseases research and their determinants, traditional & modern medicine

research, food & nutrition research, policy & program evaluation, health system research, environmental, occupational health & their determinants research, and reproductive health research. The three years performance was also 54 out of 331 target research outputs (technical reports), which is 16.3% of the three years' target (see table 7). In this regard, the institute was not effective (less than 20% achievement). Compared to the two indicators, the institute was fairly effective in publishing 78 peer reviewed journal articles out of 117 target in 3 years (67%), from diseases research and their determinants, traditional & modern medicine research, food & nutrition research, policy & program evaluation, health system research, environmental, occupational health & their determinants research, and reproductive health researches. Overall, the achievement of the objective is fairly effective (only partially achieved).

Major challenges were identified as constraints to the less effective achievement of planned targets to improve research. The major ones were: limitation in mega projects designing (shortage of fund) due to shortage of caliber and skilled researchers, limitation in staff commitment (due to inadequate incentives), delayed procurement and/or unavailability for project inputs such as chemicals, reagents and laboratory tools were some of the key challenges. Lack of intramural & extramural researches in collaboration with universities, regional laboratories/public health institutes and other Institutes as intended/planned. Limitation in supporting and capacitating regions to do research by cascading and aligning EPHI's SPM in their local context. The target in generating research outputs in the form of technical reports was too ambitious as compared to the existing human capacity, fund mobilization as well as input delivery system/situation. The number of published peer reviewed journals were not enough as much as the generated research outputs technical reports, information & Excellency vision of the Institute, and high number of researchers in the institute.

It is recommended that designing and implementing mega projects that accommodate at least one or more initiative(s) such as diseases research and their determinants, traditional & modern medicine research, food & nutrition research, policy & program evaluation, health system research, environmental, occupational health & their determinants research, and reproductive health research. This approach helps to mobilize fund and implementation in an organized way. Enhancing the researchers' project designing and management capacity through training and implementing appropriate incentive mechanism. The researchers should also be committed and focused to deliver research outputs that influence policies, programs and interventions impacts on public health, nutrition and environmental issues. It is important to promote and enhance intramural & extramural approaches to do more researches in collaboration with universities, regional laboratories/public health institutes and other Institutes. Supporting and capacitating regions to do research by cascading and aligning EPHI's SPM in their local context is paramount. The research output target, in the form of technical reports, should be readjusted to achievable level based on the human capacity, fund mobilization and overall project execution capacity of the institute. Quality enough standardized and reliable information on trends of priority diseases, their epidemiology and behaviour and anthropology/socio-culture determinants, and on nutrition issues should be generated, organized, well managed and published in high impact peer reviewed journals in more amount to assure the institute excellency in research.

**Table-7: Progress of SO-P2: targets and performances**

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulate 3 years Achievement	
					Planned	perform	Planned	perform	Planned	performed	performance	%
P2.I1	Number of publications produced in peer reviewed journals	#	93	117	29	31	39	21	49	26	78	67
P2.I2	Number of technical reports produced from research and evaluation	#	33	331	85	17	116	23	130	14	54	16.3

**SO-P3: Improve technology evaluation and transfer**

This objective (under internal process) is about identification, transfer and adaptation of new health technologies from abroad and also use & development of local technologies (indigenous knowledge) for new production packages and products, and their transfer to users through commercialization and other beneficiaries, respectively.

The progress on the five performance indicators identified to measure this strategic objective progress is summarized in table 8. The institute achievement in producing vaccines and serum products by types in the past three years was less effective (25%= one out of 4 types) as compared to the set target. EPHI had planned to generate vaccine and serum production packages/products and other biological products through technology transfer and locally circulating isolates of rabies virus to ensure that sufficient quantities are available. In this regard the Institute continued to produce only Fermi-type vaccine for human use and availed for users, throughout the 3 years SPM implementation period. This low progress in achieving the target set for products production was due to the cell culture rabies vaccines/other vaccines and serum production packages developments have not been finalized. The cell culture rabies vaccine development reached at clinical trial stage, i.e. sample product has been produced and other preconditions have been preparing so as to conduct clinical trial. Anti-venom production package development is also at infant stage. EPHI was very effective in generating production packages (100%) in three years' time as per the target (see table 8). Five production packages have been developed from indigenous practices (traditional medicines) and utility models have been awarded for the institute, i.e. one, two, and two herbal medicines in 2015/16, 2016/17 and 2017/18 fiscal years, respectively. The five production packages utility models are: utility model certificate: herbal compositions for controlling ecto-parasites in ruminants-ET/UM/15/1774 (Getachew Addis et.al., 2015), utility model certificate: herbal based anti-dermatophyte formulation-ET/UM/16/2162(Ashenif Tadele et.al., 2016), utility model certificate: herbal based broad spectrum antimicrobial formulation-ET/UM/16/2161(Ashenif Tadele et.al., 2016), utility model certificate: herbal based broad spectrum antifungal formulation-ET/UM/18/( Ashenif Tadele et.al.,2018), and utility model certificate: herbal based water clarifying formulation-ET/UM/18/ (Hirut Lemma et.al.,2018). Other traditional medicines have been evaluated for their efficacy and safety. Except herbal compositions for controlling ecto-parasites in ruminants, which passed clinical evaluation, all production packages have not been finalized (not yet passed clinical evaluation) for use.

Within the last three years, 7 types of diagnostic technologies have been evaluated and recommended for use. In light of this, the institute was not effective (20%) in achieving the target set on diagnostic technologies evaluation and recommendation for use (see table 8). Publications produced in peer reviewed journals and technical reports delivery were less effective (45%) and not effective, respectively, because only few number of diagnostic technologies evaluated and recommended for use, and production packages have not been finalized to generate more technical reports/peer reviewed journal articles.

Generally, the achievement of the objective is fairly effective (only partially achieved). Critical challenges were identified as bottlenecks to partially achievement of planned targets to improve technology evaluation and transfer. The major bottlenecks were: absence of standardized laboratory set up to implement good manufacturing practice (GMP) accreditation that fulfil product quality control standard, shortage of caliber and skilled researchers, limitation in staff commitment (due to inadequate incentives), lack of mega project designing, lack of fund support from partners in technology development & transfer, lack of research and development/industry linkage, delayed procurement and/or unavailability for project inputs such as chemicals, reagents and laboratory tools. Lack of intramural & extramural researches in collaboration with universities and other Institutes. The targets in generating production packages, types of diagnostics technologies evaluation, producing products types and technical reports were ambitious as compared to the existing human capacity, laboratory set up, fund mobilization as well as inputs delivery system/situation.



It is recommended that designing and implementing mega projects that enabling effective and efficient technology development and deliver production packages for production by industry, creating strong research and development industry linkage. It is strongly advisable to establish a new and/or upgrade/enhance the existing production package development laboratories to ISO standard laboratory set up that fulfil good clinical laboratory practice (GCLP) and/or good manufacturing practice (GMP). Enhancing the researchers' project designing, management capacity, and commitment through training and implementing appropriate incentive mechanism. The researchers should also be committed and focused to deliver production packages and other technology evaluation and transfer outputs that could be transferred to industry for production. It is important to have caliber and efficient vaccinologist, formulation experts, integrating intramural & extramural approaches in collaboration with universities and other Institutes. Production packages and products type produced, and diagnostic technologies evaluation targets should be optimized to achievable level based on the available facilities, human capacity, fund mobilization and overall project execution capacity of the institute.

**Table-8: Progress of SO-P3: targets and performances**

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performed	%
P3.I1	Types of vaccines and serum products produced	#	1*	4**	1*	1*	1*	1*	4**	1*	1*	25
P3.I2	Number of production packages generated	#	0	5	1	1	3	2	1	2	5	100
P3.I3	Types of diagnostic technologies evaluated and recommended for use	#	2	35	10	4	13	1	12	2	7	20
P3.I4	Number of publications produced in peer reviewed journals	#	8	20	5	2	6	3	9	4	9	45
P3.I5	Number of technical reports produced	#	0	47	12	4	17	2	18	2	8	17

**NB:**

\* The same product (Fermi type) at the baseline has been continued for production.

\*\* The old (Fermi type) plus the intended newly developed products.

#### **SO-P4: Improve public health emergency preparedness**

This strategic objective (under internal process) has focused on strengthening capacity in recognizing and responding to public health emergencies based on regular risk identification & analysis, established coordination and collaboration, and community-based interventions through availing the necessary logistic and fund, equipped public health personnel and respondents with the necessary knowledge and tools.

In each year epidemic preparedness response plan (EPRP) and humanitarian requirement document were developed as per the PHEM guideline. The resource mobilization was less effective (very limited achievement with extensive shortcomings), i.e. 30%, 35% and 40% in 2015/16, 2016/17 and 2017/18 fiscal years as per the requirement in EPRP and humanitarian requirement documents in each fiscal year, respectively (table 9). Stockpiling resources (medications, equipment) were mostly done after public health outbreak

observation and communication. There was no vulnerability assessment and risk mapping (VRAM), and avail emergency supplies prior to an event, based on threats/hazards, vulnerabilities, and consequences to manage the exposure to that risk through the prioritization and implementation of risk-reduction strategies. The failure was due to no attention, shortage of skilled manpower and budget. Because most partners donated and released budget only for already occurred public health emergencies. Except salary, there was no enough government budget allocation (at all administrative levels: from federal to woreda) for running costs especially on emergency prevention strategies/activities. In general, there was lack of support and intervention on public health emergency prevention as compared to response.

It is paramount to have working structure, and fulfill skilled/caliber personnel to conduct vulnerability assessment and risk mapping (VRAM) for on time preparedness, early-warning, availing emergency supplies, and risk mitigation. So that public health risk profile data base should also be developed and mapped, stock piled and mobilized resources to avert the risk (s) or manage the crisis in sustainable and planned bases. It is important to establish social and pool fund for evidence based, planned, organized and sustainable public health emergency management. Therefore, it is important to mobilize (from government and partners) and allocate enough budget so as to do planned VRAM, public health emergency prevention, risk reduction, control and response.

*Table-9: Progress of SO-P4: targets and performances*

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performance	%
P4.II	Proportion of identified potential epidemics with adequate EDKs and other supplies	%	71	85	75	30	80	35	85	40	40	

#### **SO-P5: Enhance laboratory quality management system implementation**

This strategic objective (under internal process): enhance laboratory quality management system implementation, which has underlined many initiatives undertaken at all laboratory tiers to ensure the holistic implementation of all essentials of quality. The major initiatives pertaining to ensure organizational commitment and support to quality services, personnel and equipment management, purchasing and inventory, process control and improvement, information management, document and records, occurrence management, facility and safety, assessment and monitoring and evaluation of implementation including infrastructure upgrading have been undertaken.

**Table-10: Progress of SO-P5: targets and performances**

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performed	%
P5.I1	Proportion of laboratories** implementing all essentials of LQMS	%	30	80	50	50.2	65	66	80	69	69	-
P5.I2	Number of laboratories with electronic laboratory Information System	#	22	180	40	0	60	0	80	5	5	3
P5.I3	Proportion of laboratories participating in External quality assessment programs (EQA)	%	75	90	80	*	85	*	90	65.3	65.3	-
P5.I4	Number of equipment maintenance workshops established and/or strengthened	#	4	13	9	3	13	3	13	3	3	23
P5.I5	Proportion of laboratories below 5% service interruption rate due to equipment failures and/or supply stock outs	%	Not Available	75	40	***	60	***	75	***		
P5.I6	Proportion of EQA rechecking laboratories with database	%	5	75	25	0	50	0	75	0	0	-

**NB:**

\*No recorded data.

\*\* Number of denominators taken for functional laboratories were 3200; 3200; 3200 and the achievements were 1600; 2080 and 2560 in 2015/16, 2016/17, and 2017/18, respectively.

\*\*\*There was no record/data because maintenance data base was not functional to capture data (equipment failures and/or supply stock outs).

In Ethiopian laboratories of all tiers have been striving to implement laboratory quality management system (LQMS) over the past 3 years and the result was fairly effective as per the plan (table 10), i.e. 50.2%, 66%, and 69 % laboratories implemented LQMS in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. All tiers of laboratories have also implemented external quality assessment (EQA) and the result was 65.3% in 2017/18 fiscal year. Some output performances that are bases for external quality assessment (EQA) targets realization in the future were development of EQA roadmap, establishment of EQA technical working group (TWG), development of quality policy manual and subsidiary documents in accordance with ISO17043 standard, and annual review of EQA program implementation were done. EPHI has established laboratory information system (LIS) in 5 laboratories (Minilik Hospital, Zewditu Hospital, Mekele Regional Laboratory, Dessie Regional Laboratory, Hawassa Regional Laboratory) in 2017/18 .The

Institute was not effective (3%) in equipping laboratories with electronic laboratory information system (LIS), and zero output in organizing EQA rechecking laboratories with database, and less effective (23%) in equipment maintenance workshops establishment/strengthening in regions as per the target(table 10). Anti-retro viral testing (ART) machines that found in the country were maintained with EPHI staffs while they were failed/broken down.

Lack of functional EQA rechecking database for data capturing and availability, absence of data recording & follow up for laboratories below 5% service interruption rate due to equipment failures and/or supply stock outs, failed to establish ISO17043 standard EQA PT samples preparation center as expected by donor to be self-sufficient and supply all proficiency testing (PT) samples for all laboratories in the country before the program phase-out, failure in establishing and strengthening equipment maintenance workshops in each region to have decentralized and self-sufficient maintenance center at each region as per the plan, and failure to organize laboratories with electronic laboratory information system as plan were the major limitations in strengthening EQA and LQMS in the country. Shortage of trained expertise & office arrangement for PT samples production, management and availability in the country for different test disciplines, lack of supplies for PT samples production in the local market, unsuitable structural arrangement of EQA team to function as the anticipated activities, shortage of budget for IEQAS PT procurement (for example: the released budget from partner/donor has been decreased abruptly from 700, 000 USD in 2015/16 to 400,000 USD in 2017/18), and trained staff attrition were also the major challenges in effecting the objective.

It is advisable to establish ISO17043 standard EQA PT samples preparation center at EPHI by arranging sufficient facility and allocate sufficient budget, and prepare and supply PT samples continuously for all laboratories in Ethiopia for sustainable EQA implementation and accreditation processes. Restructuring the EQA team, assign well trained personnel, arranging international training and experience sharing for PT production, establishing laboratory information system for high load laboratories/health facilities, establishing data bases for EQA rechecking laboratories to capture data and analyze for actions, and establishing/strengthening fully functional equipment maintenance workshops in all regions to make the regions self-sufficient and enabling to cascade and maintain by their own are also critical actions to be taken for laboratories to implement all essentials of laboratory quality management system. The regions should not be depend on EPHI for equipment maintenance rather they should own the work and decentralized completely.

#### **SO-P6: Strengthening Laboratory Capacity for Referral and Backup Testing Services**

The health care system in Ethiopia relies upon a tiered network of laboratories that include national and regional reference laboratories, hospital and health center laboratories with an increasing degree of specialized testing capacity towards the apex. This strategic objective (under internal process) has included testing the capacities between the tiers to strengthen reliable specimen referral linkage system within the network to ensure the accessibility of laboratory testing services to all citizens, providing inter-laboratory backup testing support to ensure uninterrupted services due to equipment failures; human resource constraints, supply shortages, and the introduction/evaluation and scaling up of novel laboratory methods and technologies.

The national reference laboratories have served as the main centers for referral and backup testing services at EPHI. EPHI was effective (78.4%) in networking laboratories for referral testing services, i.e. 4171 laboratories, out of 5318 government and private laboratories, have been networked and mapped for referral testing services in the country. The Institute was also effective in capacitating the national clinical and public health reference laboratories and additionally 20 (80%) health facilities for detection and characterization of epidemic prone disease and other disease of public health importance (Table 11). EPHI's national reference laboratories have been strengthened and qualified in ISO-accreditation so as to play roles in the evaluation, introduction and scaling up of novel laboratory methods and technologies, too. Vertical and horizontal laboratory networks have been strengthened, and robust/functional national system for integrated specimen management and transportation including result feedbacks have been developed and implemented. Postal and electronic networks have been implemented for reliable specimen and results/feedback delivery system.

EPHI has given a lot of referral and back-up testing services (analytical, biological and clinical) using its 8 national reference laboratories. In this regard, the institute had performed referral and back up testing services for more than 206,322 tests in the past 3 fiscal years mainly on nutrition, clinical bacteriology & mycology, clinical chemistry, HIV, TB, rabies, microbiology, and physico-chemical analysis issues to serve the community (see figures 4 & 5). Even if the institute had performed the testing services beyond its annual plans, there was no implementation on its strategically targets such that test menu standardization in accordance with laboratory quality and missing to capture data and follow up for test service provision of national, regional and international referral network system at all times for epidemic prone and other disease of public health importance.

There was no attention to do test menu standard for health facilities (from the point of quality laboratory testing services) and follow up their implementation as per established standard, and missing to capture data and follow up for test service provision for national, regional and international referral network system at all times for epidemic prone and other disease of public health importance were the major limitations. Shortage of logistic supplies and trained laboratory professionals attrition, and cold chain problem during postal transportation of samples were also the major challenges to realize this objective.

Over all, this objective's achievement was fairly effective. It is critically paramount to build the necessary capacities at all tiers or facilities to enable them provide the expected testing services rather than relying on referral and backup support systems. It should be given attention to establish test menu standard for health facilities based on quality laboratory testing services and follow up their implementation as per established standard, collect data for test service provision on national, regional and international referral network system at all times for epidemic prone and other disease of public health importance for decision and critical support. There should be also continuous logistic supplies and incentivized trained laboratory professionals to have an uninterrupted test service provision for national, regional and at each tier level referral network system at all times for epidemic prone and other disease of public health importance.

Table-11: Progress of SO-P6: targets and performances

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cummulate 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performed	%
P6.I1	Proportion of laboratories networked to referral testing services	%	60	85	75	*	80	*	85	78.4	78.4	-
P6.I2	Proportion of health facilities have implemented test menu per established standard	%	Not available	80	40	**	60	**	80	**	-	-
P6.I3	Number of facilities capacitated for detection and characterization of epidemic prone disease and other disease of Public Health importance	#	5	25	5	4	10	6	10	10	20	80
P6.I4	Proportion of test service provision for national, regional and international referral	%	Not available	100	100	***	100	***	100	***	-	-

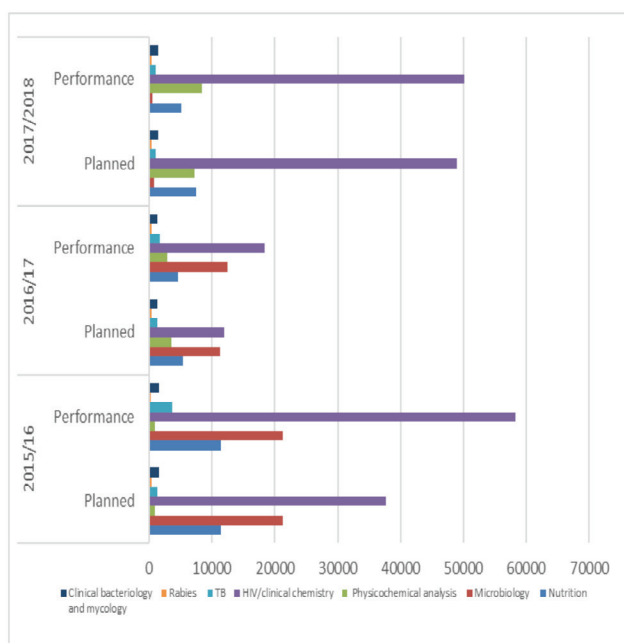


Fig. 4: Number of analytical and clinical testings by EPHI's national referral and back-up laboratory services (in 2015/16-2017/18 FYs)

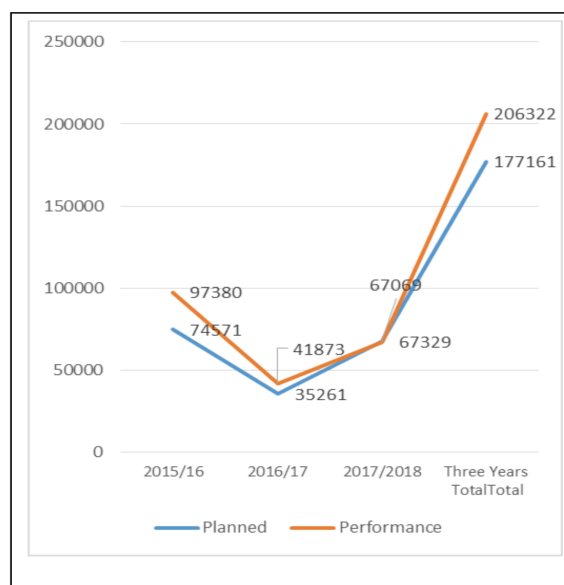


Fig. 5: The 3 fiscal years total number of lab. Tests by referral & back-up laboratory testing services (EPHI's national laboratories)

**SO-P7: Improve programs/projects & institutional policies development and management**

This strategic objective (under internal process) has been planned to capture initiatives like institutional policies, procedures and guidelines for all services provided by the institute and to put in place effective and efficient program/project management system. Monitoring rounds were conducted as per the planned targets (100%), which contributed to the number of programs/projects finalization, effectiveness and efficiency to deliver final outputs (table 12). Annual joint supportive supervisions were conducted in separate and integrated modalities in each fiscal year. Integrated supportive supervisions were conducted (with the mix of subject matter specialists from all technical directorates) in all regions under Planning, Monitoring & Evaluation Directorate coordination.

Separate supportive supervision, monitoring and mentoring were also done by PHEM Directorate, National Laboratory Capacity Building Directorate, and Scientific & Ethical Review Office to enhance the quality and achievements of EPHI activities towards its objectives, vision and missions. Joint review and planning forum was conducted every fiscal year with regions.

PHEM and laboratory quality system forums have been established and conducted every quarter (with stakeholders) to review and make action on their respective performances. Institutional policies, procedures and guidelines were developed and in placed in order to improve efficiency and transparency of administrative, financial and technical procedures and lawful decisions. The cumulative output of three years was fairly effective (55.3%). Even if priorities were set in the strategic plan, mega projects were not designed and executed as intended based on thematic areas and initiatives due to shortage of caliber researchers and lack of attention. Scientific evaluation of programs and completed projects has limitation due to shortage of human resources and attention had been paid for other routine activities. There were limitations in supervision rounds and taking actions based on supervision findings. Lack of separate research and technology transfer forum with regions and other stakeholders/audiences to review new proposals, ongoing and complete research projects/initiatives.

It is important to give attention in designing mega projects based on thematic areas and initiatives to address prioritized problems so as to deliver evidence based information as planned for policies, programs and practical implementations. It is also critical to conduct midterm and end term evaluation of the implemented programs and mega projects of EPHI to take lessons and enhance the effectiveness and efficiency of programs and projects. It is also important to increase and strengthen integrated supportive supervision rounds (at least twice per year) and take actions based on the findings. Research and technology transfer forum with regions and other stakeholders/audiences should be established to review new proposals, ongoing and complete research projects/initiatives, which avoids duplication of efforts and resources and it also strengthens/initiates regions to conduct research by their own.

*Table-12: Progress of SO-P7: targets and performances*

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performed	%
P7.I1	Number of programs/projects monitoring rounds conducted	#	20	12	4	4	4	4	4	4	12	100
P7.I2	Number of evaluations conducted	#	1	3	No target	-	1	0	2	1	1	33.3
P7.I3	Number of Institutional policies/guidelines/manuals developed and updated	#	10	38	12	12	12	6	14	3	21	55.3

**SO-F1: Improve financial resource mobilization and utilization efficiency**

This strategic objective (under financial stewardship) has been planned to avail financial resources needed to execute all the targeted activities for the whole thematic areas and proper utilization of the mobilized financial resources.

The proportion of total financial resource mobilization and proper utilization of the mobilized financial resources within the 3 fiscal years were fairly effective (see table 13), 75% and 77%, respectively. The base for financial resource mobilization was the costed strategic plan document. Based on the strategic plan, the institute and its directorates tried to mobilize resources from already mapped sources and utilized the resources accordingly. There was limitation in organized resource mobilization approach so that a lot of targets and activities were remained at low performance and untouched due to the scarce resources. Resource mobilization strategy was not developed as well as there was no an organized and integrated approach of mega projects proposal development and resource mobilization. In the past three years, the lion-share (72-79%) of the institute financial source was donor (see figures 6, 7 & 8); it shows that EPHI has highly depended on donors to execute its strategy. This has great influence on programs/projects implementation sustainably. The institute mobilized financial resource utilization was fairly effective and relatively increasing in 2017/18 fiscal year through execution of its activities, procurement/logistic supplies, tracking, monitoring, evaluation and inspection of programs and projects (table 13).

**Table-13: Progress of SO-F1: targets and performances**

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years Achievement	
					Planned	performed	Planned	performed	Planned	performed	performed	%
F1.I1	Proportion of mobilized financial resource	%	65	80	70	58	75	101	80	73	75	-
F1.I2	Proportion of utilized resources	%	75	97	85	78	95	74	97	80	77	-
F1.I3	Proportion of good performance compliance issues in line with the standards	%	100	100	100	*	100	*	100	60	60	-
F1.I4	Proportion of procured and availed goods & supplies, construction and services	%	50	100	90	**	95	**	100	77	77	-
F1.I5	Proportion of stock wasted due to expiry	%	Not available	7	9	***	8	***	7	***	-	-
F1.I6	Procurement lead time (days)	#	240	180	210	290	210	260	180	180	-	-

**NB:**

\*There was no holistic audit evaluation in that fiscal year.

\*\*There was a limitation in proper recording of procured inputs vs. expenses (finance).

\*\*\*There was no proper stock waste record (including expiry) and management to evaluate the status.

The institute had procured a lot of inputs and services per year to execute its programs and projects through strengthening the human resource through recruitment and project support. The institute used the international and national open bid modalities to procure inputs in bulk and put the international open bid lead-time (the time that took from bulk procurement document announcement date to inputs delivery date) to follow its effectiveness for on time deliverables. In this regard, the international open bid procurement average lead time was estimated and found to be in decreasing trend and effective in 2017/18 fiscal year, i.e. from 290 days in 2015/16 fiscal year to 180 days in 2017/18 (see table 13). The international open bid procurement lead time was not achieved from 2015/16-2016/17, in which a lot of bulk procurement had been executed, as per the target and the standard procurement lead time set (takes less than 6 months in normal situation). The national (open bid) procurement lead time was also estimated, i.e. it was 160 days (in 2015/16), 155 days (in 2016/17 FYs), and 65 days (in 2017/18 fiscal year). Still the national open bid procurement has taken long period of time (except in 2017/18 FY) because the standard procurement lead time for national (open bid) procurement is less than 90 days (takes less than 3 months in normal situation) as per the federal procurement guideline. In all cases the bulk procurement (international and national bids) was not effective and efficient, i.e. it took long period of time to deliver inputs and services.



In general, the procurement has the following major limitations: procurement implementation was not guided in accordance with SPM, i.e. there was no lead time management to make efficient and effective procurement, Performa procurement has dominantly been used rather than planned procurement (bulk and coordinated procurement), logistic supply interruption has not been solved yet, and lack of skilled and professional composition to handle and procure foreign laboratory chemicals, reagents, & equipment. There have been limitation in on time delinquency settlement of letter of credit (LC) from national bank due to staffs released without settling their respective documents. Staff attrition, incompatible structure of procurement team vs with high volume of the work, unfriendly policies & procedures to entertain public health emergency procurements, shortage of standard warehouse to handle reagents and chemicals with proper procedure, lack of waste chemicals and reagents disposal management system to avoid wasted/expired hazardous chemicals/reagents, and absence of proper inventory system to reduce waste due to expiry are the major challenges in the procurement and property handling system.

To avoid the limitation in fund mobilization and utilization, it is important to follow organized resource mobilization approach in order to mobilize enough fund so as to address targets and activities of the SPM that have been remained at low performance/untouched due to the scarce resources. Resource mobilization strategy should be designed and implemented in such a way that it supports and promotes mega projects proposal development and resource mobilization from grant competition and government sources. This approach also important to minimize EPHI's donor dependency and enhances self-sufficiency to execute the initiatives/programs/projects implementation sustainably. It is important to have integrated and organized mega project designing and fund mobilization system, and increase government & international grant award for effective and sustainable implementation of the strategy to realize vision and mission of the institute. The institute should increase its effectiveness mobilized financial resource utilization through effective execution of its activities, and delivering inputs procurement/logistic supplies on time.

Strengthen kaizen implementation, the integrated financial management information system (IFMIS), developing standard operational procedure (SoP) to track procurement pipelines, strengthen inventory system and implementation, and applying especial procurement/logistics for public health emergency management endorsed by law are the critical turning points to have effective and efficient procurement/logistic system; in turn to enhance effective financial utilization and implementation of the strategy. Planned and bulk procurement (with open bid) should be maximized through effective management of procurement lead-time and Performa procurement should be discouraged (minimized). There should be also strict follow up on purchased items expense record, report and on time delinquency settlement of LC. There should be proper inventory and stock management, and waste recording system for efficient inputs/properties utilization and prevent stock wastage due to expiry. There should be also standardized warehouse for chemicals, reagents, etc. to handle and manage in a safe and proper way. It is important to have well skilled and professional composition to handle and procure foreign laboratory chemicals, reagents, & equipment. Sustainable solutions should be given for staff attrition and incompatible structure of procurement team. Unfriendly policies & procedures to entertain public health emergency procurements should be changed and endorsed by respective authority. Shortage of standard warehouse to handle reagents and chemicals with proper procedure, lack of waste chemicals and reagents disposal management system.

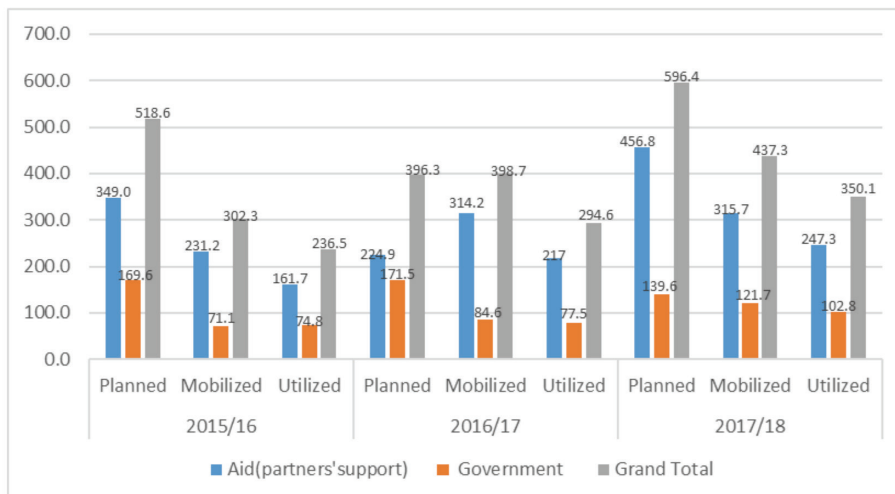


Fig.6: Planned, mobilized and utilized budget from government and aid, in the past 3 fiscal years (in '000,000 ETB)

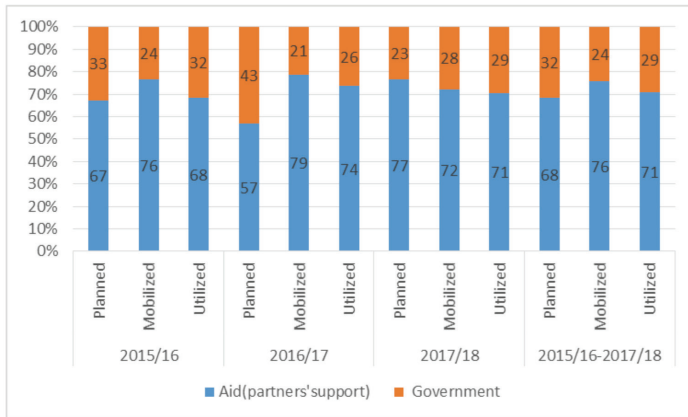


Fig.7: Proportion of government and aid for planned, mobilized and utilized budget (from 2015/16-2017/18 Fys)

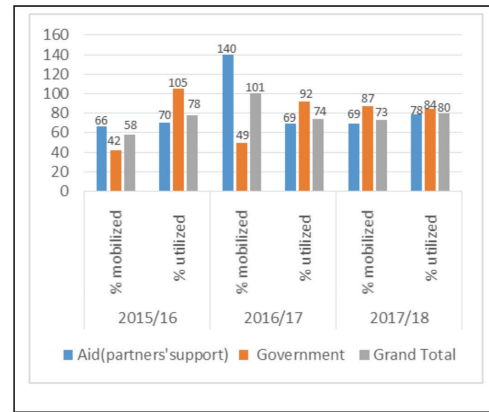


Fig.8: Proportion of mobilized and utilized budget from planned and mobilized budget, respectively (2015/16-2017/18 Fys)

### SO-CB1: Improve Human Resource Development, Management and Governance

This strategic objective (under capacity building perspective) has been designated to develop public health force/cadre/army, to have high quality human resource for the Institute through recruitment, promotion, applying different retention schemes & skill development, and providing long term and short term training to improve overall skill and knowledge of health workers that contribute for health sector transformation.

EPHI has tried to develop its workforce through new staffs' recruitment and retaining them by different incentive mechanisms, and giving short/long term trainings in order to accomplish successfully its initiatives/ major activities to realize its vision and mission (table 14, Figures 9 & 10). The cumulative number of staffs has been increased from 475 in 2014/15 to 796 in 2017/18 (figure 9), which showed 40% incremental growth within three years (additional 321 staffs). The incremental rate (%) for staffs to be recruited and the actual recruited incremental rates were 50.1%, 15.3%, & 10.3% for targets and 20.2%, 16.6%, & 19.5% for achievements in 2015/16, 2016/17 and 2017/18 fiscal years, respectively, which were high in 2015/16 and increasing at decreasing rates in the consecutive fiscal years(except recruited staffs in 2017/18). The trend of the staffs recruitment has been increased steadily since 2010/11 fiscal year to 2017/18, which was from 271 to 796, respectively.

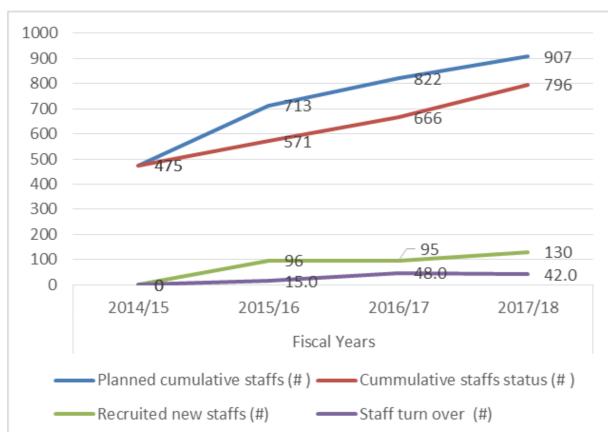


Fig.9: EPHI cumulative number of staffs projected and status, newly recruited staffs, staff turnover (2015/16-2017/18)

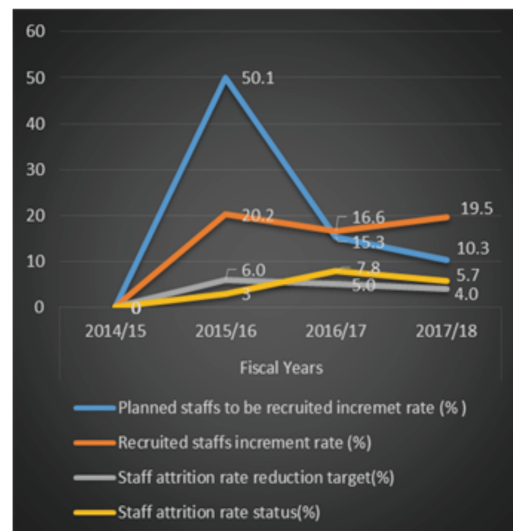


Fig.10: Incremental rate of staffs' recruit target, recruited staffs, and staff attrition rate reduction target, & attrition rate status (2015/16-2017/18 Fys)

EPHI was not effective (17.12%) and less effective (26%) in 2016/17 and 2017/18 fiscal years, respectively, in capacitating the staff through health development army (HDA) scheme (table 14). The institute was not also effective (20.4%) in long term training of its staffs, in which only 11 staffs had graduated in post-

graduation program (9 Masters and 2 PhD degree graduates). Human resource development strategy has not been developed as planned, i.e. identification of human resource gap and designing strategy to fill it was not done. The directive and standard training manuals have not been finalized to facilitate established public health training center operational system as per the plan.

Long stay at university without graduating, less staffs satisfaction & commitment due to low salary payment and incentives scheme, and high staff turnover were the major challenges.

Even if there was high number of professionals trained in short term training in the health sector there was no evaluation and follow up for the impact and practicality of the training.

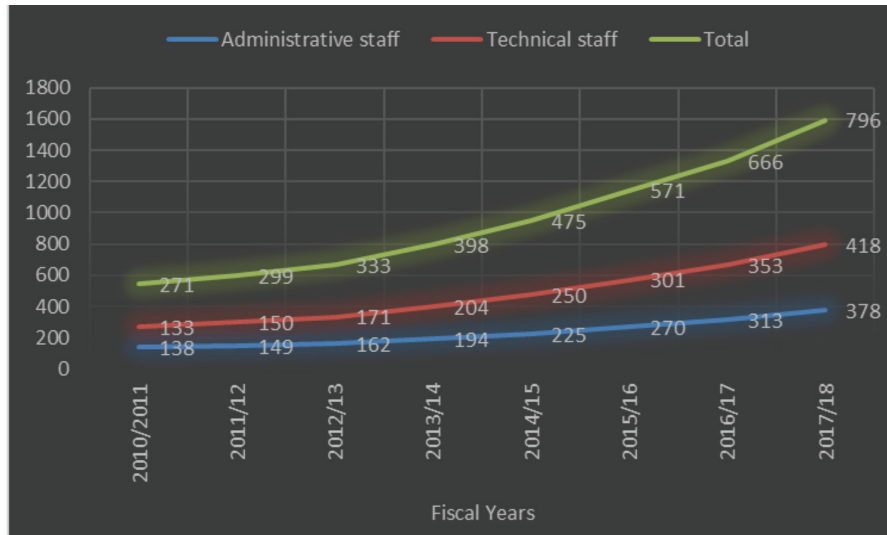


Fig.11: Eight years EPHI's human resource (both technical and admin) incremental trend

Human resource development strategy should be developed by identifying human resource gap so as to make the institute effective, efficient, and result oriented. Staffs should get high level short term trainings abroad in order to gain skill and experience. It should be made that the staffs must finalize their post graduate within the intended period and staffs that have given relatively long service years should be given priority to learn as incentives. The institute may strives to have endorsed new salary scale and incentive scheme from the government for increasing staffs' satisfaction & commitment and reducing staff turnover. The directive and standard training manuals should be finalized and used as the guiding documents so as to make the public health training center operational system effective. The impact and practicality of the short term training should be monitored and evaluated and then the training should be given based on the gap and its effectiveness.

The Institute has established National Public Health Training Center (NPHTC) that has been fully operational. The Institute had given short term training for the health sector professionals (including its staffs) on different PHEM, laboratory, and other disciplines to improve overall skill and knowledge of health workers that contribute for health sector transformation. The Institute was very effective (161%) in giving short term training (see table 14), i.e. 154%, 219%, and 112% in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. EPHI has given short term trainings almost twice its three years target (8955 workers trained) (see figure 12) because there were intensified trainings on Ebola risk aversion preparedness and mass training for health facilities staffs to conduct viral load (scaling up) laboratory testing. Proportion of standards achieving good governance complied 94% in 2017/18 fiscal year assessment.

Table-14: Progress of SO-CB1: targets and performances

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years achievement	
					Planned	performed	Planned	performed	Planned	performed	performed	%
CB1.I1	Proportion of employees achieving best performance with HDA Capacity Building scheme	%	65	90	70	*	80	17.12	90	26	26	-
CB1.I2	Proportion of employees trained with long term training (LTT)	%	95	100	100	43.8	100	11.8	100	10	20.4	-
CB1.I3	Proportion of employees trained with short term training (STT)	%	98	100	100	154	100	219	100	112	161	-
CB1.I4	Proportion of staff attrition rate reduction	%	Not available	4	6	3	5	7.8	4	5.7	5.7	-
CB1.I5	Proportion of standards achieving good governance	%	Not available	95	85	*	90	*	95	94	94	-
CB1.I6	Proportion of staffs satisfied	%	Not available	85	65	*	75	*	85	47	47	-

**NB:**

\*There was no data/assessment.

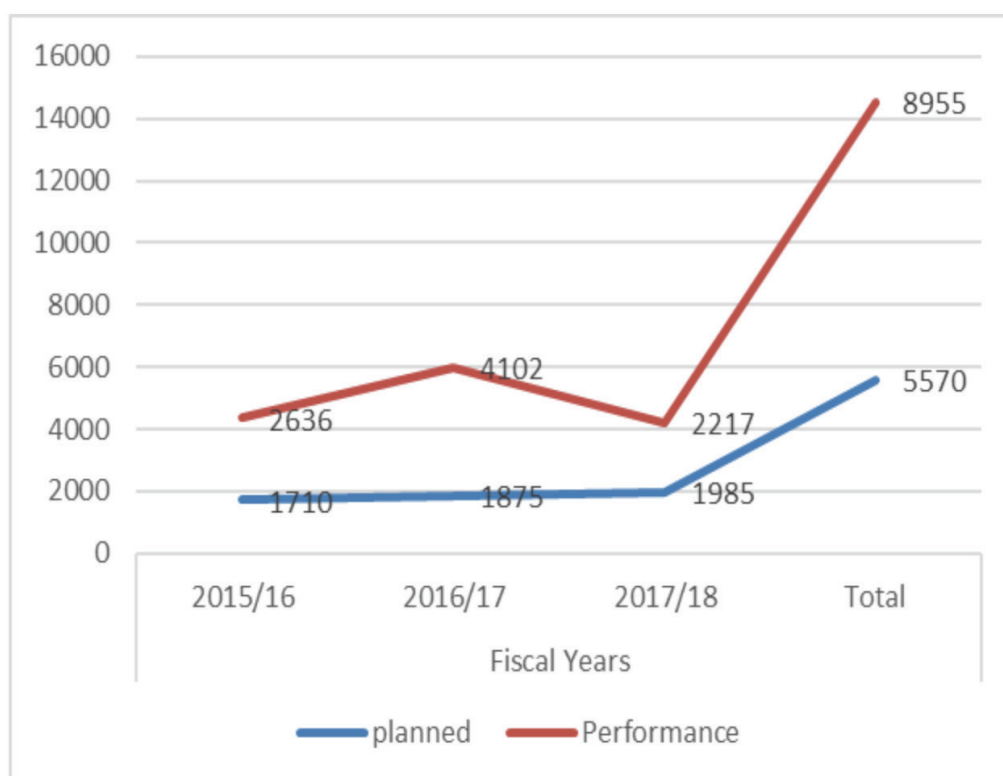


Fig. 12: Number of workers trained in short term different PHEM, laboratory and others disciplines

**SO-CB2: Enhance infrastructure and system development**

Enhance Infrastructure and System development is SO under capacity building perspective to capture initiatives to enhance institutional capacities, i.e. to construct and strengthen intensive technical facilities with established technology, and fully Automated & efficient systems.

Even if the achievement of the Institute was less effective (28.6%) in establishing physical facilities as per the target (see table 15), one public health training center with fully equipped has been established in the Institute's premise and one mobile biosafety level three laboratory has been procured and made fully functional. Structural design and site plan has been done and submitted to EPHI by DTRA and fund has been on mobilizing to establish state-of-art reference laboratories plus with biosafety special level-3 laboratory (BSL-3) and research center that enables to manage most of public health threats at country level. Design and projects have been done, and fund mobilization has been on doing to construct one hub/warehouse and 5 floors/layers office building to enhance institutional capacities. Five systems automation (human resource, procurement system, IFMIS, data collection system, and inventory) (see table15), and national data management center for health have been established to enhance EPHI's effective execution and achievement of its objectives.

*Table-15: Progress of SO-CB2: targets and performances*

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years achievement	
					Planned	performed	Planned	performed	Planned	performed	performed	%
CB2.I1	Number of physical facilities established	#	1	7	-	-	1	1	6	1	2	28.6
CB2.I2	Number of automations established and Operationalized	#	Not available	17	10	2	3	1	4	2	5	29.4

Lack of budget to build problem solving buildings: offices for staffs, modern warehouse/hub to accommodate all necessary procured inputs with proper handling, to build public health emergency operating centers (PHEOCs) & BSL-3 laboratories at EPHI and regions; to establish bio-bank for research; to automate the critical systems for high working efficiency, which were not done as per the targets (because they demand high amount of resources) are the major challenges to deliver the outputs.

It is recommended that fund mobilization should be given necessary attention to build problem solving buildings: office buildings, which create good working environment, modern warehouse/hub to accommodate all necessary procured inputs with proper handling, automate the critical systems for high working efficiency and to build laboratories with BSL-3/4, establish PHEOCs in all regions, and building regional laboratories, are critical to achieve and realize the Institute's mission and vision.

Even if the Institute was less effective (29.4%) in establishing automated operations, it has established automation systems for 5 operations. Shortage of budget, less attention and absence of high caliber personnel in the area were the major challenges to have appropriate system design and networking as per the target. So it is important to give attention, mobilize resource, and in place high caliber personnel and/or contract out to establish appropriate system design and networking, and as well as physical construction.

**SO-CB3: Enhance communication, coordination and partnership**

This strategic objective (under capacity building perspective) has been designated to include initiatives to have effective and efficient communication to promote and publicize the services and achievements of the Institute to the general public and other stakeholders, and to strengthen coordination and partnership with local, regional and international partnership towards achieving the mission and vision of the Institute.

EPHI was less effective (44%) in establishing national/regional/international collaborations and effective (83%) in establishing regional/international partnerships. Whereas very effective in maintaining (95%) the existing national/regional/international collaborations and partnerships in the past three years. The Institute also established and implemented PHEM and quality laboratory system forums with regions and other stakeholders' for effective, efficient and organized implementation of targets. There was no organized and EPHI initiation collaboration and partnership rather most came from outside.

To make effective and efficient promotion and publicizing the services and achievements of the Institute to the general public and other stakeholders, the institute has targeted three ways of communication mechanisms, i.e. (a) preparing data directory and collecting data from all directorates, organizing and ready for the public/different stakeholders; (b) Collecting different audiovisual data from each directorate and preparing as programs so as to communicate to the public and other stakeholder through different mass-media, like to have continuous television and radio programs; (c) Communicating and make public awareness through preparing and distributing annual/biannual bulletins through web-pages and hardcopies. The institute has upload different organized events, publications and related documents on its web page to aware and disseminate information. Even if a lot of events have been organized to disseminate/aware the institute's outputs, programs, etc.; strategically, the institute has implemented one communication mechanism, audiovisual program (which stated under 'b'); it was less effective (33% achievement) in this regard (table 16). Through the audiovisual program the institute has prepared documentary film which has contained the institute profile and objectives/major achievements (activities) to promote and publicizing the institute on TV and radio programs. But the institute did not achieve the other two communication promoting mechanisms as per the plan due to lack of attention. The expensive TV and radio programs' air time, shortage of skilled and mixed professionals, lack of studio facility, and absence of printing press are the critical challenges to promote the institute. Communication strategy was not designed as per the plan.

Concerning collaboration and partnership, as key informants argued, there was limitation of clear understanding in partners' role and responsibility which was believed to hinder the effectiveness of collaborative efforts. There was also limitation in clearly defined responsibility and accountability between EPHI and regional health bureaus/laboratories/public health institutes. EPHI has limitation in coordinating health research nationally as per its given mandate.

It is high time to develop and implement communication strategy based on different target audiences so as to properly promote and publicize the institute's objectives, programs, activities and achievements in planned and professionally designed way. It is important to give attention and fulfill all the necessary inputs, facilities and budget and skilled/mixed professionals so as to make the public relation fully functional EPHI's public promoter.

For further strengthening of EPHI collaboration and partnership with local, regional and international partnership towards achieving the mission and vision of the Institute, EPHI should conduct targeted collaborations and partnerships in an organized approach by assigning responsible directorate. Hence, there should be frequent communication and also clear & demarcated responsibilities between EPHI and its all collaborators/partners. Clearly defining the roles and responsibilities of EPHI and its collaborators/partners by holding joint rigorous discussions is important to achieve better results from the collaborative/partnership works. It is important to coordinate health research nationally by establishing and organizing national review forum to avoid duplication of efforts and resources.

*Table-16: Progress of SO-CB3: targets and performances*

Sr. No	Indicator	Unit	Baseline	Three Years Target	2015/16 Target		2016/17 Target		2017/18 Target		Cumulative 3 years achievement	
					Planned	performed	Planned	performed	Planned	performed	performed	%
CB3.I1	Communication systems developed and operationalized	#	1	3	3	0	3	0	3	1	1	33
CB3.I2	National/regional/international collaborations established	#	20	25	10	5	10	2	5	4	11	44
CB3.I3	Regional/international partnerships established	#	2	12	4	3	4	5	4	2	10	83
CB3.I4	Proportion of national/regional/international collaborations and partnerships maintained	%	70	85	75	90	80	93	85	95	95	-

### 3.2. Relevance

The second BSC based EPHI strategic plan strategic results and thematic areas had been developed based on the Institute's missions that cascaded from and aligned with the health sector transformation plan (HSTP) involving key stakeholders. So, the strategic plan and its contents could be confirmed as relevant. EPHI's thematic areas, strategic objectives and initiatives were also well designed and aligned with the Institute's BPR, and the health sector transformation plan priorities and objectives. EPHI's strategic objectives were aligned and mapped against the strategic objectives of the HSTP (table 17) while they were being cascaded. As summarized in table 17, EPHI can contribute directly to P8 (improve research and evidence for decision making) and CB1 (enhance use of technology & innovation) objectives of HSTP with its objectives C1 (improve translation and utilization of evidence based information, production packages and products), P2 (improve research and evaluation on key health & nutrition issues) and P3 (Improve technology evaluation and transfer).

Achieving excellence in PHEM along with the four strategic objectives of EPHI are the same as HSTP's strategic objectives of improve health related disaster risk management, enhance community ownership, improve community participation and engagement, i.e. improve public health emergency response and rehabilitation, improve public health surveillance system, improve public health emergency preparedness, and enhance community ownership to prevent and control the existing and emerging disease epidemics, acute malnutrition, and natural disasters of national and international concern.

**Table-17: EPHI's strategic themes and strategic objectives alignment with HSTP objectives**

<b>HSTP Strategic Objectives (SOs)</b>	<b>EPHI SOs, cascaded from HSTP SOs</b>
P8: Improve research and evidence for decision making  CB1: Enhance use of technology & innovation	C1: Improve translation and utilization of evidence based information, production packages and products P2: Improve research and evaluation on key health & nutrition issues P3: Improve technology evaluation and transfer
P2: Improve health related disaster risk management C2: Enhance community ownership P6: Improve community participation and engagement	C2: Improve public health emergency response and rehabilitation P1: Improve public health surveillance system P4: Improve public health emergency preparedness C4 Enhance community ownership
P1: Improve equitable access to quality health services	C3: Increase and maintain quality assured laboratories P5: Enhance laboratory quality management system implementation P6: Strengthening laboratory capacity for referral and backup testing services
P3: Enhance good governance P5: Improve logistic supply and management P7: Improve resource mobilization CB2: Improve development and management of human resource for health CB4: Enhance policy and procedures	P7: Improve programs/projects and institutional policies development and management F1: Improve financial resource mobilization and utilization efficiency CB1: Improve human resource development, management and governance CB2: Enhance Infrastructure and system development CB3: Enhance communication, collaboration and partnership

EPHI's strategic objectives were also designed to directly contribute to health sector transformation plan objective of improving evidence based decision making, which includes identification of health system bottlenecks, research, performance monitoring, quality improvement, surveillance, and use of information for policy formulation, planning, and resource allocation. EPHI's engagement in increasing and maintain quality assured laboratories, enhance laboratory quality management system implementation, strengthening laboratory capacity for referral and backup testing services are also consistent with HSTP's strategic objective of improve equitable access to quality health services, which one of the four agenda of the HSTP. The EPHI's strategic objectives such as improve programs/projects and institutional policies development and management, improve financial resource mobilization and utilization efficiency, improve human resource development, management and governance, enhance infrastructure and system development, and enhance communication, collaboration and partnership are well aligned with HSTP strategic objectives, viz. enhance good governance, improve logistic supply and management, improve resource mobilization, improve development and management of human resource for health, and enhance policy and procedures. EPHI's strategic plan was also found consistent with sustainable development goals that are applicable to the health sector, i.e. the three 90s to control and eliminate HIV, in controlling TB, and the targets set on nutrition. Discussions with stakeholders also revealed that the outputs of the institute were relevant, i.e. the research outputs are used for policy, programs, and interventions as inputs, increasing quality assured laboratories is relevant/critical for giving quality assured laboratory services, and excelling in PHEM brings death and morbidity (due to public health emergency) reduction. As many stakeholders argue that EPHI's research and other initiatives should give more attention to maternal and newborn care, child health, and halting and reversing the spread of major communicable diseases such as HIV/AIDs, TB and malaria, which are highest priority areas of HSTP, and should also focus on non-communicable diseases whose prevalence have been increasing alarmingly.



### 3.3. Efficiency

Resource utilization efficiency was one of the criteria used in evaluating progress on strategic objectives and targets. The extent to which administration, financing, personnel, regulatory, time, other resources and procedures that contributed to or hindered the achievement of outputs or results were considered in assessing resource utilization efficiency.

The Institute allocated over 79% of the three years budget to program costs (see table 18). However, program costs accounted around 74% of the total expenditure during the last three years, which was fairly efficient. The fact that the institute has managed to ensure that large proportion of its funds was expended on its programmatic activities indicated some level of efficiency in resource utilization. Evaluation of EPHI's performance on several efficiency measures revealed that there was effective (optimal) use of resources. The efficiency measure being the rate of resource utilization, EPHI's progress in this regard was effective and efficient in utilizing 77% from the total budget of the last three years. Indeed, the rate of program fund utilization was fairly efficient (72%). Utilization of funds supplied by government for capital projects and donors was fairly effective 63% and 73%, respectively (table 18).

Unused (not utilized) funds could mean wastage of significant resources as donors often withdraw such funds at the end of the project cycles they financed. The low rate of fund utilization is associated with several problems, including the inadequate implementation capacity due to lengthy and inefficient procurement processes, and staff turnover owing to less competitive remuneration package. Apart from delaying progress on intended results, the delay in procurement left some major directorates with unused human and other available resources that they built over the years. The weak and manual system of stock management in the institute has resulted in procurement of goods that are already available, and wastage/expiration of others for being in stock for several months. The developed production packages couldn't finalized for dissemination as research results was a source of inefficiency as the outputs were not adequately utilized by industry as intended. Hence, the fact that the research results were not disseminated to stakeholders to inform their decision making and for industry utilization could mean wastage of resources. Staff turnover was also the other major cause for inefficiency. It is worth noting that some of the key causes that affected efficiency were beyond the control of the institute. The federal procurement laws and directives as well as the less competitive salary package offered to civil servants are believed to be the major contributories to delayed procurement processes and high staff turnover. Provision of training without adequate needs assessment and impact evaluation that is also believed to have interfered with staff normal working hours have reduced productivity. The non-utilization of available resources in stores was also source of inefficiency.

### 3.4. Sustainability

EPHI has been working to achieve its strategic objectives and realizing its mission. Sustainability of outputs and outcomes was mainly considered during the development of the various strategic objectives of the SPM. Achieving ISO accreditation on most EPHI's national laboratories, establishment of the data management center, and automating critical systems of the Institute are helpful to achieve more and more outcomes in sustainable momentum. The capacity building activities undertaken at EPHI and regional health bureaus/ public health institutes/health facilities, human resource development by supporting scientific staff to pursue further short term and long term training, and development of technical facilities that are currently available and under construction have been among the key developments in the institute to sustain the results of its intervention and continuation of its activities. The established and well-integrated surveillances conducted with regions, and PHEM interventions within the health system and participation of health work force in all health facilities in surveillance, emergency prevention and control contributes to the sustainability of public health emergencies management. The trained and experienced researchers and other professionals are also play great roles to deliver research and other outputs sustainably.

But, there are several factors that challenge the sustainability of the outputs/outcomes delivery of the institute. The challenges that hinder the sustainability of the EPHI's outputs/outcomes continual delivery are indicated below:

- As it has been examined, EPHI was donor dependent to execute its lion-sharing activities. While it is unlikely for the vast majority of EPHI's initiatives to have taken place in the absence of donor funding (if the funding has come to an end), such initiatives may not have enough financial means to run further, especially on research, laboratory and PHEM activities.
- Critical activities are not well decentralized to regions, i.e. research activities, laboratory equipment maintenance, surveillances. Even if some regions started to establish public health institute, research activities have not been decentralized and adequate capacity was not built at regions to design and implement research initiatives. The centralized research process may not be a sustainable approach to address all kinds of researches on health and nutrition issues. Therefore, building the capacity of regions in designing and implementing research initiatives/projects, and involving them in the national studies conducted by EPHI would be a wise approach for effective public health research in the country. EPHI is deploying its staffs to provide maintenance services to laboratory equipment of health facilities in the regions. Providing such services from a central location cannot be sustained for so long; partially establishment of 3 regional maintenance workshops and training of regional maintenance experts were implemented during the last three years. However, the regional laboratory equipment maintenance workshops were not fully self-sufficient. As a result, regions are still dependent on EPHI's maintenance experts. So it is important to establish regional laboratory equipment maintenance workshops in all regions and make fully functional to reach a stage where they can implement maintenance in full self-sufficiency.
- The major sources of financing for EPHI's SPM implementation (as indicated in figure 7 & table 18) were donors that covered about 71% of the total funds utilized during the past three years. Funds allocated by the government accounted for about 24% as compared to actual budget gained from aid (partners) (76%). This shows that EPHI's dependency on donor funding. This could mean that implementation of activities at the current scope and type may not be sustained when such funds will not be received as they used to be. Indeed, discussion with donor representatives has revealed that the trend has showed declining and may be decline in future funding for EPHI's programs in light of the existing international donating situation. In view of such uncertain future of donor funding, the institute need to explore options to ensure financial sustainability and staffing stability. Some interviewee recommended that the need for the institution to give as much attention to government funded projects as donor funded ones to ensure financial sustainability of the institution. The institute also give attention on time implementation of its activities effectively so as to utilize all donor resources efficiently in time and create asset for the next implementations.

*Table-18: Three years total funding sources, actual (mobilized) & utilized budget (in cash-ETB), and utilization percentage*

<b>Fund sources</b>	<b>Actual Budget</b>	<b>Utilized Budget/Expenditure/</b>	<b>Percent of actual budget from total</b>	<b>Percent of budget utilization from actual</b>	<b>Percent from Total Expenditure</b>
Partners/donors	860,990,686	626,046,402	76	73	71
Gov-recurrent	242242868	232958283	21	96	26
Gov-Capital	35131500	22131910	3	63	3
Government-Total	277,374,368	255090193	24	92	29
Donors + Gov-capital	896122186	648178312	79	72	74
Grand Total	1,138,365,054	881,136,595	100	77	100

- As many interviewees indicated, high staff turnover in both EPHI and regional governments has challenged the sustainability of achieved results. The skilled, trained and caliber professionals should be maintained by making conducive environment and attractive incentive mechanisms.

- Sustainability in increasing and maintaining of quality assured laboratories for quality testing services through SLIPTA and EQA implementation is questionable due to laboratory supplies interruption and centralized laboratory equipment preventive and curative maintenance services, as well as lack of established equipment platform.

To address critical challenges that affect sustainability, the following recommendations have been made:

- It is paramount to work towards the decentralization of research and technology transfer to regions while building enough capacity to enable them effective to engage in such activities would ensure a sustainable public health research system in the country. Strong national health research coordination and integration is expected from EPHI so as to avoid duplication of resources and efforts, and to deliver strong research outputs as inputs for evidence decision making in policy, programs, and interventions. Strong research and development (R&D) linkage should be established and make fully functional for successful production packages dissemination and full scale products production for the public/community utilization.

- The institute has to make continuous capacity building and supportive supervision for successful decentralization of quality laboratory services and implementation of SLIPTA to increase quality assured laboratories in each region. There should be well established supply chain management for laboratory supplies and spare parts and decentralized and self-sufficient laboratory equipment maintenance workshops with well-staffed at each regions, established equipment platform, established PT samples production center for sustainable EQA implementation for the sustainability of increasing quality assured laboratories and testing services.

- The achievements of PHEM results can be sustained by strengthening joint planning and progress review, continuous capacity building and supportive supervision, increased participation of communities, developing mechanisms to retain staffs at all levels, giving attention to suggestions and recommendations at each level, and identifying gaps jointly with regions. There should be PHEM centered procurement system and enough budget allocations at all administration level to sustainable preparedness and prevention focus and evidence based response and risk aversion.

- Considering the high staff turnover at all levels, continuous capacity building, supportive supervision, and mentoring for successful decentralization of all intended initiatives to regions and responsible stakeholders.

- Enhance collaboration, coordination and partnership for integrated implementation of the SPM.

### **3.5. Implementation arrangement and management**

The overall management and coordination, procurement, financial administration, and monitoring & evaluation of the implementation of the strategic plan functions are presented as follows:

#### **3.5.1. Management and coordination**

EPHI, as Federal institute and technical wing of Federal Ministry of Health (FMoH), is under direct supervision Social Standing Committee of the Parliament. It works in collaboration with regional health bureaus and regional laboratories/public health Institutes, to do on nationwide researches, quality laboratory system, and on PHEM, through which it addresses the community even if it does not have administrative relationship and line authority over regions.

The development of the strategic plan was also considered instrumental for management and staffs to think and act strategically. The SPM document has been strictly followed and implemented. The plan helped the staffs and management bodies of the Institute to work towards a common vision. It also improved allocation of resources. For some key informants, the development of the plan by itself could be recognized as a big achievement and milestone for the institute. Annuals plans and budgets were developed based on the strategic

plan. These operational plans were the base to regularly monitor implementation of the strategic plan. The attempt made to ensure the participation of different stakeholders in both planning and implementation has been commendable. The preparation of joint plans and review with regional health bureaus, regional public health institutes, and regional laboratories is also worth appreciating to decentralizing and promote sense of ownership and facilitate implementation of initiatives.

Despite the increasing and expanded activities of the institute, management and coordination has been going well for a complex public health institute that has started developing and implementing its strategic plan. The staff development initiative that has been implemented by management, though it was applicable to technical staff, was also a smart decision to mitigate the high staff turnover and the difficulty of finding and attracting capable professionals from the labor market. However, during the implementation of the strategic plan, a number of constraints and scheduling conflicts observed. Some key informants characterize the leadership and management as centralized with inadequate decentralization of power to directorates to make decisions. Results based management systems and practices need to be strengthened to ensure the implemented activities contribute to achievement of higher level outcomes or development objectives of the country. Many key informants argue that the strategic objectives and targets were too ambitious to achieve with the actual institutional capacity. The human resource and procurement challenges were not effectively addressed. Key informants argue that some researchers tended to identify projects that promoted individual rather than national interest, i.e. specific projects hampered the Institution's desire to design mega and holistic projects based on strategic initiatives as per set in the SPM. The fragmented/specific projects also constrained coordination and follow-up, and has no strong/holistic recommendation to bring solutions. Projects that were designed based on national interest were also the ones that used to get stuck when the personnel in charge has left the institute. Many directorates did not develop mega projects for strategic objectives applicable to them and coordinate their personnel for the accomplishment of the whole project and achievement of strategic objectives as per the strategic initiatives/major activities set in SPM. Many key informants argued that the problem is the lack of institutionalized mentality and system to ensure the design of projects that address national development priorities. The existence of scientific & ethical review office and the institute review board were the right for institutionalized arrangement to ensure alignment and design of mega projects that have national relevance, but it has not been functioning at a level it was supposed to function.

The gap in organizational structure of the institute was considered a hindrance to the implementation of the SPM. Even if the structure was designed following the business process re-engineering (BPR) initiative, the structure was not done in a position that address all functional entities of the institute because the BPR itself was not done exhaustively and many changes have happened following BPR initiation. The BPR revision and the institute structural arrangement was not solved as planned in the SPM so as to facilitate the implementation of the strategic plan as per intended. Even though some actions were taken by the management to address major structural problems, a well thought-out institutional structure that enabling the SPM implementation is still lacking. So it is paramount to have a well thought-out organizational structure that enables the institute to implement its strategic plan towards realizing its vision.

### **3.5.2. Logistics and procurement**

Logistics and procurement is under the supervision of the Procurement and Finance Directorate. To expedite its procurement functions, the procurement team has produced institutional annual procurement action plan document by consolidating the annual procurement action plans of user directorates/offices. But, delays in procurement have been the major challenges to the implementation of the SPM. In spite of the repeated recognition and identification of procurement as a challenge during the preparation and implementation of the SPM, still there was no major changes in inputs delivery (except increment in staffs' number) that could address the major problems. Procurement implementation was not guided in accordance with SPM,

i.e. there was no lead time management to make efficient and effective procurement, Performa procurement has dominantly been used rather than planned procurement (bulk and coordinated procurement), logistic supply interruption has not been solved yet, and lack of skilled and professional composition to handle and procure foreign laboratory chemicals, reagents, and equipment. Staff attrition, incompatible structure of procurement team vs. with high volume of the work, unfriendly policies & procedures to entertain public health emergency procurements, shortage of standard warehouse to handle reagents and chemicals with proper procedure, lack of waste chemicals and reagents disposal management system to avoid wasted/expired hazardous chemicals/reagents, and absence of proper inventory system to reduce waste due to expiry are the major challenges in the procurement and property handling system.

The system to maintain institutional memory and database to transfer to newly hired employees was weak. Due to this, staff have left the organization without transfer the knowledge and database for new staff. As the result, procurements requested or planned by directorates/offices often get forgotten when staff have left the institute. There are cases where purchases were made even if the purchased items have been already available in the store and user directorates/offices don't also follow up their purchase order which also gets untracked when the staff that made the order have left the institute. Still there is no functioning on line procurement and inventory management system. The attempts made to establish an electronic procurement and inventory/store management system in the last 3 years were not successful. As a result, a manual and traditional system that didn't go in line with the significant goods that have been managed by the procurement unit is still in use. But at the end of the 3<sup>rd</sup> fiscal year of the SPM the current manual has been started to be replaced by integrated finance management information system (IFMIS), which does easily allow what is in stock and in what quantity, the potential for resources wastage is apparent, and what is in need in what quantity. There is shortage of store, i.e. the same store is being used for goods acquired from project and government budgets; to store hazardous chemicals, other chemicals, reagents and properties. Attrition of staffs which also made the procurement unit to be with less institutional memory which ultimately contributed to delays in planned procurements. The procurement unit is not also well structured. Some key informants argue that the procurement unit has also little authority in making decisions as it is directed by line directorates in the institute. The existing procurement policy and procedure are not in a position to implement emergency procurement.

The EPHI existing organizational structure should be reviewed to ensure that procurement is given due attention so as to make effective team. The procurement team should also be strengthened by filling with different professionals that could fill the gap on PHEM, laboratory and research activities in standardizing inputs specifications and procuring chemicals, reagents and different types of laboratory equipment and medical supplies; who could also provide technical supports to each user directorates. This, among other things, may call a networked system to ensure interface, which could to let the user directorates know about the inputs on hand and under procurement processes. On top of this, the system should also allow directorates know about the time required for procurement from local and foreign sources so that they can plan ahead of time. The institute may also need to introduce a system and/or efficiently utilizes IFMIS to ensure compliance and effective utilization of standard procurement requisition, processes and delivery. EPHI needs should also advocate for special treatment and flexibility in procurement processes by working closely with the federal procurement and property administration agency to have special procurement policy and procedures for public health emergency management and implementation.

### **3.5.3. Financial management**

The financial management team is under the supervision of the Procurement and Finance Directorate and has managed both government and donors' sources funds. In managing project funds, the finance team has assigned code for each project to manage the project fund separately to respond to the reporting requirement of each donor. The team generating monthly financial reports to the government and donor funded projects depending on funders' requirements. In the last 3 years and before the team had used IBEX system, which was very supportive and used to manage government budget. Peachtree account also used to manage donor

sources. However, since the end of 2010 EFY, the institute has started to implement IFMIS so as to replace IBEX. EPHI has been audited once every year. According to the audit reports of the Federal Auditor General for the three fiscal years (2015/16-2017/18), the institute's financial management was considered adequate and compliant to the financial management proclamation and directives. There was no major findings. But, minor comments have been reported. The team has managed significant amount of donor funds, the financial management of such funds had been being done using Peachtree software.

The major challenges of the financial management activities and system were as follows:

- The low and less-competitive salary offered by the Institute, even compared to some government organizations, was blamed for the difficulty of attracting professionals and retaining competent staffs.
- Limitation in utilization of IFMIS for donor sources management (integrative).
- The existing financial management system doesn't produce financial reports by strategic objective, although the attempt made to align financial and physical performances by the plan, monitoring and evaluation directorate to produce continues monitoring report for proper financial utilization. Hence, developing a system that generates financial reports by strategic themes and objectives would be important to support informed decision making and for performance audit application.

Overall, in spite of the financial management system limitations in terms of reporting inconsistency, staff capacity, and infrastructure, the external audit reports as well as review of available documents revealed that there was basic financial oversight with requisite checks and balances being adhered, too. Systems and procedures are in place that ensures appropriate norms and standards in budget management and expenditure patterns mostly conform with and are in line with budgets.

#### **3.5.4. Planning, monitoring and evaluation**

The Planning, M&E activities of EPHI have been managed by Planning, M&E Provisional Directorate. The role of Planning, M&E Directorate is to coordinate and develop strategic plan, annual plans, and conduct monitoring and evaluation of strategy, programs, and projects/activities. The directorate also conduct supportive supervisions to verify reported figures and provide technical supports, and programs/projects evaluation. The directorate has produced institutional, directorate, and strategic objective and indicators based comprehensive progress reports in quarterly and annual bases, and technical reports of SPM/programs/projects evaluations.

Many stakeholders agreed that EPHI's M&E capability has been growing during the last three years. The directorate conducted integrated supportive supervision every year in collaboration with other directorates, which was instrumental to verify reported data, identify gaps and improve data quality and achievements of the institute. Institute level performance review and joint plan workshop (which involved regional health bureaus heads, regional laboratory/public health institutes directors and other professionals) was also conducted every year with the initiation and coordination of the directorate for better achievements of the SPM, and promoting data verification and transparency. Other directorates (PHEM, Laboratory Capacity Building, Scientific & Ethical Review Office, HIV/TB research directorate, Bacteriology Parasitology & Zoology research directorate, Food Science & Nutrition research directorate, and Health system research directorate) also have made supportive supervision and mentorship at regions separately during implementation of initiatives, surveys, surveillances, and researches in order to enhance the quality and achievements of the SPM. The decision to conduct this mid-term evaluation to determine progress to date, identify constraints and review the strategic plan for the remaining two years is also a good development in the institution. Even if the Planning, M&E P/Directorate has shown its growing capability with its staff commitment, it has been working with limited number of staff with provisional directorate which restrict to hire enough number of staff. The Institutional restructuring resulting from the BPR initiative did not give much attention to the planning, M&E part. Despite the fast growing and expanding institutional mandates,

the planning, M&E was not structured in a way that responds to the expansion. The existing Planning, M&E practice is supported with provisional structure. So, it needs permanent institutionalization so as to contribute for the realization of the institute's vision at large.

While monitoring financial activities of the Institute is part of the input monitoring and evaluation activities, the communication and interface between Planning, M&E and the Procurement and Finance Directorate is weak which created difficulties to align finance and M&E. Similarly, the planning, M&E Directorate did not involve in design and approval of newly designed projects as well as financial decision making processes. The Planning, M&E Directorate should have to be involved in newly designed projects and release of funds to the implementation of the projects. The limitation of involvement in such processes hindered M&E activities as the directorate couldn't follow-up financial utilization in alignment with the physical implementation of projects that it is not aware of. While much of the Institution's funding comes from donors, there was not defined linkage and working relationship between the Planning, M&E Directorate and the management of donor funded projects. Research projects have project staff (principal investigators) under each directorate who provide report based on the Institute's reporting template and system. Project coordinators are often in charge of the overall project management (including M&E) due to lack of defined linkages between the Plan, M&E Directorate (PMED) and project coordinators in which the PMED couldn't undertake project based financial monitoring and evaluation. The PMED does not verify project progress reports submitted to donors because the structure didn't allow the PMED to follow-up projects and activities at lower levels. The fact that the projects identified and designed for implementation were too fragmented and also impediment to coordinated monitoring and evaluation. Centrally, PMED should monitor and evaluate all mega projects and programs of the institute on project based monitoring and evaluation system in close collaboration with respective directorates. Even if there are improvements in M&E data utilization from time to time, the Institute staffs (including management) have not utilized the M&E data effectively. Even if well thought planning and monitoring system growing in the institute from time to time, there was limitation in mega projects designing based on strategic objectives and strategic initiatives to bring influential evidence based information for decision making on policies, strategies, programs, and interventions. There was limitation in programs and initiatives/projects outcomes and impacts evaluations due to shortage of staffs in general.

The following measures are recommended:

- Establishing interface between the PMED system, and Procurement & Finance Directorate system and other directorates' alignment concerning mega projects designing, fund mobilization and effective utilization.
- It is important to give training on Institute leadership and management on results based management and fundamentals of Planning, M&E.
- Enhance the capacity of Planning, M&E staff by providing tailored training and further education opportunities to make them subject matter specialist that could work on research & technology transfer, PHEM and quality laboratory system and to enable them effectively discharge the responsibilities and manage/design diverse and mega projects in collaboration with other directorates. Increase Planning, M&E staff number and composition to avail multi-disciplinary technical staffs as needed by the diverse activities of the Institute, i.e. enabling to plan, monitor and evaluate research & technology transfer, PHEM, quality laboratory system, public health training, etc.
- Formalize and expand mandates, and empower the planning, M&E Directorate in the institutional structure because it has few staff that is too small in number to follow-up and evaluate the diverse and expanding programs, projects and activities of the Institute. In turn, increase integrated supportive supervision and mentorship rounds through PMED coordination for effective and efficient implementation of SPM towards realizing the vision of the Institute. This should be also done by each technical directorate for its respective activities implementation to have best quality and successful achievements.

- Strengthen the directorate to design mega projects in close collaboration with other directorates based on the strategic objectives and initiative.
- It is also critical to enhance the programs and initiatives/projects outcomes and impacts evaluations activities of the PMED through allocating funds.

### **3.6. Enabling and constraining factors for SPM implementation**

#### **3.6.1. Enabling factors for SPM implementation**

In the past three years the following were the major facilitating factors for the implementation of the strategic plan:

- Presence of strong partnership with CDC & other donors to receive ample fund to support EPHI activities, and availability of multiple stakeholders interested to work with EPHI.
- Smooth communication with partners and stakeholders.
- Presence of already established national referral laboratories, regional laboratories, hospitals and many health center laboratories.
- Improving trend of resource mobilization from government; government support and commitment in budget allocation has been increasing.
- Collaboration with other sectors, increased community participation and presence of Health Development Army.
- Joint plan and review with regions to cascade and share responsibility for effective implementation and best achievements.
- Presence of experienced and trained staff at EPHI, regions and health facilities.
- The presence of more or less working PHEM structure from central to woreda level.
- The presence of regional laboratories/public health institutes to capacitate hospital and health center laboratories.
- Presence of good and participatory BSC based SPM planning culture and experience besides the steps undertaken in the monitoring and evaluation accomplishments.
- The presence of good relationship with government and nongovernmental organization facilitates research collaboration with multi-sectorial institutions, resource mobilization, etc.
- Presence of national and international public health associations working with EPHI.

#### **3.6.2. Constraining factors for SPM implementation**

In the past 3 years, several factors constrained the implementation of the strategic plan. The major internal and external factors that constrained the effective implementation of the strategic plan include the followings:

- Unfavorable organizational structure and unsatisfied salary & incentives. The less competitive salary and incentives provided to public servants challenge to the institute that caused the loss of senior researchers and other staffs. The per diem rate for field works also very low, too.
- Shortage of infrastructures and offices.
- High staff turnover at all levels which in turn loss institutional memory. Trained and experienced staff attrition led limitation in capacity and expertise at federal, regional and lower levels.
- In most regions, variations in the manner in which PHEM, research and technology transfer and laboratory capacity building functions and structure in the regions has challenged communication and other activities of EPHI. Uniform structure could have facilitated communication and improved efficiency.
- Undeveloped communication infrastructure especially in remote areas and lower administrative units constrained timely communication and reporting of PHEs. There is also lack of electronic networking among health facilities and other stakeholders to facilitate communication.
- Inefficient inputs delivery/procurement system, and inefficient and delayed customs clearance.



- Lack of focus on strategies rather activity focused management and reporting.
- Limited implementation capacity and shortage of budget.
- Donor dependency and decreasing trend of donor funds.
- Instability conditions of the country in the last two fiscal years.
- Increasing trend in inflation.

#### 4. Lessons learnt, conclusions, and recommendations

##### 4.1. Lessons learnt

Some key lessons that have been learnt from the implementation of the strategic plan were:

- Delivering 115 peer reviewed journals and 92 research outputs in the form of technical reports. Among these the Institute managed five big surveys nationally, i.e. malaria indicator survey, Ethiopian demographic health survey (EDHS<sup>+</sup>), national emergency obstetric & new born care needs assessment (EmONC), health facilities service availability & readiness assessment (SARA), and mapping of health facilities, community based non-communicable diseases (NCD) national survey, and national nutrition program (NNP) end-line evaluation have been conducted.
- Decentralizing rabies diagnostic technique to two regions (Mekele and Bahirdar) in order to address community problem in nearby.
- EPHI has received production package utility models certificates on five developed traditional medicines, viz. for herbal compositions for controlling ecto-parasites in ruminants, herbal based anti-dermatophyte formulation, herbal based broad spectrum antimicrobial formulation, herbal based broad spectrum antifungal formulation, and herbal based water clarifying formulation.
- Having a good start to design and manage mega project, i.e. one health approach which encompassed human health, and veterinary research groups. The other one is a project grant has been won on maximization of Moringa plant utilization in which EPHI (different directorates), Addis Ababa University, Arbaminch University, and other institutes have been involved in which integrated and multidisciplinary research and production package development works have been undergoing.
- The research results that shared with stakeholders on different dissemination workshops and the general public on EPHI's website. This is a good practice that needs to be strengthened in the future.
- For proper public health emergency control and coordinated response, public health emergency operation center (PHEOC) has remained strengthened and become fully functional at EPHI.
- Scoring limited scope ISO 15189 and/or 17025 accreditation scheme for 7 laboratories (each laboratory accredited with one or more tests); five EPHI's laboratories were among the accredited ones.
- Establishing a think tank group among EPHI, Addis Ababa University and Armuier Hansson Research Institute. They have developed common road maps on: traditional medicines development, vaccines development, and antimicrobial resistance control.
- Joint review and planning workshops conducted every year with regional health bureaus/public health institutes/laboratories. Quarterly review forums for PHEM and quality laboratory system have been established and conducted. Supportive supervision and review meetings have been guiding the implementations process and improve performances.
- National public health training center (NPHTC) and national health research data management center (NDMC) have been established and became functional.
- Kaizen implementation for the improvement of laboratories and stores management efficiency.
- The establishment of regional public health institutes that have been seen in Amhara and Tigray regions is a good lesson to set regional research agenda and better align with national priorities. This practice may be scaled up in other regions. Ensuring regional health bureaus and laboratory professionals to take responsibility and ownership of the laboratory capacity building initiative was also found essential to sustain quality laboratory services.

## 4.2. Conclusions

As per the midterm evaluation findings the following summarized and thematic areas based conclusions have been made.

### 4.2.1. Summarized conclusions

The Second BSC Based EPHI strategic plan has been designed in complete alignment with the health sector transformation plan (HSTP), which has been strictly followed and implemented by cascading into annual plans. It has four strategic thematic areas and 15 strategic objectives. Strategic initiatives also set under each objective and implemented. Efforts were made in managing the institute with collective vision and gearing organizational initiatives towards achievement of institutional targets and results. The EPHI strategic plan has four pillars of excellences, which is an essential framework in providing strategic direction, allocating resources and prioritizing initiatives. The EPHI pillars of excellences are: excellence in research and technology transfer, excellence in public health emergency management, excellence in quality laboratory system, and excellence in public health leadership, management and governance.

EPHI has conducted researches and surveillances on diseases and their determinants, traditional & modern medicine, food and nutrition issues, policy and program evaluation, health system, environmental/ occupational health and their determinants, and reproductive health for generating and dissemination evidence based information for decision making and end users. Even if EPHI generated a lot of research technical reports and peer reviewed journals, it did not generate synthesized evidence based information on diseases epidemiology, prevention, control, treatment and diagnosis of key communicable and non-communicable diseases issues as per the plan for comprehensive decision making process on policy and program by decision makers. In sum, the Institute was fairly effective (only partially achieved) in generating research outputs as published articles in peer reviewed journals where as it was not effective in generating research outputs in the form of technical reports. EPHI was very effective in developing traditional medicine production packages in three years' time as per the target. As a technical arm of the Federal Ministry of Health (FMOH), the inclusion of excellence in research and technology as a strategic priority was relevant and appropriate for the institute.

The Institute has managed public health emergencies through strengthening surveillances, preparing emergency preparedness plan, early warning, rapid field assessment, outbreak investigation, prevention and control activities, monitoring, mobilization of drugs, vaccines, medical supplies, and nutritional supplements and other relevant materials as well as funds to regions in case of public health emergency to reduce morbidity and death, and increase rehabilitation/recovery. This thematic area, one of the HSTP objective, is relevant to address and reduce morbidity and mortality due to public health emergency. EPHI, together with stakeholders, was effective in weekly routine diseases' surveillance report, health outbreak investigations, on time responses, rehabilitation of affected people, and epidemics control measures. Whereas, the resource mobilization for PHE preparedness was less effective as per the requirement shown in EPRP and humanitarian requirement document in each fiscal year. Stockpiling resources (medications, equipment) were mostly done after public health outbreak observation and communication. While the institute made remarkable progress in managing PHEs, key stakeholders recommended the need to focus on prevention as importantly as control of disease outbreaks.

The Institute has worked for laboratories to implement comprehensive quality assurance measures and to achieve accreditation to international standards for capable of generating accurate and reliable information that is critical for the diagnosis of diseases, monitoring of treatment and prognosis as well as prevention at individual and community levels. SLIPTA was implemented at all tiers of the national laboratory network whereby the national and regional reference laboratories, hospital laboratories and those of Health Centers with high test volumes were given priority. The institute strategic thematic area of establishing quality

laboratory system is generally relevant to the nation as it contributes to improve health infrastructure and quality healthcare service delivery.

It is concluded that the institute was not effective in achieving SLIPTA initiative and accreditation in the three fiscal years as compared to the targets, even if there was an increasing trend. However, in the implementation of the SLIPTA program alone, EPHI did well in enabling laboratories to improve their quality through capacity building, supportive supervision and mentoring. Indeed, the numbers of laboratories that have been enrolled in the SLIPTA program, star level recognition, and accreditation were negligible as compared to the number of laboratories targeted and demand of quality laboratory/health services in the country.

The institute has formulated/ revised institutional policies, procedures, manuals and guidelines to improve its services and systems, and implemented programs/projects monitoring, mentoring and evaluation to enhance its outputs in research & technology transfer, PHEM and quality laboratory system thematic areas. Annual joint review and planning with regions, quarterly PHEM review forum, and quarterly quality laboratory system forum have been established and conducted with respective stakeholders to coordinate the implementation and enhance achievements of the SPM. Different research outputs dissemination workshops and conferences have been conducted with the management and leadership commitment to increase the outputs dissemination and utilization. Even if the review, monitoring and supervisions have been conducted as per the target, the frequencies were not enough in order to have repeated and closed follow up as in need in each region to come up with quality and intended outcomes and achieved targets.

EPHI was fairly effective in proportion of total financial resource mobilization and proper utilization of the mobilized financial resources within the 3 fiscal years (2015/16-2017/18), as compared to the planned and mobilized resources. The institute mobilized significant amount of resources from donors taking advantage of available funding opportunities for the health sector in the country as compared to government budget. The institute mobilized financial resource utilization was fairly effective and relatively increasing in 2017/18 fiscal year through execution of its activities, procurement/logistic supplies, tracking, monitoring, evaluation and inspection of programs and projects. There is a holistic approach of government and donor inputs that are much better integrated and coordinated into the overall budget of the Strategic Plan.

The management and leadership of the Institute had focused on activities rather than strategies. Limitation in implementation capacity and factors beyond the control of the institute management such as less competitive remuneration package and lengthy procurement processes constrained progress towards achieving targets set for some strategic objectives. Some initiatives were not also executed due to shortage of budget. Procurement processes were hampered by staff turnover, lengthy and inflexible procurement procedure was the major bottleneck to avail required inputs needed to effectively execute planned initiatives and strategic objectives. The less competitive salary and benefits package was another external challenge of the institute that caused the attrition of senior researchers and other key staff. It is an accepted principle that structure should follow strategy, EPHI didn't make structural review and adjustment to implement the strategic plan as envisaged. The organizational structure was not adjusted in the requirements of the strategic plan, which was another key inhibitor to the implementation of the SPM. There was less recognition of the fact that technical directorates cannot accomplish their purpose without the support of administrative staff.

The thematic areas of are part and parcels of the HSTP so that the strategic plan was found relevant and well aligned with international, national and health sector transformation priorities.

#### **4.2.2. Excellence in Research and Technology Transfer**

EPHI has conducted researches and surveillances on diseases and their determinants (majorly: TB, HIV, malaria, polio, measles, rubella, Rota virus, Influenza, Hepatitis, cholera, NTDs (rabies, anthrax, schistosomiasis, Lymphatic flariasis, Guinea-worm), non-communicable diseases (NCDs), etc.), traditional & modern medicine, food and nutrition issues, policy and program evaluation, health system, environmental/ occupational health and their determinants, and reproductive health for generating and dissemination evidence based information for decision making and end users. It has also conducted surveillances on

diseases and their determinants, drug and insecticide resistances, food and nutrition issues, reproductive health issues, maternal death, environmental tracking and climate sensitive diseases (dengue fever, yellow fever, rift valley fever). In total, EPHI had managed to publish 115 research outputs (68.5%) in peer reviewed journals, conducted 14 workshops & one scientific congress to disseminate research findings to different stakeholders, and published its biannual journal five times within the last three years. The number of published journals articles (44; 32; 39) and researchers (243; 286; 343) ratios were very low, i.e. 1:5; 1:10; and 1:10 in 2015/16, 2016/17 and 2017/18 fiscal years, respectively. In sum, the Institute was fairly effective (only partially achieved) in generating research outputs as published articles in peer reviewed journals. The Institute has also conducted research, survey/surveillances, and evaluations and generated 92 research outputs in the form of technical reports, which were also disseminated to different stakeholders within the last three years, which represents 18.5% achievement. In general, the Institute was less effective in delivering research outputs in the form of technical reports. In this concern, the number of research outputs in the form of technical reports (27; 32; 33) and number of researchers (243; 286; 343) ratios were very low, i.e. 1:10; 1:10 & 1:10 in 2015/16, 2016/17 and 2017/18 fiscal years, respectively. Even if EPHI generated a lot of research technical reports and peer reviewed journals, it did not generate synthesized evidence based information on diseases epidemiology, prevention, control, treatment and diagnosis of key communicable and non-communicable diseases issues as per the plan for comprehensive decision making process on policy and program by decision makers. As a technical arm of the Federal Ministry of Health (FMOH), the inclusion of excellence in research and technology as a strategic priority was relevant and appropriate for the institute. The Institute has only managed to prepare 4 research outcomes in the form of policy briefs and policy dialogue on 3 ones during the last three years. The institute has established national health research data management center for proper data management, evidence synthesis, translation and facilitation for evidence base decision making and utilization.

EPHI was very effective in developing traditional medicine production packages (100%) in three years' time as per the target. Five promising production packages have been developed from indigenous practices (traditional medicines) and utility models have been awarded for the institute, i.e. one, two, and two herbal medicines in 2015/16, 2016/17 and 2017/18 fiscal years, respectively. Those certificates are: herbal compositions for controlling ecto-parasites in ruminants, herbal based anti-dermatophyte formulation, and herbal based broad spectrum antimetabolic formulation, herbal based broad spectrum antifungal formulation, and herbal based water clarifying formulation. Except herbal compositions for controlling ecto-parasites in ruminants, which passed clinical evaluation, all production packages have not been finalized (not yet passed clinical evaluation) for use. The expected production packages developed from traditional medicines as well-as vaccines and Anti-Sera that have potential for commercialization and products were not disseminated because the production packages have not been finalized (not ready) for dissemination. Therefore, there was no any developed technology production packages disseminated in the form of technology briefs in an attempt to transfer the outcomes for the industries.

The EPHI has managed to produce and distribute only one rabies vaccine (Fermi type) production to save life , i.e. the institute produced and distributed 31,638 dozes (88%), 33292 dozes (92%), and 32,717 dozes (91%) for users in 2015/16, 2016/17 and 2017/18 fiscal years, respectively. It was planned to interrupt Fermi type rabies vaccine production and substituted it by cell culture rabies vaccine since the end of 2016/17 fiscal year; but still its production and distribution has been continued because cell culture rabies vaccine is not ready for production. This low progress in achieving the target set for products production was due to the cell culture rabies vaccines/other vaccines and serum production packages developments have not been finalized. The cell culture rabies vaccine development for human use reached at clinical trial stage, i.e. sample product has been produced and other preconditions have been preparing so as to conduct clinical trial.

Within the last three years, 7 types of diagnostic technologies have been evaluated and recommended for use. In light of this, the institute was not effective (20%) in achieving the target set on diagnostic technologies evaluation and recommendation for use. Whereas the evaluated diagnostic technologies scaled up and utilization in type were effective (86%) in the past three years as compared to target (percent estimated out of the evaluated diagnostic technologies in the fiscal years).

In sum, considering the rates of achievements on identified outputs indicators targets and implementation status of planned activities, EPHI was less effective in improving production packages transfer and products production (in type) and not effective (20%) in types of diagnostic technologies evaluations.

Major challenges were identified as constraints to the less effective achievement of planned targets to improve research and technology transfer. The major ones were: limitation in mega projects designing based on set objectives and initiatives, shortage of fund, shortage of caliber and skilled researchers, delayed procurement and/or unavailability of inputs for projects such as chemicals, reagents and laboratory tools, lack of intramural & extramural researches, limitation in staffs commitment (due to low salary scale & incentive scheme), and limitation in supporting and capacitating regions to do research by cascading and aligning EPHI's SPM in their local context were some of the key challenges. The target in generating research outputs in the form of technical reports was too ambitious as compared to the existing human capacity, fund mobilization as well as input delivery system/situation. The number of published peer reviewed journals were not enough as much as the generated research outputs/technical reports, information & Excellency vision of the Institute, and high number of researchers in the institute.

Lack of research and development linkage with industries, shortage of caliber professionals in traditional medicine and vaccine development, shortage of appropriate facilities for production package generation to fulfil good clinical laboratory practice (GCLP) and/or good manufacturing practice (GMP), shortage of budget & skilled researchers, lack of mega project designing, lack of research and development/industry linkage, delayed procurement and/or unavailability for project inputs such as chemicals, reagents and laboratory tools were the major challenges to deliver and disseminate production packages, and products productions (in type) for users.

The targets in generating production packages, types of diagnostics technologies evaluation, producing products types and technical reports as research outputs were ambitious as compared to the existing human capacity, laboratory set up, fund mobilization as well as inputs delivery system/situation.

#### **4.2.3. Excellence in PHEM**

The Institute has managed public health emergencies through strengthening surveillances, preparing emergency preparedness plan, early warning, rapid field assessment, outbreak investigation, prevention and control activities, monitoring, mobilization of drugs, vaccines, medical supplies, and nutritional supplements and other relevant materials as well as funds to regions in case of public health emergency to reduce morbidity and death, and increase rehabilitation/recovery. This thematic area, one of the HSTP objective, is relevant to address and reduce morbidity and mortality due to public health emergency.

EPHI, together with stakeholders, was effective in health outbreak investigations and on time responses. The rehabilitation of affected people and epidemics control measures were effective as compared to the targets, too. Proportion of health facilities reporting completeness and timeliness of weekly routine diseases' surveillance report was effective as per the guideline and increasing from year to year. There has been great improvement and achievement on priority diseases detection and reporting, alerting and following-up public health events, early verification of rumors and the occurrence of decrease outbreaks, responding to outbreak and on capacity building of professionals.

In each year epidemic preparedness response plan (EPRP) and humanitarian requirement document were developed as per the PHEM guideline. The resource mobilization was less effective as per the requirement shown in EPRP and humanitarian requirement document in each fiscal year. Stockpiling resources (medications, equipment) were mostly done after public health outbreak observation and communication.

The following limitations and challenges should be effectively addressed to have effective, efficient, sustainable PHEM implementation in Ethiopia:

- There was no vulnerability and risk assessment & mapping (VRAM) and emergency supplies delivery prior to an emergency based on threats/hazards, vulnerabilities, & consequences to manage the exposure through the prioritization and implementation of risk-reduction strategies. The failure was due to no attention, shortage of skilled manpower and budget. So there was no proper risk prediction (prior to emergency) so that it was impossible to know whether potential public health emergencies have been averted or not. There was no budget for risk assessment and public health emergency prevention due to lack of partners' direct support, i.e. most partners donated and released budget only for already occurred public health emergencies response. Except salary, there was no enough government budget allocation (at all administrative levels- from federal to woreda) for running costs especially on emergency prevention strategies/activities.
- There were limitation in leadership and coordination to mobilize and organize the existing human and other resources for effective public health emergency prediction, communication, response and rehabilitation.
- Limitation in data capturing system and documentation, data use and availability/sharing to staffs; and staffs also released without data handover. Electronic based reporting system (e-PHEM) was not established due to withdrawal of partner and less attention was given in system building.
- Limitation to have appropriate PHEM structure at all levels. There is also limitation in trained staffs at national, regional, zonal and woreda levels for proper PHEM implementation. At all levels, there was staff turnover.
- Most of PHEM activities from federal to lower government levels were donor dependent which endangers their sustainability.
- Absence of timely logistics/supplies procurement in EPHI that fit for PHEM and others related works.
- There was no any post epidemic/emergency assessment after any public health intervention had been done due to lack of attention and shortage of financial and human resources.
- The need to update and revision for the existing PHEM guideline has been suggested.
- On time written feedback on sample testing and weekly surveillance is desired by stakeholders.
- In sum, there was lack of support and intervention on public health emergency prevention as compared to emergency response and rehabilitation activities.

#### 4.2.4. Excellence in Quality Laboratory System

The Institute has worked for laboratories to implement comprehensive quality assurance measures and to achieve accreditation to international standards for capable of generating accurate and reliable information that is critical for the diagnosis of diseases, monitoring of treatment and prognosis as well as prevention at individual and community levels. SLIPTA was implemented at all tiers of the national laboratory network whereby the national and regional reference laboratories, hospital laboratories and those of Health Centers with high test volumes were given priority. The institute strategic thematic area of establishing quality laboratory system is generally relevant to the nation as it contributes to improve health infrastructure and quality healthcare service delivery. But, considering the current level of achievement, the targets set for the strategic results identified under this strategic theme can be considered ambitious.

The institute has set the target to enable hospital and regional laboratories with star 3 to 5 levels quality and accomplished 10(5.5%), 15(5.8%), and 29 (11.2%) cumulatively in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. SLIPTA was also implemented by regional laboratories to enable health centers

laboratories with star 1 to 5 levels and accomplished 120(4%), 340(11%), and 103(3.33%) cumulatively in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. In three years, seven laboratories have been accredited in limited scope ISO 15189 and/or 17025 accreditation scheme, which accounts 4% achievements from the 3 years targets.

In Ethiopian laboratories of all tiers have been striving to implement laboratory quality management system (LQMS) over the past 3 years that 50.2%, 66%, and 69 % laboratories implemented LQMS in 2015/16, 2016/17, and 2017/18 fiscal years, respectively. All tiers of laboratories have also implemented external quality assessment (EQA) and the result was 65.3%, cumulatively, in 2017/18 fiscal year. EPHI has capacitated national clinical and public health reference laboratories and additional 20 (80%) health facilities for detection and characterization of epidemic prone disease and other diseases of public health importance. The institute had performed referral and back up testing services for more than 206,322 tests in the past 3 fiscal years.

It is concluded that the institute was not effective in achieving SLIPTA initiative and accreditation in the three fiscal years as compared to the targets, even if there was an increasing trend. However, in the implementation of the SLIPTA program alone, EPHI did well in enabling laboratories to improve their quality through capacity building, supportive supervision and mentoring. Indeed, the numbers of laboratories that have been enrolled in the SLIPTA program, star level recognition, and accreditation were negligible as compared to the number of laboratories targeted and demand of quality laboratory/health services in the country. Laboratory quality management system (LQMS) implementation of all tiers over the past 3 years was fairly effective as per the target. The external quality assessment (EQA) implementation achievement also fairly effective against the target set.

The following challenges and limitations should be effectively addressed to have effective, efficient, sustainable quality laboratory system (laboratory accreditation, EQA & referral testing networking) implementation and successful achievements in Ethiopia:

The limitation in human capacity, structure and leadership commitment (at all levels) to achieve the ambitious targets, absence of continuous laboratory supply and equipment management system, staff attrition at all levels and limitation in ownership to handle quality assurance (QA) initiatives at regional level, instrument calibration and traceability problem, shortage & competency problem of mentors and weak monitoring and feedback mechanism of laboratory services between EPHI and regional health bureaus as intended were the major challenges that affected the effectiveness of SLIPTA and accreditation implementation during the last three years.

Lack of functional EQA rechecking database for data capturing and availability, absence of data recording & follow up for laboratories below 5% service interruption rate due to equipment failures and/or supply stock outs, failed to establish ISO17043 standard EQA PT samples preparation center as expected by donor to be self-sufficient and supply all proficiency testing (PT) samples for all laboratories in the country before the program phase-out, failure in establishing and strengthening equipment maintenance workshops in each region to have decentralized and self-sufficient maintenance center at each region as per the plan, and failure to organize laboratories with electronic laboratory information system as plan were the major limitations in strengthening EQA and LQMS in the country. Shortage of trained expertise & office arrangement for PT production, management and availability in the country for different test disciplines, lack of supplies for PT production in the local market, unsuitable structural arrangement of EQA team to function as the anticipated activities, shortage of budget for IEQAS PT procurement, and trained staff attrition were also the major challenges in effecting the EQA. There was no attention to do test menu standard for health facilities (from the point of quality laboratory testing services) and follow up their implementation as per established standard, and missing to capture data and follow up for test service provision for national, regional and international referral network system at all times for epidemic prone and other disease of public health

importance were the major limitations. Shortage of logistic supplies and trained laboratory professionals, and cold chain problem during postal transportation of samples were also the major challenges to realize laboratory referral system.

#### 4.2.5. Excellence in Leadership, Management and Governance

Excellence in leadership, management and governance is the critical thematic area that create enabling environment for the successful implementation of the three core thematic areas through availing infrastructure, having motivated and skilled human resource, creating well developed system, efficient coordination and collaboration with stakeholders. So, leadership, management and governance being a backbone for the implementation of the SPM, putting it as a priority and critical direction was important.

The institute has formulated/revised institutional policies, procedures, manuals and guidelines to improve its services and systems, and implemented programs/projects monitoring, mentoring and evaluation to enhance its outputs in research & technology transfer, PHEM and quality laboratory system thematic areas. Annual joint review and planning with regions, quarterly PHEM review forum, and quarterly quality laboratory system forum have been established and conducted with respective stakeholders to coordinate the implementation and enhance achievements of the SPM. Different research outputs dissemination workshops and conferences have been conducted with the management and leadership commitment to increase the outputs dissemination and utilization.

Even if the review, monitoring and supervisions have been conducted as per the target, the frequencies were not enough in order to have repeated and closed follow up as in need in each region to come up with quality and intended outcomes and achieved targets.

EPHI was fairly effective in proportion of total financial resource mobilization and proper utilization of the mobilized financial resources within the 3 fiscal years (2015/16-2017/18), as compared to the planned and mobilized resources. The institute mobilized significant amount of resources from donors taking advantage of available funding opportunities for the health sector in the country as compared to government budget. The institute mobilized financial resource utilization was fairly effective and relatively increasing in 2017/18 fiscal year through execution of its activities, procurement/logistic supplies, tracking, monitoring, evaluation and inspection of programs and projects. There is a holistic approach of government and donor inputs that are much better integrated and coordinated into the overall budget of the strategic plan.

The management and leadership of the Institute had focused on activities rather than strategies. Most agreed that the SPM document is overstretched hence there were difficulties and challenges during the implementation phase of the SPM due to insufficient number of capacitated and experienced human resource, low salary with insufficient motivation mechanism which brought high attrition of experienced senior technical persons, and financial & logistic constraints.

There was limitation in organized resource mobilization approach so that a lot of targets and activities were remained at low performance and untouched due to the scarce resources. Resource mobilization strategy was not developed as well as there was no an organized and integrated approach of mega projects proposal development and resource mobilization. Even if 72-79% of the Institute financial source were donors, partners were not on board (no established forum with them) in due course of the implementation of the SPM to fill the gaps in logistic and finance in order to maximize the support utilization from partners. The lion-share of the EPHI's strategic initiatives have been financed by donors and the institute has also managed to develop its institutional capacity and technical facilities by mobilizing funds from donors, which are critical to sustain its activities and outputs and to realize its mission and vision. On other side, the much reliance on donor funds may not be a sustainable approach while considering the declining trend of donor funding and the increasing financial requirement to implement the strategic objectives and initiatives of the institute.



There is basic financial oversight with requisite checks and balances being adhered to. Systems and procedures are in place that ensure appropriate norms and standards in budget preparation and management, and expenditure patterns mostly conform with and are in line with budgets. However, the existing financial management system doesn't produce financial reports by strategic theme, objective, and initiative.

The institute had procured a lot of inputs and services in each year to execute its programs and projects through strengthening the human resource through recruitment and project support. However, in most cases there was poor procurement lead time management, Performa procurement has dominantly been used rather than planned procurement (bulk and coordinated), logistic supply interruption was high to handle and procure foreign laboratory chemicals, reagents, & equipment that in turn hampered the initiatives/activities achievements. Absence of proper inventory system and management affected the logistic and procurement system negatively. The existing procurement process has unfriendly policies & procedures to manage public health emergency procurements and logistic supplies.

Limitation of clear understanding in partners' role and responsibility was believed to hinder the effectiveness of collaborative efforts. There was also limitation in responsibility and accountability that should be clearly indicated between the EPHI and regional health bureaus/public health institutes. Even if staffs recruitment had been done well, human resource development strategy has not been developed as envisaged so as to have appropriate human resource and knowledge management. There was limitation in knowledge and human resource (especially seconded personnel) management and utilization. Long & delayed stay at university without graduating, less staffs satisfaction & commitment due to low salary and incentives scheme, and high staff turnover were also the major challenges. Even if there was high number of professionals trained in short term training in the health sector there was no evaluation and follow up for the impact and practicality of the training.

The organizational structure put in place for institute has less suitability to support the implementation of the strategic plan. Limitation in linkage and interface among the Institute's directorates/offices hindered efficiency, collaboration, coordination, and communication. There were Limitation in data capturing, organizing, documentation and sharing at all levels. There was no action oriented mitigation efforts for poor performance in addition to limitation in encouraging good accomplishments through acknowledgments and rewards; otherwise the monitoring effort is simply for reporting purpose.

### **4.3. Recommendations**

The midterm evaluation has indicated performed and as well as ambitious targets to perform. This mid-term evaluation identified areas of good progress to date, as well as many areas that need improvement and strengthening so as to achieve the planned objectives and targets until the end of the strategic year (2019/20). There is no significant conditions to change on the thematic areas and strategic objectives for the remaining short period of the SPM rather it is important to see the targets and adjust for implementable levels in the remaining period of the SPM, which covers from 2018/19-2019/20 fiscal years. The main general and strategic priority specific recommendations for the remaining period of the SPM are indicated as follows:

#### **4.3.1. General recommendations**

- As the EPHI strategic plan had been prepared in alignment with the HSTP, the review and adjustment of the EPHI's SPM based on this mid-term evaluation should also consider the HSTP midterm evaluation that has been undertaken by FMOH so as to ensure the strategic priorities, objectives and initiatives are relevant and well aligned to continue with that of the HSTP.

- Jointly working with stakeholders such that regional health bureaus/laboratories/public health institutes, partners and others in planning, implementation, and performance reviews is highly recommended to ensure ownership, facilitate implementation and cascading of the strategic plan, and ensure its achievements.
- EPHI is recommended to increase deliverables of more research outputs in the form of technical reports & peer reviewed articles, translated evidence based information, developed and disseminated production packages, and products through designing & implementing multidiscipline mega projects, strong collaboration & partnership, strong fund mobilization, enhancing staffs commitment & capacity, fulfilling appropriate infrastructure and inputs.
- The Institute as well as the stakeholders/partners should pay attention on prevention as importantly as control of disease outbreaks/public health emergencies response and rehabilitation activities for sustainable control of public health emergency. It is important to strengthen appropriate emergency preparedness and establish social/Pool fund to have sustainable resource mobilization for planned prevention and response actions.
- For effective, efficient, and sustainable implementation of initiatives to increase quality assured laboratories and services towards achieving outputs should be optimized as per the existing demand (number of laboratories in the country), capacity, leadership and resource availability at each level. It is also critical to increase professional and leadership commitment, improving incentive mechanism to reduce staff attrition and increase skilled/caliber professionals, allocating enough resources and properly cascading the quality assure (QA) initiative/program to increase ownership at head office, regional level and in-turn increase number of accredited laboratories alarmingly to have quality-assured laboratory health services throughout the country as demanded.
- In sum, for the effective and efficient implementation of the SPM to achieve its objectives and targets it is important to have conducive structure & infrastructure, committed skilled & incentivized human resources, and sustainable fund mobilization to secure budget and so as to increase outputs achievements and minimize donor dependency, and committed leadership and management that focus on strategic targets towards realizing vision. It is paramount to have effective and efficient procurement and logistics system that entertains public health emergency and some laboratories unique chemicals/reagents procurement, too.

#### 4.3.2. Excellence in research and technology transfer

For effective, efficient and sustainable generation, dissemination and utilization of research and technology transfer outputs in the form of evidence based information, production packages and products for policy, programs and intervention inputs and users the following recommendations have been forwarded:

- It is paramount to design and implement national important mega projects that accommodate at least one or more initiative(s) such as diseases research and their determinants, traditional & modern medicine research, food & nutrition research, policy & program evaluation, health system research, environmental, occupational health & their determinants research, and reproductive health researches, etc. This approach helps to mobilize fund and implementation in an organized way. Enhancing the researchers' project designing and management capacity through training and implementing appropriate incentive mechanism is highly recommended.
- The researchers should also be committed and focused to deliver research outputs that influence policies, programs and interventions impacts on public health, nutrition and environmental issues. It is also important to increase staffs commitment through salary scale & incentive scheme improvement.
- It is important to promote and enhance intramural & extramural approaches to do more researches in collaboration with universities, regional laboratories/public health institutes and other Institutes.
- Supporting and capacitating regions to do research by cascading and aligning EPHI's SPM in their local context is paramount.

- The research output target, in the form of technical reports should be readjusted to achievable level based on the human capacity, fund mobilization and overall project execution capacity of the institute. Quality enough standardized and reliable information on trends of priority diseases, their epidemiology and behavior and anthropology/socio-culture determinants, and on nutrition issues should be generated, organized, well managed and published in high impact peer reviewed journals in more amount to assure the institute excellency in research.
- The Institute should give attention to bring strong researchers' commitment, attention and ownership to deliver translated evidence based synthesized information so as to come up with highly utilized evidences by decision makers, professionals, and practitioners at international, national, regional, and woreda/health facility levels. It is also important to follow and evaluate the extent of evidence base information utilization and its impact in detailed manner. Increased efforts should be made in the remaining period of the strategic plan to prioritize and address critical research initiatives/activities.
- Concentrated efforts are required in developing well organized and appropriate dissemination mechanisms to reach policy makers, relevant stakeholders and the community in the remaining years. EPHI may also need to intensify its efforts to improve the dialogue with the policy makers.
- There should be effective and efficient production packages delivery and promotion for industry inputs for production, and creating strong research and development (R&D) industry linkage also important for sustainable production packages generation, dissemination and utilization. It is critical to have quality assured laboratories to ISO standard laboratory set up that fulfil good clinical laboratory practice (GCLP) and/or good manufacturing practice (GMP) for production packages & products utilization. Capable formulation experts, vaccinologist, and other caliber professionals are in need to generate, disseminate and produce production packages and products.
- The demand for production packages, products and their cost effectiveness should be studied in detail because the investment is too high to return and **compensate**. **Targets should also be** optimized to achievable level based on the available facilities, human capacity, secured budget and overall project execution capacity of the institute.
- Diagnostic technologies adoption, evaluation, scaling up and utilization should be given great attention so as to bring quality assured laboratory testing services in the country. It should be done through studying, standardizing, and using integrated/holistic approach. Its impact should also be evaluated.
- It is important to have at least equivalent salary scale and improved incentives to fully engage researchers in the research projects in focused manner and strengthen the existing staff development practice to mitigate the attrition of senior research staffs.
- The institute has to coordinate/oversee the overall public health research activities in the country to improve efficient utilization of research results and avoid duplication of resources and efforts. It is paramount to strengthen the established national health research data management center as given the first priority in this regard. On top of that national health research agenda should be set with public health relevance through seamless coordination with FMOH, regional health bureaus and other stakeholders. More efforts and resources may also need to be allocated to communication and outreach. Strengthening internal collaboration among the various directorates is also critical to do effective research work.
- EPHI should establish annual public health research forum with regions and other stakeholders to harmonize health research in the country and review completed, ongoing, new proposals of health researches to ensure relevance, reduce duplication of work, improve cost-effectiveness, and secure the support of stakeholders. The national guideline for research should be developed and disseminated, which is considered as part of coordination and capacity building initiative.
- It is important to review the organizational structure of the research wing to ensure effective and efficient systems that enhance the institute achievements.

#### 4.3.3. Excellence in public health emergency management (PHEM)

For proper and sustainable implementation of PHEM the following recommendations have been indicated:

- It is recommended to have proper public health risk assessment and prediction in each year and proper

prevention should be designed and implemented to avert the potential risks. It is paramount to have enough budget and skilled/caliber personnel to conduct vulnerability assessment and risk mapping (VRAM) for on time preparedness, early-warning, availing emergency supplies, and risk mitigation. So that public health risk profile data base should also be developed and mapped, stock piled and mobilized resources to avert the risk (s) or manage the crisis in sustainable and planned bases. Therefore, it is important to mobilize (from government and partners) and allocate enough budget so as to do planned VRAM, public health emergency prevention, risk reduction, control and response.

- There should be organized and integrated leadership and coordination at each level for proper public health emergency management from national to grass root level for effective and efficient resource mobilization and organizing the existing human and other resources for effective public health risk prediction, communication, response and rehabilitation.
- It is paramount to give leadership and staff attention and commitment at all levels from national to community to establish workable community surveillance system to make effective community surveillance, outbreak response and prevention. EPHI should emphasize community surveillance through mobilizing and increasing community participation.
- There should be strong rapid assessment/outbreak investigation, quarantine & isolation centers, public health emergency operation centers in each region, case management, health information and communication system, and have effective and efficient PHE control and prevention measures.
- Workable PHEM structure should be in place, at all levels. There should be enough trained staffs at national, regional, zonal and woreda levels and maintaining them by devising incentive mechanisms to have effective PHEM implementation at all levels.
- Most of PHEM activities from federal to lower government levels are donor dependent which endangers their sustainability. Hence, EPHI needs to work with the relevant federal and regional bodies to increase their budget for PHEM activities and develop other mechanism to resource mobilization. In addition, it is paramount to establish properly managed PHEM pool fund so as to have sustainable and enough resource for PHEM.
- Establish and implement effective and efficient logistics/supplies procurement system that is applicable for evidence based, planned, organized and sustainable and proper public health emergency management at all levels in the country.
- Weekly routine diseases' surveillance report completeness and timeliness from health facilities should be further strengthened by establishing strong e-PHEM system. Data capturing system and documentation, data use and availability/sharing and handling should be effective and sustainable by implementing appropriate e-PHEM networking. To this concern, allocate adequate budget for PHEM and follow up DHIS2 implementation by dedicated staff.
- There should be also proper post epidemic/emergency evaluation after public health emergency interventions to learn from strength, weakness/failure and good practices/success for the next public health risk identification, preparedness, communication, response and rehabilitation.
- EPHI should update/revise and make avail the PHEM guidelines referring the recent conditions of PHEM in accordance with the number of health facilities in the regions as per the suggestion to update the existing guideline.
- The provision of on time written feedback on sample testing and weekly surveillance data analysis is also desired by stakeholders. EPHI needs to improve the timeliness, accuracy, and clarity of laboratory confirmation/feedback.
- The Institute as well as the partners should pay attention on public health emergency prevention activities as equal as PHE response and rehabilitation activities.

#### **4.3.4. Excellence in quality laboratory system**

For effective, efficient, and sustainable implementation of quality laboratory system the following recommendations have been indicated:

- The targets should be optimized as per the existing demand (number of laboratories in the country), capacity, leadership and resource availability at each level.

- It is also critical to increase professional and leadership commitment, improving incentive mechanism to reduce staff attrition and increase skilled/caliber professionals, allocating enough resources and properly cascading the quality assure (QA) initiative/program to increase ownership at head office, regional level and in-turn increase number of accredited laboratories alarmingly to have quality-assured laboratory health services though out the country as demanded.
- It is paramount to enhance functional interfaces among the laboratory system, clinical services, PHEM system and health researchers at large to come-up with quality diagnostic laboratory services, quality public health laboratory services and laboratories that generate quality data for health research outputs.
- It is advisable to establish ISO17043 standard EQA PT samples preparation center at EPHI by arranging sufficient facility and allocate sufficient budget, and prepare and supply PT samples continuously for all laboratories in Ethiopia for sustainable EQA implementation and accreditation processes.
- Restructuring the EQA team, assign well trained personnel, arranging international training and experience sharing for PT production, establishing laboratory information system for high load laboratories/health facilities, establishing data bases for EQA rechecking laboratories to capture data and analyze for actions, and establishing/strengthening fully functional equipment maintenance workshops in all regions to make the regions self-sufficient and enabling to cascade and maintain by their own are also critical actions to be taken for laboratories to implement all essentials of laboratory quality management system. The regions should not be depend on EPHI for equipment maintenance rather they should own the work and decentralized completely.
- It is critically paramount to build the necessary capacities at all tiers or facilities to enable them provide the expected testing services rather than relying on referral and backup support systems.
- It should be given attention to establish test menu standard for health facilities based on quality laboratory testing services and follow up their implementation as per established standard, collect data for test service provision on national, regional and international referral network system at all times for epidemic prone and other disease of public health importance for decision and critical support. There should be also continuous logistic supplies and incentivized trained laboratory professionals to have an uninterrupted test service provision for national, regional and at each tier level referral network system at all times for epidemic prone and other disease of public health importance.
- Over all implementation of quality laboratory system has depended on donor resources at all level/ laboratory tiers/, the resource in-turn showed decreasing trend that highly affects quality laboratory system implementation effectiveness and sustainability negatively (it may lead to cease). So it is important to work hard on project design for effective fund mobilization and security to sustainable the quality laboratory implementation.

#### 4.3.5. Excellence in leadership, management and governance

EPHI has been playing in managing and leading its core mandate areas nationally, viz: research and technology transfer, PHEM, and quality laboratory system. To realize its mandates EPHI could come up with organized public health leadership, management and governance to create enabling environment for the successful implementation of the three core thematic areas through availing infrastructure, having motivated and skilled human resource, creating well developed system, efficient coordination, collaboration, and partnership with stakeholders. To make leadership, management and governance more effective the following recommendations have been forwarded:

- The management and leadership of the Institute should focus on strategies rather than activities. Most agreed that the SPM document is overstretched hence there were difficulties and challenges during the implementation phase of the SPM due to: insufficient number of capacitated and experienced human resource, insufficient motivation mechanism hence there was high attrition and turnover of experienced senior technical persons, and financial & logistic constraints.
- Resource mobilization should be lead in an organized and integrated approach by implementing resource mobilization strategy and mega projects designing and implementations. It is advised to explore options to ensure financial sustainability taking into consideration the current declining trend of donor funding by advocating for budget increment from government, maximizing resource mobilization from competitive

grant and improving efficiency in resource utilization to build institutional capacity to design and implement mega projects that address multi-disciplinary issues that maximize impact and increase internal income generation. This helps to reduce donor dependency and there by increases to give emphasis equally on achieving all strategic objectives, initiatives, and strategic results/targets. Reducing donor dependency could also help to reduce the current skewed emphasis on particular diseases/areas at the cost of other important ones that often fail to attract partners' interest (particularly in developing production packages). The institute should increase its effectiveness mobilized financial resource utilization through effective execution of its initiatives/activities, and delivering inputs procurement/logistic supplies on time.

- Systems and procedures are in place that ensure appropriate norms and standards in budget preparation and management, and expenditure patterns mostly conform with and are in line with budgets. However, the existing financial management system doesn't produce financial reports by strategic themes, objectives, and initiatives. So, generating financial reports by strategic themes, objectives and initiatives would be important to support informed decision making. It is important to integrate IFMIS for donor funded projects, providing capacity development for staff to strengthen the financial management system and interface with plan, monitoring & evaluation of the institute.

- The institute had procured a lot of inputs and services in each year to execute its programs and projects through strengthening the human resource through recruitment and project support. Still procurement (to deliver inputs and services) remained the major limitation and bottleneck of the institute to achieve its targets. So the existing organizational structure needs to be reviewed to ensure that procurement is given due attention and decision making power. The procurement unit should be strengthened so as to ensure that the procurement issue could be solved permanently and sustainably. The interface between the procurement unit and user directorates should be strengthened by using online networked procurement information system and inventory system, which allows the users to know about the materials on hand and under procurement processes, and the time required to deliver local and foreign sources. The bulk (open bid) procurement should be well organized promoted and procurement lead-time should be strictly followed to deliver inputs on time. Performa procurement should be discouraged. Strengthen kaizen and the integrated financial management information system (IFMIS) implementation, developing standard operational procedure (SoP) to track procurement pipelines, strengthen inventory system and implementation, and applying especial procurement/logistics for public health emergency management endorsed by the federal procurement and property administration agency are the critical turning points to have effective and efficient procurement/logistic system; in turn to enhance effective financial utilization and implementation of the strategy.

- For further strengthening of EPHI collaboration and partnership with local, regional and international partnership towards achieving the mission and vision of the Institute, EPHI could conduct targeted international, regional and local collaborations and partnerships in an organized approach by assigning responsible directorate/establishing new one/. Hence, there should be frequent communication and also clear demarcation of responsibility. Clearly defining the roles and responsibilities of EPHI and its collaborators/partners by holding joint rigorous discussions is important to achieve better results from the collaborative/partnership works. It is important to coordinate health research nationally by establishing and organizing national review forum to avoid duplication of efforts and resources. It is also important to strengthen the established National Health Research Data Management Center for organized data organization, analysis, synthesis and translation for evidence based decision making at all levels.

- EPHI has tried to promote its activities and objectives through different media. But, the promotion remained with a lot of limitation as per the Institute's huge national objectives and many deliverables in supporting the health sector's programs by generating and disseminating evidence based information, giving PHEM, establishing quality laboratory system and giving quality laboratory services in the country. It is high time to develop and implement communication strategy based on different target audiences so as to properly promote and publicize the institute's objectives, programs, activities and achievements in planned, continuous and professionally designed way. It is important to give attention and fulfill all the necessary inputs, facilities (mainly studio facility and printing press) and budget and skilled/mixed professionals so

as to make the public relation fully functional public promoter of EPHI.

- There should be strong linkage and interface among the Institute's directorates/offices to increase working efficiency, collaboration, coordination, and communication. There should be strong data capturing, organizing, documentation and sharing at all levels.
- Even if staffs recruitment had been done well, human resource development strategy has not been developed as envisaged in SPM so as to have appropriate human resource and knowledge management. Human resource development strategy should be developed by identifying human resource gap so as to make the institute effective, efficient, and result oriented. Staffs should get high level short term trainings abroad in order to gain skill and experience. It should be made that the staffs must finalize their post graduate within the intended period and staffs that have given relatively long service years should be given priority to learn as incentives. The institute should strive to have endorsed new salary scale and incentive scheme from the government for increasing staffs' satisfaction & commitment so as to reducing staff turnover; in-turn to maximize the SPM achievements. The directive and standard training manuals should be finalized and used as the guiding documents so as to make the public health training center operational system effective. The impact and practicality of the short term training should be monitored and evaluated and then the training should be given based on the gap and its effectiveness. There should be effective and efficient knowledge and human resource management and utilization.
- The organizational structure put in place for institute (as stated in the 'weakness' SWOT part during SPM design and to be corrected for effective SPM implementation) has less suitability to support the implementation of the strategic plan. Reviewing the existing organizational structure in line with the requirements of the strategic plan is highly recommended to facilitate its implementation. In addition, considering the fact that the institute's mandate has expanded after the BPR and the line directorates are overburdened, the manner in which the current line directorates are structured may need reconsideration. Some key informants even suggested the need to have a longer vision and upgrade the existing directorates into institutes where EPHI becomes a collection of those institutes.
- There should be action oriented mitigation efforts for poor performance and encouragement for good accomplishments through acknowledgments and rewards so as to encourage the monitoring and evaluation system of the institute. Evaluation of the programs, and initiatives/projects should be conducted by strengthening Planning, M&E Directorate with human resource and budget.
- The information communication technology (ICT) capacity of the institute is not in a position to carry the burden/workload and it could not support the intended ICT demand of the Institute. So that the ICT should be organized and applied in an effective utilization to streamline business processes such as National Health Research Data Management Center, logistics management, financial management, monitoring and evaluation, PHEM, laboratories, National Public Health Training Center and so on.
- As part of institutional capacity building, the institute should give attention to address shortage of infrastructure, i.e. constructing office space, laboratories, PHEOCs, warehouse and renovation of the existing buildings.
- Based on the existing human resource, budget, infrastructure and other capacities, and as well as the effectiveness so far; it is important to decide on feasible strategic initiatives, indicators, and targets to be continue in the remaining implementation time of the SPM.

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## 6. Annexes

### Annex-1: Evaluation Framework Matrix

Evaluation Parameter	Evaluation Questions	Judgment Criteria	Preliminary Indicators	Data Sources
Relevance	What has changed in the national environment since 2015 that could affect the activities of EPHI? Which changes are relevant?	Extent to which changes in the external environment affected implementation of the strategic plan	Evidence demonstrating changes in the external environment	Desk research and review of relevant policy and strategy documents of the federal government and other international organizations
			Stakeholder's perceptions about those changes and their impact on implementation	Stakeholder interviews
	To what extent are the strategic priorities and objectives relevant to the priorities and needs of the country	Extent to which the strategic objectives and priorities are consistent with federal government policies and strategies and that of other relevant international organizations	Evidence demonstrating alignment of strategic priorities and objectives with that of federal government policies and strategies	Desk research and review of evidence and rationale for setting objectives and priorities
			Level of consultation with other stakeholders during planning and implementation	Desk research and stakeholder interviews
			Stakeholder's perceptions as to whether the strategic objectives address the needs and problems of the country in the area of Health	Stakeholder interviews
			Type and number of priority actions for the Annual Operation Plan that have been implemented since 2015	Desk research and review of annual work plan
	To what extent do the strategic actions in the Annual Operation Plans ensure their relevance in relation to the strategic objectives set in the strategic plan?	Extent to which the rationale and criteria behind the selection of the number and type of strategic actions is appropriate to ensure sufficient coverage of the strategic objectives	Stakeholders' perceptions (and their level of awareness) of the rationale and criteria of the priority actions	Stakeholder interviews
			Level of consistency between strategic actions and strategic objectives	Desk Research and mapping of strategic actions with strategic objectives
		Extent to which all strategic actions in the Annual Operation Plan	Level of consistency of strategic objectives/results and strategic actions	In-depth study of planned actions
			Stakeholders' perceptions (and their	Stakeholder

Evaluation Parameter	Evaluation Questions	Judgment Criteria	Preliminary Indicators	Data Sources
		contribute to the achievement of the strategic objectives	level of awareness) on whether priority actions in the annual work plan contribute to the achievement of the strategic objectives	interviews
<b>Effectiveness</b>	What progresses have been made in achieving the strategic objectives and implementing planned activities?	Extent to which the activities implemented have achieved the strategic objectives to date	Evidence demonstrating outputs / results of the implemented actions to date (as per annual reports) are contributing to / in line with strategic objectives	In-depth study of annual reports and other related documents
			Stakeholders' perceptions of the results so far of the activities implemented in achieving the strategic objectives to date	Stakeholder interviews
		Main achievements and contribution to national development goals	Evidences demonstrating results of the strategic plan contributed to national development goals	Desk review of national development goals and indicators and mapping strategic plan results to such goals and indicators
	To what extent does the involvement of the relevant stakeholders lead to the delivery of high quality outputs and ensure their uptake?	Extent to which the involvement of relevant stakeholders led to the delivery of high quality outputs and ensure their uptake	Degree and nature of stakeholder involvement in the process	Review of the documentation available on stakeholders' participation (MoUs, meeting minutes etc.)
			Stakeholders' perceptions whether their involvement contributes to the delivery of high quality outputs and ensure their uptake	Stakeholder interviews
	<b>Efficiency</b>	To what extent is the spreading of funds over strategic objectives and priority actions a good basis for an efficient implementation of the strategic plan?	Extent to which the spreading of resources over strategic objectives and priority actions a good basis for an efficient implementation of the strategic plan?	Type and number of resources used across general objectives and priority actions
Stakeholders' perceptions of the appropriateness of spreading of resources across strategic objectives				Stakeholder interviews

Evaluation Parameter	Evaluation Questions	Judgment Criteria	Preliminary Indicators	Data Sources
			and priority actions  Stakeholders' perceptions on the efficiency surrounding the implementation of the strategic plan	
	What challenges and obstacles were faced in the implementation of the strategic plan that might have affected efficiency?	Extent to which the strategic plan faces challenges and obstacles that affect its implementation and management	Evidence demonstrating challenges/obstacles affecting implementation of the strategic plan	Desk research
			Stakeholders' perceptions on the challenges/obstacles affecting the implementation and management of the strategic plan	Stakeholder interviews
	How might the efficiency of the strategic plan implementation be improved regarding: the number of priorities; the available resources (financial and human); the various financial mechanisms; the established procedures; and the intended results?	Extent to which there is scope to improve the efficiency of the strategic plan implementation.	Evidence demonstrating (examples) where efficiency gains might be achieved	Desk research
			Stakeholders' perceptions of the areas for improvement of the strategic plan implementation efficiency	Stakeholder interviews
		Extent to which proposed improvements are feasible / are likely to increased efficiency	Stakeholders' perceptions on which improvements are feasible and are likely to lead to increased efficiency of the strategic plan	Stakeholder interviews
	To what extent are the Monitoring and evaluation system and processes and resources sufficient and adequate to capture implementation progress and finally to incite stakeholders (internal and external) to make use of	Extent to which monitoring and evaluation system and processes and resources are adequate to track progress and inform decision making	Type and nature of existing monitoring processes and resources	Desk research and assessing the capacity of existing monitoring and evaluation system
			Level of resources dedicated to M&E	
		Extent to which indicators are appropriate and relevant for effectively	Stakeholders' perceptions of the adequacy / success of the monitoring and evaluation system and processes and resources	Stakeholder interviews
			Evidence (examples) demonstrating where indicators are appropriate and relevant for effectively monitoring and evaluating progress	Desk research
			Stakeholders' perceptions of	Stakeholder

Evaluation Parameter	Evaluation Questions	Judgment Criteria	Preliminary Indicators	Data Sources
	them?	monitoring and evaluating progress Extent to which the data generated by the monitoring and evaluation system is complete, clear, and useful in order to incite stakeholders to make use of them	the appropriateness and relevance of monitoring and evaluation “indicators” Levels of completeness, clarity and usefulness of the monitoring data	interviews Review of monitoring data with a view to their completeness, clarity and usefulness
<b>Implementation Arrangement, Governance, Management and Partnership</b>	How well did the partnership, implementation, governance and management arrangements work and how they develop over time.	How effective and efficient was the implementation, governance and partnership arrangement? To what extent has coordination and collaboration improved during the last three years in terms of involvement of stakeholders in decision making To what degree do governance structures, accountability mechanisms, communication and coordination facilitate or hinder the implementation of the strategic plan? What are the strengths and shortcomings of EHNRI’s governance and management structures?	Stakeholders perception on effectiveness of partnership, governance and implementation arrangement	Stakeholder interviews
Sustainability	To what extent will the results and processes of the strategic plan sustainable beyond the period of implementation	Extent to which results of the strategic plan can be sustained?	Evidences demonstrating that sustainability was adequately planned Stakeholders’ perception of sustenance	Document reviews Stakeholder interviews and site visits

Evaluation Parameter	Evaluation Questions	Judgment Criteria	Preliminary Indicators	Data Sources	
	?				
	How could sustainability of results improved?	What strategies can be considered to improve sustainability of outcomes resulting from the implementation of the strategic plan?	Stakeholders' suggestions on strategies that could improve sustainability	Stakeholder interviews and site visits	
Lessons learned and recommendations for improvement	What are the key lessons learned that could be used in order to optimize results during second half of the implementation of the strategic plan?	Extent to which lessons and best practices that could be scaled up appeared during the implementation of the strategic plan	Stakeholders perception of the best practices and lessons learned during the implementation of the strategic plan	Stakeholder interviews	
		Extent to which lessons learnt and previous recommendations forwarded during the implementation of the strategic plan have been effectively utilized	Level of uptake of previous recommendations in relation to the SP's implementation	Desk research and review of previous recommendations in relation to the strategic plan implementation	
	What recommendations have been suggested for improvement during the remaining strategic period?	Recommendations that have been suggested for improvement from credible sources and analysis of evaluation data	Stakeholders' perceptions on whether lessons learnt and recommendations have been effectively utilized		Stakeholder interviews
			Analysis of progress to date, SWOT analysis and other evaluation findings		Analysis of evaluation data and stakeholder interviews
			Stakeholders' perception of best recommendations	Stakeholder interviews	

### *Annex-2: Definition of Mid-Term Evaluation Parameters and Key Evaluation Questions*

Evaluation Criteria	Evaluation Questions
1) <b>Relevance:</b> An assessment of the significance of the strategic priorities and objectives identified in the strategic plan within the national,	<ol style="list-style-type: none"> <li>1. What has changed in the national environment since 2015 that could affect the activities of EPHI? Which changes are relevant?</li> <li>2. To what extent do the strategic actions in the Annual Plans ensure their relevance in relation to the strategic objectives set in the strategic plan?</li> <li>3. How well did the strategic priorities relate to priorities at local, national or international levels?</li> </ol>

<p>regional and local context. In other words, it refers to the extent to which the design of the strategic plan was consistent with both national and international strategic priorities prevailing at the time of design.</p>	
<p>2) <b>Effectiveness:</b> An assessment of how far the intended outcomes or strategic objectives were achieved in relation to targets set at the beginning of the strategy period.</p>	<ol style="list-style-type: none"> <li>1. What progresses have been made in achieving the strategic objectives and implementing planned activities?</li> <li>2. To what extent does the involvement of the relevant stakeholders lead to the delivery of high quality outputs and ensure their uptake?</li> <li>3. Which strategic priorities and objectives are still relevant? Which ones are not?</li> <li>4. How effective and appropriate was the implementation arrangement and approach?</li> <li>5. What were the major factors, which influenced the achievement, or non-achievement of the objectives?</li> </ol>
<p>3) <b>Implementation Arrangement and Partnership:</b> How well did the partnership, implementation, governance and management arrangements work and how they develop over time.</p>	<ol style="list-style-type: none"> <li>1. How effective and efficient was the implementation and management arrangement?</li> <li>2. How well did the partnership and management arrangements work and how did they develop over time?</li> <li>3. Were the risks properly identified and well managed?</li> </ol>
<p>4) <b>Efficiency:</b> To what extent was resource utilization optimal and how far funding, personnel, regulatory, administrative, time, other resources and procedures contributed to or hindered the achievement of outputs?</p>	<ol style="list-style-type: none"> <li>1. To what extent is the spreading of funds over strategic objectives, priority actions and specific mechanisms a good basis for efficient implementation of the strategic plan?</li> <li>2. To what extent are there obvious links between significant expenditures and key outputs?</li> <li>3. Did the implementation of the strategic plan represent good value for money?</li> <li>4. What challenges and obstacles were faced in the implementation of the strategic plan that might have affected efficiency?</li> <li>5. How might the efficiency of the strategic plan implementation be improved?</li> <li>6. To what extent are the monitoring and evaluation system and processes and resources sufficient and adequate to track progress to date and inform decision making?</li> </ol>
<p>1) <b>Sustainability:</b> What is the potential for the continuation of the impact achieved and of the delivery mechanisms</p>	<ol style="list-style-type: none"> <li>1. To what extent will the results and processes of the strategic plan sustainable beyond the period of implementation?</li> <li>2. How could sustainability of results be improved?</li> </ol>

following the withdrawal of existing funding?	
2) <b>Best practices and lessons:</b> What lessons and best practices were drawn during the implementation of the strategic plan?	<ol style="list-style-type: none"> <li>1. What are the key lessons learned that could be used in order to optimize results during second half of the implementation of the strategic plan?</li> <li>2. What recommendations have been suggested for improvement during the remaining strategic period?</li> </ol>

### Annex-3: Data collection checklists

No.	Data collection methods	Data Tool	Data Sources	Data collection places
1	Desk review	Desk review guide	<ul style="list-style-type: none"> <li>- Review strategic plans</li> <li>- Annual plans</li> <li>- Periodic monitoring reports, grant agreements</li> <li>- Research project proposals,</li> <li>- Research, surveys &amp; surveillances technical reports, Proceedings, surveillances, peer reviewed journals,</li> <li>- Standard procedures, guidelines and manuals,</li> <li>- Audit &amp; financial reports,</li> <li>- Other relevant documents/materials,</li> </ul>	Addis Ababa (EPHI and FMOH)
2	Key informant interview (KII)	Key informant interview guide/ Structured Questionnaires/	Key informants at Federal Ministry of Health (PHEM unit, laboratory unit, directorates working on programs), Regional Health Bureaus (regional PHEMs, regional laboratories, research units or regional public health institutes), EPHI and other stakeholders (see table-1).	EPHI, FMOH, Regional Health Bureaus (SNNPR, Oromiya, Tigray, Afar, Gambella, Addis Ababa, Amhara)
3	Focus group discussion (FGD)	Focus group discussion (FGD) guide	EPHI management team, Federal Ministry of Health (staffs of PHEM, laboratory, directorates working on programs), and SNNPR health Bureau (staffs of PHEM process, laboratory process, research process)	Hawasa, Addis Ababa

### ***Annex-4: Desk review guide***

The purpose of this desk review will help to collect relevant information's from wide diverse documents regarding the institute's performance for the last two years and six months. Using this desk review guide, different wide diversified literatures such as: review strategic plan, annual plans, periodic reports, grant agreements, research projects, research technical reports, research proceeding reports, surveys and surveillances, scientific newsletters, journals, manuals, guidelines audit and financial reports, websites and other relevant materials.

1. The name of the document: \_\_\_\_\_
2. What is the publisher directorate/department and date of the publication \_\_\_\_\_
3. What is the scope of the document?

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4. What is the core findings of the document?

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5. What are the document reports informs about the performance of the institute?

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6. What are the documents reports that informs about the weakness and strength of the institute?

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7. What are the achievements of the institute over the past two years and six months?

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## Annex-5: Key informant interview guides/questionnaires

### Annex 5.1: Key Informant Interview for Research and Technology Transfer

#### Organizational Profile:

Name of Organization	
Department	
Region	
Woreda/City/Town	
Contact person	
Contact Person's Position	
Contact Person's Address	

1. To what extent were the research and technology priority relevant to meet the priorities? What relevant contributions have been made? To what extent were individual research projects conducted relevant to achieve providing evidence based information?


2. To what extent were the information provided through research conducted by EPHI improve the decision making process? How did you see research result dissemination mechanisms? By which means were you have got research results?


3. How did you evaluate in producing and availing Fermi vaccine, herbal/traditional medicine, foods and others research products? To what extent was the technology transfer effective in introducing of such products?


4. How do you evaluate the level of consultation and collaboration in planning, implementation and monitoring of national wide survey and surveillance? How do you evaluate your level of involvement? What were the challenges? What need to be improved?


5. To what extent were surveys, surveillances and applied research conducted efficient in resource mobilization, management structure and improving regional coordination capacity? What were the major successes? What were the short comings?

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6. Any recommendations or ideas that you would like to add.

### Annex-5.2: Key Informant Interview for Public Health Emergency Management

Organizational Profile:

Name of Organization	
Department	
Region	
Woreda/City/Town	
Contact person	
Contact Person's Position	
Contact Person's Address	

1. How would you evaluate the linkage between PHEM and regional laboratories in averting public health emergencies?


2. How would you evaluate EPHI performance in timely communicating (alert/warning) of public health events? How do you evaluate your regions in communicating of emergency events to center?


3. How would you evaluate EPHI's outbreak investigation (rumor verification and laboratory confirmation) and mitigation measures for identified risks? What were the challenges? How do you evaluate your region in this regard?

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4. How would you evaluate the weekly surveillance report timeliness and completeness trend and annual results as per the standard in your region?


5. What are the strengths, weaknesses and challenges in conducting routine surveillance?


6. What are the key lessons learned that could be used in order to optimize (risk reduction) the results for further implementation of public health emergency management?


7. To what extent have the population affected by a major public health emergencies? How many major public health emergencies were predicted to occur? How many did occurred? Out of occurred major public health emergencies how many were mitigated below the standard death number? Did you implement rehabilitation work? If so what were the rehabilitation rates for health facilities and human?


8. How would you evaluate the EPHI performance in risk mapping and risk assessment health risks? How would you evaluate vulnerability and risk analysis? What extent is your regions involve in vulnerability assessment? What is the challenge on risk analysis?

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9. To what extent the regional public health emergency management has adequate stockpiles of drugs and medical supplies as per the guideline? If any gap, was it filled by PHEM center? What has changed or improved during last two years and six months?


10. How do you evaluate EPHI's efforts to capacitate public health emergency management in your region through providing trainings, availing reporting formats, manuals and guideline, technical and equipment support? How do you evaluate your region in this regard?


11. Any additional information that you would like to add.


### ***Annex-5.3: Key Informant Interview for Laboratory Capacity Building***

Organizational Profile:

Name of Organization	
Department	
Region	
Woreda/City/Town	
Contact person	
Contact Person's Position	
Contact Person's Address	

1. How do you evaluate the linkage between PHEM and regional laboratories in averting public health emergencies? How would you evaluate your public health laboratories capacity to obtain accurate, reliable and timely laboratory test results on new, emerging and reemerging infections?


2. How do you evaluate the SLPTA initiative implementation? What were the contributions toward accreditation of your laboratories? How do you evaluate your effectiveness and efficiency to accreditate laboratories as per the plan? What challenges you observe SLPTA program implementation towards accreditation? What solutions do you recommend for successful achievements of SLPTA to have accredited laboratories as per the plan?


3. To what extent is your laboratory improvement progress towards accreditation? What supports do you need to be certified by external bodies at a higher level? How many hospitals and regional laboratories are there and how many of them enrolled in SLPTA and accredited in limited scope?

How many health centers are under the region? How many of accredited under limited scope (star 1- star 5)


4. How do you evaluate the EPHI performance developing and availing input/supply, laboratory procedural guide lines, manuals and different standard operating procedure formats? How do you evaluate the contribution of these guide lines and formats for the improvements of your laboratory services?


5. What kinds of changes have occurred during the last two years and six months at health facilities in terms of infrastructure upgrades, trainings, quality assurance, equipment maintenance, and supply chain to assist public health laboratories and upgrade their ability to provide laboratory services for integrated diseases?


6. To what extent was the laboratory systems were supported with modern data management system for EQA, training and equipment maintenance?


7. How do you evaluate EPHI performance in increasing laboratories participated in External Quality Assessment (EQA)? How do you evaluate EPHI performance in importing, preparing and distribution of test panels? What were the challenges and short coming? To what extent EQA improve laboratory quality controls ?

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8. What support were you getting in coordination of Regional External Quality Assessments (REQAS)? What improvements have been seen in laboratory quality control? how do you see your participation?

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9. How do you evaluate functional laboratory information system (LIS)? What were the challenges and successes in establishing new LIS in the region during last two years and six months?

Success	Challenges	solutions

10. How do you evaluate laboratories to perform special, referral and back up test? To what extent these test expansion activities improves your laboratory quality services?


11. How do you evaluate conducting training on prioritized laboratory disciplines? What were the improvements? What contributions were these training for the improvements of laboratory quality? What need to be improved?


12. To what extent do you think that laboratory maintenance implementation was achieved? How do you evaluate EPHI effort in capacitating regional laboratory maintenance center? What were the challenges and shortcoming?


13. How do you evaluate the level of consultation, communication and collaboration in planning, implementation and monitoring of laboratory capacity building activities? How do you evaluate your organization level of involvement?


14. What would you identify as EPHI's strengths and weaknesses as well as challenges?

strengths	weaknesses	challenges

15. What recommendations have been suggested for improvement of laboratory capacity building programs?

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#### Annex-5.4: Key informant Interview Guide to Federal Ministry of Health

Organizational Profile:

Name of Organization	
Department	
Region	
Woreda/City/Town	
Contact person	
Contact Person's Position	
Contact Person's Address	

1. To what extent has EPHI have been successful in generating evidence-based data to assist in public health policy/strategy formulation and program development/modification?


2. To what extent has EPHI have been successful in managing public health emergencies (timeliness and appropriateness of preparedness, early warning and response)?


3. How would you evaluate the linkages between PHEM and FMOH in addressing the PHEM issues?


4. To what extent has EPHI attained its objective of establishing quality laboratory system for all public health laboratories in the country in terms of infrastructure upgrades, trainings, quality assurance, equipment maintenance, and supply chain to assist public health laboratories and upgrade their ability to provide laboratory services for integrated diseases?


5. How would you compare the capacity of public health laboratories in performing specialized and referral tests now and two and half years before?


6. How do you evaluate the referral linkage, coordination and communication between laboratories during the last two and half years? What were the challenges and shortcoming of the referral linkages?

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7. To what extent have laboratory standards been promoted during the last two and half years in terms of implementation of common protocols to address specific diseases, using identical or comparable laboratory procedures with good quality control to ensure accuracy of results obtained?

8. How relevant and aligned are the current strategic priorities, objectives and performance indicators of EPHI with that of HSTP? What needs to be improved/changed?

9. How do you evaluate the ministry's level of involvement in EPHI's decision making processes such as planning, performance review and so on? What needs to be improved?

10. What do you perceive as the key strengths and areas for improvement in view of EPHI's organizational arrangements and relationships with the ministry and partners at all levels?

11. How do you evaluate EPHI's communication and reporting systems and capabilities? In your view, what have been the three most relevant changes in the national environment since 2015 that have affected EPHI work? How should EPHI respond to these changes, if any?

12. What plans does the ministry have that EPHI must consider in reviewing its current strategic plan?

13. Can you share any recommendations that could benefit the remaining period of EPHI's current Strategic Plan? What should change? What should stay the same?

14. Overall, to what extent did EPHI meet the expectations of the Ministry? What expectations have remained unmet, if any?

15. How would you evaluate the resource mobilization and utilization initiatives/activities of EPHI?

16. How do you evaluate the performance of EPHI during the last two and half years? What do you consider to be EPHI's most important achievements and contributions to the improvement of public health in the country? Please give specific examples of progress/results.

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17. Any additional information you would like to add.

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**Annex-5.5: Key informant Interview guides to other stakeholders/partners (see table-1)**

**Organizational Profile:**

Name of Organization	
Department	
Region	
Woreda/City/Town	
Contact person	
Contact Person's Position	
Contact Person's Address	

1. What kind of relationship does your organization have with EPHI? In what areas do you collaborate with EPHI? How do you evaluate your collaboration with EPHI?

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2. How do you evaluate the level of consultation and collaboration in planning, implementation and monitoring of the strategic plan and cascading annual plan? How do you evaluate your level of involvement?

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3. How do you evaluate the success and gaps in your areas of collaboration? What needs to be improved to further strengthen the relationship?

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4. How do you describe the resources flow/support required to execute the planned activities of the collaborative work by the collaborating parties? What solutions could you suggest?

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5. To what extent were the output provided through EPHI improve the decision making process? How did you output dissemination mechanisms? What improvement is expected?

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6. In what areas could your university and EPHI further collaborate for more impact/results?

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7. What would you identify strengths and weaknesses/challenges?

Strengths	Weaknesses	Challenges

8. What are the corrective measures do you think that the institute should take?


9. Do you think that there were national/international environment changes that majorly affect public health research, emergency management and laboratory capacity building activities? What were these changes? What were these effects and its magnitude?


10. How do you evaluate the monitoring and evaluation system of EPHI? What improvement is needed?


11. What are the lessons learnt from the collaborative work between you and the institute?


12. Any additional information you would like to add?




### ***Annex-6: Focus group discussion (FGD) guides***

Focus group discussion will be done to retrieve information directly from the institute's four perspectives (customers, internal process, finance and learning and growth). One FGD's will be done with EPHI management group, which is expected to know well the EPHI SPM and its implementation. And the other two FGDs will be conducted with Federal Ministry of Health (staffs of PHEM, Laboratory and directorates of programs) and SNNPR Health Bureau's PHEM, Laboratory and research processes' staff.

The detail FGD guide will generally presented as follows:

FGD name: \_\_\_\_\_

FDG conducted date: \_\_\_/\_\_\_/\_\_\_\_\_ Starting time: \_\_\_\_\_ End time: \_\_\_\_\_

1. Could you explain for us the EPHI strategic plan? \_\_\_\_\_
2. How did you see the outputs and outcomes of the institute achieved in two and half years? In what way/methods do you get the outputs? How could the outputs support you? What improvements will you suggests to be improved?  
\_\_\_\_\_
3. How far did you follow the EPHI SPM and utilize the M & E information for decision making?  
\_\_\_\_\_
4. Could you explain the strategic objectives/performance measures that have been achieved? How do we sustain the results? \_\_\_\_\_
5. What do you think the enabling factors for achievements of strategic objectives/performance measures?  
\_\_\_\_\_
6. Could you explain the strategic objectives/performance measures that failed?  
\_\_\_\_\_
7. What did you think the factors contributing for the failures of Strategic objectives/performance measures? What will be the corrective measures? \_\_\_\_\_
8. What were the major strengths and weaknesses of the institute in the SPM implementation?  
\_\_\_\_\_
9. What are the major opportunities to enhance the SPM achievements in the remaining years?  
\_\_\_\_\_
10. What are the major threats that will hinder the SPM achievements in the remaining years? What will be the possible suggested solutions? \_\_\_\_\_
11. Could you draw any lesson and recommendations for successful achievements of the SPM that eventually leads for the realization of the Institute's vision and missions \_\_\_\_\_

### *Annex-7: Midterm evaluation consent form*

Dear Sir/Madam:

Greetings! My name is \_\_\_\_\_. I am from EPHI. EPHI is currently carrying out mid-term evaluation of its July 2015- December 2017 Strategic Plan that has been implemented during the last two years and six months.

The purpose of mid-term evaluation is to look back and evaluate whether the strategic objectives have been achieved, or the extent the institute has gone towards achieving its strategic objectives. To this end, a range of stakeholders, including government agencies at regional levels, partners, donors, hospitals, and professional associations have been selected as important data source for this evaluation. We, therefore, would like to thank you for agreeing for this interview. Please be informed that the data obtained will be presented without specific reference to individuals. Besides, your responses will be used to the purpose and will be kept very confidential.

I will ask you a series of questions from this questionnaire. I hope you don't mind if take notes while you talk?

The interview may take around an hour.

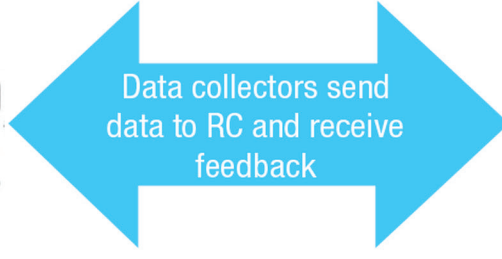
Do you have any questions that you want to ask me beforehand?

**Thank you in advance for your cooperation!**

Regional Coordinators  
cross check



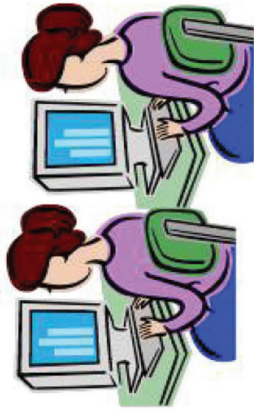
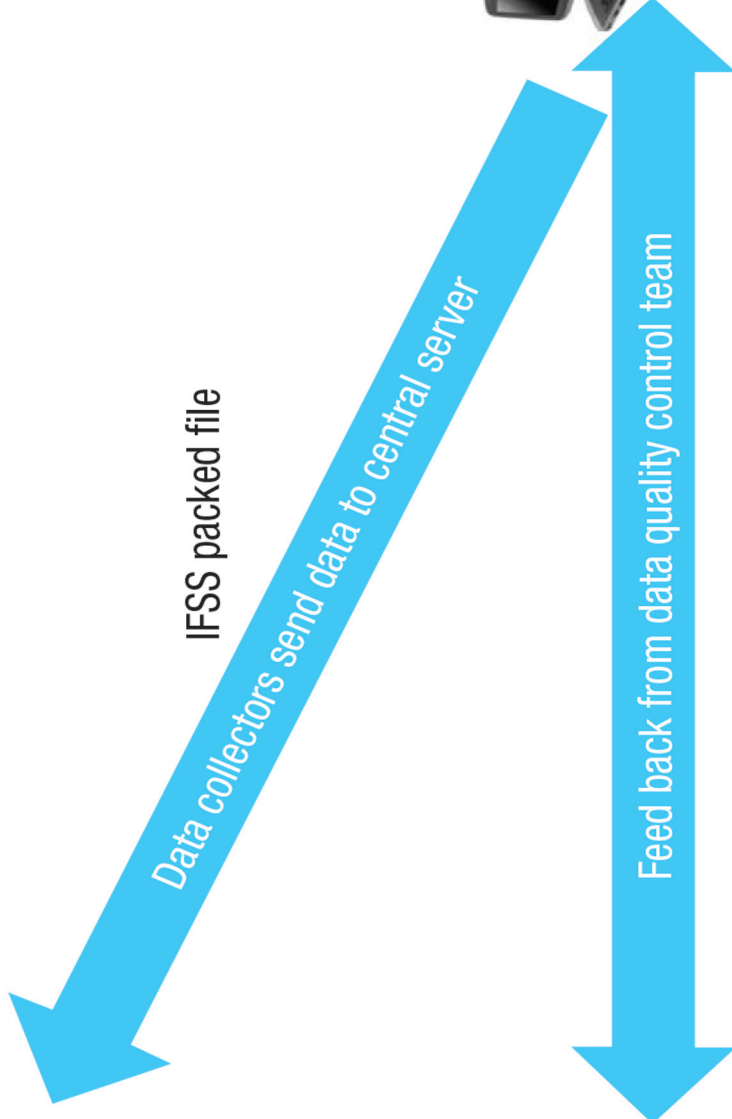
Data collectors send data to RC and receive feedback



Data collectors

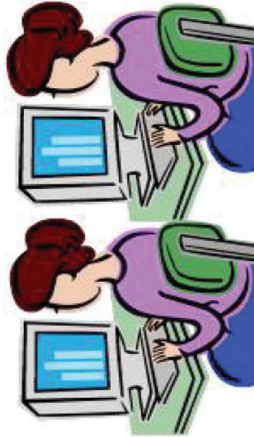
IFSS packed file

Data collectors send data to central server



Central Server at EPHI IT dept.

Share data



Feed back from data quality control team



INTERNET FILE STREAMING SYSTEM OF EPHI



**EPHI'S Public Health Training Center**

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