



The Federal Democratic Republic of Ethiopia  
Ministry of Health

# **Ethiopia Routine Immunization Improvement Plan EFY 2006-2007**

November 2013

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## List of Acronyms

FMoH	Federal Ministry of Health
HDA	Health Development Army
HP	Health Post
HSDP	Health Sector Development Program
HEW	Health Extension Workers
HC	Health Center
PFSA	Pharmaceutical Fund and Supplies Agency
AEFI	Adverse Event Following Immunization
HMIS	Health Management Information System
PHCU	Primary Health care Unit
ICC	Inter agency Coordination Committee
WHO	World Health Organization
UNICEF	United Nations Childrens Fund
CHAI	Clinton Health Access Initiative
HSS	Health System Strengthening
CSO	Civil Society Organization
NVI	New Vaccine Introduction
GAVI	Global alliance for vaccine initiative
ICC	Interagency coordination committee
BCG	Bacillus Calmette-Guérin
TT	Tetanus Toxoid
OPV	Oral Polio Vaccine
PCV	Pneumococcal Conjugate Vaccine
SIAs	Supplemental Immunization Activities
FMHACA	Food, Medicines and Health Care Administration and Control
ISS	Immunization Strengthening Support
IPC	Inter-personal Communication

## 1. Executive Summary

The national Immunization program of Ethiopia, since its launching in 1980, has shown measurable progresses. The Government brought the immunization services closer to the communities through rapid infrastructure expansion and initiation of the health extension program. The improved access coupled with introduction of new life saving vaccines has made the Government's effort a reality that every year a large proportion of its nearly 3 million annual birth cohorts are protected against the nine vaccine preventable diseases. Immunization together with other high impact child health interventions has contributed to the achievement of MDG 4 three years ahead of the target date in Ethiopia.

The administrative coverage showed significant improvement from as low as 42% in the 1990s to more than 88% coverage in 2013. However, over the past 3-5 years the average coverage stagnated at 85% with no significant improvement in terms of vaccinating additional new children over the years.

Despite visible gains that have been recorded in the EPI program, the 2012 national Immunization coverage survey showed a lower than reported coverage with wide regional variation and problems of drop outs. Therefore a decline in performance was noted in both the administrative trend and the coverage survey which led the Ministry and partners to analyze the reasons in detail and prepare improvement plans.

Therefore, this routine immunization improvement plan (RIIP) was prepared as per the recommendation of the Ministry. The planning process involved preparation of regional level situational analysis, participation of a wide range of partners and revision of several references. The compiled regional plans and the reports of the joint desk review conducted by Ministry and WHO-HQ in May 2013 were used to synthesize the national Improvement plan.

The Joint desk review summarized the key challenges of reducing unvaccinated children in Ethiopia into the following four key barriers, as has been consistently identified in many assessments and by key stakeholders:

1. Shortcomings in service delivery strategies and human resource capacity
2. Threats to immunization supply chain management and logistics
3. Constraints in data quality management, archiving and analysis
4. Gaps in monitoring and supportive supervision

This RIIP is a two year plan with targets to reach DPT-HepB+Hib 3 coverage of 90% and 95% in 2006 and 2007 EFY respectively. The four strategies mentioned under the Global Immunization Vision and Strategy (GIVS) focus area 1 and prioritization of high priority zones every six months for support to sustainably improve EPI performance were identified as the five key strategies that will be used to improve routine immunization. The major activities are also centered around increasing leadership and effective program implementation.

The Federal Ministry of Health has established the Ministerial Delivery Unit to support and monitor key priorities including EPI. The unit will support implementation of improvement activities by preparing monthly reports to the Honorable Minister, monitoring of progress and ensuring that EPI continues as a standing agenda in the Joint Steering Committee meetings and any other important fora.

The EPI Coordination forum will be revitalized and there will be stronger coordination of efforts by the Ministry and partners to implement the improvement activities. Moreover, recommendations from the cold chain inventory rehabilitation plans and effective vaccine management assessments will be implemented. Capacity building, regular supportive supervision and regular quarterly review meetings will also be conducted at various levels.

The cost of improvement activities is estimated at USD 24,545,339 and the budget is linked to sources from Government and different partners. The Ministry will undertake dissemination of the plan to build consensus among stakeholders on the roles and responsibilities, commitment and monitoring of support.

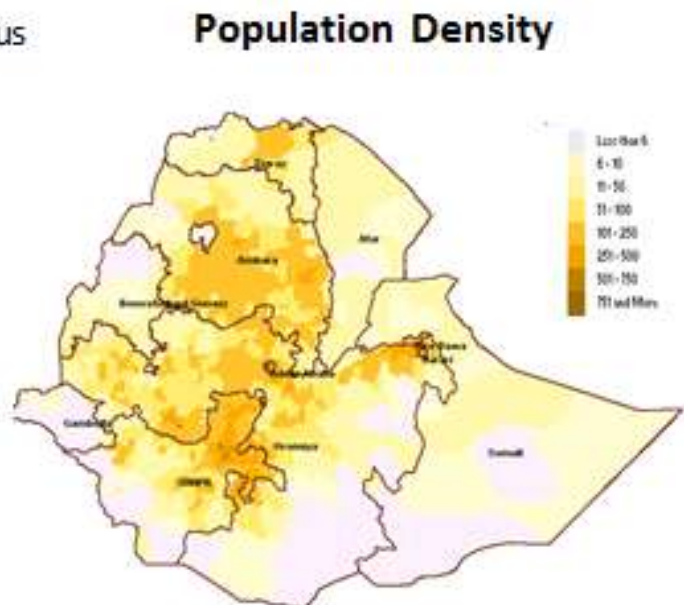
## 2. Background

Ethiopia is situated in the Horn of Africa. The total area of the country is around 1.1 million square kilometers, and it shares borders with Djibouti, Eritrea, Sudan, Kenya and Somalia. Ethiopia is a country with great geographical diversity, with topographic features ranging from 4,550m above sea level to 110m below sea level. The total population of the country is 86 million in 2013, (according to the census 2007). The average household size is 4.81. About 83% of the total population is rural, making Ethiopia one of the least urbanized countries in the world.

Fig 1. Administrative regions and population density map, Ethiopia 2013

# Ethiopia Background

- Projected population (census 2007): **86 million**
  - Growth Rate: **2.6%**
  - Under-1: **2.9%**
  - Under-5: **14.6%** of pop.
  - Under-15: **44.9%** of pop.
- Administrative:
  - 9 Regions, 2 City Administrations
- Rural: **83%** with infrastructure challenges
- Infant Mortality Rate: **59/1000** live-births



The health system in the country is decentralized, with authority devolved to the Regional Health Bureaus (9 regions plus 2 city administrations), Zonal Health Departments (103) and Woreda Health offices (836). Kebeles (villages) access primary health care services through the

<sup>1</sup> EDHS 2000, *ibid*

3,200 health centers and over 16,108 health posts available throughout the country. The catchment covered by each health post is approximately 5,000 inhabitants.

In Ethiopia, out of the expected under-five deaths per year, vaccine preventable diseases account for a substantial portion of under-five mortality. Pneumonia, Diarrheal disease and Measles are among the leading causes of under-five mortality. However due to routine and campaigns based measles vaccination, there has been a significant reduction in the number of under-five deaths due to measles. It is believed that the introduction of pneumococcal conjugate vaccine (PCV) in the country's routine EPI program recently, will contribute to significant reduction in pneumonia related under-five mortality.

Measurable gains have been made in the EPI program in Ethiopia, since its launch in 1980, and the Government has been successful in protecting a large proportion of its nearly 3 million annual birth cohort against nine vaccine-preventable diseases. Maternal and neonatal tetanus elimination targets have been achieved and validated (except in Somali Region where validation is pending). The country was able to maintain wild polio-free status for close to five years, however in August 2013; wild polio virus was confirmed in Somali Region following importation of the virus into the Horn of Africa.

The specific challenges faced by the immunization program in Ethiopia have been well-documented in the past three years with a variety of high-quality, formal program evaluations, assessments and surveys. Most notably, this improvement plan takes into consideration the results of the National Immunization Coverage Survey (2012); the Post-Introduction Evaluation of Pneumococcal vaccine (2013); the survey on Socio-economic, Behavioral and Health Services Determinants of Immunization Service Utilization (2012); the JSI/ARISE Evaluation of the Drivers of Routine Immunization System Performance in Ethiopia (2012); and the Effective Vaccine Management Assessment (2013), Logistics and Cold Chain Report (2011 & 2013) which reflect major problems in the various immunization delivery system and components.

### **3. Situation Analysis**

#### **3.1 Routine Immunization Performance**

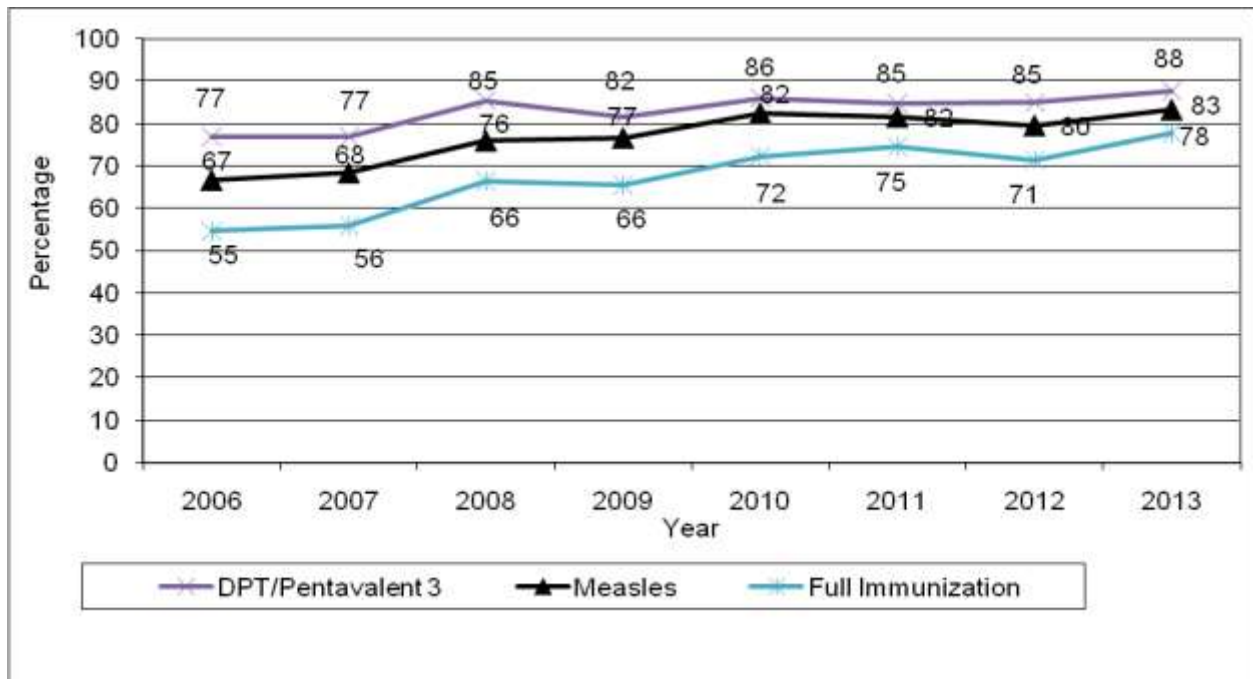
Recently the FMOH has undergone restructuring process; as a result of which a new Directorate has been established that oversees the maternal child health and Nutrition (MCHN) programs in the country. Within the MCH Directorate, EPI is established with a separate case team of ten experts and a coordinator.

Since 2003, the Government has promoted the concept of universal access to primary health care through a community-centered approach, whereby each health post is staffed by two salaried community-based health workers called Health Extension Workers (HEWs). HEWs are trained to provide a package of sixteen health interventions where immunization is part of the package. The HEWs provide immunization services through static and outreach sites, track defaulters and provide simple curative services. Because of this wide network of underlying infrastructure, approximately 90% of the population has access to health service and lives within ten kilometers of a health facility.

The initiation of the Reaching Every District (RED) approach in the country in 2004 initially 12 woredas with subsequent expansion to more woredas has also contributed to the increase in coverage. According to the RED review conducted in 2007, access to immunization services, as shown by the trend of DPT1 coverage – a major indicator of access to health services – showed a significant increase from 63% to 81% between 2003 and 2006 and the number of districts with DPT3 coverage more than 80% also increased from 9 to 29 between 2002 and 2006.

Immunization service provision has shown gradual increase since 2004 reaching 88% administrative coverage of penta 3 in 2013. Yet for the last five years the national administrative coverage has been observed stagnant. (Fig 2)

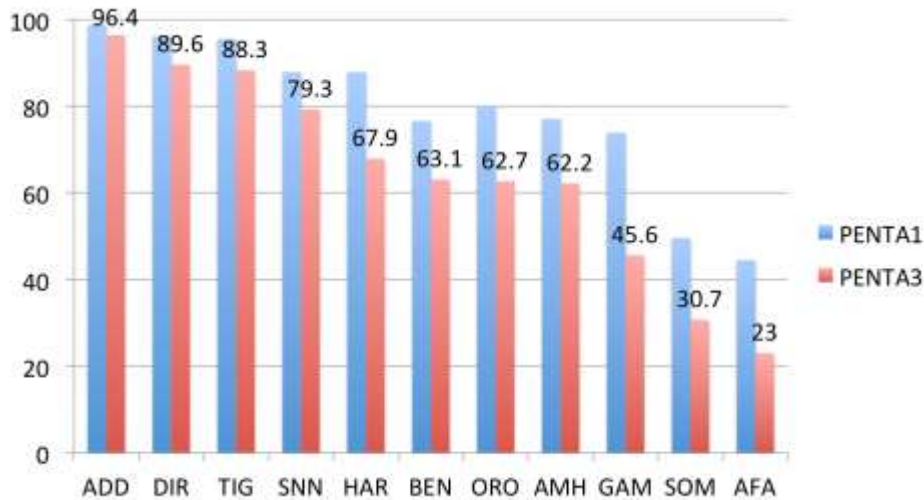
Fig 2 Routine EPI coverage (Penta 3 and Measles) 2006 to 2013, Ethiopia (Administrative)





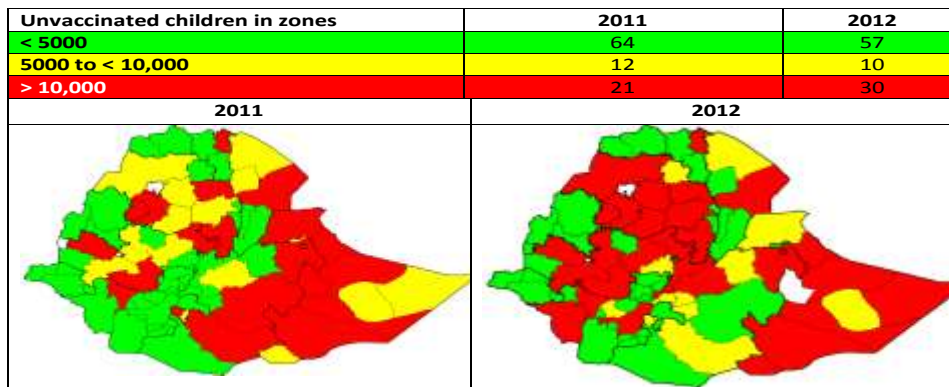
The most recent coverage survey conducted in 2012 highlighted significant regional disparities (pastoral areas of Somali, Afar, Gambella have persistently low coverage as compared to Addis Ababa or Tigray). From 2011 to 2012, the number of zones with over 10,000 unimmunized children increased by 42% (from 21 zones to 30 zones).

Fig 3: EPI Coverage by Region, Coverage Survey, 2012, Ethiopia



Based on the administrative data, the number of zones with over 10,000 unimmunized children increased by 42%, from 2011 to 2012. Even though the incomplete data coming from the lower level may have some impact (84% of completeness in 2012), the trend in the administrative data and the results of the coverage survey show inadequate coverage in many parts of the country.

Fig 4 Geographic distribution of unvaccinated children by Zone, 2011 – 2012, Ethiopia



## **3.2 Immunization service delivery**

### **3.2.1 Immunization service delivery strategies**

Various immunization strategies are implemented in the country; all available HPs (15,000) provide static site immunization services; in addition HCs (3000) and many Hospitals do provide static services as well. The current immunization system does not capture number of outreach and static sites in the country, yet results of supervisory visits have shown that many outreach sites are running in the country. The mobile strategy, although not wide spread in the country, is also used in some parts of the country notably in Somali region where there are close to 26 mobile teams that cover very hard to reach areas providing immunization services together with other health packages.

According to the findings of the EPI cluster survey 2012, 97.1% of the urban surveyed health facilities and of 89.2% of rural health facilities provide routine immunization services regularly. However routine EPI micro plans that show the annual/monthly target number of children and the static and outreach/mobile sessions scheduled were available in just 78% of facilities providing immunization services. Only 51.4% of the health centers provide daily sessions compared to health posts, which tended to provide immunization services on a monthly basis (75.7%). Though not cross checked from the records and the reporting formats, 42.5% of a health facilities had a planned session interrupted in the last 9 months preceding the survey.

### **3.2.2 Cold Chain and Logistics Management**

#### **Cold Chain Management**

A rapid cold chain assessment was conducted in 2010 before PCV was introduced nationally. A national cold chain inventory was also conducted between March and November 2013 and the preliminary findings were used as input during the preparation of RIIP. The rapid cold chain assessment in 2010 showed inadequate capacity at the national and Zonal levels while the capacity at regional hubs was reported to be adequate enough to accommodate the existing and new pneumococcal vaccine.

Based on the findings, corrective measures were taken including procurement and distribution of 415 Iceland refrigerators (ILR) to increase the capacity at all zones. More than 5,000 vaccine carriers and a number of cold boxes have been procured and they were distributed recently before the Meningococcal vaccination campaign. Solar refrigerators are also prioritized and procurements have been initiated to replace kerosene based refrigerators by solar-source and this will continue for the next 3-4 years. National cascaded cold chain maintenance training has

been conducted in the country and a plan to have one cold chain technician for every district to take care of over all issues of cold chain and vaccine distribution activities in their respective woredas is being implemented effectively.

The interventions that were implemented as per the recommendations of the rapid cold chain assessment and other findings have been effective and this was proven by the post PCV introduction evaluation which found out that the country was able to introduce the vaccine and the cold chain capacity was said to be adequate to accommodate the vaccines.

The national cold chain inventory was recently completed (2013) and it looked into the distribution, functionality, manufacturer, models, source of energy and reasons for non-functionality of refrigerators/freezers. The inventory also showed distribution of cold boxes (CB) and vaccine carriers (VC), waste disposal structures like incinerators at health facility (health center health post and hospital) and at all administrative levels. Some of the major findings from the preliminary inventory analysis were the following:

- About 20,583 refrigerators/freezers were inventoried
- 61.8% of the refrigerators/freezers at HF level and 63.2% of refrigerators/freezers at administrative level were functional. Nationally 32.8% of the refrigerators/freezers were NF
- Lack of **maintenance** is identified as a major factor for non-functionality of the freezers/refrigerators.
- Three manufactures, namely Sibir, Domestic, Vestfrost and Zero are the commonest refrigerators.
- Out of the inventoried refrigerators /freezers 41.4% and 31% were found to be working on kerosene and electricity respectively. While 22% of the refrigerators/freezers, the energy source was not mentioned in the data collected.
- Overall, there are 40,319 vaccine carriers (VC) and 16,379 cold boxes (CB)
- The average number of vaccine carriers per HC and HP is 5.7 and 2.2 respectively.
- Burning and burying (combined) are the most frequently used method of waste disposal at health facility level, as the national average shows 53.3%.
- The national average of health facilities (hospitals and health centers) with incinerators remains 74.4% and all regions except one managed to stand above the national average.

## Cold Storage Capacity

- 93.1% of the visited HFs will have adequate storage capacity for rotavirus vaccine. If the non-functional refrigerators are maintained, the percentage of HFs with adequate storage capacity will increase to 98.7%.
- 79.2% of the visited woreda stores have adequate storage capacity. If the non-functional refrigerators are maintained, this percentage will rise to 90.3%.
- All zonal vaccine stores, except two zones, will have enough cold storage capacity during rotavirus introduction.

## Vaccine Management

Ethiopia adopted the global vaccine management standards and vaccine management practices are expected to follow the recommendations. Multi dose vial policy is implemented for OPV and TT vaccines while this does not apply to BCG, Measles and PCV. Single dose DTP-Hib-Hep B presentation is used which does not necessitate multi dose vial policy.

The Global EVM is designed to help countries achieve high standards of performance in immunization. It helps to identify areas of good knowledge and practices that need to be promoted and sustained and also to identify gaps in knowledge and performance of health workers that needs to be improved.

The vaccine management practice was recently assessed using the WHO standard Effective vaccine management assessment tool. A good practice is considered if a score of at least 80% is achieved for each component.

The following are some of the major findings:

### **Good practices**

- These indicators are mainly infrastructure related: capacity and the qualitative aspect of the building, equipment.
- The general condition of the cold chain equipment and of the store building remains good.
- Vaccine storage, transport and ice-pack freezing capacities appear to be adequate in most visited places to meet the current immunization program need

– Well-designed stock recording book and temperature monitoring charts

### **To be improved**

- Temperature monitoring practices are inadequate
- Absence of preventive maintenance program for CCE and buildings may lead to increased emergency repair.
- Lack of control over vaccine distribution, leading to unbalanced stocks at the peripheral facilities.
- Knowledge gap on vaccine wastage control, stock management and distribution planning and monitoring.
- Clearing of vaccines through the customs is taking long time

The preliminary report and analysis of the cold chain inventory and the EVMA were discussed with regions and partners during a national review meeting so that actions can be taken against some of the issues at local level for those that can be managed within their capacities. The Logistics Working Group is working further to prepare a detailed rehabilitation plan. The Ministry is trying to address some of the issues side by side and some of the recommendations were already being implemented by default as they were incorporated in the annual plan and routine improvement plan.

The inputs will be incorporated in the PFSA transition plan, which is the Ministry's long term plan to transfer the responsibility of cold chain vaccine management to the agency. The transition plan is under way and huge expansion in the cold chain capacity is being done in the country. During the RIIP implementation period, about 17 new cold rooms, 8 refrigerated trucks and 35 vans will be procured. The transition plan working group is also working on the human capacity and information aspects at the same time with expansion of the infrastructure.

### **Vaccine Supply and Quality**

Vaccine forecasting is done by the FMOH with the support of partners; procurement of the vaccines is through UNICEF. The National Regulatory Authority (NRA), in the Food Medicine and Health care Administration and Control Authority (FMHACA), is responsible for controlling the vaccine quality and usually gives clearance for new vaccines when introduced to the country for the first time. This body is also responsible at the national level to monitor the Adverse Events Following Immunization (AEFI). Even though this body exists, challenges have been identified in the implementation; training for the responsible regional committees for AEFI is yet to be conducted; and AEFI reports are not being received through the system.

### 3.2.3 Advocacy, Social Mobilization and Communication

Evidence shows that communities often lack knowledge about the time, place and importance of completing routine immunization (subsequent visits/when to return). Interpersonal communication during immunization sessions is consistently reported to be weak. Far distances to the immunization site, fear of side effects and reactions, inconvenient timing of immunization sessions and competing day-to-day priorities also pose challenges to family uptake and demand for immunization.

According to the findings of the behavioral determinants survey conducted in 2011, factors related to communication were identified. Mobile phones (57.2%) and radio (55.0%) were the major communication channels available among households. In the same study, health workers were the main source of information about immunization (75%) in all regions except Afar where electronic medium (75.9%) was the primary source of information. In the study 82% of the respondents perceived benefits of immunization.

The country has developed a communication strategic plan taking into consideration the result of this study and other relevant information from other surveys and supportive supervision findings. The strategic plan extends from 2013-2015; within the umbrella of communication for routine immunization, other EPI activities and priorities are included in the Plan:-

- New vaccine introduction: rotavirus vaccine and others
- Accelerated Disease Control Programs, campaigns and supplementary immunization activities for measles elimination, MNTE, and Polio eradication.
- Emergency communication and rapid response/preparedness for outbreaks, adverse events following immunization (AEFI), rumors, misinformation
- Support for special populations including refugees, migrant, mobile, hard-to-reach
- Child Health Days/Enhanced Outreach Strategy

### 3.2.4 Health System

#### 3.2.4.1 Governance

The overall management of EPI in the FMOH is led by the MCH Directorate. EPI is now, separately managed by a Team with 10 Experts and a Coordinator. Immunization data is collected through the Health management Information System (HMIS) which is monitored by

the Police and Planning Directorate. All data including immunization is transmitted through one reporting system by selected indicators. On top of this, HMIS reports are available on a quarterly basis aggregated by region. Due to this fact, the national level is challenged in getting timely data disaggregated by Zone.

Recently the HMIS has been revised and important indicators have been included of which, new vaccine data and stock management are included. In addition, the Ministry has taken the ICC recommendation to avail data on a monthly basis disaggregated by Zone. Since health is decentralized in the country, regions have focal persons for immunization and this is translated to lower levels as well. However due to very high staff turnover supervisory findings have shown that many areas have no focal person specific for immunization and in some area only one person is responsible for many MCH activities including EPI

Other major activities in support of the health system/program management is the establishment of Health Extension Program (HEP) departments at regional level and respective structures at zonal and woreda levels all aimed at strengthening the management support to HEP. The recent restructuring process in the Primary Health care Unit (PHCU) has created a linkage of health posts with health centers believed to strengthen the technical and administrative support the HEW.

The Urban Health Extension program is another government initiative implemented in major cities of the country to enable the urban communities get advantage of obtaining primary health care services. All these efforts to strengthen the HEP have created a huge opportunity to institutionalize basic health care services such as immunization at Kebele level.

There is an EPI coordination forum composed of different partners and agencies/ organizations. The main agency is represented by heads of agencies from UN, NGOs and agencies and is led by the State Minister. There is also the Technical ICC which monitors the implementation of EPI related activities and provides technical recommendations to the Main ICC. The main ICC assigns activities for implementation by the working group/task force and the working groups are responsible to implement and monitor day to day activities and to surface technical and administrative issues for the attention of the Technical ICC. The task force discharges its responsibility through its three working groups, namely the Planning and Monitoring working group, Communication working group and Logistics working group.

However, the coordination forum has been noted to have challenges of meeting on a regular basis and sometimes meetings are underrepresented so that the desired results are not achieved. Therefore it was proposed in the RIIP to revitalize the Inter-Agency Coordination

forum and to update the terms of reference to reflect the expectations as per the current context.

Despite the presence of a relatively functional coordination forum, the country lacks a National Immunization Technical Advisory Group (NITAG) which is crucial for independently looking into evidence and advises the Federal level on policy issues.

### **3.2.4.2 Human Resources**

EPI is coordinated at the Regional, Zonal, Woredas level with experts who are mainly responsible for the planning, monitoring and evaluation. There are EPI Focal Persons assigned at hospital and health center level who provide the day to day immunization services. The majority of the service is rendered by the health extension workers.

The Health Extension Program (HEP) is an innovative community based program which started in 2003 during HSDP II (Health Sector Development Plan). The HEP aims to create a healthy environment and healthy living by making available essential health services at the grass root level. The objective of HEP is to improve equitable access to preventive essential health services through community (Kebele) based health services with strong focus on sustained preventive health actions and increased health awareness. The implementation of HEP involves deployment at each village (Kebele) of two female Health Extension Workers (HEW) who are paid a salary and receive one year pre-service training before deployment. Most of the HEWs are recruited from the same Kebeles where they live.

The HEW therefore represents the health sector in the local administration at the Kebele level. The HEP is designed to give services at the Kebele level covering 16 health extension packages categorized under three major areas and one cross cutting area: Immunization is one of the main programs included in the HEP packages.

The HEP is one of the important and indispensable strategies for successful EPI service delivery. The health extension workers are expected to manage the immunization program in their respective kebeles and should be able to reach every child with immunization services. The health extension program has also opened a special opportunity for expansion of the vaccination program through increasing immunization service sites at Kebele level, Institutionalizing EPI in the “village” health care delivery system and reducing opportunity cost for families, which enhances participation and creates demand.



In addition Health Development Army (HDA)-which is a new initiative of networking the community to expand best practices at large scale within short period of time and Enable the community to produce and sustain their own health through implementation of all HEP packages including immunization extension package should get the emphasis

### **3.2.4.3 Financial Resources**

Regarding financing of immunization services, the majority of operational costs used to be financed by development partners. Recently, there are encouraging signs of increased commitment from government. Starting from 2009, the government allocated a budget to cover the cost of vaccines for BCG, TT, 50% of measles and 50% of OPV and injection materials for traditional vaccines. The necessary preconditions are also being fulfilled to co finance new and underutilized vaccines such as pneumococcal, PCV and Rota virus vaccines which are the leading causes of child morbidity and mortality in Ethiopia. In addition to the routine vaccines, Government is contributing for supplemental activities such as Polio and measles campaigns. The cost required for program management of routine immunization activities and for supportive supervision and review meetings is covered largely through the Government account.

Partners are also contributing through the procurement of cold chain and transport equipment, social mobilization, and some costs of the operations. GAVI has been the major source of funding for the country in the immunization program both in availing new and under used vaccines and supporting the system through the HSS funding. Recently the country benefited from the GAVI support on Measles SIA both for the operational cost and the vaccine cost.

## **3.3 Summary of the Key challenges affecting Routine Immunization and opportunities**

A desk review conducted in May 2013 by WHO HQ in collaboration with the FMOH, summarized that, to reduce the number of unimmunized children in Ethiopia, there is a critical need to overcome the following four key barriers, as has been articulated in many assessments and by key stakeholders:

1. Shortcomings in service delivery strategies and human resource capacity
2. Threats to immunization supply chain management and logistics

3. Constraints in data quality management, archiving and analysis
4. Gaps in monitoring and supportive supervision

There are enabling factors that can be utilized more effectively to boost the performance of immunization program in the country.

#### **i. The commitment of Government for health development**

The government commitment towards poverty reduction and the vision to make the country one of the middle income countries in a short while has its own positive impact on health development activities being under way. The government plan for growth and transformation encompasses a healthy workforce as an integral part of economic development. Thus the Health sector is one of the focus areas of the government and much has been done in this regard to bring down the basic health care delivery services down to community/village level.

The infrastructure has improved a lot in the past decade both in terms of health such as construction of HPs, HCs and also outside of health with increased road access, electricity and telecommunications which have direct influence on increasing physical access to immunization programs.

#### **ii. Health extension workers and Health development army**

By the end of Health Sector Development Plan (HSDP III) (June 2010), a total of 33,819 HEWs were trained and deployed reaching 102.4 percent of the 33,033 HEWs target set out in the HSDP III. Model households who have been trained and graduated have been gradually increasing in which immunization is one of the major services in the package .In terms of the construction of Health Posts(HPs) as a home base for the delivery of HEP at community level, the achievement so far has encouragingly shown tremendous progress within a short timeframe. The total number of HPs has increased from the baseline of 6,191 in 2005 to 15,000 in 2012, more than doubling in a space of only six years.

The introduction of health development army Health (HDA) will further strengthen the linkage and health service utilization of the community by interfacing between the HEW and house hold family members and community at large. These are volunteers mostly women that will work at the house hold level to make sure all health packages including immunization are implemented.

#### **iii Partner's technical and financial support.**

Partners working in the areas of immunization such as UNICEF, WHO, CHAI, IFHP, Core/CRDA, USAID Save the Children etc. have been supporting the national EPI program through technical

and financial inputs. WHO, UNICEF and CHAI have assigned technical officers that support the immunization program at national, regional and Zonal levels. Other Organizations such as GAVI have been supporting Ethiopia in the areas of Health system Strengthening (HSS), Immunization system strengthening (ISS), Civil Society Organization support (CSO) and new vaccine introduction (NVS) support.

The financial support obtained from partners to the immunization program is encouraging and the country will look into these and other potential partners to put their resources in the improvement plan to meet the target set for the two year period.

## **5. Rationale for developing the routine immunization improvement plan (2013/2014)**

Based on the findings of different surveys and analysis of available evidence as described in the situation analysis in the different immunization components and support components, there is a need to urgently fix the problems stated to increase the immunization coverage in the country. Despite the fact that some efforts have been made to increase the immunization access by availing health facilities to the community level; and the availability of Health Development Army (HDA) at the community level that are utilized for tracing defaulters, a stagnation in the immunization administrative coverage with significant regional variation is observed.

In addition, survey results indicate a much lower coverage than administrative data. Therefore there is a need for revisiting the program activities, through problem identification and situation analysis and to develop a clear plan of action for the coming two years. To this end, the FMOH and Regional Health Bureaus have reviewed the situation analysis based on the available data and several surveys, and drafted a routine immunization improvement plan to strengthen the program at all levels. The time period for implementation of the improvement plan activities will be for two years (2006 and 2007 EFY).

## **5. Objectives of the EPI Improvement Plan**

### **5.1 General Objective:**

To improve the national routine immunization program performance and have equity in coverage among different populations in the country

## 5.2 Specific objectives:

1. Achieve Penta 3 coverage of 90% and 95% by 2006 and 2007 EFY respectively at the national level
2. Achieve a Penta 3 coverage of at least 70% in all regions and 60% coverage in all Zones by 2006 EFY
3. Achieve a Penta 3 coverage of at least 90% in all regions and 80% coverage in all Zones by the year 2007 EFY through implementation of identified appropriate strategies
4. Expand the cold chain capacity by installing new cold rooms in 17 sites
5. Procure 8 refrigerated tracks and 30 vans for vaccine transportation
6. Replace of 1,000 Kerosene refrigerators by SDD and procure spare parts
7. Increase demand for immunization through development of appropriate communication messages.

## 5.3 Strategies

The overall strategy for the improvement plan will be ensuring more children are reached by using different approaches as stated in the GIVS strategy Area 1 (Protecting more people).

- 1) Use a combination of approaches to reach everyone targeted for immunization taking the geographical and socio economic situations of regions in the country; unreached children should be reached in all districts at least four times in a year.
- 2) Increase community demand for immunization to reach a stage where immunization is perceived by the community as their right with Health development army.
- 3) Improve and strengthen vaccine-management systems in the country
- 4) Evaluate and strengthen national immunization programs
- 5) Moreover, particular emphasis will be given to support emerging regions and zones with large number of unvaccinated children. Priority zones are selected for support in 2006 EFY which are identified based on coverage, number of unvaccinated children and history of measles outbreak with more than 40% of proportion of the cases are under-fives. Logistics and technical assistance will be provided in a manner to bring a lasting change in those areas by implementing the above mentioned specific strategies. (see annex 1)

**Table 1 Summary of Areas of intervention, Activities and Budget, Routine EPI Improvement Plan**

Area of intervention	Key constraints and challenges	Possible solution/ (Strategy, Major activities)	Responsible	Budget USD (2006/2007 EFY)
Planning	<ul style="list-style-type: none"> <li>○ RED micro plans are not consistently available in all regions</li> <li>○ Developing regional states have not adequately identified hard to reach areas( Gambella, Benshangul, Afar, Somali) for planning</li> <li>○ Integration of plan with the comprehensive Woreda based national plan ( Somali region)</li> </ul>	<ul style="list-style-type: none"> <li>○ Strengthen RED micro planning /integrate with Woreda based annual plan/</li> <li>○ Train11 Regional focal persons as facilitators through cascaded training on Micro planning for EPI, and follow up of implementation</li> <li>○ Train all 103 Zonal Focal persons on Micro planning</li> </ul>	<ul style="list-style-type: none"> <li>○ FMoH; ZHD; RHB; WoHO; Partners</li> <li>○ FMoH; RHB</li> </ul> <p>FMoH, RHB, ZHD, WoHO, Partners</p>	<b>266,101</b>
Human resource and service delivery	<ul style="list-style-type: none"> <li>○ All 11 regions reported service interruption, some HFs in Afar don't provide immunization service</li> <li>○ Lack of adequate knowledge in vaccine forecasting at Regional, Zonal and Woreda level resulted in service interruption</li> <li>○ Zonal level EPI managers are not trained on MLM</li> <li>○ 50% HF provide service on monthly basis ; some of the reasons being to avoid wastage for freeze dried vaccines (policy issue)</li> </ul>	<ul style="list-style-type: none"> <li>○ Primary health care unit at the HCs (that is responsible to monitor 4 - 5 HPS) should assign a focal person to each kebele and provide immunization in case where there is gap of human resources at HP staff.</li> <li>○ Updated EPI policy guideline to be availed at all levels and orient heath workers on the guide.</li> <li>○ As all HEWs are given Integrated refresher training once in a year using the planned IRT/ EPI scale up approach at the FMoH refresh HEWs on EPI especially the RED micro planning training</li> </ul>	<ul style="list-style-type: none"> <li>○ WoHO and HCs</li> <li>○ FMoH</li> <li>○ FMoH; RHB;</li> </ul>	<b>2,220,441</b>

	<ul style="list-style-type: none"> <li>○ Many HWS at the HCS are not trained on IIP due to existing high staff turn over</li> </ul>	<ul style="list-style-type: none"> <li>○ Provide IIP training for 3110 HWS at the health center in the country on IIP</li> <li>○ Provide MLM training for 103 Zonal Focal persons</li> <li>○ Train mid-level cold chain technicians</li> </ul>	<p>Partners</p> <ul style="list-style-type: none"> <li>○ FMoH; RHB; ZHD; partners</li> <li>○ HC</li> <li>○ FMoH; RHB, Partners</li> </ul>	
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<p>Monitoring and Evaluation</p>	<ul style="list-style-type: none"> <li>○ All regions have planned supportive supervision quarterly but and non-able to do it as scheduled resulting in lack of regular supportive Supervision and feed back</li> <li>○ No EPI review meeting at all levels even though EPI is addressed partially during surveillance review meetings</li> <li>○ EPI is not be taken as a top priority in some areas; as it is believed that it is well supported by partners and is a well matured program</li> <li>○ No region reports to the center on a monthly bases; the timeliness and completeness of reporting for any given quarter is below 80%</li> <li>○ Reporting data quality <ul style="list-style-type: none"> <li>○ Variable denominator given; inconsistency the federal level and regional level figures are not matching</li> <li>○ The lack of linkage in the HMIS UNIT and EPI section at Federal and regional levels resulted improper utilization of data.</li> <li>○ The national level get data at the regional level and for proper monitoring of the program Zonal level is required. DQS is not implemented by the system</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>○ Having quarterly EPI RM with regional EPI FPs at the national level.</li> <li>○ Quarterly integrated supportive supervision should be done in the system</li> <li>○ Periodic quarterly supportive supervision should be done and follow up with EPI program review at all levels (using collected data)</li> <li>○ Using Health development army make EPI as one of the evaluation criteria</li> <li>○ Provide systems and tool for Data auditing the national level should update the DQS tool and look into other data quality tools to come up with national data quality tool for each level</li> <li>○ Kebele based data reporting and monitoring at woreda level</li> <li>○ Regular monitoring of report Timeliness/completeness at all levels</li> <li>○ Implement monthly reporting to</li> </ul>	<ul style="list-style-type: none"> <li>○ FMoH; RHB</li> <li>○ RHB; ZHD;WoHO</li> <li>○ All levels</li> <li>○ FMoH</li> <li>○ RHB; ZHD;WoHO</li> <li>○ WoHO;Keb ele; PHCU</li> <li>○ At all levels</li> <li>○ At all levels</li> <li>○ FMoH</li> <li>○ At all levels</li> <li>○ FMoH;RHB</li> </ul>	<p><b>2,006908</b></p>
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		<p>all levels</p> <ul style="list-style-type: none"> <li>○ Include important EPI indicators in HMIS ( ex:Penta1,PCV1, Vaccine wastage indicator needs to be revised to capture unopened vaccine wastage )</li> <li>○ Training on data management integrated for those targeted for IIP/MLM</li> <li>○ Review, printing and distribution recording and reporting HMIS tools</li> <li>○ discuss at the joint steering committee meeting with regional bureau heads and CSA on denominator issue and agree with regions to have one denominator with the center for program monitoring</li> </ul>		
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Area of intervention	Key constraints and challenges	Possible solution/ (Strategy, Activities)  Major activities	Responsible	Budget USD (2006 & 2007 EFY)
<b>Cold chain and logistics</b>	Supply delivery system: <ul style="list-style-type: none"> <li>• Lack of received/issued plan (57% distribution system does not have received/issued plan (EVMA 2013)</li> <li>• No use of standard requisition form</li> <li>• Inadequate means/access of transportation</li> </ul>	<ul style="list-style-type: none"> <li>• Institute vaccines distribution/collection plan indicating the responsible person.</li> <li>• Design/develop standard vaccine requisition form</li> <li>• Provide orientation on vaccines and Cold Chain to the focal persons and staff involved in vaccines transportation</li> <li>• Assign focal person for alternative vaccine delivery (e.g. Health Development Army or kebele leaders from the HCs to immunization sites [Link with community structure for vaccine delivery from and to Woreda/HC to HPs]</li> <li>• Procure refrigerated trucks for vaccine collection and distribution from national to regional/Zonal hubs</li> </ul>	FMOH/RHB/ZHD/WoHO FMOH/RHB PFSA  ZHD, WoHO and partners  Kebele Admin, PHCU,  FMOH/PFSA/Partners	<b>2,206,500</b>
	Vaccine stock management and wastage monitoring Problems in <ul style="list-style-type: none"> <li>• Lack of forecasting (no min/max stock level monitoring (incorporate in EPI policy)</li> <li>• No recording/ reporting of</li> </ul>	<ul style="list-style-type: none"> <li>• Implement standard effective Vaccine management practices (proper forecasting, min/max stock level monitoring, regular physical inventory, stock and vaccine wastage monitoring),</li> <li>• Use vaccine utilization/ wastage as performance measure and feedback</li> <li>• Finalize and endorse vaccine procurement, collection, storage and distribution SOPs</li> </ul>	FMOH/RHB/ZoHD/WoHO  ”  FMOH/PFSA/FMHACA/Custom	<b>7,360,212</b>

	<p>vaccine receipt and issue.</p> <ul style="list-style-type: none"> <li>• limitation on vaccine stock management and wastage monitoring in using it as one of the performance indicator of EPI)</li> </ul>	<ul style="list-style-type: none"> <li>• Refresher/basic training on vaccine management</li> <li>• Printing/distribution of vaccine register and related formats (vaccine requisition form, etc)</li> <li>• Regular monitoring and supervision (HC, Woreda,etc) of vaccine management.</li> <li>• Conduct vaccine wastage study and develop vaccine management improvement plan</li> </ul>	<p>&amp;partners FMOH/RHB/ZoH D/WoHO/partners “ “</p>	
	<p>Cold chain equipment maintenance:</p> <ul style="list-style-type: none"> <li>• Absence of Cold Chain maintenance structure except SNNPR</li> <li>• Shortage of energy source(budget for kerosene)</li> <li>• Shortage and poor spare parts stock monitoring</li> <li>• Lack of recording and reporting of cold chain equipment maintenance activities</li> <li>• Mal-distribution of Cold chain equipment and spare parts</li> <li>• Lack of cold chain equipment data base</li> </ul>	<ul style="list-style-type: none"> <li>○ Re-distribution of Cold Chain Equipment</li> <li>○ Establish cold chain equipment database at all level and update in a regular basis</li> <li>○ Based on current national cold chain inventory, develop national Cold Chain Equipment rehabilitation and expansion plan</li> <li>○ Conduct Cold chain equipment maintenance campaign</li> <li>○ Introduce technology based alternative efficient Cold Chain Equipment (Solar Direct Drive, passive containers, etc )</li> <li>○ Establish cold chain maintenance system: creating structure, assigning focal person, following up Cold Chain Equipment maintenance taskforce establishment, focus on preventive maintenance (incorporating Preventive Cold Chain Equipment Maintenance in EPI training),</li> <li>○ Recording and reporting of cold chain maintenance activities</li> <li>• Based on EVMA findings develop vaccine and cold chain management improvement plan</li> <li>• support for vaccine management transition process: <ul style="list-style-type: none"> <li>○ Vaccine management training</li> <li>○ Cold Chain management training</li> </ul> </li> </ul>	<p>HFs/Woreda/Zone/FMOH/PFSA / Partners  FMOH/PFSA/RHB/ZoHD/WoHO/HFs/Partners  FMOH/PFSA/RHB/Partners  FMOH/PFSA/RHB/Partners  FMOH/PFSA/RHB/Partners**  Woreda/Zone/R</p>	<p><b>972,973</b></p>

		<ul style="list-style-type: none"> <li>• Procurement and replacement of cold chain equipment: <ul style="list-style-type: none"> <li>○ Cold rooms</li> <li>○ Refrigerators</li> <li>○ Spare parts</li> <li>○ Establish Cold chain maintenance work shops at regional level</li> <li>○ Test outsourcing of the cold chain equipment maintenance activities</li> </ul> </li> <li>• Prepare refrigerator maintenance reference manual</li> </ul>	egion	
<b>Cold chain and logistics</b>	Kerosene Shortage	<ul style="list-style-type: none"> <li>• Advocate allocation of budget for kerosene by woredas</li> <li>• Replace kerosene refrigerators with alternative efficient technologies (DDS, Passive containers, etc )</li> </ul>	FMOH/RHBs/WoHO/Partners FMOH/RHBs/Partners	<b>972,973</b>
	Temperature monitoring: High temperature excursions (<+2oC and >+8oC 2)( high/ low,; or abnormal temperature reading) <ul style="list-style-type: none"> <li>• Lack of temperature review</li> <li>• Lack of temperature recording and lack of continuous temperature monitoring</li> </ul>	<ul style="list-style-type: none"> <li>• Procure appropriate continuous temperature monitoring devices (Fridge tag, remote temperature monitoring devices etc)</li> <li>• Institute regular temperature review system</li> <li>• Print temperature monitoring charts,</li> </ul>	FMOH/RHBs/Partners  FMOH/RHB/ZoHD/WoHO/ HFsfMOH/RHBs/Partners	

Area of intervention	Key constraints and challenges	Possible solution/(strategy , activities) Major activities	Responsible (central, regional, woreda, operational)	Budget (2006 &2007 EFY)
<b>Communication</b>	<p><b>Advocacy</b></p> <ul style="list-style-type: none"> <li>○ EPI is taken as a top priority in some areas; as it is believed that it is well supported by partners and is a well matured program</li> <li>○ The health sector is not linked with other sector offices resulting in inadequate participation of other Sector offices in EPI</li> </ul>	<ul style="list-style-type: none"> <li>○ National level Advocacy workshop to create awareness and value with accountability for decision makers</li> <li>○ Follow up advocacy commitment implementation &amp; out comes</li> <li>○ Design, develop and distribute advocacy guideline on EPI</li> <li>○ Organize a workshop with Regional PR and EPI partners to familiarize them on the guideline</li> <li>○ Conduct advocacy meetings with stake holders at all levels</li> <li>○ Conduct follow-up post advocacy action points on a monthly basis at all levels (regions, zones and woredas)</li> </ul>	<ul style="list-style-type: none"> <li>○ PR/FMOH,</li> <li>○ PR/FMOH, communication TF</li> <li>○ RHBsPR/FMOH, RHB, ZHD, WoHO, Partners</li> <li>○ PR/FMOH, RHB, ZHD, WoHO, partners</li> </ul>	<b>328,000.00</b>
<b>Communication</b>	<ul style="list-style-type: none"> <li>○ The social mobilization strategies are not designed considering the different populations in the country resulting in weak and inconsistent social mobilization especially in DRS at all levels</li> <li>○ Inadequate community involvement in social mobilization activities/ Kebele, religious/ clan leader at all levels</li> <li>○ Available communication channels are not mapped resulting in Insufficient</li> </ul>	<ul style="list-style-type: none"> <li>○ Map and involve partners that are working on EPI program in the country</li> <li>○ Improve linkage between Kebele administration and Health facility</li> <li>○ Messages on immunization should be designed and developed based on the gap identified</li> <li>○ Use different traditional communication channels for SOMOB.</li> <li>○ Provide training for communication media</li> <li>○ Revise ICC TOR and ensure PR key partners are included</li> <li>○ Use /integrate child survival and MNCH platforms for EPI communication</li> <li>○ Produce key messages and print/broadcast using both traditional and modern channels</li> </ul>	<ul style="list-style-type: none"> <li>○ UDPHP directorate WHO and UNICEF</li> <li>○ FMOH</li> <li>○ HP/PHCU/ woreda, partners</li> <li>○ FMOH Communication TF , partners</li> </ul>	<b>2,833,868</b>

	<p>utilization of Locally available and traditional communication channels</p> <ul style="list-style-type: none"> <li>○ DRS especially Somali region has many NGOs working in the region but the partners are not mapped and utilized for EPI; inadequate training or orientation given for media at the regional level resulting in Inadequate knowledge of journalist on EPI (urban)</li> <li>○ Communication at the FMOH is under the Public relation Directorate; this is also true at regional level; yet the linkage between EPI Public relation and EPI programme unit at all levels is not regular; it usually occurs during emergencies or crisis.</li> </ul>	○	<ul style="list-style-type: none"> <li>○ FMOH/ partners</li> <li>○ FMOH/ Communication TF partners</li> </ul>	
<b>Communication</b>	<p><b>Programme communication (Users/client)</b></p> <ul style="list-style-type: none"> <li>○ Weak IPC (between service provider and care taker)</li> <li>○ Misconceptions about EPI</li> <li>○ Lack of follow up and mentoring</li> <li>○ Service providers have low value for importance of IPC</li> </ul>	<ul style="list-style-type: none"> <li>○ Include IPC indicators in supervision checklist of EPI</li> <li>○ Develop Job aid/ Reminders on key messages during immunization (context specific)</li> <li>○ Revise existing check lists and incorporate key IPC indicators</li> <li>○ Develop Job aid/Reminders for all HF translated in working language</li> </ul>	<ul style="list-style-type: none"> <li>○ EPI M&amp;E at all levels</li> <li>○ PPD</li> </ul>	

	<ul style="list-style-type: none"> <li>o IPC indicators not captured in supervision checklist of EPI</li> </ul>			
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**Table 2 Summary of the budget break down for 2006 and 2007 EFY RI improvement activities**

Activity	2006 and 2007 EFY				
	Level	Cost for the activities in 2007	Total Cost ETB	Cost in USD	Source
<b>1. Training</b>					
RED Microplaning at regional	Regional		43,250	<b>2,338</b>	GAVI
RED Microplaning at ZHD	ZHD		2,516,038	<b>136,002</b>	GAVI
RED Microplaning at WoHO	WoHO		658,918	<b>35,617</b>	GAVI
HWs IIP training	HCs and Hosp		9,617,438	<b>519,862</b>	GAVI
HWs MLM training	WoHO; ZHD;RHB		525,958	<b>28,430</b>	GAVI
HEWs training	HEWs		26,712,478	<b>1,443,918</b>	GAVI
DQS and data management training TOT	RHB		497,446	<b>26,889</b>	GAVI
DQS and data management training	Sub regional(Zona		4,150,018	<b>224,325</b>	GAVI

	l)				
<b>Sub Total</b>			<b>44,721,544</b>	<b>2,417,381</b>	
Supportive supervision: center	Central	802,558	1,605,116	<b>86,763</b>	FMOH
Supportive supervision: RHB	RHB	535,038	1,070,076	<b>57,842</b>	FMOH
Supportive supervision: ZHD	ZHD	1,982,678	3,965,356	<b>214,344</b>	GAVI
Supportive supervision: WoHO	WoHO	12,658,198	25,316,396	<b>1,368,454</b>	GAVI
<b>Sub Total</b>			<b>31,956,944</b>	<b>1,727,402</b>	
<b>2. Review meetings</b>				<b>Cost in USD</b>	
Central	Central	221,006.00	442,012.00	<b>23,893</b>	WHO
Regional	Regional	910,826.00	1,821,652.00	<b>98,468</b>	WHO
Zonal	Zonal	4,586,426.00	9,172,852.00	<b>495,830</b>	WHO
Woreda	Woreda	11,056,046.00	22,112,092.00	<b>1,195,248</b>	WHO
<b>Sub Total</b>			<b>33,548,608.00</b>	<b>1,813,438</b>	
<b>3. Guidelines: preparation and revision</b>				<b>Cost in USD</b>	
Training & RED micro planning			225000	<b>12,162</b>	WHO
Job aids				-	
Policy guidelines				-	
<b>Sub Total</b>			<b>225,000.00</b>	<b>12,162</b>	
<b>4. Printing &amp; binding</b>				<b>Cost in USD</b>	

policy guide			163310.4	<b>8,828</b>	UNICEF
RED Microplaning			1615838.4	<b>87,343</b>	UNICEF
Social Mobilization guide line			728748	<b>39,392</b>	UNICEF
Job aids			268026	<b>14,488</b>	UNICEF
HMIS tools			13472580	<b>728,248</b>	UNICEF
<b>Sub Total</b>			<b>16,248,502.80</b>	<b>878,297</b>	
<b>Cold chain and Logistics</b>				<b>Cost in USD</b>	
Initiate effective vaccine delivery			40,820,247	<b>2,206,500</b>	Gates Foundation-
Vaccine stock and wastage monitoring			136,163,928	<b>7,360,212</b>	CHAI,UNICEF,GAVI,W HO
kerosene			18,000,000	<b>972,973</b>	FMOH
National CCE rehabilitation			18,000,000	<b>972,973</b>	UNICEF,CHAI,WHO,G AVI
<b>Sub Total</b>			<b>212,984,175.00</b>	<b>11,512,658</b>	
<b>Social mobilization and communication</b>				<b>Cost in USD</b>	
Advocacy workshop National, regional, zonal and Woreda level			6,068,000.00	<b>328,000</b>	UNICEF
Key message broadcasting through radio and TV		438,000.00	876,000.00	<b>47,351</b>	UNICEF
Air time (Text message on immunization)		51,600,000	103,200,000.00	<b>5,578,378</b>	UNICEF
<b>Sub Total</b>			<b>110,144,000.00</b>	<b>5,953,730</b>	
7. Special support for pastoralist areas ( Lump sum)		760000	1,520,000.00	<b>82,162</b>	GAVI,UNICEF



coverage survey			1140000	<b>61,622</b>	WHO
Operational research			1,600,000.00	<b>86,486</b>	WHO
<b>Sub Total</b>			<b>4,260,000.00</b>	<b>230,270</b>	
<b>Grand Total</b>			<b>454,088,773.80</b>	<b>24,545,339</b>	

Note: Detail activities with budget break down are attached with this technical improvement plan document.

**Table 3 Summary of Monitoring indicators of major activities for 2006 and 2007 EFY RI improvement activities**

<b>Planned activities</b>	<b>Indicators</b>	<b>Start date</b>	<b>End date</b>
<b>Micro planning</b>			
Training 11 regional focal persons as a facilitators on the cascaded training on RED Micro planning for EPI	Training conducted at the regional level	Jan-14	Mar-14
Support all 103 Zonal focal persons on training on Micro planning	Number of Zonal focal persons trained on RED micro plan		
Support Health facility level micro planning training in Zones with large number of unvaccinated children	Reports of training	Feb-14	Mar-14
Updated EPI policy guideline to be availed at all levels and orient heath workers on the guide.	Revised EPI policy guideline	Nov-13	Feb-14
<b>Data Quality</b>			
Monthly Conduct data analysis and provide feedback to the 11 regions			
conduct national DQS	DQS report	March 1st/2014	April 10/2014
<b>Programme Management</b>			
Quarterly review meetings with regional focal persons, to follow progress, identify problems and put recommendations			
Bimonthly joint steering meeting led by higher official from the ministry with the RHB heads		Sep-13	
<b>Capacity building</b>			
Training of woreda health offices and Zonal focal persons in t Zones with large number of unvaccinated children /integrated with other EPI trainings:-RED-Microplaning, MLM,IIP/	training report	Jan-14	Mar-14
Training of Health workers at health facility on IIP and RED micro planning in the selected Zones with large number of unvaccinated children	training report	Jun-14	
Refresher/basic training on vaccine management	training report	Jun-14	
<b>Resource mobilization/Financing</b>			

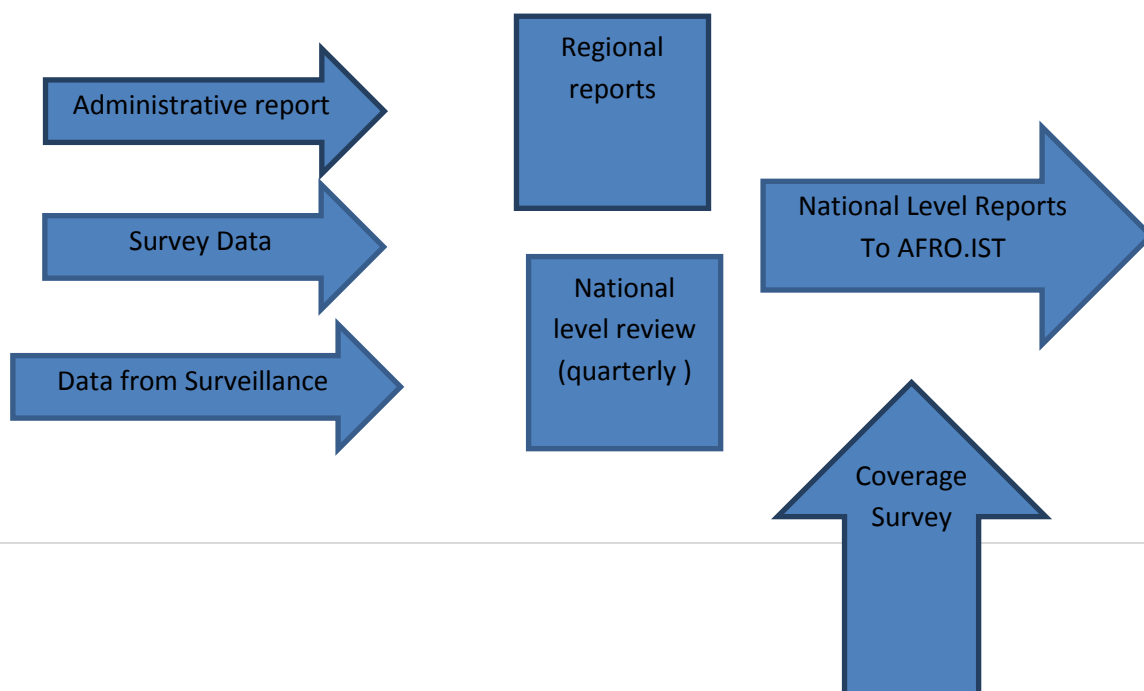
Utilize the two year revitalization plan to mobilize resources	Submitted proposal	Nov-13	
<b>Advocacy and Communication</b>			
Conduct regional workshops to disseminate the communication and advocacy strategic plan	4 regional level advocacy workshop	Jun-14	
Monitor and evaluation of implementation of the communication and advocacy strategic plan	evaluation report		
Support mobilization through local radios for increased uptake of immunization through outreaches	Radio broad cast	Apr-14	
Support community mobilization by using Health development Army	Update reports through the health extension workers	Jan-14	
Develop immunization messages based on the findings of Behavioral determinants survey	Messages developed	Jan-14	
Produce and disseminate mobile text messages to increase awareness on immunization uptake	Text messages developed	Feb-14	
Develop job aid during immunization sessions	Job aid developed	Mar-14	
<b>Service delivery</b>			
Support developing regional states to conduct Enhanced routine Immunization Activity (ERIA)	ERIA report proportion of children reached through the strategy	Jan-14	
Analyze the RED micro plan developed and identify high risk areas for designing strategies	RED updates report	Mar-14	
Identify Zones with large number of unimmunized children 2 times in a year and conduct training on RED and IIP	Training reports	Jan-14	
Logistics and vaccine management			
Produce final analysis and report on the CCI	CCI report	Sep-13	Dec-13
Produce improvement or rehabilitation plan based on the result of CCI	cold chain rehabilitation plan	Jan-13	Apr-14
Finalize the EVMA and produce plan for improvement	EVMA report and improvement plan	Jan-14	Apr-14
Regular stock management (Monthly bases from regional hubs to the center	SMR report from regions	Jan-14	

Procure appropriate continuous temperature monitoring devices (Fridge tag, remote temperature monitoring devices etc)	procured and distributed	Jun-14	
Conduct one national cold chain equipment maintenance campaign	campaign report	Jul-14	
Produce monthly stock management	Produced monthly stock management	Jan-14	
Support the PFSA expansion in 17 storage and distribution sites	Finalized dry and cold warehouses	Aug-13	Dec-15
<b>New vaccine introduction</b>			
Participate in Rota NVI national activities (Technical meetings, awareness meetings, trainings)	National introduction as scheduled	Oct-13	
Men A introduction activities (Trainings, Supervision, technical report)	SIA report	Oct-13	

### Accountability Frame work

The FMOH has a direct oversight of the routine EPI plan with the technical support of a Task force comprised of various stakeholders (Table 3). The country Monitoring and Evaluation frame work will be based on the principles of the GVAP accountability frame work. Therefore the frame work will be applied to 1) monitor results against the stated objectives in the two years period 2) Document and Monitor stake holders commitment 3) tracking resources invested in the immunization program over the two years period 4) inclusion of coverage monitoring through surveys.

**Fig 5. Proposed Frame work**



### National level

Monitor the administrative data on monthly basis; conduct bimonthly review meeting and triangulation of surveillance data with RI data; national coverage survey monitor EPI data of regions by zone

### Regional level

Monitor the Zonal level data by Woreda are reported on a monthly bases, bimonthly basis review meeting with Zonal focal persons, periodic DQS

**Table 3 . Summary of time table of activities**

Activity	responsible	Time Frame
Finalization of the plan and consensus building with regions	FMoH	End of August
produce bimonthly report at the Joint steering committee meeting on activities of the POA	Regions	Every two months
Coverage Administrative reports on each antigen on a monthly bases	All levels	Monthly
Conduct validation survey for administrative data	FMoH; Partners	Yearly (proposed by the FMOH)
Review meeting on quarterly bases	FMoH; Partners, RHB	4 times in a year



Indicator	Baseline	Target	MOV	Status (Date)	Remarks	Responsible	Milestones (end of period)			
							Q2-06	Q4-06	Q2-07	Q4-07
- PFSA hubs storing vaccines routinely	0	??	Stock report			PFSA				
- New cold room installations	0	17	Install report			PFSA		5	10	17
- SDD installed	30?	1000	Install report					500	1000	
- Mid-level cold chain techs trained (by region)										
- Maintenance workshops established										
- Cold chain inventory updated within last 6 months (by zone)	100%	100%	CC inventory database							
<b>Communications</b>										
- Regions, zones, woredas completing launch events with key leaders, stakeholders (by zone, region)	0%	100%						100%		
- % HP with HDA trained in new tools for RI (by zone, region)	0%		Training Db							
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## Annex 2: List of prioritized zones for RI support based on coverage, number of unvaccinated children and recent history of measles outbreak

Province_ Name	District_ Name	popn	SI-Annualized	Penta vaccinated 3	Annualized Coverage (%)*	Unvaccinated children
Afar	Afar 1	561,651	10,108	3,409	33.7%	13,397
Afar	Afar 2	490,241	5,939	1,572	26.5%	8,735
Amhara	Awi	1,159,557	18,200	11,245	61.8%	13,910
Amhara	North Gonder					
Amhara	N Shewa	2,093,354	33,838	27,482	81.2%	12,712
Amhara	S Wello	2,846,490	49,422	37,838	76.6%	23,168
Amhara	W Gojjam	2,382,496	43,640	31,159	71.4%	24,962
BsG	Metekel	395,919	5,622	5,259	93.5%	
Gambella	Mejenger		1,119	360	32.2%	1,518
Gambella	Nuer		2126	376	18%	619
Oromia	Arsi	3,239,851	52,816	44,752	84.7%	16,128
Oromia	Bale	1,708,910	29186	26428	91%	4994
Oromia	Borena	1,296,373	22144	18245	82%	6425
Oromia	E Shewa	1,894,949	31,878	20,646	64.8%	22,464
Oromia	EWellega	1,483,632	25,916	19,362	74.7%	13,108
Oromia	Guji	1,721,530	29656	25168	85%	7618
Oromia	Illubabor	1,545,815	27,100	19,890	73.4%	14,420
Oromia	Jima	3,014,783	53,286	33,222	62.3%	40,128
Oromia	W Shewa	2,381,079	41,171	15,782	38.3%	50,777
Oromia	W.Harer	2,272,321	39,420	32,129	81.5%	14,582
Oromia	WWellega	1,655,954	28,550	22,467	78.7%	12,166
SNNPR	Bench Maji		13,816	10,617	76.8%	
SNNPR	G/Gofa	1960421	33450	29631	89%	6766
SNNPR	Keffa	1,072,647	18454	15942	86%	4340
SNNPR	Sidama	3,572,813	61,482	48,654	79.1%	25,656
SNNPR	Wolayta	1,851,452	32,032	29,513	92.1%	5,038
Somali	Afder		10,760	30	0.3%	21,460
Somali	Degehabur		9,013	1,229	13.6%	15,568
Somali	Fik		6,561	470	7.2%	12,181
Somali	Gode		8,749	2,270	25.9%	12,958
Somali	Jijiga	1,154,390	15,992	10,162	63.5%	11,661



### Annex 3: Major activities and budget for the national cold chain rehabilitation plan

Task description	Budget USD
<b>Management</b>	
Mapping of all CRs and FRs should be carried out to ensure proper cooling and identify the unsafe zones for vaccine storage.	24,060
Develop written contingency plan, which could be used by vaccine stores in the event of equipment failure or other emergencies and ensure safety and potency of the vaccines.	25,000
For all facilities having kerosene operated equipment, there should be sufficient allocation of funds for continuous supply of kerosene.	2,970,000
A system of recording all major maintenance and repairs should be established. This could well be on the reverse side or on facing page of the temperature recording book	
All Regional and Zonal stores to start using computerized stock control system	942,000
Freeze indicators should be used during transportation of freeze-sensitive vaccines whenever frozen / conditioned icepacks are used.	76,600
Wastage rate should be taken as the major reporting indicator at all level. Periodic immunization report and proper use of the vaccine stock register will enable proper monitoring mechanism for vaccine wastage reduction	
<b>Infrastructure</b>	
Ensure adequacy of dry storage space at stores that do not have sufficient dry space.	
Equip all dry stores at RVS and ZVS, with racks and facility of pallets and mechanical equipment. Preferably the stores should be organized in a manner to segregate the EPI items from other non-EPI ones.	
Move all equipment from the Somali old RVS store to the new site where the new cold room is located.	
<i>Establishment and equipping cold chain equipment maintenance workshop</i>	6,965,000
<b>Equipment</b>	
Install adequate continuous temperature monitoring devices at all cold and freezer rooms. At PFSA install required software and interface and put the existing data logger into operation. The data logger company may be contacted for this purpose Acoustic alarms should be put into operational at all CRs and FRs	120,000
Expand the negative vaccine storage capacity at the regions and the zones wherever it is insufficient.	67,200
Provide cold-boxes at the zones having their shortages.	50,000
Replacement of aged and absorption refrigerators	
Compression type refrigerators HF level (Qty: 5400)	8,100,000
SDD HF level (Qty: 7032)	28,128,000
Compression type refrigerators woreda level (Qty: 1352)	2,028,000
SDD woreda level (Qty: 301)	1,204,000
Compression type refrigerators zonal level (Qty: 307)	460,500
total replacement	39,920,500
Storage gap at woreda level: 21% of the woreda stores ( about 135 woredas) 1 comp refrigerator for each	262,500
<i>Supply of maintenance tools</i>	136,200

Ensure sufficiency of all critical spares, particularly for CRs refrigeration units, so as to minimize the time the equipment remains non-functional. Put the 3 refrigeration units of the PFSA and the cold rooms of Oromia into operating condition with urgency.	1,200,000
Ensure that every equipment is supplied with one internal thermometer for temperature monitoring	50,000
Fridge tags for 50% of the refrigerators	220,000
There should be a Voltage regulator for every equipment. This will help reduce equipment failure and lengthen the life of each equipment.	372,900
All facilities at RVS, ZVS and WVS that operate using electrical equipment and lack generators should be equipped with back-up generator. Adequate funds for fuel should be also earmarked.	9,420,000
Ensure safety against fire and other accidents, Procure and install fire-extinguishers where needed.	637,350
Cold boxes to lower levels (500 per year)	250,000
vaccine carriers for lower levels (2000 per year)	60,000
High temperature incinerators (50 per year)	500,000
<b>Takeover of regional and sub-regional cold rooms management to PFSA</b>	9,000
<b>Expansion and strengthening of Cold Stores (31 CRs)</b>	2,000,000
<b>generators (17)</b>	510,000
<b>Temp data loggers(17)</b>	68,000
<b>Human resource assignment</b>	737,500
<b>Procurement and distribution of the ILR and freezers to cold rooms</b>	680,000
<b>Supply of temperature monitoring tools:</b>	485,000
<b>Procurement of refrigerated trucks for Center and primary &amp; medium van for secondary cold stores</b>	5,360,000
<b>Procurement and distribution of the cold boxes to cold rooms and health facilities with additional cold boxes</b>	1,608,000
<b>Integrated Vaccine distribution (for 1 year)</b>	1,586,000
<b>Planning &amp; Documentation</b>	
A planned preventive maintenance program for buildings and equipment should be established and followed. At the upper level there should be proper agreement for this purpose.	
Ensure that the cold chain inventory records all the basic information required for inventory management and it should be updated at least once every year at national, regional and provincial levels.	109,420
<b>Capacity Building</b>	9,104
Technicians should be trained to carry out calibration of temperature sensors. They should carry out the calibration at least once every year	5,500
Provide training to storekeepers in safe working in cold rooms / freezer rooms	1,700
<b>Training on cold chain maintenance:</b>	225,000
<i>maintenance of cold chain equipment in the form of campaign</i>	307,968
There is a need for SOPs and training on preventive maintenance for cold rooms and freezer rooms	50,000
Program specific supportive supervision should be conducted following necessary standardized checklist. Proper documentation of the follow up action points from the supervision should also be monitored and implemented. <b>The aspects noted below should be part of it:</b>	240,000

Establish practice of reviewing the temperature records on a monthly basis to identify problems for timely remedial actions. Records of these reviews should be maintained.	
Staff should keep complete set of temperature record for the last 3 years	
EPI refrigerators should be used only for vaccines and diluents.	
<i>Review meetings</i>	240,000
	<b>118,422,002</b>

#### Annex 4: Major activities and budget for EVM improvement

Item no.	EVM code	Task description	Budget USD
		<b>National EPI &amp; Policy</b>	
1	E1	The time required for customs clearing of vaccines should be no more than 24 hours. The FMOH should work out an arrangement, with the PFSA and customs directorate to ensure this. If possible, the clearing of the vaccines should be processed as accompanying goods, at the arrival terminal and not as a cargo, which by default takes much longer.	NA
2	E1	The FMOH should request the FMHACA to carry out a speedier authorization for the import of the vaccines, since these are all sourced by UNICEF from WHO pre-qualified manufacturers.	NA
3	E2	The recommendations of the 2010 temperature monitoring study should be implemented.	
4	E4	Oromia RVS needs to be given special attention and put into operation as a priority, as it is the RVS that is catering to a large population.	NA
5	E8	There should be proper review procedures to ensure the accuracy of consolidated wastage rate data received from the lower levels and peripheral facilities till the top – these data are critical for accurate vaccine forecasting by EPI unit	
6	E9	National EPI should strive to bring consistency in the population data between the HMIS data and the actual target being covered at each store for respective level,	NA
7		Coordination between PFSA and EPI needs to be strengthened - especially in view of the plans that PFSA will be delivering all supplies down till the HF level. EPI should have proper and timely information of movements of all vaccine and consumables stocks.	NA
		<b>Management</b>	
7	E1	The EPI and the PFSA should keep a copy of the completed VAR along with the LRC at their premises, as these documents are vital when it comes to any required follow-up of any vaccine induced AEFIs.	NA
8	E1	Implement use of the Consumables Arrival Report, developed by UNICEF, for the consumables.	NA
12	E5	A system of recording all major maintenance and repairs should be established. This could well be on the reverse side or on facing page of the temperature recording book	
13	E6	All Regional and Zonal stores to start using computerized stock control system	107,000
14	E6	National EPI team should define the minimum and maximum levels for each and every store at each level	NA
15	E6	The National EPI team should ensure that stock in hand at respective stores is taken into account when instructing the PFSA to send the periodic vaccines supply.	14,654

16	E6	Develop SOPs which provides clear guidance on the recording and subsequent management of damaged and expired vaccines.	
18	E8	Wastage rate should be taken as the major reporting indicator at all level. Periodic immunization report and proper use of the vaccine stock register will enable proper monitoring mechanism for vaccine wastage reduction	NA
		<b>Planning &amp; Documentation</b>	
32	E6	Implement practice of carrying out physical stock counts regularly – preferably when preparing the requisition with verified stock balance, The stock records should be adjusted to match the physical count	NA
33	E6	Preferably the standard forms used for requisition, and supplies should be revised to print all names of antigens, diluents and logistic items. This way it will reduce staff work, and specially avoid that any item are forgotten or missed out	41,420
34	E7	There should exist a collection / distribution plan at every store, with a certain degree of flexibility. It should be implemented. A mechanism to monitor the implemented should also in place.	NA
35	E9	The national EPI team should update the training materials covering the salient aspects of vaccine supply chain management, with emphasis on the areas of weakness identified during this as well as other assessments (e.g. temperature monitoring study).	109,420
36	E9	The national EPI should prepare simple and easy to use Standard Operating Procedures (SOPs) for all important operations required at all respective levels of the vaccine supply chains. These should also be updated periodically to reflect the country policy and needs.	109,420
37	E9	The SOPS should be shared with the Staff of respective levels during a specially planned workshop, and ensure that they understand it and can use them comfortably.	NA
		<b>Capacity Building</b>	
38	E1	The top management of customs should be sensitized to the vulnerability of the vaccines and consequences of the delays in clearing process.	NA
40	E2	Conduct training on Vaccine management for all store managers/Health workers and other related staffs who have not been trained in the past 2 years. Refresher course with emphasis on gaps identified in this report will always be beneficial for the others.	1,148,400
44	E6	Ensure that the storekeeper receive training in the principles of operating a store between maximum and safety stock levels. They must ensure that requisitions take into account stock in hand.	NA
45	E7	During refresher training attention should be given to ice pack conditioning and CB packing for the newly appointed staff. It should include, practical training on icepack conditioning and packing to the storekeeper lacking proper knowledge.	NA
46	E8	Provide practical refresher training (OJT) on shake test to the new comers and those lacking good knowledge.	NA
47	E9	There is a need for strengthen the EPI team capacity in planning of vaccine requirements at all levels in order to prevent stakeouts or overstocking. Special emphasis should be given in their capacity building on correct computation and practical implementation of maximum and safety stock level policy at all levels.	NA
48	E9	There should be regular Supportive supervision incorporating a list of EVM key indicators in the check list. This may require proper orientation of the supervisors on “ <b>What to supervise and how to supervise</b> ”, along with development of a programme specific check list and follow up strategy.	NA
49		<b>Supportive supervision aspects</b>	

50	E8	Program specific supportive supervision should be conducted following necessary standardized checklist. Proper documentation of the follow up action points down from the supervision should also been monitored and implemented. <b>The aspects noted below should be part of it:</b>	
51	E2	Establish practice of reviewing the temperature records on a monthly basis to identify problems for timely remedial actions. Records of these reviews should be maintained.	
52	E2	Staff should keep complete set of temperature record for the last 3 years	
53	E3	Ensure that OPV is always stored at -20 deg C temperature at all RVS and ZVS.	
54	E6	Ensure use of the well-designed stock register which is distributed to all stores	
55	E6	All store managers should be encouraged to update stock records within one working day	
56	E6	Implement practice of marking each page of the stock register with the respective min and max levels on top for quick reference at all stores	
57	E6	There should be a periodic review of stock registers, especially the records related to damaged vaccines.	
58	E6	All staff at all levels should be encouraged to use consistently the standard forms for ordering, issuing and receiving vaccines and supplies.	
59	E6	EPI refrigerators should be used only for vaccines and diluents.	
60	E8	There should be proper review procedures to ensure the accuracy of consolidated wastage rate data received from the lower levels and peripheral facilities till the top – these data are critical for accurate vaccine forecasting by EPI unit	
1,530,314			

### Annex 5: compiled regional improvement plan

It is attached in a separate excel sheet