



# Environment and Public Health Organization (ENPHO)

# 2016

## Annual Report







## **Vision**

Creating Eco-Societies

## **Mission**

To develop, demonstrate and disseminate (3-D) appropriate technologies to enable societies become healthy and environment friendly.



## Environment and Public Health Organization (ENPHO)



## ENPHO Annual Report 2016

### Submitted To:

25<sup>th</sup> Annual General Meeting 2073/2016  
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**10 September 2016**



## **Message from the Chairperson and the Executive Director**

The year 2015-16 was a milestone for ENPHO. We recently celebrated our 25 successful years in a grand manner that is still vivid in our memory. The occasion was also an opportunity to look back into ENPHO's history to reflect on how the dreams of a few dedicated individuals at the beginning are now becoming a reality. We have many reasons to celebrate – for the technical and social innovations in the sector of WASH, the expanding partnership and the 3.7 million direct beneficiaries of our services so far.

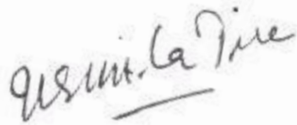
The post-earthquake projects, with financial and moral support of generous donors and partners, continued in the year. Several new projects have been initiated. Our funding base and strategic partnership expanded in a significant manner. The total annual budget and the total staff number are at new heights. Several new projects are in the pipeline. We are aiming for long-term projects that will enable ENPHO to focus more on innovations and on providing quality services.

During the year, ENPHO underwent several internal strategic and institutional improvements that will enable it to evolve into a truly professional organization that can deliver quality and long lasting services to the societies and nation. A new organizational structure was established to align with the new draft 5-year strategic plan. Reshuffling of all staff was carried out with roles and responsibilities reviewed and updated. The Employee Service Rules (human resource policy) were fully overhauled and new rules implemented. Financial and Procurement Policies were revised and put into practice along with computer equipment management guidelines policy and internet and intranet use policies.

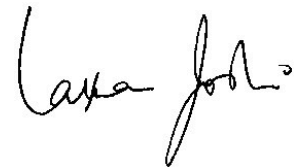
The increasing difficulty (legal and management) to retain laboratory services, production and marketing functions within ENPHO. The need to find alternative ways to continue providing analytical services and production of Piyush, Piyush Plus and test kits has been a topic of discussion at ENPHO for many years. ENPHO took a bold decision to make this happen in the coming days. Partnership with a social business company is currently under discussion.

Regular work on WASH service delivery, DEWATS, Fecal Sludge Management, water quality continued with funding support from UNHABITAT, OXFAM, JICA, DFID, EU, Water Aid, RUAF Foundation, RAIN Foundation and CAWST, BORDA, EAWAG, Consortium for DEWATS Dissemination (CDD) and WASTE. With the support of BORDA and CDD Society of India, ENPHO installed the pilot FSM plant using prefab system near Lubhu in Mahalaxmi Municipality. It is the first of its kind in Nepal that is attracting the interest of many sanitation based institutions in Nepal.

The year 2015-16 was exceptional at ENPHO in many ways; it was a turning point in the history of ENPHO. The staff of ENPHO deserves much credit for its progress and success. We are proud to have Bipin Dangol, who has ample experience and demonstrated dedication, taking the reins of ENPHO as the incoming Executive Director. The organization continues with a reinvigorated spirit with a shared vision of changing the society for better. We thank the staff, partners, government agencies and donors for an excellent and highly productive year. We look forward to an equally good, if not better, year ahead.



**Ms. Urmila Joshi**  
Chairperson



**Dr. Laxman Joshi**  
Executive Director

## Acknowledgement

ENPHO sincerely acknowledges the technical, financial, moral and institutional support provided by following partners in achieving our mission.

- Alternative Energy Promotion Center (AEPC)
- Asian Development Bank
- Asian Institute of Technology (AIT), Thailand
- Bardiya Municipality
- Bharatpur Municipality
- Best Paani Pvt. Ltd.
- Birendranagar Municipality
- Bremen Overseas Research and Development Association (BORDA), Germany
- Butwal Municipality
- Centre for Affordable Water and Sanitation Technology (CAWST), Canada
- Center for Integrated Urban Development (CIUD)
- Centre Horticulture Centre (CHC)
- Changunarayan Municipality
- Clean Energy Nepal (CEN)
- Consortium of DEWATS Dissemination Society (CDD Society), India
- Center for Research for Environment Energy and Water (CREEW), Baluwatar
- Department for International Fund Development (DFID)
- Department for Water Supply and Sewerage (DWSS)
- Dharan Municipality
- Dhulikhel Hospital
- Dhulikhel Municipality
- District Education Office, Surkhet
- DISVI International, Italy
- Dubai EXPO 2020
- Dutch WASH Alliance (DWA)
- Eco Himal, the Society for Cooperation Alps- Himalaya
- European Commission
- Federation of Drinking Water and Sanitation Users' Committee Nepal (FEDWASUN)
- Godawari Municipality
- Gulariya Municipality
- Helen Keller International (HKI)
- HELVETAS Nepal
- iDream Pvt. Ltd.
- Innovative Solution Pvt. Ltd.
- Japan International Cooperation Agency (JICA)
- Japan World Water Forum
- Kathmandu Metropolitan City
- Kathmandu University
- Kathmandu Upatyaka Khanepani Limited
- Karyabinayak Municipality

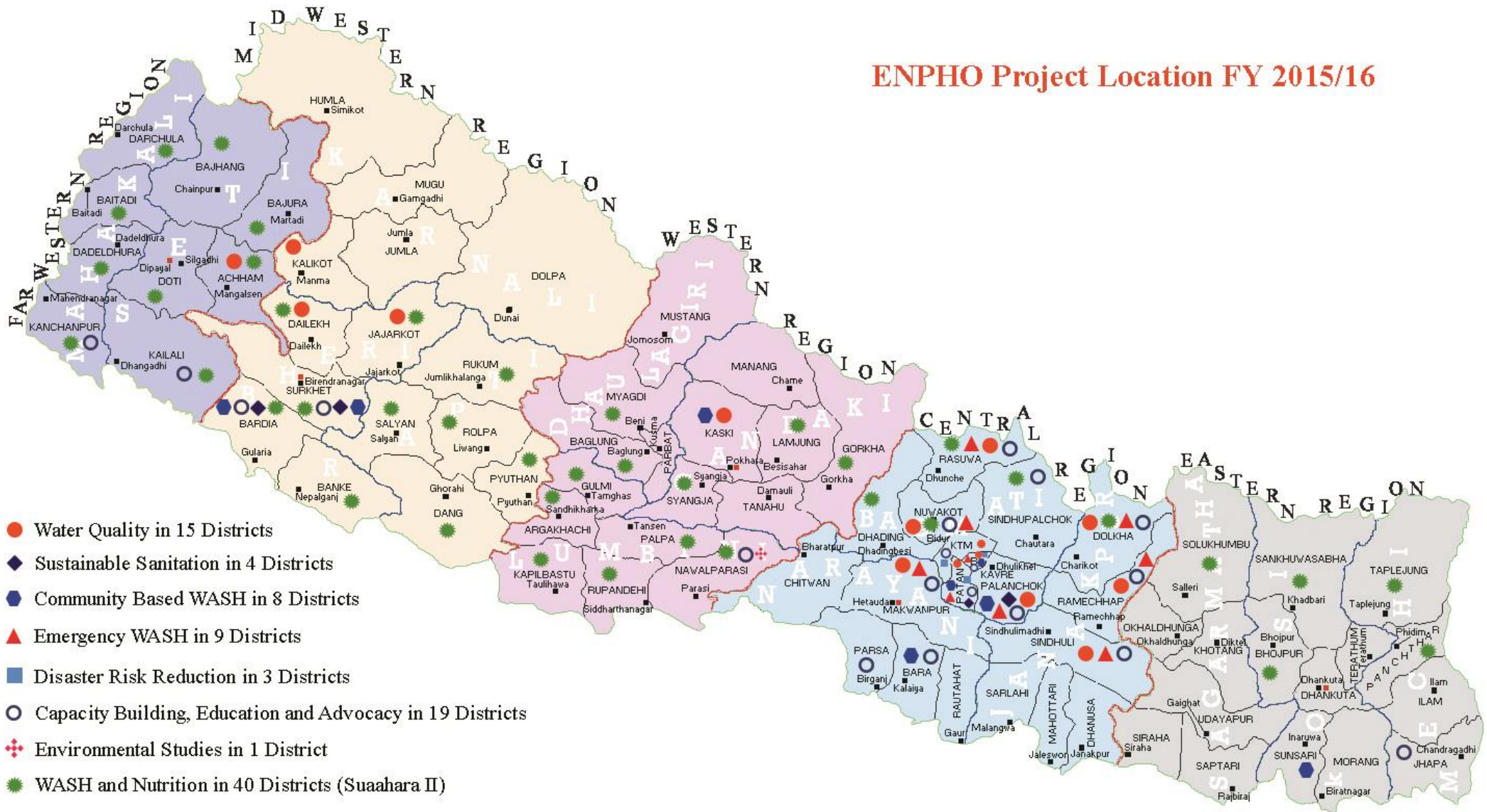
- Kirtipur Municipality
- Lalitpur Sub-Metropolitan City
- LUMANTI Support Group for Shelter
- Madhyapur Thimi Municipality
- Mahalaxmi Municipality
- Mahamanjushree Municipality
- Massachusetts Institute of Technology (MIT), USA
- Mercy Corps Nepal
- Ministry of Urban Development
- Nagarkot Municipality
- Natural Graphics
- Nepal Bureau of Standards & Meteorology (NBSM)
- Nepal Creative House Pvt. Ltd.
- Nepal Engineering College (NEC)
- Nepal Red Cross Society (NRCS)
- Nepal WASH Alliance (NWA)
- NGO Forum for Urban Water & Sanitation
- One Planet Solution Pvt. Ltd.
- Oxfam GB
- Panauti Municipality
- Plan Nepal
- Pokhara municipality
- Practical Action Nepal
- Rain water harvesting implementation Network Foundation/ Stitching AERA, the Netherlands
- Rotary International
- RUAF Foundation, the Netherlands
- Rural Water Supply and Sanitation Fund Development Board
- Rural Water Supply Sanitation Project-Western Nepal, Pokhara
- School of Environmental Management and Sciences (SchEMS)
- Siddhipur Village Development Committee
- SNV Nepal
- Social Welfare Council
- Society for Urban Poor
- SOMNEED Nepal
- Stockholm Environment Institute, Sweden
- Sustainable Sanitation Alliance (SuSanA)
- Swiss Federal Institute for Environment Science and Technology (Eawag), Switzerland
- The Asia Foundation
- The Association for International Solidarity in Asia (ASIA-Onlus)
- The Bill & Melinda Gates Foundation
- The Coca-Cola Company / Bottlers Nepal
- The Humanitarian Water and Food Award (WAF Award)



- The Research Council of Norway- The FRIPRO program
- Tikapur Municipality
- Total Management Services
- Tribhuvan University
- United Nations Children's Fund (UNICEF)
- United Nations Human Settlements Program (UN Habitat)
- United States Agency for International Development (USAID)
- University of Cambridge, UK
- University of Illinois, USA
- University of Kyushu, Japan
- University of Yamanasi, Japan
- Urban Environment Management Society (UEMS)
- WASTE, The Netherlands
- WaterAid Nepal
- Water, Sanitation and Hygiene- Resource Centre Network Nepal (WASH RCNN)
- World Bank
- World Health Organization (WHO)
- Worldwide Print Solution
- 500B Solutions Pvt. Ltd.



## ENPHO Project Location FY 2015/16



- Water Quality in 15 Districts
- ◆ Sustainable Sanitation in 4 Districts
- Community Based WASH in 8 Districts
- ▲ Emergency WASH in 9 Districts
- Disaster Risk Reduction in 3 Districts
- Capacity Building, Education and Advocacy in 19 Districts
- ✦ Environmental Studies in 1 District
- WASH and Nutrition in 40 Districts (Suaahara II)





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# 1. Introduction

## ***“A journey of a thousand miles begins with a single step” – Lao Tzu***

Every short or long journey requires a first step. Environment and Public Health Organization (ENPHO) in its journey on Water, Sanitation and Hygiene (WASH), environment and public health took its first step on 4 November 1990. Envisioning to **“Creating Eco-Societies”** and touching the lives of millions with its services, ENPHO continued its steps to take initiatives and actions in the areas of environment and public health. Research, innovations and promotion of the WASH technologies and approaches have been a core priority of ENPHO.

Since its inception, ENPHO has succeeded in initiating at least one milestone each year. Starting from water quality monitoring of Bagmati River in 1990, ENPHO today has been able to establish itself as a pioneer in various areas of water, sanitation and hygiene. During its 25-year journey, it has completed more than 300 projects. It has footsteps in all 75 districts of Nepal through various programs. ENPHO has also reached out to various countries like Bhutan, Cambodia, India, Laos, Vietnam and Pakistan.

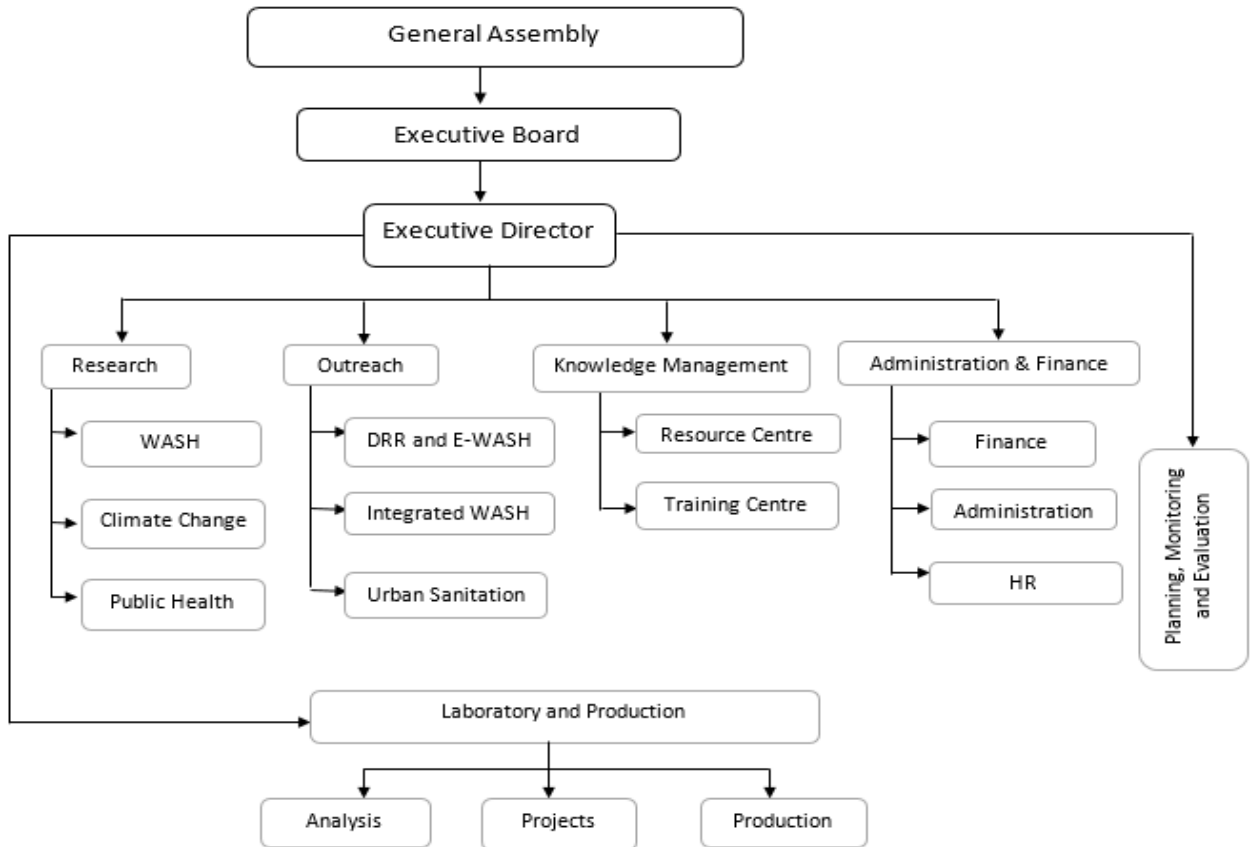
**In 2015, ENPHO completed its 25-year journey benefitting more than 3.76 million people (2,142,698 on safe water; 493,410 on sanitation, 393,102 on integrated WASH and 308,357 on DRR and Emergency Response, and building capacity of 424,376 people on WASH).**

ENPHO, a service-oriented, scientific, national non-governmental organization is constantly contributing towards sustainable community development by developing, demonstrating and disseminating eco-friendly technologies (eg. Rain Water Harvesting, EcoSan Toilets, DEWATS) and water treatment options (eg. Chlorine solution, SODIS, filters). ENPHO promotes integrated community based approaches for safe water, sustainable sanitation, solid waste management, hygienic behavior, improving indoor air, and environmental and air quality monitoring for creating healthy and environmental friendly societies.

### **Strategic Objectives**

- Improve household and community access to safe drinking water.
- Promote integrated water optimization technologies.
- Promote environmental and sustainable sanitation systems.
- Enhance knowledge on hygiene behavior and sanitation practices.
- Improve WASH practices in disaster management.

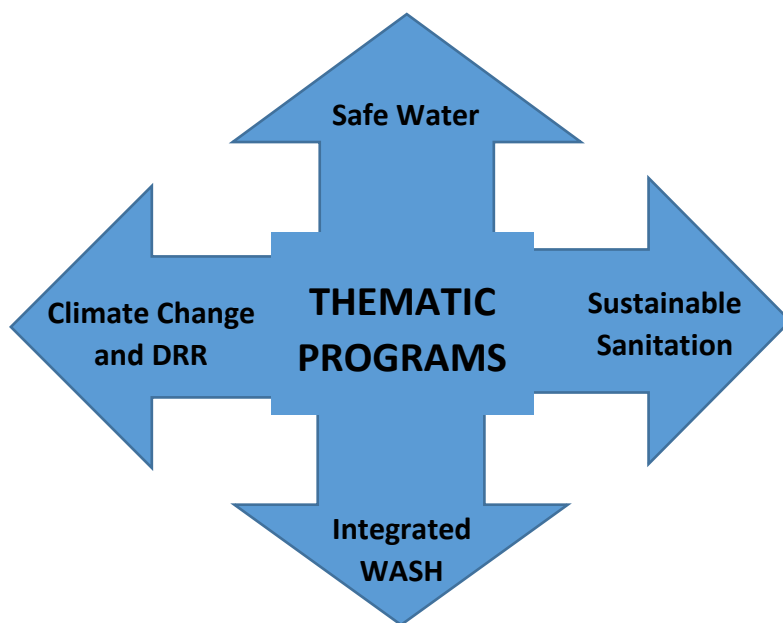
ENPHO is governed by a General Assembly comprising of 108 members that elects an Executive Board once every three years. The Executive Director leads the 150 staff members of which 45% are female.



**Organizational Structure of ENPHO**

**ENPHO has been promoting**

- PoU water treatment options
- Sustainable sanitation systems
- Integrated water, sanitation and hygiene
- Urban WASH preparedness and community based disaster risk reduction
- Integration of urban agriculture with sustainable sanitation as a potential climate change adaptation strategy



## ENPHO's Milestones

<b>1990</b>	Water Quality Monitoring of Bagmati River and Kathmandu's Water Supply System
<b>1992</b>	Initiated Air Quality Monitoring for the first time in Nepal within Kathmandu Valley
<b>1994</b>	Production and distribution of "PIYUSH" chlorine Solution
<b>1997</b>	Introduced Constructed Wetland for Wastewater Treatment System in Nepal
<b>2000</b>	ENPHO Laboratory accredited by a Government body "Nepal Bureau of Standard and Metrology" under NEPLAS system based on ISO 17025
<b>2000</b>	Production of ENPHO test kit, arsenic testing and mitigation activities initiated in the Terai
<b>2001</b>	Initiated research on SODIS and ECOSAN
<b>2003</b>	Received award for Kanchan™ Arsenic Filter at World Bank Development Marketplace
<b>2005</b>	Environment award from Ministry of Environment, Science and Technology
<b>2006</b>	Carried out country environment analysis for the World Bank
<b>2007</b>	Initiation of integrated community based WATSAN programme and declaration of Open Defecation Free (ODF) at community level
<b>2008</b>	Scaling up of waste water treatment system at municipal level and integration of bio-gas system
<b>2009</b>	Received "Partnership for Clean Indoor Air (PCIA)" award for air quality improvement
<b>2009</b>	Establishment of Environment and Public Health Institute (ENPHI) within ENPHO
<b>2009</b>	Initiation of <i>Paschim Paaila</i> - A youth campaign against diarrhea epidemic in Western Nepal
<b>2009</b>	Establishment of Nepal Node for Sustainable Sanitation
<b>2010</b>	ODF declaration at VDC level
<b>2011</b>	ECO-SAN poster attained the first prize in pre-SACOSAN IV in Colombo, Sri-Lanka
<b>2012</b>	Started working on urban disaster risk reduction with focus on emergency WASH
<b>2013</b>	Promotion of Roof Top Agriculture as an adaptation for climate change
<b>2014</b>	Faecal Sludge Management- service delivery, business model and private sector engagement- in Kathmandu Valley
<b>2015</b>	The 4 <sup>th</sup> Kyoto World Water Grand Prize
<b>2015</b>	Co-winner of the Humanitarian Water and Food (WAF) Award
<b>2016</b>	Celebration of 25-year journey Establishment of first pre-fabricated Faecal Sludge Treatment Plant

## Special Remarks

*“With great pleasure, I extend my congratulations to ENPHO for successfully completing 25 years of service in the sector of water and sanitation- the very mandate of the recently formed Ministry of Water Supply and Sanitation. I understand ENPHO has achieved growth with success and thriving to build a reputation as a key player in the sector.*

*Once again, congratulations for your wonderful journey of 25 years. I hope ENPHO can reach new heights in the coming years. I wish you all the best for your future.”*



Er. Suresh Prakash Acharya  
Secretary  
Ministry of Water Supply and Sanitation  
Government of Nepal

*“Congratulations to the entire ENPHO team for your continuous pioneering work in the sector of water and sanitation. I commend the achievements of ENPHO in the last 25 years. I am proud to be a part of ENPHO since its inception. I will continue to be its supporter in its future course.”*



Dr. Roshan Raj Shrestha  
Patron ENPHO



## 2. ENPHO’s 25 Year Celebration Event Highlights

### ENPHO Silver Jubilee: Celebrating 25 Successful Years

To celebrate the completion of its 25-year journey, ENPHO organized “*Silver Jubilee Celebration Week*” in March 2016 during the World Water Week.

- **Inauguration of Silver Jubilee Celebration Week (17 March 2016)**

The celebration commenced on 17 March 2016 with the formal inauguration of Silver Jubilee Week and ENPHO WASH Centre at its central office in New Baneshwor. Various practical technologies and techniques related to safe water, better sanitation, hygiene, reduction of indoor air pollution and disaster risk reduction were showcased in the WASH Centre. Deepawali was done at the central and field offices on the first day of celebration week. The celebration was also marked in the field offices by organizing various events that included worshipping in temples, decorating ‘Mandala’, cutting cake, candle lighting and Deepawali.



- **Water Quality Testing Campaign (18 – 21 March 2016)**



Water quality testing campaign was organized from 18 to 21 March with the objective of testing household water and enhancing public awareness about water safety. A total of 300 samples (100 samples in each district) were collected for testing from Kathmandu valley. The study results revealed that nearly 70% of 300 samples were unfit for drinking. The contamination of water was worst in Bhaktapur (85%)

followed by Lalitpur (73%) and Kathmandu (53%). Water quality testing was also conducted in Nagarkot, Surkhet, Sindhuli and Guluriya. As part of the water quality campaign, 103 samples of ‘drinking water’ from street food vendors were collected and tested.

▪ **WASH Campaign (19 – 21 March 2016)**

A three-day WASH campaign (19-21 March) was organized in Kathmandu, Bhaktapur, Lalitpur, Kavre, Makwanpur, Nuwakot, Sindhuli and Surkhet districts with the objective of disseminating information on safe water, sustainable sanitation and good hygiene practices. WASH stalls, street drama and flash mob made the exhibition more attractive and effective.



▪ **Inauguration of Faecal Sludge Treatment Plant (24 March 2016)**



With the support of BORDA and CDD Society and in coordination with Mahalaxmi Municipality (Lalitpur) and Saligram Baal Griha, ENPHO established country's first pre-fabricated faecal sludge treatment (FSM) plant in Lubhu town. The FSM plant was inaugurated on 24 March.

▪ **Special Closing Ceremony (25 March 2016)**

The week-long celebration program culminated with a Special Closing Ceremony organized at Rastriya Sabha Griha, Kathmandu on 25 March. Professor Dr. Ram Kantha Makaju Shrestha, Vice Chancellor of Kathmandu University, was the Chief Guest during the event. Many senior government officials, representatives of partner INGOs, NGOs and donors. Representatives from various national and International organizations and media participated in the event. More than 450 people participated in the event. ENPHO Souvenir publication highlighting ENPHO's 25-year journey was launched and a short documentary with a summary of the past work of ENPHO was presented.



## Special Remarks



*“ENPHO isn’t just an organization but a hub for national capacity building. The whole nation can derive apt analogical parallels of the youth driven model at ENPHO where the youths are guided via the leadership of the older and more experienced generations.”*

**Dr. Mingma G. Sherpa**  
Member Secretary, ENPHO

*“Our initiations and achievements display a clear message that ENPHO is a center of innovations. We are envisioning the upcoming 25 years by scrutinizing the past 25 years. ”*

**Dr. Laxman Joshi**  
Executive Director, ENPHO



*“We are geared towards establishing 100% water and sanitation coverage nationally and a collaborative effort with organizations such as ENPHO is very essential.”*

**Er. Suresh Prakash Acharya**  
Secretary, Ministry of Water Supply and Sanitation

*“Service and sacrifice for sanitation and water is extremely important, positive mindset and research is the current national necessity. These are embodied by ENPHO.”*

**Mr. Namaste Lal Shrestha**  
Water and Sanitation Expert



*“What impresses me the most and what makes me want to come back to Nepal and ENPHO time after time are the people at ENPHO.”*

**Dr. Tommy Ka Kit Ngai**  
Director, Research Learning, CAWST



*“The 25 years of ENPHO’s achievements are very encouraging and remarkable. I think you are heading towards the right path.”*

**Dr. Ram Kantha Makaju Shrestha**  
Vice Chancellor, Kathmandu University



*“We have to dream, but it is equally important to diligently and passionately work towards making the dream a reality. Commitment, imagination and the passion to relentlessly strive for the attainment of the dream has carried ENPHO to this level.”*

**Mr. Bhushan Tuladhar**  
Environment Expert

*“I am happy to have been able to collaborate with ENPHO in the WASH sector for a lot of years. May other organizations sync their footsteps along with ENPHO in the WASH sector and collaborate.”*

**Ms. Lajana Manandhar**  
National Coordinator, FANSA



*“After navigating 25 years, ENPHO isn’t just for Nepal. The opportunity to work is ours, consider the Sustainable Development goals.”*

**Dr. Roshan Raj Shrestha**  
Patron, ENPHO

*“Our health is being adversely affected by the polluted environment and contaminated water sources. Our organization has been collaborating and servicing the Water, Sanitation, and Health sector for the last 25 years.”*

**Er. Rajiv Joshi**  
Vice Chairperson, ENPHO



*“We put in effort. We do small things but we do it with love. This is our speciality”*

**Ms. Urmila Joshi**  
Chairperson, ENPHO

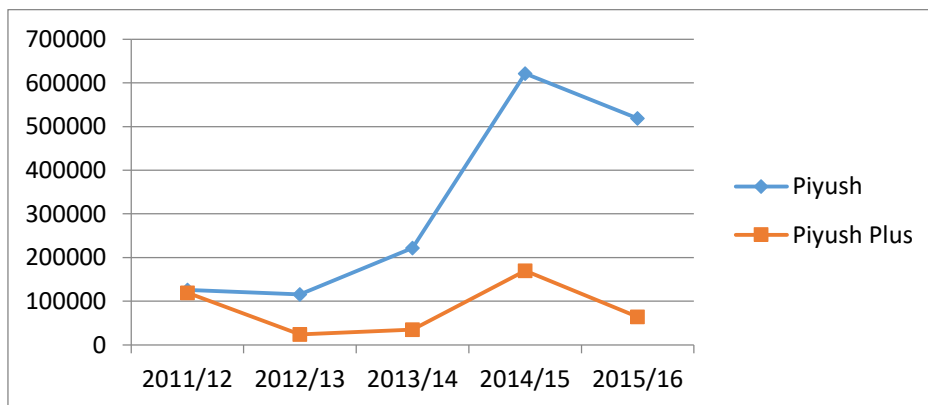
### 3. Thematic Programs

#### 3.1 Safe Water

##### 3.1.1 Production and Distribution of Piyush and Piyush Plus

###### Piyush

The popular chlorination solution “Piyush” is one of the most widely used methods for water disinfection in Nepal. Developed as a response to control water borne disease epidemic in eastern Terai region of Nepal more than two decades back, in 1994, Piyush is still being used and has been accepted in both rural and urban contexts of Nepal. Piyush has been promoted through various projects, partners’ and social marketing approaches in Nepal. In this fiscal year, altogether 518531 units of Piyush were sold.



###### Piyush Plus

Piyush Plus is another chlorination solution like Piyush for disinfecting larger volumes of water, for e.g. water buckets etc. ENPHO has been producing Piyush Plus in 240 mL bottles since 2010. A bottle of Piyush Plus can disinfect 1200 litres of water. Altogether, 64,089 units of Piyush Plus was sold from ENPHO this year.

Both the chlorination solutions have been popular since they are easy-to-use, reliable, cost-effective and are easily available in the pharmacies and stores. Piyush and Piyush Plus are being widely used by government and partner organizations such as UNICEF, Oxfam in emergency situations. Additionally, ENPHO has also been producing 1% chlorine solution for disinfecting even higher volumes of water, e.g. water tankers, reservoirs. Recently, demand for 1% chlorine solution is also increasing.



### 3.1.2 Water quality testing at four river water intakes of NWSC in Pokhara University

**Status: Completed**

**Project Partner:** CREEW

**Project Area:** Pokhara, Nepal

**Project Duration:** August 2015- September 2015

**Aim:**

To determine the water quality status of different water sources and points such as river water intakes, water reservoir and households' tap water.

**Project Description:**

Quality of drinking water is growing issue in Nepal. ENPHO had collaborated with CREEW to perform the water quality survey in Pokhara, which is a part of "Preparatory Survey on Pokhara Water Supply Improvement Project" being supported by JICA Grant Aid Project.



**Project Outputs:**

- Performed water quality sampling and analysis of 4 river water intakes, 2 water reservoirs and 100 tap water from households;
- Prepared consolidated report on the water quality status of different source in Pokhara.

**Project Achievements:**

- Determined state of water quality for dry and wet seasons for drinking water supply systems supported by Pokhara Water Supply Improvement Project.

**Beneficiaries:**

- Residence of Pokhara valley



### 3.1.3 Improving health of school students by providing arsenic and pathogens free safe drinking water at 20 selected schools in Nepal

**Status: Completed**

**Project Partner:** Dubai EXPO 2020 - live partnership fund, MIT, CAWST and schools

**Project Area:** 20 selected schools from arsenic affected districts

**Project Duration:** November 2013 – November 2015

**Aim:**

To improve health of school students by providing arsenic and pathogens free safe drinking water through installation of large Kanchan Arsenic Filter (KAF).

**Project Description:**

Due to lack of appropriate technology to treat arsenic and pathogens in large volume, most of the school children are still drinking unsafe drinking water in Terai. KAF was developed by MIT and ENPHO as innovative device to treat drinking water at household level. But ENPHO later modified KAF in larger volume which can treat arsenic, pathogens and remove iron from drinking water. In this context, ENPHO with support from MIT and CAWST had



submitted the application for EXPO live partnership fund announced by Dubai EXPO 2020. The proposed project to provide safe drinking water in 20 schools was selected for the implementation under the grant category of opportunity.

**Project Outputs:**

- Built capacity of 10 local entrepreneurs on installation and monitoring of large KAF;
- Selected 20 arsenic affected schools at Nawalparasi and Kailali districts;
- Installed 20 large KAF in the selected schools;
- Performed monitoring and water quality analysis for arsenic and iron. The results showed 100% arsenic and iron removal;
- Formulated plan to conduct period monitoring and water quality analysis of those systems.

**Project achievements:**

- Provided arsenic free drinking water to more than 9,100 school students at 20 schools.

**Beneficiaries**

- More than 9,100 schools students at 20 arsenic affected schools

## 3.2 Sustainable Sanitation

### 3.2.1 Demonstrating effective Faecal Sludge Management System for pro-poor sanitation service delivery in Panauti municipality

*Status: Completed*

**Project Partner:** WaterAid Nepal

**Project Area:** Panauti Municipality

**Project Duration:** July 2014- March 2016

**Aim:**

To safeguard the environment including water bodies of Panauti Municipality by improving Faecal Sludge Management Systems through action research, effective planning and collaboration and to demonstrate pragmatic PPP model on FSM for sector learning.

**Project Description:**

The project was designed to perform intensive study on current FSM situation and practices in Panauti Municipality at Kavre district. A comprehensive study was conducted on status of faecal sludge and its management practices. This study further enable to conduct consultative meetings and review workshops with key stakeholders for the formulation of strategic plan and business plan.



**Project Outputs:**

- Prepared consolidated study report on status of FS management and practices in Panauti
- Developed Strategic Plan for Faecal Sludge Management
- Rehabilitated existing Wastewater Treatment Plant to incorporate Faecal Sludge Treatment
- Developed Business Plan for FSM

**Project Achievement:**

- Initiated mainstreaming Faecal Sludge Management in municipal sanitation plans and interventions.

**Beneficiaries:**

- Whole Panauti municipality

### 3.2.2 Faecal Sludge Treatment plant - prefabricated DEWATS for emergency relief in Kathmandu Valley

*Status: Completed*

**Project Partner:** BORDA, CDD Society

**Project Area:** Lubhu, Lalitpur

**Project Duration:** June 2015 to December 2015 (extended till March 2016)

**Aim:**

- To manage the sludge generated from the emergency toilets constructed during the emergency response to earthquake in Lubhu and nearby areas and camps.
- To launch the faecal sludge treatment plant and test its functionality and adaptability for the upcoming projects

**Project Description:**

Faecal Sludge Treatment plant-prefabricated DEWATS for emergency relief in Kathmandu Valley, Nepal is the project initiated by ENPHO in coordination with BORDA and CDD Society. This was a pilot project to launch the prefabricated modules and test for its suitability in context of Nepal. The emergency latrines constructed during the emergency phase depends on onsite sanitation infrastructure such as septic tanks and pit latrines for sewage disposal, which



has further faced the problems of overflowing pits causing health risks to its inmates. The sludge produced from these pits were initially targeted to dump in the treatment plant and the sludge after treatment recovered as a manure are purposed to be used in the agricultural land. The treatment process is entirely anaerobic approach so the biogas is also obtained as a byproduct and the wastewater generated can be applied directly in the croplands.

**Project Outputs:**

- Treated water for agriculture land.
- Biogas is recovered as a major byproduct.
- Manure is collected at the end of the year after undergoing a process of anaerobic processes.
- The overflowing pits constructed in the camps and communities were properly managed.

**Project Achievements:**

- Successful installation of prefabricated modules.
- Model construction work in the faecal sludge management.

**Beneficiaries:**

- People using the latrines constructed during emergency at Mahalaxmi municipality.



## Faecal Sludge Treatment Plant at Lubhu

The Faecal Sludge Treatment Plant at Lubhu, Lalitpur is a pilot implementation by Mahalaxmi Municipality with support from ENPHO, BORDA, Saligram Bal Griha and CDD Society. The treatment plant is the first of its kind in Nepal with regard to the concept of reusability of all possible end products and integrated approach towards faecal sludge treatment. The treatment process provides resource recovery options; treated wastewater for reuse in irrigation, bio-solids as soil conditioner for farming, biogas for cooking and lighting, which benefits the treatment plant caretaker. Ultimately, the produce from the treatment plant's caretaker is primarily utilized for consumption by the kids residing in Saligram Bal Griha and excessive produce is sold in the local market. However, the immediate beneficiaries of the plant were the people using the latrines constructed during the emergency earthquake response phase at Mahalaxmi Municipality.

The faecal sludge treatment plant is a gravity based system and is capable of processing 6 m<sup>3</sup> of sewage per week. The plant utilized a combination of prefabricated modules and civil constructed units to achieve cost efficiency during construction.

Furthermore, the operations and maintenance requirements are relatively low and are achieved via treating sewage in the absence of electromechanical equipment. The plant is highly efficient and can be operated without any skilled labor on a day to day basis. The concept of maximum reusability of the end products after treatment are reused, ultimately closing the sanitation loop.



### 3.2.3 Poverty reduction and sustainable protection of natural resources in South Asia

*Status: Completed*

**Project Partner:** Bremen Overseas Research and Development Association (BORDA)

**Project Area:** Various locations in Nepal.

**Project Duration:** January 2015 – December 2015, Closing of 2011 – 2015 Phase

**Aim:**

To provide services and capacity building for wastewater treatment as well as improving access to sustainable sanitation infrastructure in urban and peri-urban areas.

**Project Description:**

The main objective is to increase the knowledge and dissemination of information on wastewater treatment using decentralized wastewater treatment systems (DEWATS). This includes technical support to various organization on design, implementation, operation and monitoring of DEWATS.

**Project Outputs:**

- Performed monitoring and evaluation of 10 DEWATS in Nepal;
- Built capacity of two technical staff at ENPHO on DEWATS and FSM;
- Provided technical support to CDD society in conducting training on FSM;
- Established pre-fabricated Faecal Sludge Treatment System in Lubhu, Mahalaxmi Municipality

**Project achievements:**

- Strengthened in-house capacity on technical design, O&M of DEWATS and FSM;
- Initiated formulation of 3-year plan for BORDA-ENPHO partnership.

### 3.3 Community Based WASH

#### 3.3.1 Development of City Sanitation Plan for Madhyapur Thimi municipality and piloting its components through and pro-poor service delivery approach

**Status: Completed**

**Project Partner:** WaterAid Nepal  
**Project Area:** Madhyapur Thimi Municipality  
**Project Duration:** July 2014 to March 2016

**Aim:**

To facilitate the process of development of comprehensive city sanitation plan for Madhyapur Thimi municipality with the view to construct the foundation to base the improvement of urban sanitation for replication to other parts of the nation and to understand its implication and lesson learnt.

**Project Description:**

The implementation of integrated sanitation plan has been prioritized by consultative meetings with members of M-WASH-CC and Citizen’s Forum. The planning project has been developed for Madhyapur City Municipality, with the view to develop practical long term guideline that could address the emerging and challenging issues of urban sanitation which otherwise is not clearly mentioned in any of the document that is supposed to guide the urban sanitation movement in Nepal. The major objective of this project is to prepare planning guideline in the form of city sanitation plan through elaborate research and sector coordination.



**Project Outputs:**

- Reports on baseline survey and community level meetings
- Reports on technical survey such as river water quality sampling and analysis, solid waste generation and update the existing sewer network in the municipality.
- Formulated City sanitation Plan for Madhyapur Thimi Municipality as the sanitation planning document.

**Beneficiaries:**

- Total Population of Madhyapur Thimi Municipality

**Project Achievement:**

- Formulation of city sanitation plan with active participation from every spatial such as household level, community level, political level and local authorities.



### 3.3.2 Green Homes-promoting sustainable housing in Nepal

**Status: Completed**

**Project Partner:** UN Habitat, Clean Energy Nepal, SLTDC, FNCCI, Lalitpur Municipality, Pokhara Municipality Office, Dharan Municipality Office

**Project Area:** Lalitpur Municipality, Pokhara Municipality, Dharan Municipality

**Project Duration:** December 2013- October 2015

**Aim:**

To promote sustainable housing technologies and services that contributes towards the mitigation of climate change and reduction of poverty through the creation of green jobs and a move towards a green economy.

**Project Description:**

Rapid urbanization and population growth is putting tremendous pressure on natural resources. As a result, negative impacts such as water pollution, environmental degradation, ground water depletion are common issues in major cities. Several initiatives should be taken a community level as well as at the household level to address these issues. Green homes or sustainable housing is an approach that includes household systems that reduce pressure on natural resources and carbon emissions, thus resulting in human well-being, social equity and green economy. Besides energy efficient buildings, it also includes eco-friendly practices for water and waste management systems such as rainwater harvesting, water & wastewater recycling. Green homes are more than just green buildings-they reflect a sustainable lifestyle based on eco-friendly systems and behavior.



**Project Outputs:**

- Designed training modules on water, wastewater and waste management at household level;
- Conducted trainings on water, wastewater and waste management at household level to young entrepreneurs, practitioners and technical persons;
- Supported concerned government agencies to develop policies to promote sustainable housing at larger scale;
- Strengthened the market supply chain of different elements of sustainable housing in coordinated manner;
- Organized various marketing campaigns to raise public awareness and to generate demand for sustainable housing;

**Beneficiaries:**

- Population at Lalitpur, Dharan and Pokhara municipalities

### 3.3.3 Support School for Improved Learning (SUSIL) Project- “Winner of the 4<sup>th</sup> Kyoto World Water Grand Prize- 2015”

**Status: Completed**

**Project Partner:** Japan Water Forum, District Education Office (Surkhet) and Birendranagar Municipality

**Project Area:** Birendranagar Municipality

**Project Duration:** April 2015- January 2016

**Aim:**

To improve the health condition of the urban poor, especially children, through improved WASH services

**Project Description:**

The SUSIL project has been implemented in 12 different public schools and ECDs of Birendranagar Municipality in partnership with District Education Office (Surkhet) and Birendranagar Municipality. The project aimed to mobilize the schools and EDCs as the entry points to promote and demonstrate safe water and sanitation hub for the community and households. The project included the installation of RWH system, ground water recharge, bio-sand filters, rehabilitation of sanitation facilities and hand-washing platforms, using child-friendly and gender-friendly technologies as per the need of the school. It acts as a demonstration and information dissemination point for the community.



**Project Outputs:**

- Improved WASH facilities in schools and its catchment areas.
- Enhanced waste and wastewater management facilities.
- Enhanced educational and sports facilities to improve learning environment.
- Disseminated environmental and WASH awareness.
- Formed child clubs in 11 schools.
- Constructed WASH facilities (toilet, hand washing station, bio sand filter, solid waste management and water supply system) in 10 schools.
- Organized WASH awareness programs in 11 schools.
- Wall painting in 4 ECD center.
- Organized closing workshop of SUSIL project.

**Beneficiaries:**

- 2,188 people in water, 1,883 in sanitation and 1,166 in hygiene

### 3.3.4 Implementation of “SAFA and SWASTHA Gulariya” Project

**Status: Completed**

**Project Partner:** Practical Action Nepal

**Project Area:** Gulariya Municipality

**Project Duration:** August 2014 - July 2016

**Aim:**

To achieve sustainable ODF (Open Defecation Free) in Gulariya Municipality.

**Project Description:**

A two year project entitled “SAFA and SWASTHA Gulariya (Open Defecation Free Gulariya Municipality by 2015)” is being implemented in Gulariya municipality, Bardiya, with financial support from Practical Action. The main objective of the project is to achieve sustainable ODF in Gulariya municipality.

**Project Outputs:**

- Increased coverage of sanitation facilities
- Enhanced capacity of local stakeholders
- Piloted innovative solutions in sanitation such as improved/disaster resilient sanitation facilities.
- Construction of faecal sludge treatment plant.
- Declaration of SWASTHA communities.
- Promotion of inclusive/good governance through participatory planning approach.

**Project Achievements:**

- Constructed 5,385 toilets in zero subsidy, with support of Gulariya Municipality
- Three Communities (Dipendranagar Tole, Surajpur cluster and Kothiya cluster) declared as Total Sanitation communities.
- Altogether 145 (including 91 female) individuals who were trained as local agents on WASH (FCHVs/WATSAN Volunteers/ social mobilizers) are effectively engaged for community mobilization.
- Community orientation on WASH were provided to 10,045 (including 4,788 female) community people and local stakeholders



- Awareness and behavior change campaigns were organized with an objective to raise awareness on WASH benefiting 48,169 community people (female - 24,670).
- Awareness and behavior change campaigns were organized with an objective to raise awareness on WASH benefiting 48,169 community people (female - 24,670)
- Faecal sludge treatment plant constructed in Gulariya
- Enhanced capacity of 10 communities in participatory planning and developed Community Action Plans (CAP).
- A total of 31 schemes were prioritized in these CAPs.
- Gender friendly public toilets constructed in Gulariya.

**Beneficiaries:**

Total 60,379 population (31,079 Male and 29, 300 Female) and 10,922 HHs.

## Faecal Sludge Treatment Plant in Gulariya

Gulariya Municipality faced several challenges during the Open Defecation Free movement. Furthermore, prioritization of the needs to be addressed for the achievement of sustainable sanitation were key in gaining long term health benefits in the area. One of the biggest challenges and needs for the achievement of sustainable sanitation was the construction of faecal sludge management infrastructure for systematic management of sludge in latrine pits and septic tanks within Gulariya municipality.

In line with piloting innovative solutions in sanitation, a Faecal Sludge Treatment Plant has been constructed in Gulariya municipality, Bardiya under the Safa and Swastha Gulariya project. The treatment plant is capable of processing 3 cubic meters of sewage per day and utilizes seven sludge drying beds and single units of settler, anaerobic baffled reactor. Furthermore, 3.7 cubic meters of wastewater flows through the plant per day. Additionally, planted gravel filter (horizontal flow constructed wetland), with a surface area of 28 square meters, processes the overflow wastewater for treatment purposes. The treatment plant benefits over 60,000 individuals, collectively over 10,000 households.





### 3.3.5 Open Defecation Free Campaign in Bara District

**Status: Phase I completed, Phase II on-going**

<b>Project Partner:</b>	UN Habitat, Nepal Red Cross Society, Bara district chapter
<b>Project Area:</b>	15 selected VDCs at Bara
<b>Project Duration:</b>	Phase I: March 2014 – October 2015 (Extended till March 2016) Phase II: July 2016 – July 2017

**Aim:**

To support the government’s initiatives to execute ODF campaign in Bara District through sector coordination and capacity development.

**Project Description:**

The Government of Nepal has set the national target of achieving ODF status by 2017. To implement the ODF campaign activities in coordinated manner, the GON has published sanitation and hygiene master plan as a guiding document. Since then, the ODF campaign has been intensified at all levels with sector coordination, capacity building and community mobilization approach. Bara is one of those 8 districts where sanitation coverage about 27%. ENPHO has been working together with Nepal Red Cross Society, District Chapter Bara to implement GSF project activities in 15 selected VDCs. At the end of the project at least 8 VDCs will be declared ODF and sanitation movement will be accelerated through sector coordination and social mobilization.



**Project Outputs:**

- Supported local stakeholders in strengthening coordination and collaboration at different levels to implement ODF campaigns;
- Built capacity of more than 350 local stakeholders and frontline workers on ODF and Total Sanitation campaigns;
- Established District Level Sanitation Resource Center to foster sanitation knowledge and advocacy;
- Built capacity of D/M/V WASH CC in planning, designing and monitoring of ODF activities;
- Supported WASH CCs in formulation of sanitation strategic plans

**Project achievements:**

- Declared 5 VDCs as open defecation free (ODF) VDCs.

**Beneficiaries:**

About 45,000 populations from 8973 households at five ODF VDCs

### Unofficial Blockade Spreads Cheer in Ishwore Guro's Family

Kachade village of Bara district, Nijghad VDC (currently Nijghad Municipality), ward no. 4, located three kilometers away from the East-West Highway and adjoining the northern dam at Bakaiya River, comprises of about 238 households with, predominantly, Tharu (Kachhade) residents. After experiencing about 6 months of India's unofficial blockade causing difficulties in cooking gas imports, currently 145 households have constructed biogas attached toilets.



Furthermore, even those who had constructed single pit latrines in the past, having understood the significance of Biogas Plants have rapidly constructed toilets with Biogas Plants and the number is on the rise on a daily basis. A prominent social workers, Mr. Ishwore Guro and his wife Ms. Paltaniya Devi Guro, after having extensively discussed the past difficulties of not having constructed toilets and considering shortage of cooking fuel, currently express their relief on having constructed a toilet attached with a 6 meter square Biogas Plant to provide for the cooking requirements of their 10 person family.

The construction of biogas attached toilets has proved to be very beneficial for the household members, particularly the housewives are elated as this has made toilet use (for the elderly, sickly and children) easy and concurrently beneficial due to gas production for cooking.



### 3.3.6 Sustainable Water Air Sanitation and Hygiene (SWASH) project at Nagarkot

**Status: Ongoing**

**Project Partner:** WaterAid Nepal

**Project area:** Nagarkot municipality (ward no. 11, 12, 13) Bhaktapur; Shankharapur municipality (ward no. 7, 8, 9), Kathmandu

**Project Duration:** April 2013 - December 2016

**Aim:**

Increase access towards water and sanitation in project areas and develop healthy society.

**Project Description:**

Sustainable Water, Air, Sanitation and Hygiene (SWASH) project is a community based WASH project, being implemented in Nagarkot since 2013. SWASH project is an integrated approach aiming to promote healthy community. On April 25, 2015, an earthquake of magnitude 7.8 Richter scale struck Nepal, devastating millions of people’s houses and latrines. For the year 2015/16, SWASH project focused on rebuilding and recovery of WASH facilities and sensitizing community on disaster preparedness. Also, it has been focusing on strengthening and institutionalization of water supply users committee and W- WASH-CC for sustainability and capacity development.



**Project Outputs:**

- Construction/ rehabilitation of 7 community water supply schemes at community level
- Improved WASH facilities in 8 toilets of public schools.
- Construction of toilets in 356 HHs in Nagarkot and 450 in Suntole.
- Construction of 9 toilets with Satopan at Lama Tole.
- Establishment of – ‘Goth Sudhar’ (30) animal dung management unit for proper environment sanitation at community and household level.
- Education on MHM and food hygiene for youths and mothers.
- Capacity building of water supply users committee in WASH and DRR
- Care taker training- water supply resilience for WSUCs.
- Interaction with pregnant women and lactating mothers on food hygiene on DRR.

**Project Achievements:**

- 461 HH toilets have been constructed in Nagarkot and Suntole.
- Four regular and three earthquake affected WS systems have been rehabilitated.
- Construction of toilets and water supply in six public schools.
- Toilet construction in Nagarkot Health Post.
- Construction of 9 toilets with Satopan at Lama tole in emergency.
- 300 HH toilets have been constructed

**Beneficiaries:**

1465 people on safe water, 4235 on sanitation and 4235 on hygiene

***Breaking the Silence***

*“After we were provided homemade pad making training at school, we have been using them instead of pieces of cloth so that now, we do not have to face the embarrassing moment of having blood stains on a school bench. Through various trainings and programs organized by ENPHO, I have learnt a lot about menstrual hygiene management. I am now not ashamed of talking about it openly. We should further help each and every girl to break this silence as I have done,” says Fulkumari.*

Fulkumari Tamang, 13, studies in grade nine at Shree Chunadevi Lower Secondary School in Nagarkot. The SWASH project has been providing support in the school ensuring the provision of safe drinking water, improved sanitation and good hygiene practices.



**3.3.7 Promote safe and productive use of (solid and liquid) waste for food production around urban areas in Surkhet**

***Status: Ongoing***

**Project Partner:** Resource Centre on Urban Agriculture and Food Security (RUAF Foundation), the Netherlands

**Project Area:** Birendranagar Municipality and Kunathari VDC, Surkhet

**Project Duration:** March 2016 - December 2016

**Aim:**

To promote safe and productive use of (solid and liquid) wastes for food production

**Project Description:**

This project is developed for implementation of WASH programme on productive reuse in urban settlements and peri-urban areas of Surkhet District. For the productive reuse, a transition scenario of Surkhet with focus on urban region to WASH and food security that also includes re-use. Analysis and development of re-use component such as amount, quality, price of water and nutrients and potential users, urban or rural farmers and cost benefit was conducted for the



sanitation systems with re-use aspect. Also, monitoring protocol with indicators on nutrients, water, agricultural production and income generation will also be developed based on FIETS framework of WASH and linked with WASH PME framework.

**Project Outputs:**

- Capacity building of local stakeholders including JTA student on productive reuse and urine application research with different vegetables
- Developing system and Urine Application Curriculum for agricultural school
- Participatory research with standard with selected urban, peri-urban and rural farmers.
- Design, adaptation and validation of re-use component to existing and new sanitation systems
- Training to support to develop faecal sludge management plan and revision of MWASH plan with incorporation of productive reuse
- Promotion of Kitchen Gardening and Roof Top Farming

**Project Achievements:**

- Community has been selected for urban agriculture
- Baseline survey on household waste was conducted at 3 communities within Birendranagar municipality
- Training on SWM and urban agriculture has been organized for selected communities.
- Two JTA schools selected to conduct research on urine application in agriculture
- One workshop organized to JTA teachers on urine application and to develop curriculum on JTA course.
- Two orientation classes have been conducted for JTA students.

**Beneficiaries:**

- 950 people

### 3.3.8 Sustainable Water, Sanitation and Hygiene (SWASH) Project

**Status: Ongoing**

**Project Partner:** WASTE-The Netherlands, The RUAF Foundation, WASH Alliance Nepal

**Project Area:** Surkhet district

**Project Duration:** January 2016 – December 2016

**Aim:**

To improve the health and WASH facilities through integrated approach in Surkhet district.

**Project Description:**

Sustainable Water, Sanitation and Hygiene (SWASH) project is being implemented at different wards of Birendranagar municipality and Kunathari VDC of Surkhet district, in close coordination with different stakeholders. The objective of this project is to accelerate sustainable WASH via FIETS approach and to reach access of safe drinking water, sanitation service and hygiene facilities at different wards of Birendranagar municipality and Kunathari VDC of Surkhet district. This project is



continuation of the five year WASH program (2011-2016) of WASH Alliance International.

Capacity building of local people, service delivery and advocacy, social campaigns are the major components of the project. Environmental sanitation, promotion of EcoSan toilet with biogas attached, urine application in agriculture, declaration of healthy communities to lead total sanitation and solid waste management at household level are the key deliveries of the project.

**Project Outputs:**

- Implemented total sanitation campaigns.
- Constructed public toilet through PPP model.
- Facilitated for solid waste management at communities.
- Strengthened linkages between WASH and local finance institutions.
- Development of business plan for scaling WASH promotion.
- Capacity building of local stakeholders and communities on safe water and proper sanitation.
- Promotion of EcoSan toilet.
- Research on urine application.



**Project Achievements:**

- 8 community selected to declare SWASTHA Community.
- Three tole (Chandani Tole, Samabeshi and Matthilo Dharapani Tole) has been declared as SWASTHA communities.
- Front workers of selected communities have been oriented on total sanitation and indicators of SWASTHA community.
- 3 communities have been declared as SWASTHA community.
- One public toilet has been constructed.
- 46 farmers have been selected for EcoSan toilet construction and use of urine in agriculture

**Beneficiaries:**

- 1033 people

**3.3.9 SUAAHARA II Project****Status: Ongoing****Project Partner:** USAID/HKI**Project Area:** **Eastern Development Region** (5 districts- Taplejung, Panchthar, Sankhuwasava, Solukhumbu, Bhojpur)**Central Development Region** (5 districts – Dolakha, Sindhupalchok, Rasuwa, Nuwakot, Dhading)**Western Development Region** (7 districts- Rupandehi, Nawalparasi, Gorkha, Lamjung, Syangja, Myagdi, Baglung)**Mid-Western Region** (14 districts- Bardiya, Banke, Dang, Kapilbastu, Arghakhachi, Palpa, Gulmi, Pyuthan, Rolpa, Salyan, Rukum, Surkhet, Jajarkot, Dailekh)**Far Western Region** (9 districts- Darchula, Bajhang, Bajura, Doti, Dadeldhura, Baitadi, Achham, Kanchanpur, Kailali)**Project Duration:** May 2016-April 2021**Aim:**

Improved nutritional status of women and children in Nepal

**Project Description:**

The SUA AHARA project has been just being initiated and has been planned in 40 districts in all the development regions of Nepal. The project will be implemented under consortium approach in which ENPHO will contribute to achieve outcome on WASH “i.e., **Household Adopts Essential WASH Actions**”. The project will mainly support to attain ODF in the remaining district and promote total sanitation which has already gained ODF status. The project envisioned to improve nutrition status of the people particularly women and children through improving WASH status.

**Expected Outputs:**

- Improved capacity of 127,555 stakeholders and frontline workers on WASH Promotion
- 89 VDCs are declared open defecation free
- Households have improved knowledge and practice on water treatment and safe storage
- Households have improved knowledge and practice on hygiene behavior
- Increased girls friendly and child friendly facilities at schools
- Increased investment among private sector to provide biogas, bio-sand filters, rainwater harvesting and other WASH services
- Promoted total sanitation to attain healthy home and healthy community status



## ODF Declarations

- Tinkanya VDC of Sindhuli was declared as Open Defecation Free (ODF) VDC with the support of ENPHO/UNICEF. Altogether 840 households have access to improved sanitation. (29 November, 2015)
- Nijgad municipality of Bara District was declared as ODF zone with the support of ENPHO, Nepal Red Cross Society Bara District Chapter and GSF UN-Habitat. Altogether 2719 houses of different wards have constructed toilets including public toilets. (15 February, 2016)
- Jalkanya VDC of Sindhuli District declared as ODF zone. A total of 554 households are now progressing towards sustainable sanitation (15 February, 2016)
- Sankhupatichaur of Kavre district was declared as 24<sup>th</sup> Open Defecation Free (ODF) zone in the district. ENPHO works with community people and provide support to construct 223 household latrines and 5 Ready to Installed (RTI) toilets which has improved good access of sanitation facilities in the VDC. (12 April, 2016)
- Chaturale VDC of Nuwakot was declared as third Open Defecation Free (ODF) zone which benefited more than 492 household and in 11 institutes to have improved sanitation facilities. (28 April, 2016)
- Kholagaun VDC of Sindhuli was declared as 34<sup>th</sup> ODF VDC of the district. ENPHO with support of UNICEF and ENPHO constructed toilets in 155 households. (17 May, 2016)
- Sunam Pokhari VDC of Sindhuli district was declared as ODF zone with support of ENPHO and UNICEF. Altogether 276 households of the VDC now have proper sanitation facilities. (8 June, 2016)
- Khangsang VDC of Sindhuli district was declared as ODF zone with support of ENPHO and UNICEF, which benefitted more than 275 households including institutional latrines. (29 June, 2016)

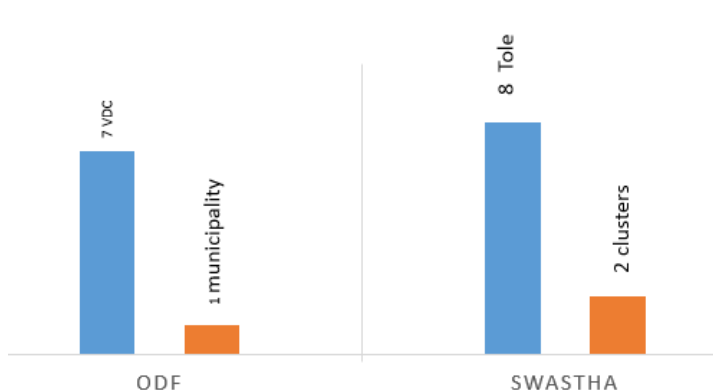


### SWASTHA Communities Declarations

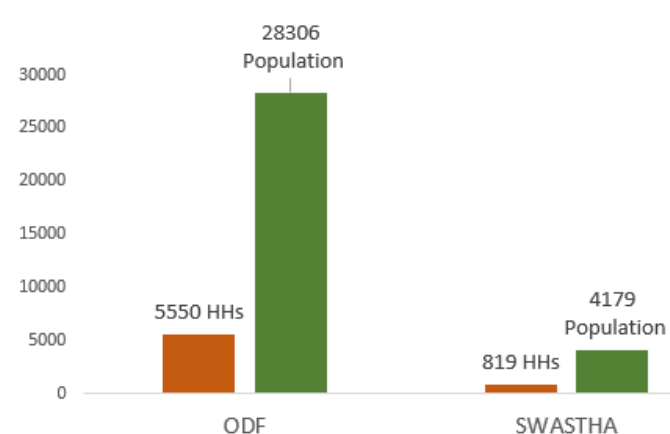
- Amrit Danda (BNM -13), Bich Tole (BNM-15), Padampur (BNM-16), Bidhyalaya Tole (BNM-14) of Birendrangar Municipality (BNM) were declared as Su-SWASTHA Communities with support of ENPHO and Dutch Water Alliance. Beneficiaries: All 265 households. (25 September, 2015)
- Dipendranagar Tole Ward no. 8 of Gulariya Municipality was declared as SWASTHA community under the “SAFA and SWASTHA”- Gulariya project of ENPHO. Beneficiaries: 59 households ( 9 February, 2016)
- Surajpur cluster (Kalika and Jaya Bageshowri Tole) of Ward No. 11, Gulariya Municipality was declared as SWASTHA community. Beneficiaries: 112 households comprising 658 population. (12 April, 2016)
- Kothiya cluster, ward number 10 of Gulariya municipality was declared as SWASTHA community under “SAFA and SWASTHA” Gulariya project. Beneficiaries: 184 household of the clusters. (20 May, 2016)
- Chandani Tole of Birendranagar municipality was declared as SWASTHA community under “SWASH project in Birendrangar municipality”. Altogether 71 HHs has access to total sanitation facilities in Chandani tole. (12 July, 2016)
- Samabeshi and Matthilo Dharapani Tole of Birendranagar municipality was declared as SWASTHA community under “SWASH project in Birendranagar municipality”. Altogether 72 and 56 HHs has access to total sanitation facilities. (14 July, 2016)



ODF & SWASTHA DECLARED ZONE



ODF and SWASTHA Beneficiaries



### 3.4 Disaster Risk Reduction

#### 3.4.1 Emergency WASH Response with integrated DRR to earthquake victims residing in camps at Bhaktapur

*Status: Completed*

**Project Partner:** WaterAid Nepal

**Project Area:** 18 camps of Bhaktapur Municipality and Madhyapur Thimi Municipality

**Project Duration:** July 2014 - March 2016

**Aim:**

The project aims to minimize the possibilities of future public health disasters through provision and improvement of WASH facilities, residing in Bhaktapur camps.

**Project Description:**

WASH situation of camps is the biggest concern of the sectors to minimize the possibilities of future public health disasters. ENPHO and WaterAid Nepal initiated this project to ensure WASH facilities and hygiene awareness with a focus to disaster risk management for earthquake victims residing in camps. ENPHO has been involved in improvements of WASH facilities such as bathing units, pad incinerators and water for sanitation related activities to reduce the further public health threats.



**Project Outputs:**

- Installed 8 drinking water tanks in 7 camps benefitting 2,483 earthquake victims with safe water facility.
- Provided hygienic sanitation facilities through construction of 15 semi-permanent toilets and 6 RTI toilets along with facilities of water in 10 camps (Tekhacha Degamana 4, Jagati-4, Dekocha-3, Hamadev-1, Tekha Pukhu-2, Siwa tole-2, Kekutan-2 and Upper bhramayani chokha-1, Tekha pukhu new-1 and Kamal Pokahari Golmadi-1).
- Installed pad incinerator in 7 camps (Bhramayani Malpot Landpooling Camp, Jagati Wasikacha, Hamadev, Liwali Ganeshsthan, Upper Malpot Chokha, Dekocha and Tekha Pukhu)



- Constructed 24 bathing units, 18 hand washing platforms and distributed 62 toilet kits.
- Distributed first aid box in 5 camps
- Provided training on Emergency WASH in recovery, DRR, Basic First Aid, Fire Fighting, Camp security to the members of CCC and earthquake victims.
- Conducted week long cholera prevention campaign in coordination with District Public Health Office at camps of Bhaktapur and Thimi Municipality.

**Beneficiaries:**

- 2,483 people in water, 3,134 in sanitation and 3,043 in hygiene.

**3.4.2 Urban WASH Preparedness and Community Based Disaster Risk Reduction (UDRM) Project**

*Status: Completed*

**Project Partner:** Oxfam

**Project Area:** Lalitpur Sub Metropolitan City

**Project Duration:** August 2015 - March 2016

**Aim:**

Reduce suffering and loss of life following a major disaster, particularly an earthquake in vulnerable municipalities of Nepal.

**Project Description:**

Nepal is highly vulnerable to earthquake that has already been proven by recent Gorkha earthquake, struck on 25 April 2015, creating a large scale of damage. Nepal ranks 11<sup>th</sup> position in terms of earthquake-risk country in the world. ENPHO partnered with OXFAM to implement the UDRM project in 3 old wards and 7 newly expanded wards of Lalitpur Sub Metropolitan City. Out of 30 wards in Lalitpur



Sub Metropolitan City (LSMC), ENPHO covered 6 wards including Dhapakhel (23) to enhance the capacity of community people in WASH preparedness in diasater.

The project has been implemented based on the Local Disaster Risk Management Plan (LDRMP) guideline developed by Nepal Government. For the implementation of disaster related activities, Community Disaster Management Committee (CDMC) were formed under the chairmanship of ward secretary. Five different taskforces with 5 to 7 members have been

formed to enhance the capacity for immediate response during disaster. The taskforces are First Aid, Search and Rescue, WASH, Logistics and Camp Coordination and Camp Management (CCCM). Disaster Risk Management Plan has been developed in each project wards based on vulnerability capacity assessment. Trained volunteers were mobilized to raise awareness in communities and schools.

**Project Outputs:**

- Handed over WASH facilities of Khumaltar to KUKL, Lalitpur.
- Developed emergency water distribution plan of KUKL, PTA, Nepal Army and APF.
- Developed GIS based Hazard, Vulnerability Capacity map of 30 wards (LSMC).
- Developed Vulnerability Capacity Assessment (VCA) report of all project wards (LSMC-2, 4, 10, 24, 25, 26, 27, 28, 29 & 30).
- Developed DRM plan of 10 project wards and Lalitpur Sub Metropolitan City.
- Formed Community Disaster Management Committee and 5 taskforces in each ward.
- Stockpiled emergency rescue materials along with WASH materials in all project wards.
- Established emergency fund worth NRs. 10,000.00 as a seed money in all project wards.
- Established ward level information center in 10 project wards.
- Produced DRM plan in all project wards and Local Disaster Management Committee (LDMC).
- Supported in developing emergency fund mobilization guideline and emergency rescue materials mobilization guideline and was endorsed through CDMC.
- Inclusion of new representatives in LDMC.
- Capacitated 65 community volunteers on operation and maintenance of water treatment plant.
- Trained more than 1000 community volunteers on different skill based trainings.

**Project Achievements:**

- Improved knowledge and capacity of community and stakeholders on DRR and emergency WASH through enhanced participation of community people in earthquake preparedness, response and earthquake risk management.
- Strengthened Disaster Risk Management (DRM) capacity and preparedness of LSMC.
- Strengthened WASH facilities at IDP site (NARC).
- WASH stockpile at NARC handed over to ENPHO.
- Improved security system at NARC stockpile area through installation of emergency siren and solar light.

**Beneficiaries:**

18,793 HHs and 74,488 Population



### 3.4.3 Humanitarian WASH assistance in 7 earthquake affected districts of Nepal

*Status: Ongoing*

**Project Partner:** UNICEF

**Project Area:** Dolakha (Jhyaku, Jugu, Malu, Bhirkot, Jhule), Nuwakot (Chaturali, Thanapati), Ramechhap (Gothagau, Saghutar, Phulashi, Tokarpur, Tilpung, Nagdaha), Rasuwa (Timure, Chilime), Makwanpur (Daman, Palung, Bajrabarahi, Gogane and Dandakharka), Kavre (Devbhumi Baluwa, Dhulikhel Municipality, Sakhupatichaur, Saradabatase, Panauti Municipality), Sindhuli (Tinkanya, Jalkanya, Kholagaun, Pokhari, Khangsang, Kalpabrikshya, Kapilakot, Kamalamai, Dudhauri)

**Project Duration:** 11 May 2015 - 31 July 2016

**Aim:**

To promote and provide access to safe water sanitation and hygiene behavior (including menstrual hygiene management for women) in 7 earthquake affected districts.

**Project Description:**

ENPHO in collaboration with UNICEF has actively moved forward to help earthquake victims of 7 districts by providing WASH related facilities. ENPHO has taken up the initiative to help out the affected people by providing WASH related facilities aiming to prevent possible outbreaks of water borne diseases by improving access to life saving WASH services. WASH activities are carried out in the major areas such as camps, community settlements, health centers and schools of 7 earthquake affected districts.



**Project Outputs:**

- Improved access to safe water and sanitation.
- Improved hygiene practices including menstrual hygiene management.
- Enhanced WASH knowledge among the community people.
- Improved WASH facilities in the health institutions (Health posts, DHO/DPHO, Birthing Centres, Hospitals, Primary Health Centres, schools etc.)
- Minor repair and systems chlorination of the existing water supply schemes.
- Emergency water distribution

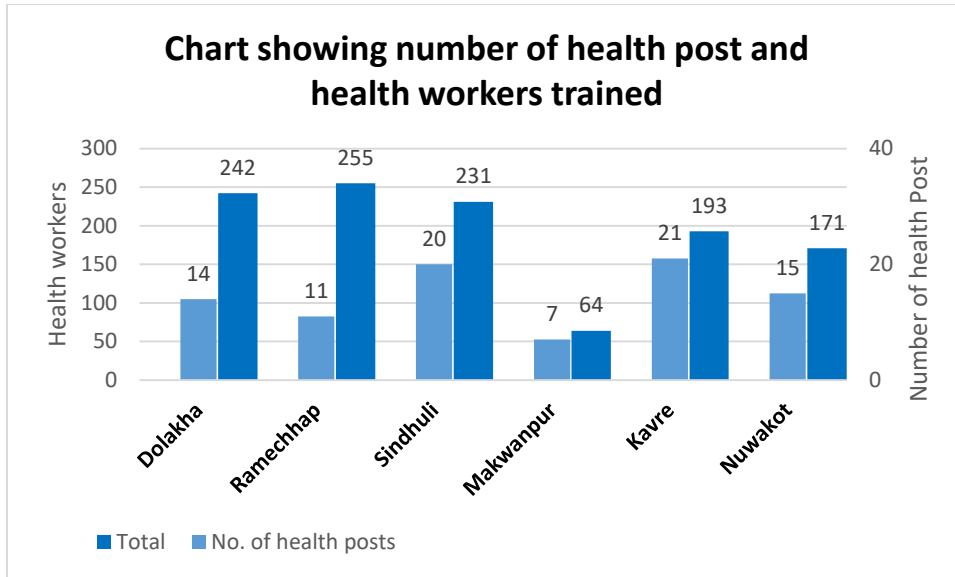
- Water Quality testing and monitoring
- Distribution of Piyush+ (240 mL) / Aqua tab, Piyush.
- Installation of emergency shared toilets in camps, highly affected areas/settlements and clusters in close coordination with camp coordinators and WASH cluster/DWASHCC
- Hygiene promotion and distribution of hygiene kits to families in need.
- Distribution of toilet kits.
- Installation of emergency shared toilets in camps, highly affected areas/settlements and clusters in close coordination with camp coordinators and WASH cluster/DWASHCC
- Hygiene promotion and distribution of hygiene kits to families.

**Project Achievements:**

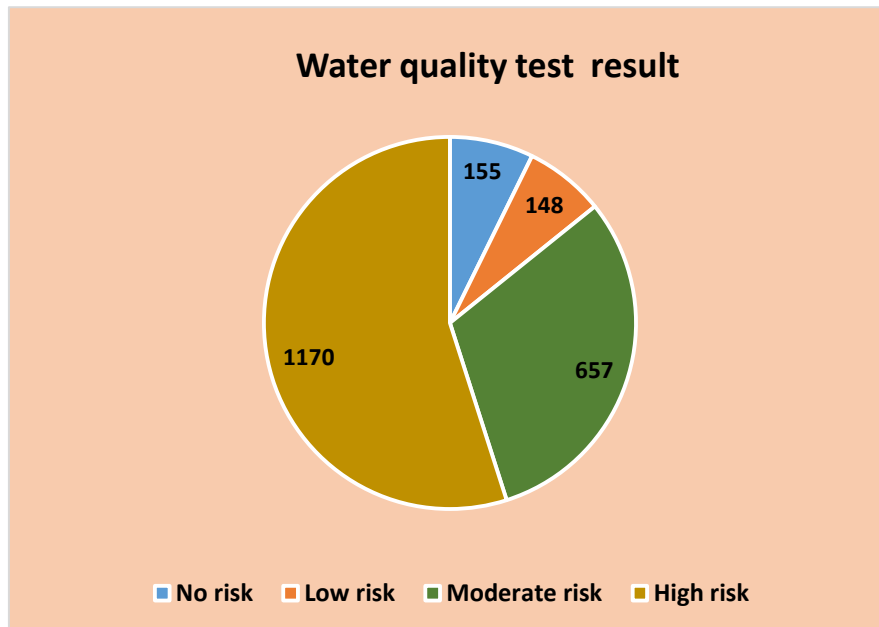
- Constructed and rehabilitated more than 10,000 toilets.
- Promoted and distributed Ready to install (RTI) toilets.
- Repaired and constructed 446 water supply schemes.
- Distributed a total of 28,687 water purifiers (Piyush plus, Piyush and aquatabs)
- Distributed a total of 22,886 toilet kits and 31,210 hygiene kits.
- Distributed 22,301 liters of EM solution.
- Conducted water quality testing of 1,979 samples from 7 districts.
- Provided 338 relief units for the construction and repair of toilets and water supply schemes in different schools of 7 districts
- Provided provision of WASH facilities in 89 health posts from the 7 districts.

**Beneficiaries:**

Components	Sub-components	Beneficiaries (Pop.)
<b>Water</b>	Emergency water supply/Water supply schemes	84,662
	Distribution of water purifiers/ Piyush/ Piyush plus / aquatabs	1,39,889
<b>Sanitation</b>	Construction/ Rehabilitation of toilet	82,279
	Distribution of EM	1,15,203
	Distribution of toilet kit	1,26,788
<b>Hygiene</b>	Hygiene kit distribution	1,61,891
	Hygiene promotion activity	1,15,800
<b>Institutional WASH</b>	WASH in school/ health centers	45,508
	WASH in health centers	3,27,604



Orientation to FCHVs and health workers



Water Quality Testing Result

### 3.4.4 Strengthening the Health Sector Response Capacity of Ministry of Health and Population to Respond to the Humanitarian Health Needs in the Event of Mass Casualty Incidents in Kathmandu Valley (DIPECHO-VIII)

**Status: Ongoing**

**Project Partner:** Oxfam

**Project area:** 19 wards of Mahalaxmi Municipality and Bir Hospital

**Project Duration:** August 2015- August 2016

**Aim:**

To enhance the response capacity of health authorities, health institutions and community to provide better medical and E-WASH services during and immediately after the disaster.

**Project Description:**

DIPECHO-VIII project is a consortium approach funded by European Commission and lead by WHO. ENPHO implemented “DIPECHO-VIII” at one hub hospital and Mahalaxmi municipality with the objective to strengthen health response system and to reduce the preventable mortality, morbidity and disease associated with the mass casualty incidents in Kathmandu Valley. The consortium during DIPECHO-VIII will further support Mahalaxmi Municipality to form/reform LDMC,



CDMC and to review/ prepare emergency WASH plan incorporating health plans. Baseline and end line survey will be carried out to access the increase in knowledge and skills of community people on E-WASH and DRR. This cycle will also support municipality to review/ prepare municipal level LDRMP incorporating health and emergency WASH plan.

**Project Outputs:**

- Conducted baseline survey at Imadol (5 wards- 15,16,17,18 and 19)
- Conducted capacity building training for staffs on Strategic Approaches and Government Planning Processes.
- Formed 19 WDMCs in 19 wards
- Prepared draft of E-WASH plan of 16 communities (Lamatar, Lubhu, Imadol, Siddhipur and Tikathali) which has been incorporated on Municipal level LDRMP.
- Conducted orientation on annual development planning process in 19 wards (5 joint wards)
- Developed IEC materials.

- Oriented and mobilized volunteers for awareness raising campaigns in communities.
- Conducted refresher training for Health facility staffs of Bhaktapur (Bhaktapur Hospital, Duwakot HP, Chnagunarayan PHC, Jhaukhel HP), Kathmandu (Bishnudevi PHC, Syuchatar HP, Ichangunarayan HP) and Lalitpur (Patan Hospital, Imadol HP, Siddhipur HP and Lubhu PHC) and refresher training on E-WASH for WASH task team of community.
- Conducted Emergency WASH vulnerability and functional capacity assessment at Bir Hospital.
- Conducted ToT on E-WASH for Hub hospital- Bir and its Satellite Hospital.
- Prepositioned Emergency WASH materials at Bir Hospital.
- Conducted one-day operation and maintenance training to Hospital WASH task team.

**Project Achievements:**

- Establishment of well-defined Incident Command System, fully functional Health Emergency Operation Centre and well-coordinated network of health institutions.
- Health Sector Disaster Management training institutionalized with a particular focus on strengthening the network of health institutions (hub hospital), including the early deployment mechanism.
- Community health sector preparedness and response plans mainstreamed into the local level planning process via open spaces planning in the Kathmandu valley.
- Allocation of budget by municipality for Disaster Risk Reduction activities.
- Inclusion of Disaster Risk Reduction plans of community in Municipal Annual Development plan.

**Beneficiaries:**

- Conducted baseline line survey at 149 households.
- 310 health facility staffs, government staffs, WASH task team members were trained on strategic approaches and government planning process, refresher training, ToT on E-WASH, and desktop simulation.
- 345 CDMC members were oriented on WASH and DRR.
- 7181 community people and volunteers were oriented on WASH, DRR and 337 stakeholders were oriented on annual development planning process.
- 101 participants were trained on Community E-WASH plan workshop.
- DIPECHO-VIII project reached to 11,79 people by the knowledge on WASH and DRR through day celebration events such as Toilet day and National Earthquake Safety day.



### 3.4.5 Post-Earthquake Support Our School - Bhaktapur District

**Status: Ongoing**

**Project Partner:** WaterAid Nepal

**Project Area:** 10 schools of Bhaktapur Municipality and 5 schools of Madhyapur Thimi Municipality

**Project Duration:** February 2016 – December 2016

**Aim:**

The main aim of this project is to recover and strengthen the WASH facilities and capacitate school children, school management committee and other line agencies on disaster preparedness.

**Project Description:**

Ensuring access to WASH in every school for each child could be a huge challenge, especially during emergencies. As per the survey conducted by the District Education Office, Bhaktapur, 137 schools were damaged by earthquake in the district, and so were the water and sanitation facilities. Disaster preparedness and response is considered as an important factor due to the occurrence of many natural disasters and its subsequent loss. The recent Nepal Earthquake further emphasized



the priority for emergency preparedness and responses. In this context, the proposed WASH in school project incorporates the integration of DRR approaches in WASH as a core component along with post-earthquake recovery of WASH in school.

“Post-Earthquake Support Our School” project aims to serve 15 earthquake affected schools of Bhaktapur and Madhyapur Thimi with focus on sustainable and disaster resilient, safe water supply points, hand-washing stations and sanitation facilities. Also, it intends to capacitate school children, school management committee and other line agencies on disaster preparedness.

**Project Outputs**

- Trained 54 people from Parents Teacher Association (PTA) and School Management Committee (SMC) and 22 schools students on WASH in DRR training.
- Oriented 588 and 188 school students on WASH in DRR and menstrual hygiene management training, respectively.
- Trained 11 students on Household Water Treatment and Safe Storage.

- 240 school students observed street drama with information on WASH and DRR
- 540 school students made aware on WASH in DRR through video shows.

**Targeted Beneficiaries:**

Targeted beneficiaries: Water: 1986; Sanitation: 3686; Hygiene: 3686

**3.4.6 Emergency Response to Nepal Earthquake**

*Status: Ongoing*

**Project Partner:** Oxfam

**Project Area:** Mahalaxmi Municipality (Imadol, Tikathali, Siddhipur, Lubhu, Lamatar) and Nagarkot Municipality (Nagarkot, Tathali, Bagheswori, Sudal)

**Project Duration:** April 2015 - September 2016

**Aim:**

To contribute to the sustainable recovery and reducing risk among vulnerable earthquake affected households of two districts of Kathmandu Valley

**Project Description:**

After the massive earthquake of 25 April 2015, ENPHO with support of OXFAM has been implementing Nepal Earthquake Response in order to increase access, and make optimal use of, improved water and sanitation facilities, and to take action for the protection from public health disasters. The project also aims to ensure the sustainability of gender sensitive WASH facilities and services within 3 years. This project further



focuses on disseminating the knowledge to reconstruct earthquake resilient structures and enhancing emergency preparedness and response capacity to the earthquake victims in two earthquake affected municipalities and 32 wards in Lalitpur and Bhaktapur Districts.

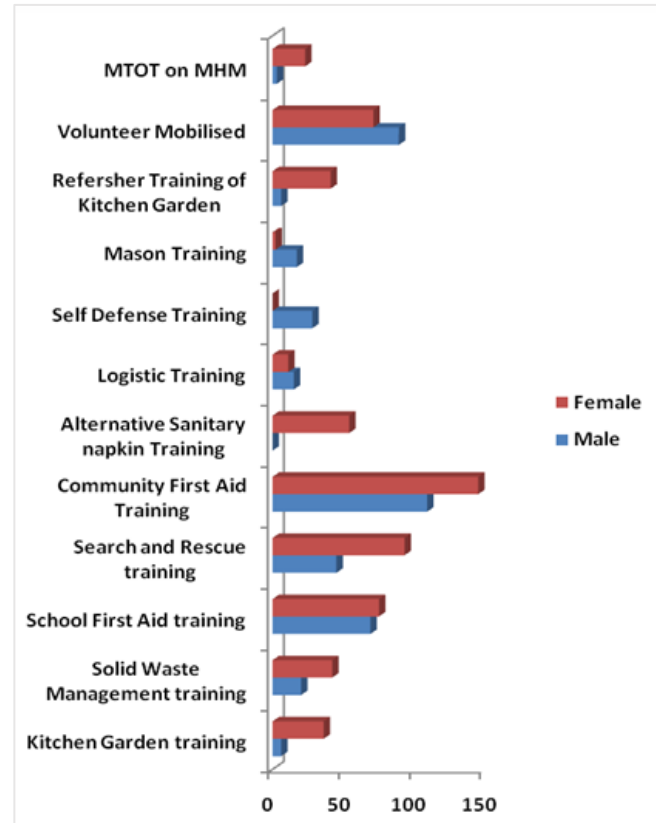
**Project Outputs:**

- Constructed 132 transitional shelters at Nagarkot (Sudal, Nagarkot, Jhaukhel, Thimi) and 165 at Mahalaxmi (Lamatar, Siddhipur, Lubhu).
- Reconstructed and repaired 658 toilets at households and camps and installed 558 toilets at camps.

- Distributed 4665 hygiene kits, 269 cleaning kits, 115 sanitary pads, and 148 solid waste incinerators.
- Repaired 6 water supply schemes and installed 131 polytanks.
- Constructed 83 bathing units.
- Distributed 6300 Piyush and Piyush+ and installed 61 units of Biosand filters.
- Conducted 903 hygiene promotion events.

**Beneficiaries:**

- Nagarkot Municipality: 4725 HHs and 23,625 Population
- Mahalaxmi Municipality: 4114 HHs and 20,570 Population.



**3.4.7 Building back better, Institutionalizing and Strengthening WASH sector for urban resilience (BISWASH) Project**

*Status: Ongoing*

**Project Partner:** Practical Action Nepal

**Project Area:** Panauti Municipality (Malpi, Khopasi, Sunthan Sarada, Taukhal, Devisthan, Subbagaon and Panauti VDC)

**Project Duration:** May 2016 - October 2017

**Aim:**

To contribute in making disaster resilient municipalities in Nepal.

**Project Description:**

Preparedness and response capacities at community and municipality level are insufficient due to the lack of trained professionals, financial resources, political issues, lack of coordination, inadequate policies and lack of systematic information and coordination mechanism. Vulnerabilities in case of a disaster are still unaddressed. Operational linkages, preparedness and response plans among Local Disaster Risk Management Plan (LDRMP)/ District Disaster Risk Management Plan (DDRMP)/ Disaster Preparedness and Response Plan (DPRP) seem futile.

Particularly in Panauti municipality of Kavre district, the existing situation of Disaster Plan (DP)/Disaster Risk Reduction (DRR) is alarming specially due to i) lack of municipal Disaster Risk Management (DRM) plan and subsequent resource allocation; ii) limited knowledge resource and inadequate capacity of the community and market to respond to an event of disaster; and iii) high vulnerability of Water, Sanitation and Hygiene (WASH)



components in Panauti municipality. All these demand immediate attention towards it. To improve the situation, Practical Action and ENPHO is implementing this project. The specific objective of the project is to strengthen the capacity of stakeholders in creating disaster resilient Panauti municipality with a focus on WASH and support for replication of good practices in all municipalities within Kavrepalanchowk district.

#### **Expected Outputs:**

- Strengthened capacity of stakeholders at ward and municipal level committees in developing municipal DRM plan and integrate into annual municipal plan
- Enhanced capacity of communities in developing and implementing CDBP in DRM along with strengthened WASH focused market system for disaster response
- Developed a comprehensive emergency WASH plan and demonstrated disaster resilient WASH facilities
- Developed and disseminated knowledge objects on WASH during emergency and support to replicate good practices for DP, DRR and Resilience

#### **Target Beneficiaries:**

- 27,358 individuals



## 4. Environmental Studies and Research

### 4.1 Assessment of performance of Kanchan Arsenic Filter (KAF) in Nawalparasi

*Status: Completed*

**Project Partner:** JICA, DWSS  
**Project Area:** Nawalparasi  
**Project Duration:** July 2014 – January 2015 (extended till November, 2015)

**Aim:**

To determine the status of KAF by evaluating performance in Nawalparasi

**Project Description:**

Kanchan Arsenic Filter (KAF) has been developed by MIT and ENPHO in 2003. Since then thousands of KAF have been installed in arsenic affected areas including Nawalparasi district by various agencies. The study performed by ENPHO and MIT in 2005 showed that 83% of KAF are in regular use even after one year of operation and more than 90% users perceived that KAF is good filter. However, after 2005 such kind of comprehensive study on efficiency and sustainability of KAF has not been performed. Therefore, assessing the current performance and use of KAF for identifying major problems associated with O&M of KAF is needed to decide on improvement of this system and large scale promotion.



**Project Outputs:**

- Conducted household survey and field observations at 2833 households to assess functionality of KAF;
- Performed water quality analysis (arsenic, iron, pH, hardness, phosphate) of 497 functional KAF;
- Performed microbiological analysis (faecal coliforms) of 30 KAF;
- Conducted KAF improvement activities

**Key findings:**

Out of 2,833 households, only 792 (28%) of households (HH) were using the KAF on a regular basis and 58 HHs (2%) were using the KAF irregularly. Almost 71% of KAFs were not in operation due to either breakage and/or leakage problems. Nearly 82% of the plastic round (GEM505) version of the KAFs have breakage and/or leakage problems, while almost 10% of the plastic square version have such problems. The concrete versions of KAFs have less breakage and leakage problems compared to the plastic versions. The KAF showed good performance of removing arsenic: 83% removal for median value and 75% removal for mean value. Fecal coliform is also high in raw water with 24cfu/100mL as median and 72.86cfu/100mL as mean value. The KAF showed good performance for bacterial removal in this study as 97% in median and 85% in mean value after filtration. KAF showed iron removal capacity as 100% removal for median and 97% removal for mean.



## 4.2 Water Quality Testing in Earthquake Affected Districts

**Project Partner:** UNICEF

**Project Area:** Dolakha, Kavrepalanchowk, Makwanpur, Nuwakot, Ramechhap, Rasuwa and Sindhuli

**Project Duration:** 1 June 2015- 25 August 2016

**Aim:**

- To analyse the microbial contamination risk level of water samples in the study area.
- To compare the contamination level among main source, distribution, collection point and groundwater source.

**Description:**

Water sources are exposed to various types of hazards. Because of the physical damage caused by the earthquake, and poor hygiene practices during the post-earthquake scenario, the reservoirs and ground water are quite vulnerable to microbial faecal contamination. In this regard, this project has mainly focused on testing water quality in term of faecal contamination in seven earthquake affected districts.

This project was executed as one of the important component under Emergency WASH response project.

**Key findings:**

There is significant evidence of higher concentration of fecal coliform enumeration in earthquake affected districts like Kavrepalanchowk, Nuwakot and Ramechhap followed by Rasuwa, Dolakha, Sindhuli and Makwanpur respectively. More than half of the water samples (55%) analyzed were at high risk, i.e. (>100 CFU/100 ml) and 31 % were at moderate risk (11-100 CFU/100 ml), in all seven districts in terms of fecal contamination. Amongst these seven districts, Dolakha consisted of water samples with no risk. Also, the samples with high risk of contamination were mainly from the source of reservoir.

## 4.3 Study on Efficiency of Candle Ceramic Filter

**Project Partner:** Water Resources Management Programme (WARM-P), HELVETAS Swiss Inter cooperation

**Project Area:** Kathmandu

**Project Duration:** November 2015 - April 2016

**Aim:**

To assess the efficiency and effectiveness of the ceramic candle filters in treating drinking water.

**Description:**

This study was conducted to study five commonly available and cost effective filter brands in terms of their effectiveness in removing chemical contaminants and pathogens. In order to assess the efficiency of filter, physico chemical and microbiological parameter of raw and filtered water were tested on available ceramic candle filters. The tested parameters were pH, turbidity, iron content, total coliform and *E.coli*.

**Key findings:**

It was found that, in terms of physico-chemical water quality, ceramic candle filters are efficient in removing turbidity and iron content except, in the case, when raw water has very high turbidity and iron content. In terms of microbial efficiency, although ceramic candle filters (non-colloidal silver) were able to distinctly reduce the microbial concentration, they were not able to meet the NDWQS of 0 CFU/100 mL in most of the cases. However, the ceramic filter likely to remove microbial contamination, when microbial contamination in raw water is relatively low (>100 CFU/100 ml).



#### 4.4 Study on Microbial Water Quality in WARM-P project area (mid and far western regions of Nepal)

**Project Partner:** Water Resources Management Programme (WARM-P), HELVETAS Swiss Intercooperation

**Project Area:** Dailekh, Accham, Jajarkot and Kalikot

**Project Duration:** 25 November 2015 - April 15, 2016

**Aim:**

To assess microbial water quality in terms of Total coliform and *Escherichia coli* (*E. coli*) contamination in WARM-P working area.

**Description:**

The water supply system need to be frequently monitored to ensure the safe water at all times. In this regard, this project intended to study microbial water quality in four districts of mid and far western region of Nepal. This project also included a capacity building training

program on water quality using ENPHO water test kit for the NGO staff of HELVETAS Swiss Inter-cooperation.

**Key findings:**

- Amongst the four districts, in terms of E. coli contamination, the majority of samples at 'no' to 'low risk' was found at Dailekh district
- This study indicated, there was least coliform contamination at Jajarkot district.

#### **4.5 Drinking Water Quality testing in households of Kathmandu Valley (13 March 2016 - 21 March 2016)**

**Aim:**

To determine the status of the drinking water in households of Kathmandu Valley

**Description:**

To study the status of drinking water quality, ENPHO has carried out bacteriological water quality testing in 300 households of Kathmandu, Lalitpur and Bhaktapur districts (100 households in each). "Ready to drink" (water provided by respondents when asked for drinking water) water samples were collected and tested for pH, ammonia, iron and coliform presence, using ENPHO field water test kit.



**Key findings:**

Tap water was found to be the major source of drinking water in all three districts. Alarmingly, majority of the samples were not found to be within National Drinking Water Quality Standards (NDWQS) in all districts i.e. 53% in Kathmandu, 73% in Lalitpur and 85% in Bhaktapur in terms of all the tested parameters. In terms of coliform, 84%, 54% and 32% of the samples were found to be contaminated in Bhaktapur, Lalitpur and Kathmandu districts respectively

It was also found that, 82%, 53% and 37% of households in Lalitpur, Kathmandu and Bhaktapur districts, are not using any kind of water treatment options.

#### 4.6 Bacteriological water quality at street food vendors. (14 March 2016 - 21 March 2016)

##### Aim:

To determine the health of the drinking water provided by the street vendor based on bacteriological analysis.

##### Description:

“Pani-puri”, a well-known street food, preferred by most of the people in the valley. The food vendor selected in the study were the “Pani-puri” sellers available in areas with high movement of people like bus and tempo stands, street markets or near colleges of Kathmandu.

A total 103 “ready-to-drink” water samples were collected from food vendors for bacteriological quality testing (Total coliform and Escherichia coli) at ENPHO laboratory. The areas like Newroad, Jamal, Ratnapark, Bhotebahal, Bhrikutimandap, Bagbazaar, Old Buspark, Lainchaur, Chhetrapati, Gongabu, Samakhushi, Tilganga, Samkhushi and Baneswor area were included in the study.



##### Key findings:

- Jar water, tap water, tanker and other sources of the water were the sources of main source of 103 samples.
- Of the total samples tested, majority of samples (97%) were contaminated with total coliform, while, 92% of samples were contaminated with E. Coli. These indicates the high health risks possessed by the drinking water provided by the street food vendors.
- 71% of the samples were at very high risk category (>100 CFU/100 ml) in all of the sources in terms of total coliform.
- In terms of E. coli, 82% samples were found to be contaminated with more than 1 or 100 CFU/100 ml.

## 4.7 Ground water quality of Kathmandu valley in Post- Earthquake scenario (June 2015 to August 2015)

### Aim:

To assess the current status of quality of groundwater in Kathmandu Valley and also compare the quality in pre and post-earthquake scenario.

### Description:

Ground water contributes as one of the major sources of drinking water in Kathmandu valley. Since groundwater is likely to change in aftermath of earthquake, this study was designed to study the groundwater quality of Kathmandu valley after the powerful earthquake of 7.6 magnitude hit the valley on April 25, 2015. The study was carried out with the objective of assessing current status of various physico-chemical and microbiological parameters of groundwater and comparing them with pre-earthquake scenario. Groundwater samples were collected from different parts of the Kathmandu valley and analyzed for color, odor, pH, temperature, electrical conductivity, turbidity, total hardness, total alkalinity, ammonia, chloride, nitrate, arsenic, calcium, cadmium, chromium, copper, hydroxide, fluoride, iron, lead, manganese, total coliform and *E. coli*. The analysis were compared with National Drinking Water Quality Standards (NDWQS) of Nepal.

### Key findings:

- The parameters like electrical conductivity (2.27 % of total samples), color (4.55 %), turbidity (43.18 %), ammonia (56.82 %), nitrate (27.27 %), iron (59.09 %), manganese (45.45 %), total coliforms (90.91 %) and *E. coli* (70.45 %) were not found within the National Drinking Water Quality Standards (NDWQS), in post-earthquake scenario.
- However, the parameters like total hardness, pH, calcium and chloride contents, including heavy metals like copper, chromium, lead and arsenic of all the water samples were within the drinkable limit.
- Parameters such as calcium, chloride contents, copper, chromium, lead and arsenic were significantly different in compared to the water quality between pre and post-earthquake, except the pH parameter, which significantly decreased by an average of 0.35 after the earthquake.

### Achievement:

Poster presentation on “7th National Symposium Challenges and Opportunities for Sustainable Management of Groundwater Resources in Nepal”.



## 4.8 Study on designing toilet waste thickening unit in Biogas system at Lele Barrack

**Project Partner:** Alternative Energy Promotion Center (AEPIC), Danphe Energy Pvt. Ltd.

**Project Area:** Lele Army Barrack, Lalitpur

**Project Duration:** June 25, 2015 - April 15, 2016

### Aim:

To perform study on designing toilet waste thickening unit for maximizing generation of biogas with optimum flow of total solids in biogas system.

### Description:

The Government of Nepal (GoN) and External Development Partners supporting Nepal's rural and renewable energy sector has resulted in National Rural and Renewable Energy Programme (NRREP) is being implemented by AEPIC. The demand for biogas plants for residential businesses and institutions is very significant under NRREP. These include biogas plants for sites such as hotels, army barracks, schools, hospitals and many others, where mainly a mixture of toilet waste and kitchen waste can be fed to the digester. The large scale promotion of such institutional biogas systems, however, need further research to ensure maximum biogas production. In the large biogas systems with toilet waste fed to the digester, the optimum dry solids percentage (DS%) is one of the most influencing factors in the biogas production. The DS% within the range of 8-10% is considered to be optimum to ensure the maximum biogas production in such systems. Therefore, the proper design of toilet waste settlement/thickening unit is important to achieve the DS% in the range of 8-10%.



### Key findings:

- Based on the field experiment, observations and laboratory analysis reports it is concluded that the faecal sludge going into the biogas digester contains insufficient dry solids percentage (0.42-0.55%) compared to the optimum dry solid percentage of 8-10%. The field investigation showed that the construction of sludge thickening tank was not done properly according to the specified design that resulted in settling of inadequate fecal sludge.
- The modified design of the sludge settling tank has been prepared and proposed to ensure availability of maximum amount of solid contents into the biogas digester.

## 5. Knowledge Management

Knowledge based education, trainings and advocacy campaigns are one of the core activities of ENPHO which is handled by the Knowledge Management division of ENPHO. The division includes two units for this specific purposes- the Training Centre and the Resource Centre.

### Training Centre

Since 1990, ENPHO has been involved in building capacity of community, groups and organizations through capacity building trainings. ENPHO started organizing systematic training events by establishing Water Expertise and Training Centre (WET-C) in 2008 with technical support of Centre for Affordable Water and Sanitation Technology (CAWST). Now, a separate unit named Training Centre, with wide scope of work on WASH, has been established under the Knowledge Management division of ENPHO. The Training Centre intends to develop effective WASH training professionals to deliver the WASH training effectively and to influence community people to enhance existing knowledge and adapt good and new WASH practices.

#### ■ Training Packages

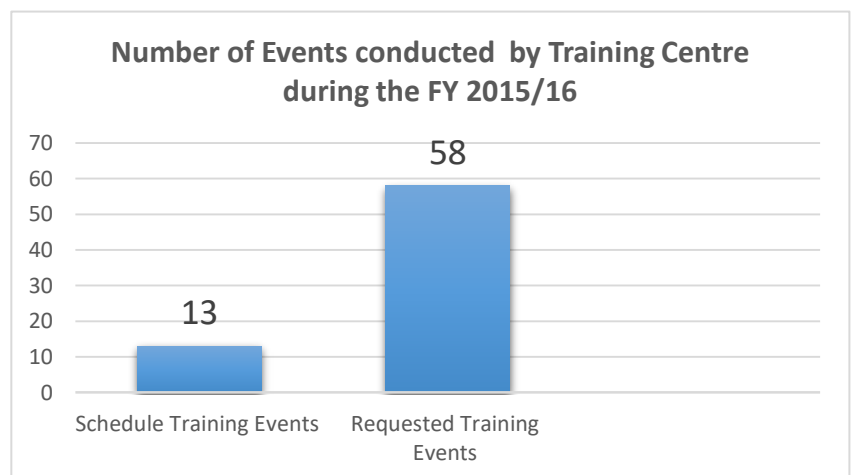
ENPHO Training Centre has developed following training packages till date:

- Biosand Filter Project Implementation (BSF PI)
- Biosand Filter construction for Technician (BSF TECH)
- Water Quality Testing ( WQT)
- Household Water Treatment and Safe Storage (HWTSS)
- Operation and Management of Water Supply Scheme (OMWSS)
- Emergency WASH for Volunteers (E- WASH)
- One day package on WASH for Community people
- Roof Top Farming (RTF)
- Community Health Promotion (CHP)
- Delivering Effective WASH Training

During the FY 2015/16, ENPHO Training Centre developed training packages on WASH for Recovery (WASH-R) and Sensitization Tools for Total Sanitation (STTS).

#### ■ Trainings

Similarly, it has been able to deliver 71 training events. Altogether 1,498 WASH professional were trained on different WASH issue.

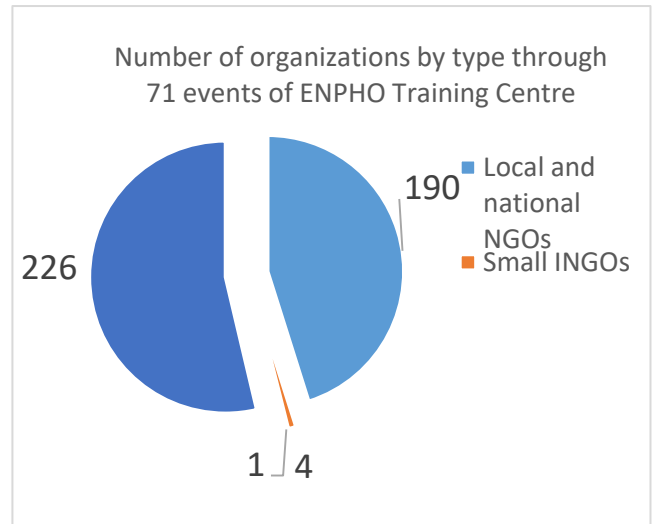
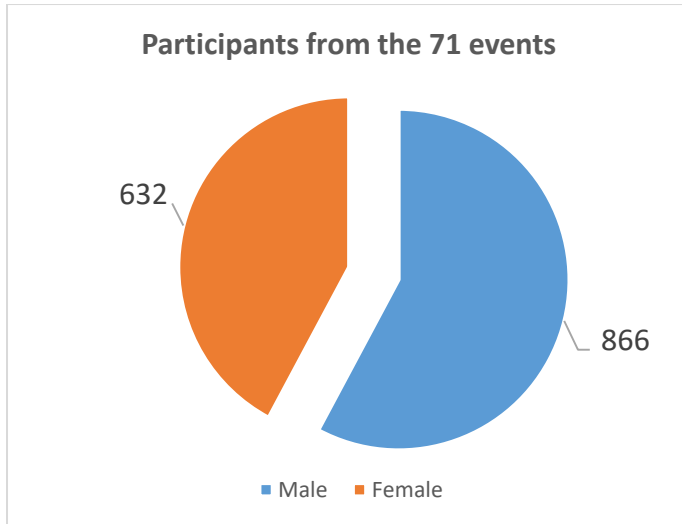




Numbers and types of trainings/workshops conducted during FY 2015/16:

Type of training/workshops	Nos.
Biosand Filter Project Implementation (BSF PI)	1
Intro to Household Water Treatment System (HWTS)	2
Community Health Promotion (CHP)	4
Other (Customized training such as Gender, O & M of water supply scheme, etc.)	23
Biosand Filter Construction for Technicians ( BSF TECH)	4
WASH for Recovery	13
Delivering Effective WASH Training (DEWT)	2
Water Safety Plan (WSP)	1
Sensitization Tools for Total Sanitation (STTS)	9
Monitoring and/or Evaluation	1
WASH for Stakeholder	11

Representatives from 420 organizations including different units of government offices and institutions, health posts, schools actively participated in capacity building events.



▪ **Consultation Support**

ENPHO Training Centre has been providing continuous technical support, and other support such as, development of strategic plan, office establishment and fund generation, to the Biosand filter entrepreneurs and its umbrella union, “Biosand Filter Association Nepal (BiFEAN).

This Centre has also provided support to WASH implementing organizations, such as Noble Compassionate Volunteer & NCV), Clean Ways Initiatives (CWI), Clean Up Nepal, United Vision Nepal, Saathi, Rural Self-Reliance Development Centre (SRSC), Shangrila Orphanage Homes, Pariwartan Patra, Sagun Nepal, on capacity building activities of organizational staffs.

▪ **Learning Exchange**

ENPHO Training Centre conducted one learning exchange event for Biosand filter entrepreneurs this year. Altogether, 24 participants participated in the event.

▪ **Major Achievements**

- ENPHO Training Centre awarded by Water and Food Award 2015 for its innovative idea of 'Local Entrepreneurs Model to promote safe drinking Water in the community'.
- ENPHO Training Centre is being well recognized amongst WASH stakeholder and receiving training demands from various WASH organizations including the newly emerging ones.
- Succeeded in developing trainers of the Training Centre as a lead trainer and a co-trainer with validation from CAWST.



## Resource Centre

The Resource Centre collects, stores and disseminates information and uses them to conduct education and advocacy campaigns on environment and public health.

### ▪ ENPHO Website

Information regarding WASH technologies, our work and projects, awareness campaigns, IEC materials on WASH with other updates on WASH activities are easily available at ENPHO website [www.enpho.org](http://www.enpho.org). Also, from this year, the feature to view the sample analysis report has also been placed in homepage of the website. The link enables to view the sample analysis report of the sample given in ENPHO Laboratory for testing.



### ▪ Publications and IEC Materials

Resource Centre collected, produced and disseminated various publications and IEC materials on WASH and its technologies with an objective of imparting information on WASH to various target audiences. This year, ENPHO published a report as a souvenir of its 25 year journey in WASH. The report highlighting 25 reasons to celebrate 25<sup>th</sup> anniversary was launched during special ceremony of ENPHO's Silver Jubilee celebration. Likewise, ENPHO E-Bulletin is published every month which provides the key highlights of various activities conducted by ENPHO including information on our latest research and studies conducted on WASH and environment. Refer [Annex VIII](#) for the list of IEC materials produced during the FY 2015/16.





### ▪ **Library**

The Resource Centre also manages library where books, reports, journals, research documents related to environment and WASH are catalogued systematically. It also facilitates staffs, scholars, students, and general public to receive required information available in the library.

### ▪ **ENPHO Hall**

ENPHO has a bright and airy hall with capacity seating for 50 which can be used for conducting trainings, meetings, workshops etc. The hall is well equipped with projector and sound system. This ENPHO hall is also provided to various organization, network group to conduct programs.

### ▪ **Networking**

ENPHO has been closely working with relevant stakeholders and individuals to share information coordinate and implement joint activities, research and academic studies related to safe water, sustainable sanitation, health and hygiene promotion and other environmental concerns. ENPHO is the member organization in following different civil societies and technical forums:

- Member of consortium for DEWATS dissemination (CDD) network (informal network to promote and disseminate Decentralized Basic Needs Services (DBNS) at South Asia
- Coordinating organizations of NGO Forum for Kathmandu Valley Water Supply and Sanitation
- Core member in Coalition for Clean Environment (CCE)
- Technical committee member on Drinking Water Quality and lab issues for NBSM
- Member for development of National Drinking water Quality Standard
- Member on Coordination committee Small Town Water Supply and Sanitation Project, DWSS
- Technical member District WASH Coordination Committee – Bhaktapur
- Network member in Resource Center Network Nepal(RCNN)
- Member of WASH cluster
- Member of Nepal Water Alliance
- Member Sustainable Sanitation Alliance(SuSanA)
- Advisory Board Member, Accelerating City to City Exchange on Sustainable Sanitation (ACCESSanitation)

### ▪ **Advocacy Campaigns**

The Resource Centre is involved in various advocacy efforts on pertinent WASH issues via dynamic campaigns, dramas, wall paintings, mass orientations, WASH Forums, research and exhibitions. ENPHO celebrated internationally and nationally recognized days of environmental significance (Global Hand Washing Day, World Toilet Day, World Water Day, Menstrual Hygiene Day, and World Environment Day and National Sanitation Action Week) and organized various exhibitions to raise awareness on WASH.



### ■ Paschim Paaila

Paschim Paaila, an informal youth network is striving towards creating epidemic free Nepal since 2009. The youths are actively engaged and dedicated to prepare, respond and mitigate disasters and epidemic through WASH education, awareness, research and advocacy. ENPHO is providing secretariat for Paschim Paaila. In continuation of these efforts, this year too, Paschim Paaila organized various campaigns, WASH Forums including a Youth WASH Concern Workshop.

Paschim Paaila's involvement is significant in ENPHO's advocacy work and is highlighted below.

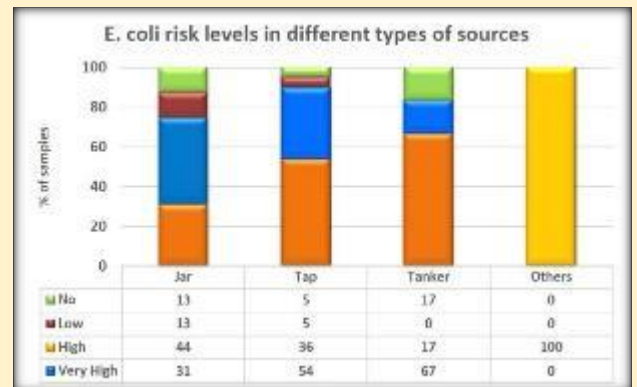
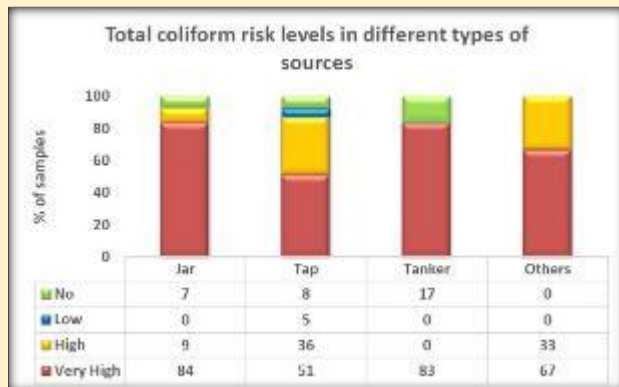
- Campaign Events (Deusi Vailo, Candle Lighting, WASH Leadership Hiking, WASH Campaign, Water Quality Testing, and Street Drama): The campaigns involved over 140 volunteers and benefited over 5500 individuals.
- Cholera Outbreak Response: ENPHO mobilized 50 Paschim Paaila volunteers at Bafal for an awareness campaign on 8 July, 2016, reaching 50 households proximal to a cholera incident.
- School WASH (SWASH): SWASH campaigns were conducted at 11 schools of Lalitpur and Bhaktapur district, for 300 school students. The campaigns involved over 30 volunteers.
- Menstrual Hygiene Management Survey: A youth survey spanning 101 females and 79 males were carried out by *Paschim Paaila* volunteers, on the occasion of Menstrual Hygiene Day (28 May, 2016), which revealed that 91% female and all male participants were unaware of Menstrual Hygiene Day.
- WASH Forum: Paschim Paaila conducted six WASH Forum events pertaining to WASH related issues; emergency response, etc. Collectively, over 200 youths participated in the forums.

List of WASH Forum- interaction programs organized by Paschim Paaila for the FY 2015/16:

SN	WASH Forum Topic	Resource Person	Date	No. of Participants
1	“Youth Participation in Mega Earthquake Response Opportunity & Challenges Ahead”	-Brabin Kumar KC, President of Association of Youth Organizations Nepal (AYON)	28 Aug., 2015	21
2	“Responding Earthquake on WASH: Experiences UNPLUGGED”	-Lee Boudreau, Centre for Affordable Water and Sanitation Technology (CAWST) -Phurba Sange Moktan, UN-HABITAT -Buddha Bajracharya, Roshan Chaulagain, ENPHO	25 Sep., 2015	26
3	“Rural Water Supply Functionality-issues & youth perspectives”	-Giri Raj Khatri, WASH professional	29 Jan., 2016	28
4	“Ground Water issues of Kathmandu Valley: a step towards sustainable management”	-Sarita Shrestha, Research Associate, Centre of Research for Environment, Energy and Water (CREEW)	29 Apr., 2016	51
5	“Menstrual Hygiene Management- Men in Menstruation”	-Ankit K Aryal, Advocacy Officer, ENPHO	27 May, 2016	21
6	Rethink Before you Drink: “Bacteriological Water Quality Assessment of Street food vendors”	-Subin Kalu, Research Associate, ENPHO	24 Jun., 2016	24

## Rethink Before You Drink!

Incremental street food popularity is tangible with vendors occupying every nook and cranny of the city. However, health problems associated with street food consumption is a year round looming threat in the valley. *Panipuri*, a popular street food, mostly sold in temporary and mobile vending stations, used to be typically found in areas of high pedestrian movement. ENPHO attempted to gather data regarding the quality of water supplied to patrons by street vendors at various locations throughout the valley during the month of March, 2016. During the study ENPHO Paschim Paaila volunteers targeted bus and tempo stands, street markets and areas proximal to educational institutions in Kathmandu Valley and collected samples from Newroad, Jamal, Ratnapark, Bhotebahal, Bhrikutimandap, Bagbazaar, Old Buspark, Lainchaur, Chhetrapati, Gongabu, Samakhusi, and Baneshwor.



A total of 103 samples, one per vendor, of 'ready-to-drink' water - i.e., the water provided by vendors when people requested for drinking water, were collected and brought back for a cursory microbiological analysis. Total coliform and *Escherichia coli* (*E. coli*) counts were assessed and tabulated at ENPHO's laboratory under standard laboratory protocol. Amongst the 103 samples, 97% were contaminated with total coliform, while 92% were contaminated with *E. coli*. It is quite alarming to note that only 10 and 8 samples were found to have no *E. coli* and total coliform contamination, respectively. Furthermore, 55 of the total samples came jars and 39, 6, and 3 samples came from the tap, tankers and other water sources, respectively. A majority of the contaminated samples fell in the very high risk category, i.e., total coliform and *E. coli* counts that are above 100 Colony Forming Units/100ml.

Under the pretenses of the popularity of street food, cautionary measures like avoiding drinking the water provided by the vendors, being aware of the vendors' hygiene conditions, questioning vendors on their sources of water, and looking for alternative and relatively safer vendors exhibiting good hygiene are some advised practices. Moreover, ENPHO strongly advocates for caution regarding indulgence into street foods.



## 6. Laboratory and Production

Laboratory and Production division of ENPHO has been providing its analytical services on water, air, soil and food quality since its inception in 1990. ENPHO Laboratory has been accredited under the NEPLAS criteria (based on ISO 17025) by Nepal Bureau of Standards and Metrology, Government of Nepal. The main objective of this Laboratory is to contribute to ENPHO's overall mission of transforming Nepalese society into a healthy and eco-friendly society through its services. This Laboratory has also established itself as an important platform for research and development activities in water, sanitation and environment sectors.



Laboratory division of ENPHO is well equipped with sophisticated instruments like atomic absorption spectrophotometer (AAS), ultra violet (UV) spectrophotometer, double distillation unit, four digital electronic balance, pH meter, electrical conductivity meters, automatic digestion and distillation units, and various types of oven, incubator, and furnace for physical and chemical parameter analysis. Furthermore, it is equipped with several filtration units (Millipore and Del Agua units), different range of incubators, autoclave and refrigerator for microbiological analysis.

Besides analysis, this unit of ENPHO has developed various types of water testing kits like water quality field test kit, arsenic test kit, free residual chlorine (FRC kit), Coliform Presence/Absence (P/A) vial, and water disinfecting chlorine solutions like Piyush, Piyush Plus and body belt incubator.

The laboratory and production division has also conducted different projects in the year 2072-2073. ENPHO Lab tested the drinking water quality in households of Kathmandu, Bhaktapur and Lalitpur districts using ENPHO water test kits. The findings were disseminated through ENPHO booth in WASH campaign for 25th year celebration of ENPHO. Besides, water quality testing was also conducted in seven different earthquake affected districts in terms of microbial parameters. Also, ENPHO also organized bacteriological water quality tests at street food vendors and findings were later presented at ENPHO in 25-year celebration program. ENPHO also conducted project on "Study on efficiency of ceramic candle filters" in association with Water Resources Management Programme (WARM-P), HELVETAS Swiss Inter cooperation. Other projects carried out includes, microbial water quality study in mid and far western regions of Nepal in support of HELVETAS and groundwater quality study of Kathmandu valley in post-earthquake scenario. Additionally, the division has also been involved in various water quality testing and treatment trainings.



The following section lists the details of the number of samples analyzed, kits and reagents sales in the FY 2015/2016.

**Type and number of samples analyzed at ENPHO Laboratory during FY 2015/2016.**

Type of sample	Number of Samples analyzed
<b>Total Drinking Water Samples</b>	<b>2372</b>
<i>Samples from ENPHO project</i>	566
<i>Samples from other clients</i>	1806
<b>Total Wastewater Samples</b>	<b>199</b>
<i>Samples from ENPHO project</i>	27
<i>Samples from other clients</i>	172
<b>Total Soil Samples</b>	<b>46</b>
<i>Samples from other clients</i>	46
<b>Total Urine, Food, Feed and Other Samples</b>	<b>14</b>
<i>Samples from other clients</i>	14
<b>Grand Total</b>	<b>2631</b>

**Type and number of products sold during the FY 2015/2016**

S.N.	Types of water testing kits	Number of kits sold
1	ENPHO Arsenic Test Kit	7
2	ENPHO Water Test Kit	345
3	FRC Test Kit	435
4	Coliform Presence/Absence (P/A)vial	23691
5	ENPHO body belt incubator	135
6	Piyush	518531
7	Piyush Plus	64089
8	Chlorine (1%)	1351

**Individual reagents sold during FY 2015/2016**

Reagents	Number of Units Sold
Water Test Kit Reagents	43
pH Reagent	66
Iron Reagent 1	52
Iron Reagent 2	48
Iron Reagent 3	46
Hardness Reagent 1	41
Hardness Reagent 2	38
Hardness Reagent 3	48
Chloride Reagent 1	22
Chloride Reagent 2	26
Ammonia Reagent 1	69
Ammonia Reagent 2	74
Nitrate Reagent 1	35

Nitrate Reagent 2	35
Phosphate Reagent 1	26
Phosphate Reagent 2	24
Calcium Hardness Reagent	15

The discount of NRs. 247,999.5 was provided to students, board members, staff and regular client this fiscal year.

## 7. Planning, Monitoring and Evaluation

ENPHO conducted sustainability study of several technologies and projects. The document highlighting key findings from this study was produced and distributed during 25-year celebration. ENPHO is developing the viable, user’s friendly PME software which includes database and information management of the projects implemented by ENPHO. In addition, ENPHO is having strategic planning session to strengthen PME system within the organization.

## 8. Organizational Development

### 8.1 Human Resource Management

ENPHO promotes capacity building of staff and various relevant program participation at national and international levels. This year ENPHO succeeded in activating HR unit by hiring staff members dedicated to HRM and could make the unit fully functional. The HR policy has also been finalized.

### 8.2 Capacity Building of Staff

ENPHO highly supports the empowerment and capacity building of staff members at all levels to upgrade their skills.

#### 8.2.1 Exposure at National Level

ENPHO highly encourages all the staff members to participate in various workshops, trainings, orientation and programs organized at the national level to enhance their knowledge, skill and understanding through experience sharing. Refer [Annex VI](#) for the list of programs participated by the staff members at national level from August 2015 - July 2016.

#### 8.2.2 Exposure at International Level

ENPHO highly encourages senior and the most relevant staff members to participate in the programs invited by our International Partners and Donors. This has extended our sharing at the international level and increased our opportunities. Refer [Annex VII](#) for the list of programs participated by the staff members at international level from August 2015 - July 2016.

### 8.2.3 Further Study Opportunities

As a part of human resource development, ENPHO staffs have been pursuing further studies in regular basis.

### 8.3 Volunteer and Internship Management

ENPHO has been providing opportunities to both national and international students to get knowledge and experience in various services and project of ENPHO by mobilizing them as volunteers and interns in various activities.

#### 8.3.1 National Interns and Volunteers

National interns and volunteers appointed at ENPHO during FY 2015/16 are listed as follows:

- Ms. Sonu Shrestha, M.Sc. Environmental Management, Schemes College
- Ms. Ritu Sharma, Bachelors of Public Health, Nobel College
- Mr. Bibek Hada , Maters of Arts (Rural Development)
- Ms. Rabina Milapati, B.Sc. Environmental Science, Khwopa College

#### 8.3.2 International Interns and Volunteers

International interns and volunteers appointed at ENPHO during FY 2015/16 are listed as follows:

- Late John Lee from Hong Kong, for capacity building and documentation exposure
- Rebecca McAllister from Ireland, for research in faecal sludge management.

### Hearty Congratulations to Dr. Mingma Gyalzen Sherpa

ENPHO family would like to extend our hearty congratulations to Dr. Mingma Gyalzen Sherpa, Member Secretary of ENPHO, on his achievement of a doctorate from the Asian Institute of Technology (AIT) in Thailand, in the field of Environmental Engineering and Management on 19 May 2016. Dr. Sherpa, with a major focus on Environmental Sanitation Planning completed his research on 'The Analysis of Sustainability Aspects of Sanitation Planning Approaches in the Urban/Peri-urban Areas of Nepal'.

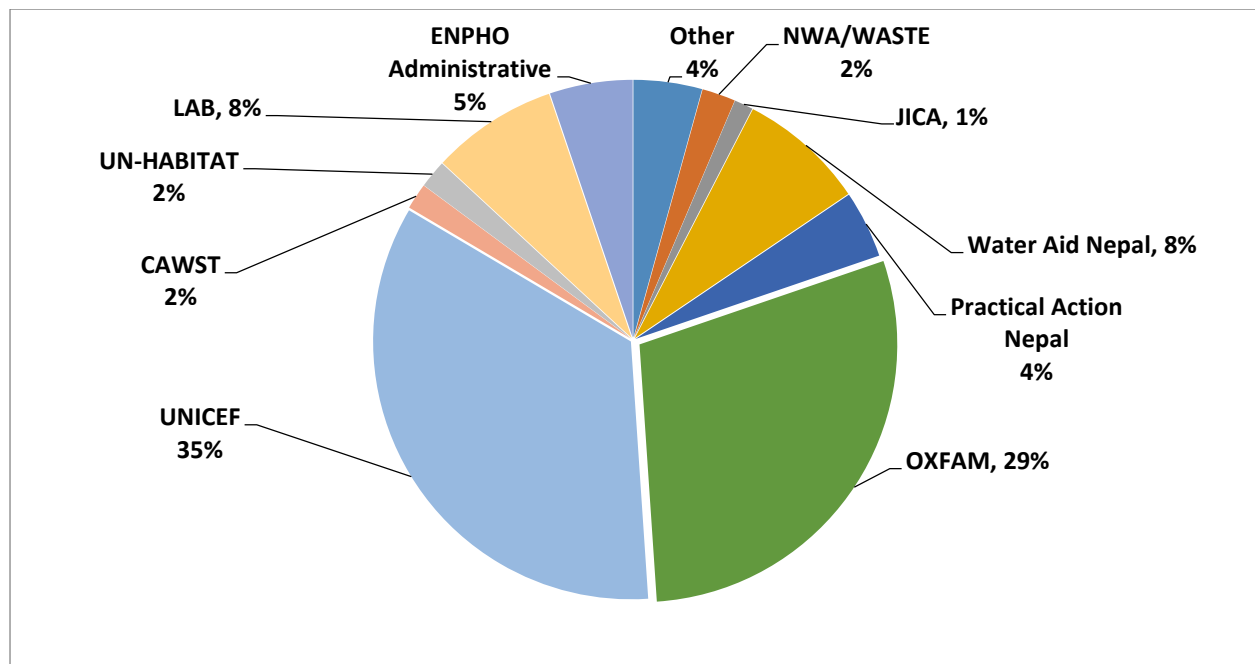


During his research, various community based sanitation planning approaches in Nepal were analyzed and the Household Central Environmental Sanitation (HCES) planning approach was validated through an action research project in Nala, Kavre. Furthermore, multiple case studies analysis approach was adopted for the study and the sanitation planning approaches were compared at three tiers mainly the planning processes followed, performance of sanitation service levels and the sustainability provisions.

## 9. Financial Management

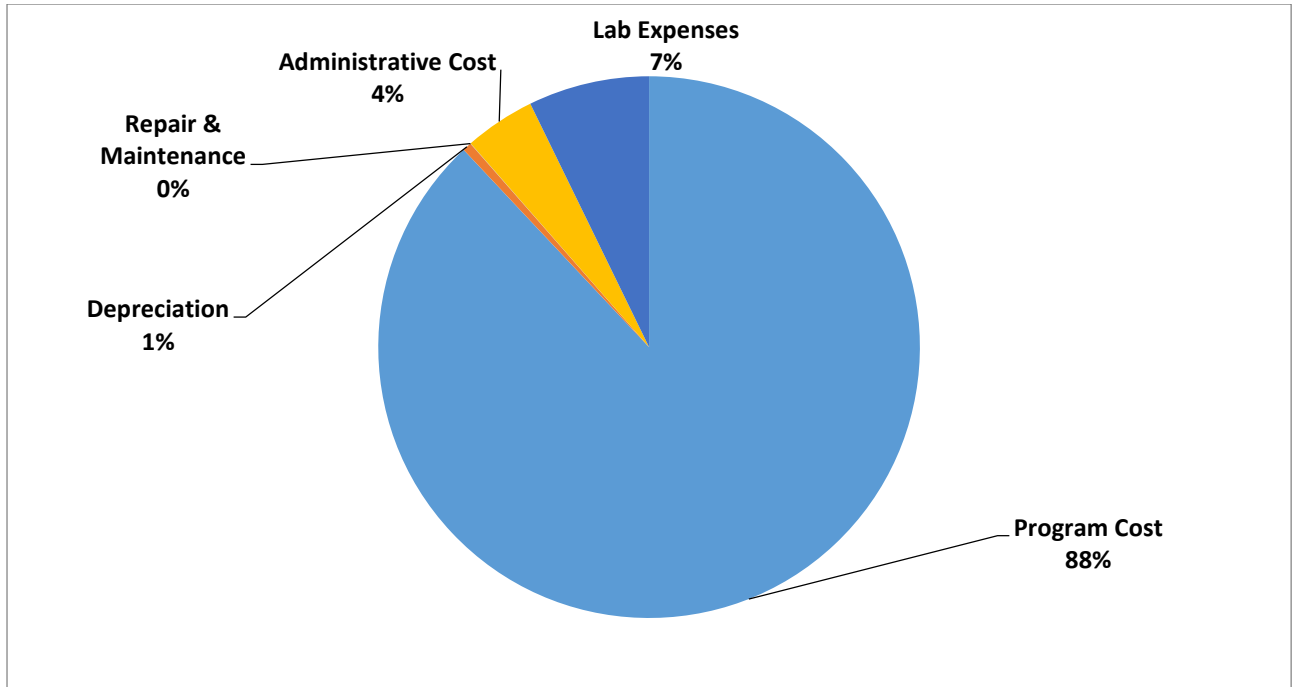
### 9.1 Income

ENPHO’s total income for the year 2015/16 was NRs. 274,156,449.76 (US\$ 2,568,691.56 conversion 1 USD = NRs. 106.73). This is 69% increase compared to the total income of 2014/15. The project contribution to ENPHO's annual income in year 2015/16 included: 35% from Humanitarian WASH Assistance Project funded by UNICEF, 29% from the projects supported by OXFAM, 8% from the projects supported by WaterAid Nepal, 5% of total income came from administrative income and 4% of total income from the projects supported by Practical Action Nepal. Out of ENPHO's annual income, 8% to the total income came from ENPHO Research Laboratory services, products and projects. The overall distribution of annual income is presented in the following graph.

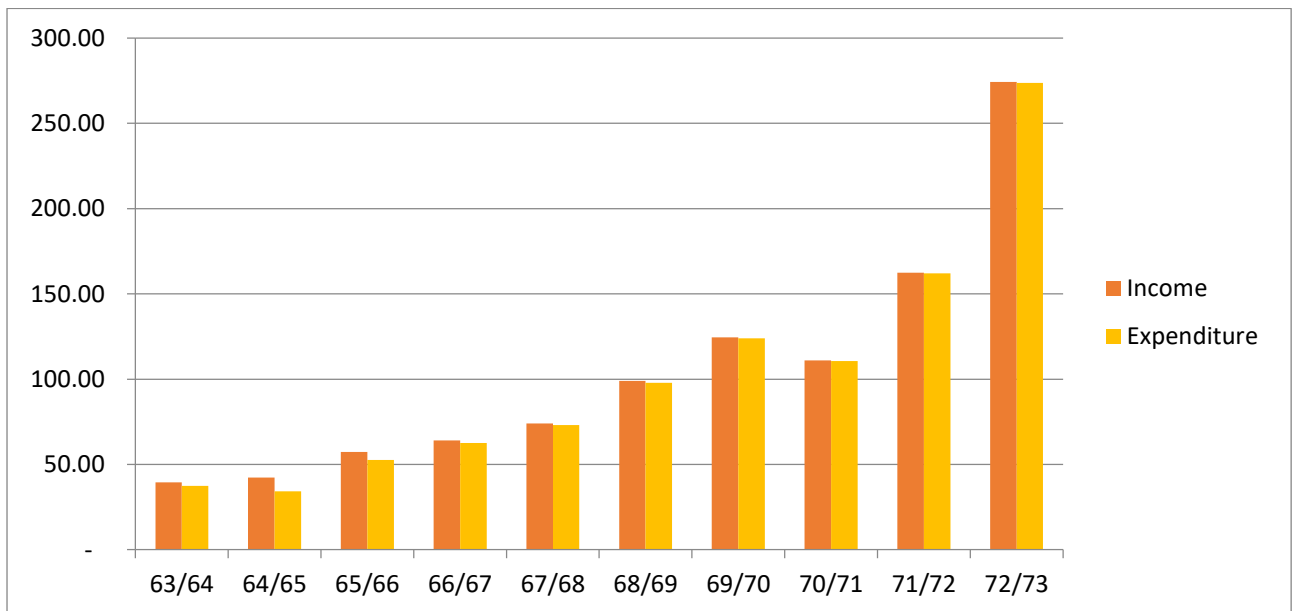


### 9.2 Expenditure

ENPHO’s total expenditure for the year 2015/16 was NRs. 273,739,020.07 (US\$ 2,564,780.47, conversion 1 USD = NRs. 106.73). This is 69% increase compared to the previous year expenditure. Of the total expenditure, 88% was spent on various on-going and completed projects and programmes, while 4% was administration expenses. The cost amounted for operation of ENPHO Research Laboratory services and production was 7% of the total expenditure. The overall distribution of annual expenditure is presented in the following graph.



### 9.3 Trend in income and expenditure over the past 10 years



Please refer [Annex X](#) for financial audit report and [Annex XI](#) for proposed budget for fiscal year 2073/74 (2016/17).



## 10. The Way Forward

This year we are celebrating completion of ENPHO's 25 years of successful journey. This is a major milestone in the history of ENPHO. Reflecting on 25-year journey, we value our major accomplishments and contributions made towards the community development. Nevertheless, we also realize we have huge potential and many accomplishments are yet to be made in the sector of environment, WASH and public health. We therefore have to move forward with new strategies in the current changing context.

We have completed several significant internal strategic improvements this year. The staff realignment was successfully done, HR policy has been finalized with major improvements, other key policies and guidelines were revised and finalized, the new organizational structure is in place. Now we need to ensure proper implementation of these policies and guidelines and focus on smooth institutionalization of these changes. With the increasing number of staff members, we need to focus on strengthening HR management including teamwork and good coordination within and among the divisions and units. We need to promote internal capacity building process through appropriate knowledge transfer methods and creating learning and sharing platforms. The new talents should be nurtured and provided with new avenues to generate innovative ideas. The new leaders have to be developed at all levels.

This year we aim to finalize ENPHO's five-year strategic plan with the inputs from board members, donors, partners and key sector stakeholders to ensure that our strategic plan is properly aligned with current sector priorities and needs. Our efforts to innovate and develop sustainable solutions should be stimulated by developing and reinventing innovative technologies and approaches. For this, we need to strengthen Research Unit and foster our collaboration with national and international research institutions. We need to further consolidate and concentrate our efforts in strengthening and disseminating our expertise and services in the sector of Urban Sanitation. We strive to establish ENPHO as "Center of Excellence" for capacity building at different levels.

We need to scale up dissemination of our products and services at all levels. The strategic partnership with social business enterprises is very important and is currently under discussion. In addition, we need to continue our cordial relationships with local implementers, partners and local government agencies in effective dissemination of WASH services and products.

With SUA AHARA II project, we are going to expand our project areas. This is good opportunity for us to disseminate our services to reach larger populations and to collaborate with more local stakeholders. We continue to innovate, learn, reinvent and replicate innovative technologies and approaches within and beyond this project.

We have completed 25-year journey with valuable support of our partners, well-wishers and donors. We look forward to continuing productive partnerships and collaborations to move ahead with the mission of enabling societies become healthy and environment-friendly.

# **ANNEXURES**



## Annex I: Project List, FY 2015/16

S.N.	Project Title	Program Area/District	Partners	Duration
<b>Water Quality</b>				
1	Water quality testing at 4 river water intakes of NWSC in Pokhara municipality	NWSC in Pokhara Municipality	CREEW, Baluwatar	Aug 2015- September 2015
2	Improving Health of Students by Providing Arsenic and Pathogens Free Safe Drinking Water at 20 Selected Schools in Nepal	20 selected schools from arsenic affected areas	Dubai EXPO 2020- live partnership fund, MIT, CAWST and schools	November 2013- November 2015
<b>Sustainable Sanitation</b>				
3	Demonstrating Effective Feecal Sludge Management System for Pro-Poor Sanitation Service Delivery in Panauti Municipality	Panauti Municipality	WaterAid Nepal	July 2014- March 2016
4	Fecal Sludge treatment plant-prefabricated DEWATS for emergency relief in Kathmandu Valley	Lubhu of Lalitpur	BORDA, CDD Society	June 2015- December 2015
5	Poverty Reduction and Sustainable Protection of Natural Resources in South Asia	Various locations in Nepal	Bremen Overseas Research and Development Association	January 2015- December 2015
<b>Community Based WASH</b>				
6	Sustainable Water, Sanitation and Hygiene at Nagarkot (SWASH)	Nagarkot and Shankharapur Municipality	WaterAid Nepal	April 2013- December 2016
7	Development & City Sanitation Plan for Madhyapur Thimi & Piloting its Components through coordinated & pro-poor service delivery approach	Madhyapur Thimi Municipality	WaterAid Nepal	July 2014- March 2016
8	Promote Safe & Productive Use of ( Solid & Liquid) Waste for Food Protection around Urban Settlements in Surkhet	Birendranagar Municipality, Kunthari VDC, Surkhet	Resource Centre on Urban Agriculture and Food Security (RUA Foundation), the Netherlands	March 2016- December 2016

9	Implement "Open Defecation Free- ODF Gulariya municipality by 2015" Project	Gulariya Municipality	Practical Action Nepal	August 2014- July 2016
10	Open Defecation Free Campaign in Bara District	15 Selected VDCs at Bara	UN-HABITAT, Nepal Red Cross Society- Bara District Chapter	March 2014- October 2015
11	Green Homes- Promoting Sustainable Housing in Nepal	Lalitpur, Pokhara and Dharan Municipality	UN-HABITAT, Clean Energy Nepal, SLTDC, FNCCI, Lalitpur Municipality Office, Dharan Municipality Office and Pokhara Municipality	December 2013- October 2015
12	Sustainable Water, Sanitation and Hygiene (SWASH) Project in Surkhet	Surkhet District	WASTE, the Netherlands	January 2016- December 2015
13	The 4th Kyoto World Water Grand Prize Project- "Support School for Improved Learning (SUSIL)"	9 schools at Surkhet District in Mid-Western region of Nepal	Japan World Water Forum & ENPHO	April 2015- January 2016
<b>Disaster Risk Reduction</b>				
14	Humanitarian WASH assistance in 7 earthquake affected districts of Nepal	Kavre, Dolakha, Makwanpur, Nuwakot, Rasuwa, Ramechhap	UNICEF	May 2015- July 2016
15	Emergency WASH Response with integrated DRR to Earthquake victims residing in 18 camps at Bhaktapur.	working in 18 camps (out of 86 identified camps)	WaterAid Nepal	July 2015-March 2016
16	Strengthening the health sector response capacity in the event of mass causality incidents in Kathmandu Valley (DIPECHO VIII)	Mahalaxmi Municipality of Lalitpur & Bir Hospital of Kathmandu	Oxfam	August 2015- August 2016
17	Urban WASH preparedness and community based disaster risk reduction in Kathmandu	Lalitpur Sub Metropolitan City	Oxfam	August 2015- March 2016
18	Post-Earthquake Support Our School	Bhaktapur municipality and Madhyapur Thimi municipality	WaterAid Nepal	February 2016- December 2016
19	Emergency Response to Nepal Earthquake	Mahalaxmi municipality and Nagarkot municipality	Oxfam	April 2015- September 2016



20	Building Back Better, Institutionalizing and Strengthening WASH Sector for Urban Residents -BISWASH Project	Ward 2,4,5,8,11 & 12 of Panauti municipality of Kavre district	Practical Action	May 2016- October 2017
<b>Environmental Studies</b>				
21	Assessment of performance of Kanchan Arsenic Filter (KAF) in Nawalparasi	Nawalparasi	JICA	July 2014- January 2015
<b>Research and Development</b>				
22	Water Quality Testing in Earthquake Affected Districts	Dolakha, Kavrepalanchowk, Makwanpur, Nuwakot, Ramechhap, Rasuwa and Sindhuli	UNICEF	1 June, 2015- 25 August, 2016
23	Study on Efficiency of Candle Ceramic Filter	Kathmandu	Water Resources Management Programme (WARM-P), HELVETAS Swiss Inter cooperation	November, 2015 to April, 2016
24	Study on Microbial Water Quality in Warm-P area (mid and far western regions of Nepal)	Dailekh, Accham, Jajarkot and Kalikot	Water Resources Management Programme (WARM-P), HELVETAS Swiss Inter cooperation	November 25, 2015 to April 15, 2016
25	Ground water quality of Kathmandu valley in Post- Earthquake scenario	Kathmandu Valley	ENPHO	June 2015 to August 2015
26	Study on designing toilet waste thickening unit in Biogas system at Lele Barrack	Lele Army Barrack, Lalitpur	Alternative Energy Promotion Center (AEPC), Danphe Energy Pvt. Ltd	June 25, 2015 - April 15, 2016
<b>WASH and Nutrition</b>				
27	Suaahara II Good Nutrition program	Various districts	Helen Keller International (HKI)	May 2016-April 2021

## Annex II: Major MoU 2015/16

SN	Description of MoU	Signed on
1	ENPHO and Center for Affordable Water and Sanitation Technology (CAWST), Canada had signed MOU to develop and strengthen a Water Expertise and Training Centre (WETC) in Kathmandu, Nepal. (July 2016 - December 2020)	25 July, 2016
2.	ENPHO and Rural Self Reliance Development Centre- RSDC had signed MOU to organize 'Operation & Management Training' for Water User's Committee to strengthen capacity of Water User's Committee of Lisankhu VDC of Sindhupalchowk.' (July –August 2016).	8 July, 2016

## Annex III: List of Executive Board Members

SN	Name	Designation	Field of Expertise and Designation	Contact Address
1	Ms. Urmila Joshi	Chairperson	M.Sc. in Botany Food Technology Expert	joshi_urmila@yahoo.com
2	Er. Rajiv Joshi	Vice-Chairperson	M.Sc. in Water Sanitation Senior water & Sanitation Engineer (KUKL) Project Implementation Directorate(PID) Life Member: Nepal Engineering Association(NEA), Society of Public Health Engineers Nepal (SOPHEN)	rajivjoshi70@gmail.com
3	Mr. Pratap Kumar Acharya	Treasurer	MBA Finance Expert	pratapacharya9@gmail.com
4	Dr. Mingma Gyalzen Sherpa	Member Secretary	Ph.D. in Environmental Engineering and Management M.Sc. in Environmental Science Freelance Consultant	ming_sherpa527@yahoo.co.uk
5	Prof. Dr. Kunjani Joshi	Executive Member	Ph.D.(Colombo), Post Doc.(Harvard), ELS(London) Plant Systematics & Biodiversity Expert Head, Department of Botany, Patan Multiple Campus, TU.	kunjanijoshi@gmail.com
6	Dr. Chandra Lekha Tuladhar	Executive Member	Ophthalmologist (Eye Specialist) Eye Clinic, Blue Bird Complex Tripureshwor	drlekhatuladhar@gmail.com
7	Dr. Laxman Joshi	Executive Member	Ph.D in Agroforestry Executive Director, ENPHO Visiting Faculty, Kathmandu University	laxman.joshi@enpho.org
8	Mr. Prakash Amatya	Executive Member	M.Sc in Microbiology, Executive MBA Development Practitioner	prakashamatya@yahoo.com
9	Mr. Bipin Dangol	Executive Member	M.Sc. in Environmental Science Senior Knowledge Management Director, ENPHO	bipin.dangol@enpho.org
10	Mr. Rabin Bastola	Executive Member	M.Sc. in Environmental Management M.A. in Anthropology Faculty Member, Amrit Science Campus (TU) Technical Advisor, WASH Resource Centre Network Nepal (RCNN)	rabinbastola@gmail.com

## Annex IV: ENPHO Staff List of FY 2015/16

S. No.	Name	Designation
1	Dr. Laxman Joshi	Executive Director
<b>Laboratory and Production</b>		
1	Ms. Padmaja Shrestha	Laboratory and Production Director
2	Ms. Pramina Nakarmi	Laboratory Manager
3	Ms. Ambika Khanal	Assistant Documentation Officer
4	Ms. Alisha Shrestha	Production and Marketing Officer
5	Ms. Bibha Shah	Analyst Microbiology
6	Mr. Bishnu Prasad Koirala	Assistant Analyst
7	Mr. Bhajaram Maharjan	Assistant Production Officer
8	Ms. Isha Dhakal	Project Officer
9	Mr. Manorath Bajgain	Lab Analyst
10	Mr. Nabina K.C	Analyst Technical Officer
11	Mr. Raju Tamang	Lab Boy
12	Ms. Ruby Joshi	Senior Lab Associate
13	Mr. Subin Kalu	Research Associate
14	Ms. Sandeepa Majhi	Production Helper
<b>Outreach</b>		
1.	Mr. Rajendra Shrestha	Outreach Director
2	Mr. Prashanna Man Pradhan	Senior DRR Manager
3	Mr. Keshab Shrestha	IWASH Manager
4	Ms. Kirty Bajracharya	Documentation Officer
5	Ms. Reetu Rajbhandari	Sanitation Engineer
<b>Koteshwor Field Office</b>		
1	Anil Maharjan	Project Officer
2	Ankita Bhattarai	Social Mobiliser
3	Bijay Thapa	Senior Program Officer
4	Binod Awale	Senior Social Mobilizer
5	Bivor Maharjan	Assistant Project Officer
6	John Maharjan	Social Mobiliser
7	Kripa Karki	Engineer
8	Kumod Sharma	Social Mobiliser
9	Mashini Maya Tamang	Senior Social Mobilizer
10	Merina Maharjan	Assistant Project Officer
11	Merina Sakya	Project Officer
12	Milan Shrestha	Assistant Public Health Engineer
13	Nirmal Awale	Social Mobiliser
14	Nisha Shrestha	Junior Engineer
15	Prabin Karna	Assistant Public Health Engineer
16	Prayanka Sakya	Social Mobiliser
17	Rama Malla	Senior Social Mobilizer
18	Rockey Tulshibakhya	Social Mobiliser
19	Rubina Shrestha	Social Mobiliser
20	Sarmila Gwachha	Assistant Project Officer
21	Shristi Maharjan	Senior Social Mobilizer

22	Siddartha Sakya	Senior Social Mobilizer
23	Subarna Maharjan	Project Officer
24	Suma Maharjan	Assistant Project Officer
25	Pramila Maharjan	Assistant Administration Officer
26	Bhintuna Shrestha	Monitoring & Documentation Officer
27	Nikita Shrestha	Assistant Finance Officer
28	Binita Khadka	Office Assistant
<b>Bhaktapur Field Office</b>		
1	Srijana Karki	Senior WASH Officer
2	Shrijana Shakya	Senior WASH Officer
3	Bibek Ghimire	WASH Engineer
4	Guna Laxmi Manandhar	Field Co-ordinator
5	Jagam Shrestha	Senior WASH Officer
6	Krishna Rijal	Social Mobiliser
7	Prabina Shrestha	WASH Engineer
8	Radip Pariyar	Senior Social Mobilizer
9	Rajesh Benjankar	Field Co-ordinator
10	Reshma Shrestha	Field Co-ordinator
<b>Surkhet Field Office</b>		
1	Roshan Chaulagain	District Co-ordinator
2	Niraj Man Shrestha	Finance Officer
3	Sushil Nhemhaphuki	Assistant Technical Officer
4	Gita Chaudhary	Office Assistant
5	Khem Prasad Sharma	Community Mobiliser
6	Megh Bahadur KC	Community Mobiliser
7	Rom Harsh Oli	Community Mobiliser
8	Sita Chaudhary	Community Mobiliser
<b>Gulariya Field Office</b>		
1	Balram Sigdel	District Co-ordinator
2	Alok Chandra Neupane	Field Co-ordinator
3	Mukesh Pandit	Sanitation Engineer
4	Chandra B. Chaudhary	Senior Field Associate
5	Chhancha Ram Tharu	Office Assistant
6	Janaki Ghimire	WASH Volunteer
7	Ram Kali Tharu	WASH Volunteer
8	Ram Kumar Chaudhary	WASH Volunteer
9	Sajal Shrestha	Finance Officer
10	Sobita Kandel	WASH Volunteer
11	Sunita Kumari Tharu	WASH Volunteer
12	Suresh Kumar Gupta	WASH Volunteer
13	Tika Ram Pariyar	WASH Volunteer



<b>Bara Field Office</b>		
1	Jibendra Ghimire	Project Co-ordinator
2	Rajendra Mahato	Senior Field Associate
<b>Dolakha Field Office</b>		
1	Buddha Bajracharya	District Co-ordinator
2	Sanjeep Manandhar	Field coordinator
3	Sujeet Shrestha	Field coordinator
4	Ashok Tamang	Social Mobiliser
5	Bimala Mijar	Social Mobiliser
6	Chandra Narayan Pradhan	Field Supervisor
7	Jhalak Jirel	Social Mobiliser
8	Khadga Nepali	Social Mobiliser
9	Nabin Basnet	Social Mobiliser
10	Pema Yonjan Tamang	Social Mobiliser
11	Rabita Thapa	Social Mobiliser
12	Shiva Khadka	Social Mobiliser
13	Rameshwor Joshi	Field Supervisor
<b>Makwanpur Field Office</b>		
1	Bishma Raj Khatri	District Coordinator
2	Kiran Maharjan	Field Coordinator
3	Amita Karki	Social Mobiliser
4	Babulal Blon	Social Mobiliser
5	Deepak Gopali	Social Mobiliser
6	Hira Bista	Social Mobiliser
7	Ishwori Shahi Thakuri	Social Mobiliser
8	Janaki Shrestha	Social Mobiliser
9	Raj Kumar Tamang	Social Mobiliser
10	Rashila Thing	Social Mobiliser
11	Sakuntala Gopali	Social Mobiliser
12	Santa Kumar Syangtang	Social Mobiliser
13	Prasan Thapa	Technical Supervisor
<b>Kavre Field Office</b>		
1	Ramchandra Karmacharya	District Coordinator
2	Anil Shrestha	Social Mobiliser
3	Buddha Tamang	Social Mobiliser
4	Jyotindra Suwal	Social Mobiliser
5	Nirusha Sainju	Social Mobiliser
6	Sajaya Tamang	Social Mobiliser
7	Santosh Dahal	Field Coordinator
8	Anuj Sapkota	Social Mobiliser
<b>Ramechhap Field Office</b>		
1	Subash Bohara	District coordinator
2	Pavin Kafle	Field Coordinator
3	Mandina Karki	Social Mobiliser
4	Pabitra Kumari Thapa	Social Mobiliser
5	Pradip Timalsina	Social Mobiliser
6	Prakash Karki	Social Mobiliser
7	Radhika Khadka	Social Mobiliser
8	Reenu Kumari Magar	Social Mobiliser
9	Rita Chauhan	Social Mobiliser

10	Sabina Karki	Social Mobiliser
11	Saraswati Khadka	Social Mobiliser
<b>Nuwakot Field Office</b>		
1	Sanyog Rajbhandari	WASH Engineer
2	Sarita Gautam	Field coordinator
3	Kalpna Thapaliya	Social Mobiliser
4	Rishi Ram Devkota	WASH Technician
<b>Sindhuli Field Office</b>		
1	Madan Kumar Pandey	District Coordinator
2	Binod Karki Dholi	Social Mobiliser
3	Girendra Gorkhaly	Social Mobiliser
4	Hem Barili	Social Mobiliser
5	Mandira Sundas	Social Mobiliser
6	Sankar Ghale	Social Mobiliser
7	Shyam Lal Shyangtang	Social Mobiliser
8	Suman Basnet	Health Post Supervisor
9	Tirtha Bahadur Shangtang	Social Mobiliser
10	Himal Oli	Field Coordinator
11	Kamal Bahadur Patta Magar	Social Mobiliser
12	Binda Devi Baral(Kafle)	Social Mobiliser
13	Bhuwan Shrestha	Health Post Supervisor
14	Chhabilal Pakhrin	Health Post Supervisor
15	Arjun Kumar Bayalkoti	Health Post Supervisor
<b>Rasuwa Field Office</b>		
1	Dipak Tamang	Social mobiliser
2	Dolma Ghale	Social mobiliser
3	Shim Sanbo Tamang	Social mobiliser
<b>Knowledge Management</b>		
1	Bipin Dangol	Senior Knowledge Management Director
2	Ash Kumar Khaitu	Training Centre Manager
3	Rosy Singh	Resource Centre Manager
4	Chandra Shova Khaitu	EPD Officer
5	Hari Bahadur Budhathoki	Assistant Technical Officer
6	Shobha Rana	WASH Trainer
7	Subash KC	Assistant WASH Trainer
8	Ankit Aryal	Advocacy Officer
9	Lerica Gorkhaly	Documentation Officer
10	Ritu Sharma	RC Associate
11	Tej Kiran Joshi	Senior RC Associate
12	Yogesh Shrestha	Senior IT Associate

<b>Administration and Finance</b>		
1	Niranjn Pradhan	Administration and Finance Director
2	Ani Maharjan	Finance Officer
3	Anita Shrestha	Senior Administration Officer
4	Babukaji Magar	Senior IT Associate
5	Bandana Shrestha	Finance Officer
6	Chintu Thapa	Driver
7	Dharma Prajapati	Logistic Officer
8	Dixa Shrestha	HR Officer
9	Dolma Tamang	Senior Administration Associate
10	Kiran Prajapati	Senior Logistic Associate
11	Nikita Shrestha	Assistant Finance Officer
12	Pramila Amatya	Senior Finance Officer
13	Pramila Maharjan	Assistant Administration Officer
14	Rajan Pradhan	Senior Administration Associate
15	Rajendra Maharjan	Assistant Finance Officer
16	Sangita Acharya	Senior HR Associate
17	Sarita Shrestha	Finance Officer
18	Kamala Khatri	Office Support Staff
19	Raju Khatri	Office Support Staff
20	Suraj Swongamikha	Finance Associate
<b>Research and PME</b>		
1	Binod Chhetri Bhandari	Assistance Research Officer
2	Bhintuna Shrestha	Monitoring and Documentation Officer
3	Chhoden Lama Yonzon	PME Officer

## Annex V: List of Programs Organized (August 2015- July 2016)

### Programs Organized:

- Orientation program on Water, Sanitation and Hygiene (WASH) conducted by ENPHO with support of Water Aid Nepal, to earthquake victims of Bhaktapur municipality. Collectively, 123 women and 43 men participants in the program. (5, 6, 7, 9 and 19 October, 2015)
- Orientation program on WASH in DRR (Disaster Risk Reduction) was conducted at 5 schools of Bhaktapur district by ENPHO with support of Water Aid Nepal. (10 to 29 March 2016)
- An interaction program on Disaster management was conducted by ENPHO in close coordination with Mahalaxmi municipality and stakeholders included political parties, ward office, ward citizen forum and social mobilizers. (5 October 2015)
- ENPHO Laboratory and Production Division, organized a two day program on “Introduction on water quality testing” at Surkhet. Collectively, 28 participants from different partner organizations of HELVETAS trained on water quality sampling and water quality testing using ENPHO water test kit. (18 and 19 December, 2015)
- Community Orientation on 14 Steps Planning Processes was successfully conducted under DIPECHO VIII Project in close coordination with Mahalaxmi municipality. Altogether, 337 participants including 215 male and 122 female participated in the program. (28 December 2015 to 1 January 2016)
- Orientation program on WASH in DRR was conducted for the volunteers, under DIPECHO-VIII project. Altogether, 55 volunteers including 13 male and 42 female participated in the program (13 to 14 January 2016).
- Orientation on disaster risk reduction was conducted at 13 Internally Displaced People (IDP) camps in Bhaktapur. Altogether, 101 male and 106 female participated in the program. (6 to 20 January 2016)
- Orientation on Camp Security was conducted for 19 people residing in Bhaktapur camps. (26 March, 2015)
- A two days orientation program for WASH committee members to declare SWASTHA community was conducted under the Sustainable Water, Sanitation and Hygiene (SWASH) Project of ENPHO in Birendranagar Municipality. Altogether 68 participants (including 54 female and 14 male) actively participated from eight different communities. (19 and 20 April)
- Training on WASH for stakeholders and FCHVs was organized by ENPHO with support of UNICEF. Altogether 89 participants were oriented. (23 to 24 April, 28 May to 4 July, 2016)
- ENPHO with support of Water Aid, under the Sustainable Water, Air, Sanitation and Hygiene (SWASH) Project, conducted interaction program on “Promotion of toilet construction” at 18 communities of Nagarkot municipality. Altogether 518 people participated in the program. (5 to 15 April, 2016)
- ENPHO conducted one-day-orientation training for Locality Development Committee members on solid waste management in Birendranagar municipality, under the SWASH project. Altogether 28 individuals attended the training program. (28 April, 2016)
- ENPHO with support of Water Aid Nepal organized orientation program thematically concerning water, sanitation and hygiene (WASH) and Disaster Risk Reduction (DRR). Collectively, 357 participants (165 Male, 192 Female) were in attendance during the sessions. (May 2 to 15, 2016)
- ENPHO in collaboration with WASTE- The Netherland, WASH Alliance Nepal and RUAF Foundation conducted one day orientation program for Junior Technical Assistant in Agriculture (JTA) students on urine application in agriculture. Collectively, 54 attendees (42 female and 12 male) actively participated in the training. (May 18, 2016)

- Under the SWASH Project, ENPHO with the support of WASTE, the Netherlands and RUAF Foundation, conducted a one day orientation program on urine application in agriculture to the farmers of Birendranagar municipality, Surkhet. Collectively, 25 (8 female and 17 male) farmers attended the orientation program. (June 6, 2016)
- ENPHO with support of OXFAM, organized Desktop Simulation and Discussion Program on E-WASH plan. Collectively, 13 staffs of E-WASH task teams and Disaster Management and Planning Committee (DMPC) from Bir Hospital, participated in the program. (June 24, 2016)

### **Trainings/Workshops Organized**

- One day training on “Homemade pad making” was organized by ENPHO, under SWASH project at Nagarkot, at ENPHO Nagarkot field office. Collectively, 46 youths and women were trained from homemade pad making session. (August, 2015)
- One day training on chlorination was organized, under SWASH project at Nagarkot, to Water Sanitation Users’ Committee (WSUCs) at Dandha Tole WSUCs office. Collectively, 53 people from three communities participated in the training. (October 2015)
- Two day training on “Leadership and Communication” to Water and Sanitation Users’ Committee (WSUCs) was organized, under SWASH project at Nagarkot. Altogether 26 members of WSUCs attended the training. (September, 2015)
- A two day training “Strategic Approaches & Government Planning Program” was organized for 41 staffs, under DIPECHO-VII project at Park Village Resort, Budanilkantha, Kathmandu. (16 and 17 October 2015)
- A six day training on “Basic First Aid and Fire Fighting Training was organized by ENPHO with support of Water Aid Nepal and with technical support of Nepal Red Cross Society, Kathmandu District Chapter at Hotel Sweet Home, Bhaktapur. Collectively, 41 CCC members and community people were trained. (3 to 5 November, 9 to 11 December 2015)
- Biosand Filter Construction and Project Implementation was successfully conducted in collaboration with Nepal Red Cross Society, Kanchanpur and with technical support of ENPHO/CAWST at Shankarpur, of Kanchanpur District. Altogether 23 participants (2 Female, 21 Male) from two different VDCs of Kanchanpur District participated in the training. (3 to 6 November, 2015)
- A two day training on “Water, Sanitation and Hygiene for Recovery” organized by ENPHO and Water Aid Nepal and with technical support of CAWST. Collectively, 45 participants were trained on WASH components to minimize the possibilities of future public health disasters.
- A two day training on “Disaster Risk Reduction” was organized by ENPHO with support of Water Aid Nepal. Collectively 39 Camp Coordination Members and victims were trained. (28-29 November 2015, 27-28 March 2015)
- An “on-demand training on WASH for Recovery for Clean Ways Initiatives (CWI)” was conducted with the joint effort of ENPHO WET Center and CWI. Altogether 21 participants (19 Female, 2 Male) participated in the training. (30 November to 2 December, 2015)
- The refresher training to the health facility staff members was conducted under DIPECHO VIII project. Altogether 35 staffs participated in the training. (31 December, 2015)
- ENPHO WET center organized Water safety Plan (WSP) training for SWASH Nagarkot project at Mahamanjushree Nagarkot Municipality ward office Bhaktapur. Altogether 15 participants (9 male, 6 female) from five water supply user’s committee participated in the training. (21 to 22 December, 2015)
- ENPHO WET-Centre organized “Delivering Effective WASH Training (DEWT)” for 22 participants from ENPHO including Clean Ways Initiatives (CWI), Clean up Nepal, Urban Environment Management Society (UEMS) and other students. (7 to 11 December 2015)



- ENPHO in coordination with PRACTICAL ACTION successfully completed Quarterly Review and Planning Workshop for SAFA and SWASTHA Gulariya Project. Altogether, 18 participants attended the workshop. (5 to 6 November, 2015)
- ENPHO Laboratory and Production Division with support from World Vision International Nepal, organized a two day training on “water quality testing”. Collectively, 12 participants were trained on water quality testing using DelAgua Portable Water Test Kit. (11 and 12 January, 2016)
- Training on “Water Safety Plan (WSP)” was organized by ENPHO with the support from CAWST at Indreni Foodland, Baneshwor. Altogether 4 staffs participated in the training. (11-14 January, 2016)
- ENPHO with support of CAWST organized “Proposal writing training” was organized for 4 staffs at ENPHO Hall, New Baneshwor. (27-28 January, 2016)
- Two day training on “Rain Water Harvesting” was organized by ENPHO with support of CAWST at Pulchowk, Lalitpur. (27-29 January, 2016)
- Training on “Camp Coordination and Camp Management (CCCM)” was organized by ENPHO with support of Water Aid Nepal and with technical support of Nepal Red Cross Society and Human Resource Development Institute to Camp Management Committee. Altogether 24 of Camp Management Committee (16 male and 8 female) actively participated in the training. (8 to 9 February 2016)
- Three day training on “WASH for Recovery” was organized by ENPHO with support of UNICEF at Dolakha. Altogether 15 people actively participated in the training. (18-20 February, 2016)
- A three day training on “Training of Trainers (ToT)” was organized under DIPECHO-VIII project. Altogether, 88 participants were trained (22 to 24 February 2016, 2 to 4 March 2016 and 9 to 11 March 2016)
- Three days “Mason Training for toilet construction” was organized by ENPHO with support of OXFAM. Altogether 19 (17 male and 2 female) people from Mahalaxmi Municipality and Nagarkot municipality were trained on the proper construction of emergency latrines and household latrines. (20-22 April, 2016)
- Three days training on “Community Search and Rescue” was organized by ENPHO in collaboration with Nepal Red Cross Society and with support of OXFAM, under the “Emergency Response to Nepal Earthquake”. Altogether 24 people from Mahalaxmi Municipality participated in training. (23-25 April and 26-28 April, 2016)
- Three day training on Basic First Aid to the first aid taskforce and other community volunteers of Mahalaxmi municipality was conducted by ENPHO with technical support from Nepal Red Cross Society. Collectively, 24 participants participated in the training.
- A workshop on M-WASH-CC strengthening was conducted by ENPHO with support of OXFAM to clarify and convey the roles and responsibilities to M-WASH-CC members for the preparation of WASH plan.
- Community Health Promotion (CHP) to the Noble Compassionate Volunteers (NCV) staffs was conducted at Chhahari Services Baluwatar, Kathmandu. Altogether 27 staffs including 19 female and 8 male participated in the participatory training. (6 to 8 April, 2016)
- A two days training on WASH for stakeholders was conducted in earthquake affected districts (Sindhuli, Ramechhap, Dolakha, Nuwakot and Makwanpur). Collectively, 19, 26, 24, & 32 participants attended the sessions at Sindhuli, Ramechhap, Dolakha, Nuwakot & Makwanpur districts, respectively. (15 to 25 April, 2016)
- Two days training on “Emergency WASH” was conducted for WASH committees of 19 Community Based Disaster Management Committee (CDMC) in Mahalaxmi municipality. (April 28-29, May 4-5, and May 9-10, 2016)
- One day refresher training on kitchen garden for 22 community members (18 female and 4 female) of the Nagarkot municipality was conducted. (May 10, 2016)

- A two day training on Water, Sanitation and Hygiene (WASH) and Disaster Risk Reduction (DRR) to the School Management Committee (SMC) and Parents Teachers Association (PTA) of 5 schools was conducted. (May 16 to 17, 2016)
- One day training program was conducted on Solid Waste Management for 28 (21 female and 7 male) of Nagarkot Municipality. (May 19, 2016)
- Three day refresher training on Bio Sand Filter (BSF) was conducted for 17 (1 female and 16 male) in Gulariya, Bardiya. The training was organized by ENPHO WETC/CAWST. (May 28 to 30, 2016)
- One day training on “Gender awareness” was conducted by ENPHO with support of OXFAM. Collectively, 21 participants (15 female and 6 male) attended the training. (30 May 2016)
- ENPHO in collaboration with Oxfam and with technical support of Balaju School of Engineering and Technology, under “*Emergency Response to Nepal Earthquake*” project.
- A seven days “Mason training” was conducted by ENPHO with support of OXFAM for 20 masons. (May 29 to June 4, 2016)
- A three day Community Health Promotion (CHP) Training was successfully organized by ENPHO, with the support of PRACTICAL ACTION at Gulariya, Bardiya. Collectively, 18 (6 female and 12 male) participants attended the training. (May 31 to June 2, 2016)
- Basic First Aid training for students and teachers of Bhaktapur district was organized by ENPHO with support of Water Aid Nepal and technical assistance of Nepal Red Cross Society. Collectively, 19 students and 23 teachers from 13 schools participated in the training. (June 4 to 6 and June 6 to 8, 2016)
- A two day training on *WASH in DRR* was organized by ENPHO in collaboration with Water Aid Nepal for School Management Committee (SMC) and Parent Teachers Association (PTA) of 6 schools of Madhyapur Thimi. Collectively, 22 (4 male and 18 female) enthusiastically participated on training. (May 18 and 19, 2016)
- A two day workshop on “Fecal Sludge Management Workshop” organized by ENPHO with support of CAWST. (2 to 4 November, 2015)
- A workshop on “Current status of Madhyapur Thimi and way forward” organized by ENPHO with support of Water Aid Nepal at Madhyapur Thimi. Altogether 43 people participated in the workshop. (30 March, 2016)
- A workshop on “ Formulation of Strategy on Fecal Sludge Management at Municipal Level” organized by ENPHO with support of Water Aid Nepal at Gyan Bikash Library Hall, Panauti. Collectively, 28 participants attended the training. (March 15, 2016)

**List of event organized:**

- ENPHO with support of OXFAM and in collaboration with WASH Main Committee of Khokhana conducted “Hygiene Promotion Rally” at Khokana and Karyabinayak municipality. Altogether 152 people including WASH committee members, local residents and students participated in the rally. (7 October, 2015)
- WASH Campaign for Cholera prevention was organized by ENPHO with support from Water Aid Nepal at Tachutole camp, Kekutan camp and Siwa tole of Madhyapur Thimi Municipality. Altogether, 92 female and 13 male participants attended the orientation events.(11 and 22 September and 5 October, 2015)
- ENPHO and Paschim Paaila organized various WASH related activities (Handwashing practices, street drama, WASH information dissemination through posters, leaflets) at six different camps in Bhaktapur to mark Global Handwashing Day 2015”. Altogether 456 people benefitted from the program. (12th to 15th October, 2015.)
- SAFA & SWASTHA Gulariya Project organized total sanitation based street drama show at Gulariya Municipality. (27 to 30 November, 2015)
- ENPHO in co-ordination with UNICEF successfully completed Dhurmus Suntali sanitation campaign at Manjhi tole, Bhirkot VDC-1, Dolakha. Altogether more than 100 manjhi people participated in the campaign. (20 December 2015)

- Monitoring visit to Bhirkot VDC and Jhule VDC of Dolakha district with the support of UNICEF and ENPHO was conducted. (28 December 2015)
- Inter-organization friendly futsal match and cycle rally were organized along with documentary shows at communities and mobilizing volunteers to visit earthquake affected areas were organized by ENPHO in coordination with Lumanti, OXFAM, Lalitpur Sub-Metropolitan City and Mahalaxmi Municipality organized various programs to mark the 18<sup>th</sup> National Earthquake Safety Day-2016. (15 January, 2016)
- Hygiene Promotion Campaign was conducted at 14 Internally Displaced People's (IDPs) camps at Bhaktapur District. Altogether 310 people (230 female and 80 male) participated in the program. (5 to 24 January, 2016)
- A Formal handover of WASH facilities constructed by Kathmandu Upatyaka Khanepani Limited (KUKL) Lalitpur and improved by ENPHO/OXFAM was conducted. (25 January, 2016)
- ENPHO in collaboration with Community Disaster Management Committees and local clubs conducted "Earthquake Simulation" at Harisiddhi and Sunakothi of Lalitpur district. The simulation was observed by more than 5000 people in the communities (9 and 12 March 2016).
- The 25 year celebration of ENPHO embarked with the formal inauguration of Silver Jubilee Week and ENPHO WASH Centre at its central office in New Baneshwor. Altogether 313 people visited to ENPHO WASH Centre. (March 17, 2015)
- A three day WASH campaign was organized in Kathmandu, Bhaktapur and Lalitpur districts. More than 5,000 people visited the exhibitions. WASH campaigns were also organized in Kavre, Makwanpur, Nuwakot, Sindhuli and Surkhet. (19-21 March)
- Water quality testing campaign was organized in Kathmandu valley (Kathmandu, Bhaktapur, Lalitpur) as a part of silver jubilee week celebration. Altogether 300 samples (100 samples from each districts) were collected. (19 to 21 March, 2016)
- ENPHO with support of BORDA and CDD Society and in coordination with Mahalaxmi municipality and Saligram Baal Griha, established country's first faecal sludge treatment (FSM) in Lubhu, Lalitpur. (24 April, 2016)
- A Special Closing Ceremony organized at Rastriya Sabha Griha, Kathmandu for the culmination of weeklong celebration program on 25 March. Altogether, 450 people participated in the event. (25 March, 2016)
- Paschim Paaila celebrated "Holi Special" World Water Day by organizing WASH campaign and "Pani Puri" selling program at New Baneshwor, Kathmandu. (22 March 2016)
- ENPHO with support of WaterAid Nepal organized video show program to 5 schools of Bhaktapur districts. Altogether, 116 girls and 67 boys observed the video. (29 to 31 March 2016)
- ENPHO and Paschim Paaila organized candle lightening to paid tribute to all the lives lost during the Nepal Earthquake 2015 and all subsequent tremors. (24 April, 2016)
- ENPHO, in coordination with Mahalaxmi municipality, and with the support of Oxfam, distributed 50 liters biosand filters to the 58 households of Kholadil, Lamatar of Mahalaxmi municipality. (28 April, 2016)
- ENPHO and WaterAid, in collaboration with Paschim Paaila, organized drama on Water Sanitation and Hygiene (WASH) and Disaster Risk Reduction (DRR) at two schools of Bhaktapur districts. Collectively, 97 people observed the drama and were sensitized on water, sanitation and hygiene (WASH) and Disaster Risk Reduction (DRR). (26 April, 2016)
- ENPHO with support of Water Aid Nepal, organized Intra School Speech competition and drawing competition to the students of Tara Secondary School and Udaya Primary School respectively, marking World environment day and National Sanitation Week 2016. (June 3, 2016)

## Annex VI: Programs Participated at National Level (August 2015- July 2016)

### Trainings

- Ms. Srijana Shakya participated in the “Basic First Aid and Firefighting Training” organized by Water Aid Nepal, Nepal Red Cross Society and ENPHO at Hotel Sweet Home, Bhaktapur. (9-11 December, 2015)
- Ms. Srijana Shakya, Prabina Shrestha and Sabuna Gamal completed “Camp Management and Camp Coordination Training” organized by International Organization for Migration, Nepal at Hotel Shambala. (12-15 January, 2015)
- Mr. Bibek Ghimire participated in the “Green Job Training on Water Conservation” organized by Lalitpur Sub-Metropolitan City with support of UN-Habitat at Yak Party Palace, Lalitpur. (January 27-29, 2016)
- Mr. Bibek Ghimire, participated in “Hydro-geological Approach on Spring Source Enhancement Training” organized by Kathmandu University and supported by Oxfam at KU premises. (May23-27, 2016)
- Mr. Bibek Ghimire attended the “Water Use Master Plan (WUMP) + Recharge, Retention and Reuse (3R) training” organized by HELVITAS Swiss Inter cooperation and supported by Nepal WASH Alliance at Entrance Café, Lalitpur. (June 27-29, 2016)
- Ms. Srijana Karki and Ms. Reshma Shrestha participated in three days “Hygiene Promotion Training” organized by Water Aid Nepal. (May, 2016)
- Mr. Buddha Bajracharya, District Coordinator, participated in two days training on “Information Management” organized by Government of Nepal with support of VSO Nepal. (12-19 May, 2016)

### Workshops

- Ms. Padmaja Shrestha, Ms. Pramina Nakarmi, participated on the “Discussion on PT score of the PT sample”, organized by Standardization Metrology Testing and Quality (SMTQ). (January 14, 2016)
- Ms. Srijana Shakya participated in the National Workshop on “Rooftop Farming” organized by Kathmandu Metropolitan City and Clean Energy Nepal (CEN) at Hotel Himalayan, Kupondole. (29 February, 2016).
- Dr. Laxman Joshi, Ms. Padmaja Shrestha, Ms. Pramina Nakarmi, Ms. Isha Dhakal and Mr. Subin Kalu, participated on “7<sup>th</sup> National Symposium Challenges and Opportunities for Sustainable Management Groundwater Resources in Nepal”, organized by Center of Research for Environment Energy and Water (CREEW) along with The Small Earth Nepal (SEN), Environment and Public Health Organization (ENPHO), Kathmandu Valley Water Supply Management Board (KVWSMB) and Ground Water Resource Development Board (GWRDB). (March 20, 2016)
- Mr. Roshan Chalaugain participated in the two day workshop on “Diamond Business Approach for Creating a Sustainable and Economically Available WASH Services” organized by WASH Alliance Nepal at Dhulikhel, Kavre. (9 to 10 May, 2016)
- Ms. Pramina Nakarmi, Ms. Isha Dhakal and Ms. Padmaja Shrestha participated on the “Technical meeting on comprehensive targeted intervention (CTI) to control acute gastroenteritis/ cholera outbreaks in Nepal”, organized by EDCC and WHO. (16 July, 2016)

## Annex VII: Programs Participated at International Level (August 2015- July 2016)

- Ms. Srijana Karki, Senior WASH Officer of ENPHO, participated in South Asian Conference on Sanitation (SACOSAN VI) held at Dhaka, Bangladesh on 11-13 January, 2016. ENPHO had participated in Panel discussion under the topic “Appropriate Community Sanitation and Progress/Approaches for Sustainable development”.
- Sanitation Engineer, Ms. Reetu Rajbhandari, and Engineer Prabina Shrestha participated in “Hands on training on Fecal Sludge Treatment Plant” organized by BORDA, CDD society held on CDD society Bangalore, India. (16 January to 2 February 2016)
- Mr. Bipin Dangol, Senior Knowledge Management Director of ENPHO, represented ENPHO during the Global Sanitation Fund (GSF) Learning Event in Antananarivo, Madagascar. (April 23 to 30, 2016)
- Senior Knowledge Management Director of ENPHO, Mr. Bipin Dangol and Laboratory Manager Ms. Pramina Nakarmi visited the University of Illinois (UIUC), Urbana Champaign, Illinois, USA, from 2 to 13 May 2016, to explore future collaboration opportunities with the university, specifically for research in the WASH sector in Nepal. Mr. Dangol, during a sharing program, presented a talk on *Nepal Earthquake 2015: Emergency WASH Response* to a group of students.
- Mr. Ash Kumar Khaitu, Ms. Pramina Nakarmi, Mr. Rameshwor Adhikari participated in Water and Food Award (WAF) 2015 ceremony held at Kuala Lumpur, Malaysia. ENPHO received The Humanitarian Water and Food (WAF) Award. The award was presented to ENPHO for its notable contribution in safe water through the Biosand filter entrepreneur’s network in rural and local communities in Nepal. (October, 2015)



# Annex VIII: List of IEC Materials Published During FY 2015/16

## Flyers, Posters and Display Boards:

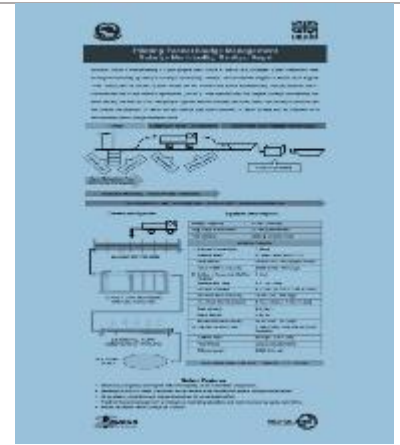
<p><b>दिसा मुखसम्म पुग्ने माध्यमहरु र यसको रोकथामका उपायहरु</b></p> <p><b>5F DIAGRAM</b></p>	<p><b>समुदायको फोहर व्यवस्थापनको लागि भान्सा खेती प्रवर्द्धन</b></p> <p><b>BIO PESTICIDES</b></p>	<p><b>समुदायको फोहर व्यवस्थापनको लागि भान्सा खेती प्रवर्द्धन</b></p> <p><b>ROOFTOP GARDENING</b></p>
<p><b>क्लोरीनेशन</b></p> <p><b>CHLORINATION</b></p>	<p><b>समुदायको फोहर व्यवस्थापनको लागि भान्सा खेती प्रवर्द्धन</b></p> <p><b>WASTE MANAGEMENT</b></p>	<p><b>समुदायको फोहर व्यवस्थापनको लागि भान्सा खेती प्रवर्द्धन</b></p> <p><b>CROP CALENDAR</b></p>
<p><b>DEWATS IN NEPAL</b></p> <p><b>Decentralised Wastewater Treatment System</b></p> <p><b>DEWATS</b></p>	<p><b>गृहपरिष्कार गर्न आजैदेखि पूर्वतयारी गर्नु</b></p> <p><b>DRR</b></p>	<p><b>सुदृढीय जीवन स्वीकारणका उपायहरूको साथ</b></p> <p><b>DRR</b></p>



FOOD HYGIENE



HAND WASHING



FSM-GULARIYA



IMPORTANCE OF TOILET



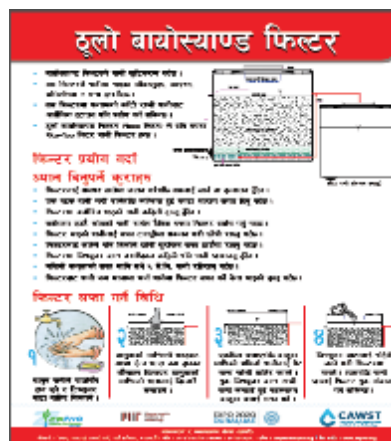
GO BAG



SOLUTIONS FOR SAFE WATER



MENSTRUAL HYGIENE



LARGE BIOSAND FILTER



MEDICAL WASTE





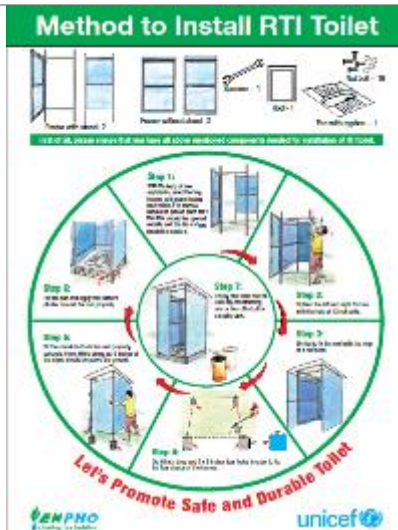
MENSTRUAL HYGIENE



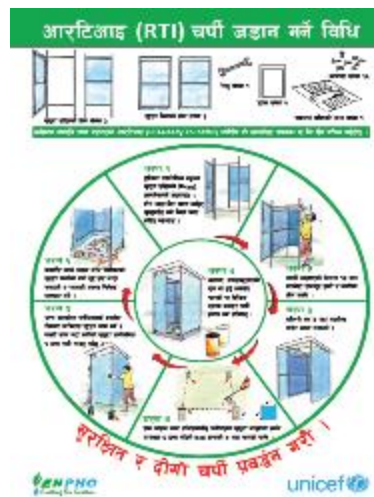
PERSONAL HYGIENE



SCHOOL SANITATION



RTI TOILET (ENGLISH)



RTI TOILET (NEPALI)



POU OPTION







### उन्नत सरसफाई र हाक्को स्वास्थ्य

संसारका ठूलो संख्यामा मानवहरू स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

- स्वास्थ्य र स्वास्थ्य संरक्षण
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### संरक्षित पिउनेपानी

संरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### व्यक्तिगत स्वस्थता

व्यक्तिगत स्वस्थता

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### वर्गीकृत आरम्भक कि ?

वर्गीकृत आरम्भक कि ?

IMPROVED SANITATION

### सरसफाइको उपायहरू

सरसफाइको उपायहरू

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### व्यक्तिगत स्वस्थता

व्यक्तिगत स्वस्थता

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### संरक्षित पिउनेपानी

संरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

SANITATION METHODS

### सुरक्षित पिउनेपानी

सुरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### व्यक्तिगत स्वस्थता

व्यक्तिगत स्वस्थता

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### संरक्षित पिउनेपानी

संरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

SAFE DRINKING WATER

### पूर्ण सरसफाईका ५+५ सुझावहरू

पूर्ण सरसफाईका ५+५ सुझावहरू

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### व्यक्तिगत स्वस्थता

व्यक्तिगत स्वस्थता

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### संरक्षित पिउनेपानी

संरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

CSMF

### खाद्यपानी शुद्धिकरणको लागि घरेलु बिधिहरू

खाद्यपानी शुद्धिकरणको लागि घरेलु बिधिहरू

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### व्यक्तिगत स्वस्थता

व्यक्तिगत स्वस्थता

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### संरक्षित पिउनेपानी

संरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

POU OPTION

### व्यक्तिगत सरसफाइ

व्यक्तिगत सरसफाइ

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### व्यक्तिगत स्वस्थता

व्यक्तिगत स्वस्थता

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### संरक्षित पिउनेपानी

संरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

PERSONAL HYGIENE

### भाबस्था व्यवस्थापन र हाक्को स्वास्थ्य

भाबस्था व्यवस्थापन र हाक्को स्वास्थ्य

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### व्यक्तिगत स्वस्थता

व्यक्तिगत स्वस्थता

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### संरक्षित पिउनेपानी

संरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

KITCHEN MANAGEMENT

### मानवतावादी WASH परियोजना

मानवतावादी WASH परियोजना

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### व्यक्तिगत स्वस्थता

व्यक्तिगत स्वस्थता

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

#### संरक्षित पिउनेपानी

संरक्षित पिउनेपानी

- स्वस्थ र उन्नत जीवन
- स्वस्थ जीवन, स्वस्थ र उन्नत जीवन बित्ने गर्छन्।

### सफा र स्वस्थ गुलरिया परियोजना

Open Defecation Free Gulariya Municipality by 2015

हेक्के सेक्सले साबुन पानी से हाथ धुवक नैभुल्नी ना ।

STICKER IN THARU

### स्वास्थ्य परियोजना नगरकोट

SWASH Project at Nagarkot

दिसा गरिसकेपछि साबुन पानीले हात धुन नबिसौं है ।

STICKER IN NEPALI

### सफा र स्वस्थ गुलरिया परियोजना

Open Defecation Free Gulariya Municipality by 2015

दट्टी करे के बाद साबुन पानी से हात धोविक नभुलाव हौं ।

STICKER IN AWADHI

### मानवतावादी WASH परियोजना

Humanitarian WASH Assistance Project

दिसा गरिसकेपछि साबुन पानीले हात धुन नबिसौं है ।



**Note Copy**





Forex Design:

<p><b>1990</b> Establishment of ENPHO</p> <ul style="list-style-type: none"> <li>Establishment of ENPHO - 100</li> <li>ENPHO (UNEP/WHO) established</li> <li>ENPHO as WHO's regional office - central - administrative system system incorporating Bureau of Public Health, Control, Pollution and Environmental Quality, India - India's first such organization, first through UN, WHO's first in-country</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>1991</b> Laboratory and Water quality</p> <ul style="list-style-type: none"> <li>Accredited by "Bureau of Standards and Metrology" under ISO/IEC system based on ISO 9001 on 27 March 2007 (27 October 2008)</li> <li>Expanded network with 1000s of laboratories and facilities</li> <li>Construction of drinking water quality monitoring in all 29 states</li> <li>Public quality monitoring of tap water. First has been done since 1980 in Delhi, ENPHO, LDC, Gujarat</li> <li>Analysis and monitoring of water resources for food and drug quality</li> <li>Research and development in environmental and biotech and systems</li> <li>Technical support to environmental monitoring and assessment</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>1992</b> Air Quality and Reduction of Indoor Air pollution</p> <ul style="list-style-type: none"> <li>In 1992, initiated an Air Quality Monitoring for the first time in New Delhi (Central Board for Monitoring 24 working stations)</li> <li>In 2000, members of the Institute for Environmental Quality for the Ministry of Pesticides and Insecticides</li> <li>In 2000, developed comprehensive ICV Technology (Water Pollution Control Strategy - Integrated Control Strategy) as a solution for both indoor air pollution and control of air quality</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>1993</b> ENPHO test kits</p> <ul style="list-style-type: none"> <li>In 1993, developed 1000+ New Test kits (1000+ and 1000+ types) for drinking water quality control in the field level</li> <li>In 2000, developed 1000+ New Test kits (1000+ and 1000+ types) for drinking water quality control in the field level</li> <li>In 2000, developed 1000+ New Test kits (1000+ and 1000+ types) for drinking water quality control in the field level</li> <li>In 2000, developed 1000+ New Test kits (1000+ and 1000+ types) for drinking water quality control in the field level</li> </ul> <p>Celebrating 25 Successful Years</p>
<p><b>1994</b> PIYUSH® - Chlorine Solution</p> <ul style="list-style-type: none"> <li>In 1994, PIYUSH was developed as a 5.5% Active solution for disinfecting drinking water in the household level. Fourth &amp; 6th National Congress of Engineers held in Mumbai</li> <li>From 2000, ENPHO started production and promotion of PIYUSH 5.5% solution (solution for tap drinking water at tap water supply (TWS) and TWS)</li> <li>ENPHO has been also providing PIYUSH solution for having large volume of water treatment</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>1995</b> Integrated WASH</p> <ul style="list-style-type: none"> <li>In 1995, ENPHO implemented an integrated community health care project in India</li> <li>WASH, integrated with health care services in rural areas</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>1996</b> Solid Waste Management</p> <ul style="list-style-type: none"> <li>Implemented solid waste management project in India through the assistance of major international NGOs (UNEP, WHO) through the assistance of major international NGOs (UNEP, WHO)</li> <li>Initiated various household and community level composting techniques such as the composting, vermicomposting, the composting, the composting and other waste management, composting, PFT, composting</li> <li>Initiated Biogas plant in a community level (composting of household waste) and used in 2000, initiated and established community level composting in rural areas</li> <li>Initiated Biogas plant in a community level (composting of household waste) and used in 2000, initiated and established community level composting in rural areas</li> <li>Initiated Biogas plant in a community level (composting of household waste) and used in 2000, initiated and established community level composting in rural areas</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>1997</b> Wastewater Treatment</p> <ul style="list-style-type: none"> <li>In 1997, initiated Composting Plant for Wastewater Treatment system in rural areas (composting plant for wastewater treatment through composting of solid waste)</li> <li>Initiated a biogas plant in a community level (composting of household waste) and used in 2000, initiated and established community level composting in rural areas</li> <li>In 2000, initiated and established community level composting in rural areas</li> <li>In 2000, initiated and established community level composting in rural areas</li> <li>In 2000, initiated and established community level composting in rural areas</li> </ul> <p>Celebrating 25 Successful Years</p>
<p><b>1998</b> Faecal Sludge Management (FSM)</p> <ul style="list-style-type: none"> <li>In 1998, initiated a biogas plant in a community level (composting of household waste) and used in 2000, initiated and established community level composting in rural areas</li> <li>In 2000, initiated and established community level composting in rural areas</li> <li>In 2000, initiated and established community level composting in rural areas</li> <li>In 2000, initiated and established community level composting in rural areas</li> <li>In 2000, initiated and established community level composting in rural areas</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>1999</b> WASH in School</p> <ul style="list-style-type: none"> <li>In 1999, initiated school WASH project in India</li> <li>Initiated WASH project in rural areas (WASH project in rural areas)</li> <li>Initiated WASH project in rural areas (WASH project in rural areas)</li> <li>Initiated WASH project in rural areas (WASH project in rural areas)</li> <li>Initiated WASH project in rural areas (WASH project in rural areas)</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>2000</b> Arsenic Testing &amp; Development of Kanchan® Arsenic Filter</p> <ul style="list-style-type: none"> <li>In 2000, initiated and established arsenic testing in rural areas</li> <li>Initiated Arsenic testing in rural areas (Arsenic testing in rural areas)</li> <li>Initiated Arsenic testing in rural areas (Arsenic testing in rural areas)</li> <li>Initiated Arsenic testing in rural areas (Arsenic testing in rural areas)</li> <li>Initiated Arsenic testing in rural areas (Arsenic testing in rural areas)</li> </ul> <p>Celebrating 25 Successful Years</p>	<p><b>2001</b> Solar Disinfection (SODIS)</p> <ul style="list-style-type: none"> <li>Initiated SODIS in rural areas (SODIS in rural areas)</li> <li>Initiated SODIS in rural areas (SODIS in rural areas)</li> <li>Initiated SODIS in rural areas (SODIS in rural areas)</li> <li>Initiated SODIS in rural areas (SODIS in rural areas)</li> <li>Initiated SODIS in rural areas (SODIS in rural areas)</li> </ul> <p>Celebrating 25 Successful Years</p>



<h3>2002 ECOSAN Toilet</h3> <ul style="list-style-type: none"> <li>1. Introduced ECOSAN toilet in 2002 at Okavango</li> <li>2. ECOSAN Toilet is a simple device to use and the type of ECOSAN toilet has been promoted in Harare, City and in Vumba District</li> <li>3. Conducted research on urine separation, crop productivity in Kibumba, Ganda, Horticulture Centre and Beitbridge municipal</li> <li>4. About 2500 people benefited by ECOSAN Toilets with 500 toilets built in 11 districts</li> <li>5. Provided support to establish local entrepreneurship at ECOSAN and other toilets at Beitbridge and Beitbridge</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2003 Awards and Recognition</h3> <ul style="list-style-type: none"> <li>1. Award for Kuchera Award for World Bank Development Marketplace 2003</li> <li>2. Award for a public-private filter at World Bank Rural Development Marketplace for the World Bank, USA, Canada 2003</li> <li>3. Development Award from Ministry of Environment Science and Technology 2005</li> <li>4. Special Achievement Award for Innovation for 2009</li> <li>5. ICD USA prize awarded for Innovation in the SACZSIA in Colombia 2011</li> <li>6. The safe water project award from April 2015</li> <li>7. The Innovation Water and Food Award (IWA) Award Winner 2015</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2004 Knowledge management and advocacy</h3> <ul style="list-style-type: none"> <li>1. Established well-equipped EM-40 Resource Centre</li> <li>2. Resource Centre collects, stores and disseminates information and uses them to conduct education and advocacy campaigns</li> <li>3. Knowledge dissemination through website www.enpho.org and publications such as publications, ENPHO magazine, leaflets and BS materials at Harare</li> <li>4. Produced and disseminated brochures "Threats" and "Safes" focusing on sustainable sanitation and water conservation</li> <li>5. Paediatric Health, a youth network, has been engaged in WASH advocacy</li> <li>6. Networking through membership and partnership with various national and international organisations, forums, symposiums, cluster activities</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2005 Rainwater Harvesting System</h3> <ul style="list-style-type: none"> <li>1. Advocacy on Rainwater Harvesting system as an alternative source of water at community and policy level</li> <li>2. Produced RHR at institutions including schools by incorporating large tin used filter for the rainwater harvest</li> <li>3. Developed sustainable harvesting design manual rainwater harvesting installation manual</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>
<h3>2006 Capacity Building</h3> <ul style="list-style-type: none"> <li>1. Established Sector Expertise and Training Centre (SETC) Centre at ENPHO</li> <li>2. Built capacity of 1743 professionals, technicians and engineers in various WASH interventions and technical solutions out of which 87% are from national and local NGOs, 2% from Government agencies and 1% from INGOs and UN agencies</li> <li>3. Developed wide variety of training modules on safe drinking water, sustainable sanitation technologies and appliances, Community Based Promoting, In-situ/field Water Treatment, Eco San, Safe Water Harvesting, Best Sanitation Approach, Best top Flopping, Recycled Filter Construction, Rural Sanitation Management, Following Effective WASH Training, Emergency WASH, WASH for Recovery, Disaster Preparedness and Early Warning</li> <li>4. Provided technical and consulting support to various agencies and individuals on effective implementation of WASH projects at local level</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2007 Open Defecation Free Campaign</h3> <ul style="list-style-type: none"> <li>1. In 2007, ENPHO led Open Defecation Free Campaign in 2007</li> <li>2. Districts participating: 15 ODF Open Defecation Free</li> <li>3. Types of toilet provided by ENPHO:             <ul style="list-style-type: none"> <li>1. Water and pour flush toilet attached to Pit latrine/ Eco/latrine</li> <li>2. Dry ECOSAN toilet</li> <li>3. Safe pit toilet</li> <li>4. Biogas attached toilet</li> </ul> </li> <li>4. A total of 100 237 people are directly benefited through ODF and toilet construction</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2008 Water Safety Plan (WSP)</h3> <ul style="list-style-type: none"> <li>1. Implementation of WSP in drinking water supply schemes at Bulawayo, Bulawayo, Bulawayo, Bulawayo, Bulawayo, Bulawayo, Bulawayo, Bulawayo, Bulawayo, Bulawayo</li> <li>2. Engaged with WSP process</li> <li>3. Multi-stake approach to WSP process</li> <li>4. Produced local policy necessary to integrate WSP in water quality improvement plan of water supply providers</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2009 Youth Mobilization in WASH promotion</h3> <ul style="list-style-type: none"> <li>1. Established Youth Clubs, as well as youth networks actively working in WASH, as 17th July 2009 with vision to create environmentally sound and healthy Communities for sustainable development through Youth Led Initiatives</li> <li>2. The network was established by the youth volunteers established during the district and cluster activities in 14 districts of 100 and be network region of Harare at 2009</li> <li>3. More than 1000 individuals and Paediatric Health youth volunteers are actively being engaged in various WASH campaigns</li> <li>4. Mobilized 400 youth volunteers during Gonja Earthquake - 2010 response. Similar projects were established in 100 figures in Harare in 2012, Dang Roor in 2014, Beitbridge in 2015</li> <li>5. Successfully conducted 30 weeks of project based 1000 networks and 10 weeks of WASH Campaigns in 2011 participation</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>
<h3>2010 BiFEAN and Bio-sand Filter</h3> <ul style="list-style-type: none"> <li>1. Established BiFEAN (Bio-sand Filter) - Assisted - legal BiFEAN to decentralize and strengthen BiFEAN in 2010</li> <li>2. Decentralized BiFEAN local entrepreneurship model to take up promotion of BiFEAN in rural areas</li> <li>3. Established around 10,000 bio-sand filter benefiting around 100,000 people</li> <li>4. Received Water and Food (WAF) award 2010 for the innovative WSP local entrepreneurship model</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2011 SWASTHA approach</h3> <ul style="list-style-type: none"> <li>1. Developed SWASTHA approach to that promotes safe water, better sanitation, protected personal hygiene, food hygiene and environmental sanitation to ensure quality of life and productivity of people</li> <li>2. WAF Strategy of SWASTHA approach:             <ul style="list-style-type: none"> <li>1. Establish key individuals in local change agents and Community Based Organizations</li> <li>2. Awareness - raising activities of water, better sanitation, hygiene and personal strength, responses</li> <li>3. Water - safe water, better sanitation, clean water and sustained hygiene practice - activity, dissemination and monitoring</li> <li>4. Materials - materials ODF (Open Defecation Free), SMT (Safe Water Committee), ODF (Open Defecation Free), SMT (Safe Water Committee), ODF (Open Defecation Free), SMT (Safe Water Committee)</li> <li>5. Water up - campaign for WASH facilities and projects to individuals</li> <li>6. District/Regional community of Harare district as the first SWASTHA community of Harare</li> </ul> </li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2012 Disaster Risk Reduction (DRR)</h3> <ul style="list-style-type: none"> <li>1. In 2012, initiated Disaster Risk Reduction (DRR) activities in Earthquake safety at community and health centres</li> <li>2. Established and trained Community Disaster Management Committees, Established Disaster Response Committees in project areas</li> <li>3. Prepared Emergency WASH Plan at community and health institutions of both Harare Valley</li> <li>4. Prepared contingency plan of ODF and Pit latrine Association for emergency water distribution</li> <li>5. Pre-Disaster Campaigns (PDC) (Earthquake) conducted at Harare, health facilities and 26 schools</li> <li>6. DRR preparedness and response training - 4000 people were trained at ODF &amp; pit latrine campaigns across all districts 2012-2013 were female participants</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>	<h3>2013 Roof Top Farming</h3> <ul style="list-style-type: none"> <li>1. Linked to sustainable sanitation and disaster change adaptation</li> <li>2. Research and promotion of RTF</li> <li>3. Capacity building of local stakeholders and community people as RTF</li> <li>4. Published handbook on Roof Top Farming under the support of UN and Zimbabwe</li> </ul> <p><b>Celebrating 25 Successful Years</b></p>

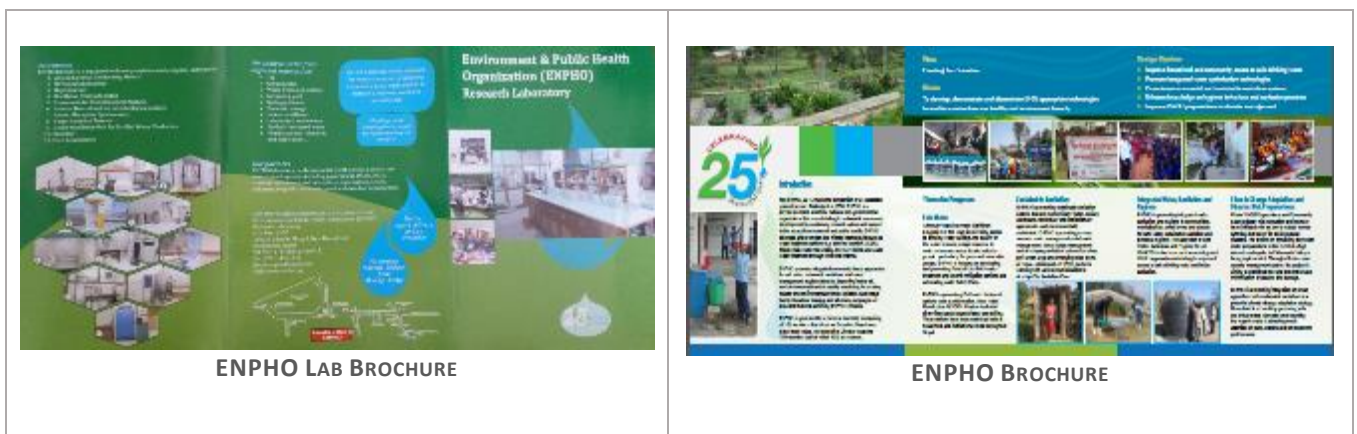




Reports and Manuals:

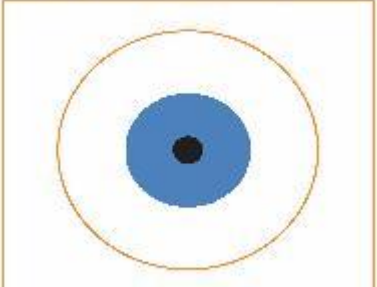
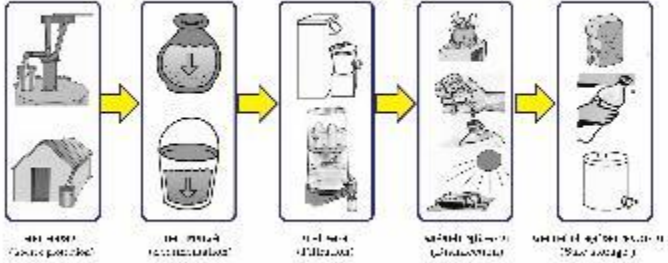




Brochures:





**Training Material**

<p><b>पुनरावलोकन (Review)</b></p>  <p><small>ENPHO</small> <small>WaterAid</small></p>	<p><b>सुरक्षित खानेपानीको लागि बहु-अवरोध अवधारणा (Multi Barrier Approach)</b></p>  <p><b>MULTIPLE BARRIER APPROACH</b></p>
<p><b>सन्तुलित बहुमुखी देखरेखी तालिका (Sanitation Multiple Table)</b></p>  <p><b>SANITATION MULTIPLE TABLE</b></p>	<p><b>व्यवहार परिवर्तनका चरणहरू र उदाहरण (Steps of BCC with example)</b></p>  <ul style="list-style-type: none"> <li><b>संवेदन (Advocacy):</b> तथ्याङ्कको अनुभव कसरी रूपमा बनाइसक्यो, न ? के गर्दा राम्रो लाग्छ ? अन्ततः पनि बताइन्छा है । - <b>जन्मदा पनि गर्नु पर्छ है</b></li> <li><b>अपेक्षा (Expectation):</b> समाज जुटाएको छ छैन हेने, प्राविधिक ज्ञान दिने, निर्माणमा सहयोग गर्ने, श्रोतियारी अपनाउन प्रोत्साहन, निरन्तर प्रयोगको लागि प्रेरित गर्ने, विद्या पनि लगाउने तरिका तिकाउने, प्रदर्शन गर्ने, प्रोत्साहन गर्ने । - <b>पसल बनाएँ, प्रयोग गरौं, सडै सकेछु</b></li> <li><b>अभिप्रेय (Readiness to change):</b> परिचयपत्र बनाउने जि: नवताउने, कण्डिले र कलरो बनाउने जानकारी दिने, सम्झाएर कसै कसैलाई जानकारी दिने, पक्की बनाउनेमा राम्रो हुन्छ बताउने दिने - <b>एउ टुन्ड, म पनि बनाउँछु, छ, दिन चिपन है</b></li> <li><b>स्वीकृति (Acceptance):</b> विद्यमान गलत व्यवहार दिने, प्रयोगकर्ताको अनुभव सुनउने चिन्तितो मेहाउने, प्रयोग क्षेत्रहरू परम्मा तैयारने । - <b>डोकै लम्नु सो, सेरो पनि चिपन बुझ्छौ</b></li> <li><b>ज्ञान (Information/Knowledge):</b> जीवनमरणको आवश्यकता, महत्त्व र फाइदा बारे जानकारी दिने, शीघ्रतया गर्नुको सम्झाया बताउने, फोटोहरू देखाउने । - <b>ए त्यसो गर्ौ हो.....</b></li> </ul> <p><b>STEPS OF BCC WITH EXAMPLE</b></p>

**Case Study Booklet:**



## Annex IX: Visibility

			
Bag	Cap	Tiffin Box	Cap
			
Half Jacket(Back)	Half Jacket(Front)	Pen Holder	Bag Cover
			
Toilet Tile	Toilet Tile	Tile	Jacket
			
T-shirt(Front)	T-shirt(Back)	Handkerchief	Token of Love
			
Water Bottle		Pen	



## Annex X: Financial Audit Report

 <b>K.P.N. &amp; Associates</b> Chartered Accountants	3 <sup>rd</sup> floor, Nepal Bank Building Bilimbazar, Kathmandu, Nepal Phone: 01-4420303 E-mail: keshah@kpn.com.np
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**INDEPENDENT AUDITOR'S REPORT**

**The Members of Environment and Public Health Organization**

We have audited the accompanying financial statements of Environment and Public Health Organization (ENPHO) which comprises the Balance Sheet as on 31 Asadh 2073 Income and Expenditure, Receipt and Payment and Cash Flow Statement for the period 1 Shrawan 2072 to 31 Asadh 2073 and a Summary of Significant Accounting Policies and Explanatory Notes.

**Management's Responsibility for the Financial Statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with generally accepted accounting principles. This responsibility includes: designing, implementing and maintaining internal control relevant to the preparation and presentation of financial statements that are free from material misstatement, whether due to fraud or error, selecting and applying appropriate accounting policies; and making accounting estimate that are reasonable in the circumstances.

**Auditor's Responsibility**

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Nepal Standards on Auditing. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our professional judgment, including the assessments of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider the internal control relevant to ENPHO's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of ENPHO's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

**Opinion**

In our opinion, the accompanying Balance Sheet as on 31 Asadh 2073 Income and Expenditure, Receipt and Payment and Cash Flow Statement for the period 1 Shrawan 2072 to 31 Asadh 2073 and a Summary of Significant Accounting Policies and Explanatory Notes of Environment and Public Health Organization (ENPHO) has been properly extracted, in all material aspects, from books and records of ENPHO. The Financial Statement, read in conjunction with Significant Accounting Policies and Explanatory Notes appended thereon, presents a true and fair view in accordance with Nepal Accounting Standards or relevant practices and comply with generally accepted Accounting Principles.

  
  
CA. Keshah Prasad Neupane  
For K.P.N. & Associates  
Chartered Accountants

Date: 06 September, 2016  
Place: Kathmandu, Nepal

21 Bhadra 2073 (06 September, 2016)

To: The Board of Director  
Environment and Public Health Organization (ENPHO)  
Thapagaun, Kathmandu

Through: Bipin Dangol  
Executive Director

**Transmittal Letter** Statutory Audit of ENPHO for the fiscal year 2072/73.

Dear Sir,

We are pleased to submit our report on the results of statutory audit for the fiscal year 2072/73.

**A. Background**

Established in 1990, Environment and Public Health Organization (ENPHO) is scientific, non-governmental organization working in the sector of water, sanitation, environment and public health. The vision of ENPHO is to create eco-societies and the mission is to develop and promote appropriate technologies to enable societies become eco-friendly. ENPHO has been collaborating with various agencies, INGOs, CBOs and government agencies to implement various projects and to conduct research and develop appropriate technologies. ENPHO has a well-equipped, accredited research laboratory that provides water quality testing services. ENPHO is one of the prominent agencies working in the sector of water, sanitation and environment in Nepal.

ENPHO is governed by a General Assembly comprising of 10 Executive Board Members, 108 general members. The Executive Director leads the 156 staff members of which 45% are female.

**B. Audit Objectives and Scope of Work**

The objectives of this financial audit were to:

- i. Express an opinion, in form of audit report, whether the financial statements comprising of Balance Sheet as on 31 Asadh 2073 (15 July, 2016). Statement of Income & Expenditure and Fund Accountability Statement for the period 01 Shrawan, 2072 to 31 Asadh, 2073 (corresponding to 17 July, 2015 to 15 July, 2016), presents fairly in all material respects, project revenues and costs incurred for the period audited and balances as on 31 Asadh 2073.
- ii. Provide an overall assessment of the operational and internal control systems including program progress and delivery that are in place for the management of project so that related transactions are processed in accordance with donor's and ENPHO's policies and procedures, contract document and approved budget for the achievement of different project objectives.





- iii. Provide the monetary value of the Net Financial Impact of the qualification in audit opinion on each of the financial statements referred above.

Our audit was conducted in accordance with Nepal Standards on Auditing and, accordingly, included such tests, as we considered appropriate in order to satisfy our objectives.

The scope of our work included the following general procedures:

- i. Holding meetings with ENPHO officials;
- ii. Review of the contract documents entered with different donors;
- iii. Obtaining an understanding of the accounting, administrative and internal control systems of ENPHO;
- iv. Review of contract, pertinent documents, minutes of program management, applicable rules and regulations and work plan/budget and revisions thereof for the period under audit;
- v. Devising and performing appropriate tests on the transactions presented in the Fund Accountability Statement and Statement of Income and Expenditures;
- vi. Verify the arithmetic accuracy of the income & expenditures and its reconciliation from disbursing source;
- vii. Assessment of the overall management of different projects implemented by ENPHO, which includes project management, monitoring and supervision by reviewing the work plan, progress reports, project resources, project budget, project expenditure and project delivery;
- viii. Assessment and effectiveness of the ENPHO's internal control procedures and systems related to Human Resources, Finance, Procurement, Asset Management, Cash & Bank Management, General Administration and Information System;
- ix. Testing the effectiveness of control system applied by ENPHO's management to ensure compliance with applicable laws, regulations and terms of agreement and
- x. Follow up of previous audit recommendations and its resolutions.

### C. Audit Results

Our independent auditor's report dated Bhadra 21, 2073 expressing our opinion on the financial statements has been issued separately. The following are the results of our audit:

#### i. Financial Statements

In our opinion, the financial statements give a true and fair view of the financial position of ENPHO as on 31 Asadh, 2073 and of the results of its financial performance for the year then ended in accordance with Generally Accepted Accounting Principles and in compliance with the prevailing laws and terms of agreement with donors.





ii. **System of Internal Control**

Our study and evaluation of the internal control system, during the course of our audit, did not disclose any material discrepancies that we considered as a reportable condition. The matters noted by us, which were not of material nature, have been reported in our management letter dated Bhadra 21, 2073.

D. **Status of prior year's audit recommendation**


We have performed follow up of prior year's audit recommendation as Management Letter was issued to ENPHO during the previous year audit.

E. **Management Letter and Management Response**

We have issued our management letter on Bhadra 21, 2073 incorporating our findings for the improvement by the management. The management of ENPHO has generally agreed to our findings and recommendations on the issues set out in our management letter. Management responses are incorporated at the appropriate places.

F. **Acknowledgement**

We would like to record our appreciation for the cooperation extended by the management and all the concerned officials of ENPHO in completing our audit.


  
CA. Keshab Prasad Neupane  
For K.P.N. & Associates  
Chartered Accountants  
Place: Kathmandu, Nepal



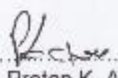
**Environment and Public Health Organization**  
**New Baneshwor, Kathmandu**  
**Balance Sheet**  
**As on 31 Ashad 2073**  
**As on 15 July 2016**

Particulars	Schedule	Amount	Amount
		2072/73	2071/72
<b>A. Sources of Fund</b>			
Capital Fund Balance		1,070,081.30	1,070,081.30
Revaluation Surplus Fund		6,158,757.12	6,158,757.12
Surplus Fund	1	20,305,159.66	19,887,729.97
<b>Total Sources of Fund</b>		<b>27,533,998.08</b>	<b>27,116,568.39</b>
<b>Applications of Fund</b>			
<b>B. Fixed Assets</b>			
	2	10,776,419.74	11,701,351.59
<b>C. Current Assets, Loans &amp; Advances</b>			
Program Advance and receivables	3	4,385,793.59	7,279,530.72
Other advance and Deposit	4	5,411,274.46	9,834,853.36
Project Advances/Receivables of Other program	5	11,016,821.06	11,318,888.18
Cash & Bank balance of Project Accounts	6	17,810,228.01	42,767,648.85
Cash & Bank Balance of ENPHO	7	15,153,462.51	9,890,306.13
		<b>63,777,579.63</b>	<b>81,091,227.24</b>
<b>D. Less: Current Liabilities &amp; Provisions</b>			
Liabilities for on going Other Programs	8	23,068,161.18	46,313,939.85
Sundry Creditors	9	8,820,956.13	13,138,790.72
Liabilities for on going Programs of Donors (Fund)	10	5,130,883.98	6,223,279.87
		<b>37,020,001.29</b>	<b>65,676,010.44</b>
<b>E. Working Capital ( C-D )</b>			
		<b>16,757,578.34</b>	<b>15,415,216.80</b>
<b>Total Application of Fund (B+E)</b>		<b>27,533,998.08</b>	<b>27,116,568.39</b>


Notes to Accounts 21  
Schedules 1 to 21 form an integral part of this statement

  
Niranjana Pradhan  
Admin & Finance Director

  
Bipin Dangol  
Executive Director

  
Pratap K. Acharya  
Treasurer

  
Ms. Urmila Joshi  
Chairperson


As per our report of even date  
  
CA. Keshab Prasad Neupane  
K.P.N & Associates  
Chartered Accountants

Date: 21 Bhadra, 2073  
Place: Kathmandu, Nepal

**Environment and Public Health Organization**  
**New Baneshwor, Kathmandu**  
**Income Statement**  
**for the Year ended 31 Ashad 2073**  
**for the Year ended 15 July 2016**

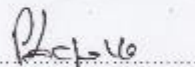
Particulars	Schedule	Amount 2072/73	Amount 2071/72
<b>Income</b>			
Remittances From Donors	11	1,435,513.54	3,350,985.70
Remittances From other Project Activities	12	236,771,888.66	120,268,349.00
Income from Activities	13	35,884,913.97	38,764,200.05
Income from Other Activities	14	64,133.59	85,462.69
		<b>274,156,449.76</b>	<b>162,468,997.44</b>
<b>Expenditure</b>			
Program Cost	15	2,020,105.71	4,821,919.84
Program cost of Other Project activities	16	238,849,731.54	120,363,156.30
Institutional / Administrative Cost	17	11,564,221.34	14,510,795.55
Repair & Maintenance	18	53,802.77	376,674.62
Lab activity expenses	19	18,846,286.66	19,951,477.53
Expenditure incurred to projects	20	933,740.51	199,105.00
Depreciation	2	1,471,131.54	1,734,194.80
		<b>273,739,020.07</b>	<b>161,957,323.64</b>
<b>Excess of Income over Expenditure</b>		<b>417,429.69</b>	<b>511,673.80</b>

Schedules 1 to 21 form an integral part of this statement


  
 Niranjan Pradhan  
 Admin & Finance Director

  
 Bipin Dangol  
 Executive Director

As per our report of even date

  
 Pratap K. Acharya  
 Treasurer

  
 Ms. Urmila Joshi  
 Chairperson

  
 CA. Keshab Prasad Neupane  
 K.P.N & Associates  
 Chartered Accountants


Date: 21 Bhadra, 2073  
 Place: Kathmandu, Nepal




**Environment and Public Health Organization  
New Baneshwor, Kathmandu  
Receipt and Payment Statement  
for the year ended 31 Ashad 2073  
for the year ended 15 July 2016**

Receipt	Schedule	Amount 2072/73	Amount 2071/72	Payment	Schedule	Amount 2072/73	Amount 2071/72
Op. Cash & Bank Balance (ENPHO)	7	9,890,306.13	13,369,127.70	Op. Liability of donors	10	6,223,279.87	8,976,494.89
Op. Cash & Bank ( Project Accs.)	6	42,767,648.85	18,655,025.78	Op. Liability of other program	8	46,313,939.85	21,179,025.59
Opening Staff Advances		-	-	Op. Sundry Creditors	9	13,138,790.72	7,888,342.96
Op. Program Advances & Receivables	3	7,279,530.72	5,529,849.06	Lab analysis & production Expenses.	19	18,846,286.66	19,951,477.53
Op. Project Adv. Receivable	5	11,318,888.18	10,305,941.60	Purchase of Non-Expendable Equipment	2	576,324.69	1,795,411.60
Op. Other Advance and Deposit	4	9,834,853.36	5,135,229.10	Administrative Expenses	17	11,564,221.34	14,510,795.55
Fund Received from Projects	11	1,435,513.54	3,350,985.70	Repair & Maintenance	18	53,802.77	376,674.62
Fund from Other Project Activities	12	236,771,888.66	120,268,349.00	Project Expenses	15	2,020,105.71	4,821,919.84
Income From Activities	13	35,664,913.97	38,764,200.05	Other Project Activities Exps.	16	238,849,731.54	120,363,156.30
Interest earned From Other Activities	14	64,133.59	85,462.69	Expenditure incurred to Project	20	933,740.51	199,105.00
Disposal of Non Expendable Equipment	2	30,125.00	13,450.00	Program Advance & Receivables	3	4,385,793.59	7,279,530.72
Closing Sundry Creditors	9	8,820,956.13	13,138,790.72	Other Receivable & Deposit	4	5,411,274.46	9,634,853.36
Closing Liability for Other Program	8	23,068,161.18	46,313,939.85	Project Advance Receivable of other	5	11,016,821.06	11,318,888.18
Closing Liability for Ongoing Program (Fund)	10	5,130,883.98	6,223,279.87	Cash & Bank Balances / ENPHO	7	15,153,462.51	9,890,306.13
				Cash & Bank Balances (Project)	6	17,810,228.01	42,767,648.85
				Advance Written off	18		
<b>Total</b>		<b>392,297,803.29</b>	<b>281,153,631.12</b>	<b>Total</b>		<b>392,297,803.29</b>	<b>281,153,631.12</b>

Notes to Account: Schedules 1 to 20 form an integral part of this statement

  
Niranjana Pradhan  
Admin & Finance Director

  
Bipin Dangol  
Executive Director

  
Pratap K. Acharya  
Treasurer

  
Ms. Urmila Joshi  
Chairperson



As per our report of even date

  
CA. Keshab Prasad Neupane  
K.P.N & Associates  
Chartered Accountants

Date: 21 Bhadra, 2073  
Place: Kathmandu, Nepal



Environment and Public Health Organization (ENPHO)  
New Baneshwor, Kathmandu  
For the period ended 31  
Ashad 2073

Fixed Assets / Non-Expendable  
2072/73  
15 July 2016

Schedule 2

Particulars	Nos.	Gross Block			Total value as of 31 Ashad 073	Accumulated Dep. upto 31 Ashadh 2072	Net Book Value	Rate	Depreciation		Net Block	
		Historical cost	Addition during the year	Disposal during the year					As at 2073	Total Accu. Depreciation as at 31 Ashadh 2073	As at 31 Ashadh 2073	As at 31 Ashadh 072
Land 1-02-0-0		2,182,500.00	-	-	2,182,500.00	2,182,500.00	-	-	-	2,182,500.00	2,182,500.00	
Building 6172 sq. ft		6,053,796.54	-	-	6,053,796.54	2,783,171.53	3,270,625.01	5%	163,531.25	2,946,702.78	3,107,093.76	3,270,625.01
Office Furniture (Wooden & Steel)	80	2,712,271.70	-	-	2,712,271.70	1,724,026.88	988,244.82	20%	197,648.96	1,921,675.84	790,595.66	988,244.82
Office Equipment:	35	3,784,792.50	241,223.82	30,125.00	3,995,891.32	2,920,122.88	1,075,768.44	20%	191,031.89	3,111,154.57	884,736.75	864,669.62
a) Computer-26, printer-5, Laptop-18												
b) Multimedia-3, Fax Mac-1 etc.												
Computer & Printer-Lab		354,188.47	57,522.12	-	411,710.59	254,791.21	156,919.38	20%	29,198.22	283,989.43	127,721.16	99,397.26
Lab Equipment- (AAS ,GC etc.)		13,832,199.64	124,160.00	-	13,956,359.64	10,502,306.74	3,454,052.90	20%	682,845.98	11,185,152.72	2,771,205.92	3,329,892.90
Loose tools		13,064.00	-	-	13,064.00	10,872.23	2,191.77	20%	438.35	11,310.58	1,753.42	2,191.77
Vehicles (include Motor)	6	4,747,261.50	-	-	4,747,261.50	4,208,314.06	540,947.44	20%	108,189.49	4,314,503.55	432,757.95	540,947.44
Software		531,253.00	120,000.00	-	651,253.00	201,427.60	449,825.40	20%	77,965.08	279,392.66	371,860.32	329,825.40
Solar Pannel		98,000.00	-	-	98,000.00	19,600.00	78,400.00	20%	15,680.00	35,280.00	62,720.00	78,400.00
Miscellaneous		61,922.50	33,418.75	-	95,341.25	47,265.14	48,076.11	20%	4,602.52	51,667.65	43,473.59	14,657.36
<b>Total</b>		<b>34,371,249.85</b>	<b>576,324.68</b>	<b>30,125.00</b>	<b>34,917,449.54</b>	<b>22,669,898.26</b>	<b>12,247,551.28</b>		<b>1,471,131.54</b>	<b>24,141,029.80</b>	<b>10,776,419.74</b>	<b>11,701,351.59</b>

*Rose*



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## Annex XI: Proposed Budget for 2073/74

### ENVIRONMENT & PUBLIC HEALTH ORGANIZATION 2073/074

S.No.	Administrative Income ( Projected Income 2073/074 )	Amount Rs.
1	Miscellaneous Income/Surplus from completed project	800,000.00
2	Overhead from Different Donor	1,000,000.00
3	Other Income	1,500,000.00
4	Administration Support Cost / Contribution from Projects	10,500,000.00
<b>TOTAL INCOMES</b>		<b>13,800,000.00</b>
S.No.	Project Income	Amount Rs.
1	Ongoing projects	236,789,000.00
2	Pipe line projects	18,000,000.00
<b>Total</b>		<b>254,789,000.00</b>

**Environment and Public Health Organization  
New Baneshwor  
Budget for the Financial Year 2073/074**

**Administrative Cost ( Projected Expenses 2073/074 )**

Particulars	Projected Expenses 2073/074	Actual Expenses 2072/073
25th Year Celebration Expenses	0	1,006,082.70
Advertisement & Publication	50,000.00	65,053.00
Audit Fee	110,000.00	110,000.00
Biosand Filter Expenses	5,000.00	6,575.00
Award Expenses	40,000.00	-
Bank charges & Commission	10,000.00	6,350.50
Books and periodicals	20,000.00	-
Business Plan Expenses	-	199,331.57
Communication charges (Telephone, e-mail, internet, postage etc.)	50,000.00	41,121.88
Consultant	100,000.00	155,000.00
Dashai Expenses	100,000.00	106,900.00
Emergency Expenses	20,000.00	30,672.57
ENPHO Contribution	300,000.00	25,350.00
Exhibition Expenses	25,000.00	25,005.00
Extra Working Allowance	30,000.00	29,450.00
Fees / Renewal	80,000.00	65,841.33
Fuel expenses (Vehicle Hire)	25,000.00	19,965.00
General Assembly Expenses	100,000.00	73,656.00
HR Consultant Expenses	50,000.00	-
Insurance	300,000.00	359,183.31
Low Value Assets	25,000.00	15,541.30
Meeting expenses (Board )	40,000.00	20,538.60
Office Running Cost	50,000.00	34,177.05
Printing & Stationeries	80,000.00	72,799.40

Project Proposal Development	100,000.00	15,055.00
Refreshment (Staff Welfare Exps)	100,000.00	81,905.80
Retreat Expenses	150,000.00	123,207.00
Research Expenses	150,000.00	2,300.00
Flagship Projects Monitoring	200,000.00	-
Salary Expenses	9,500,000.00	8,058,654.55
Security Expenses	150,000.00	
Training Expenses	200,000.00	181,100.00
Transportation & Conveyance	700,000.00	658,870.76
Utilities	100,000.00	84,534.02
Web Site Updated Expenses	50,000.00	-
World Water Day Expenses	50,000.00	-
<b>Total</b>	<b>13,060,000.00</b>	<b>11,674,221.34</b>

**Repair & Maintenance**

Particulars	Projected Expenses 2073/074	Actual Expenses 2072/073
Office equipment	40,000.00	12,724.77
Building	150,000.00	10,893.00
Furniture	20,000.00	
Vehicle	150,000.00	
Computer repair & maintenance	70,000.00	27,500.00
Bike	10,000.00	2,685.00
<b>Total</b>	<b>440,000.00</b>	<b>53,802.77</b>



# Annex XII: ENPHO in News



## Acronyms

APF	Armed Police Force
BSF	Biosand Filter
BSF PI	Biosand Filter Project Implementation
BSF TECH	Biosand Filter construction for Technician
CAP	Community Action Plan
CAWST	Centre for Affordable Water and Sanitation Technology
CBDP	Community Based Disaster Preparedness
CBO	Community Based Organization
CCC	Camp Coordination Committee
CCCM	Camp Coordination and Camp Management
CDMC	Community Disaster Management Committees
CEN	Clean Energy Nepal
CHP	Community Health Promotion
CREEW	Centre for Renewable Environment Energy and Water
CWI	Clean Ways Initiatives
DIPECHO	ECHO's disaster preparedness programme
DEWATS	Decentralized Waste Water Treatment and System
DMC	Disaster Management Committee
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
D-WASHCC	District WASH Coordination Committee
DWSS	Department of Water Supply and Sewerage
ECD	Early Childhood Development
E-WASH	Emergency WASH
FCHV	Female Health Community Volunteer
FIETS	Financial, Institutional, Environmental, Technological, Social
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
FSM	Faecal Sludge Management
GoN	Government of Nepal
GSF	Global Sanitation Fund
HHs	Households
HP	Health Post
HWTSS	Household Water Treatment and Safe Storage
IDP	Internally Displaced People
IEC	Information, Education and Communication
JICA	Japan International Cooperation Agency
JTA	Junior Technical Assistance
KAF	Kanchan Arsenic Filter
KUKL	Kathmandu Upatyaka Khanepani Limited

LDMC	Local Disaster Management Committee
LDRMP	Local Disaster Risk Management Plan
LSMC	Lalitpur Sub Metropolitan City
MIT	Massachusetts Institute of Technology, USA
MHM	Menstrual Hygiene Management
MToT	Masters of Training of Trainers
MWASHCC	Municipal WASH Coordination Committee
NARC	Nepal Agriculture Research Council
NGO	Non-Governmental Organization
NDWQS	National Drinking Water Quality Standards
ODF	Open Defecation Free
O&M	Operation and Maintenance
OMWSS	Operation and Management of Water Supply Scheme
PHCC	Primary Health Care Centre
PPP	Public-Private Partnership
PTA	Parents Teacher Association
RTF	Roof Top Farming
RTI	Ready To Install
RWH	Rain Water Harvesting
SLDTC	Sign Language Documentation Training Centre
SMC	School Management Committee
STTS	Sensitization Tools for Total Sanitation
SWM	Solid Waste Management
ToT	Training of Trainers
UEMS	Urban Environment Management Society
VCA	Vulnerability Capacity Assessment
WiS	WASH in School
WATSAN	Water and Sanitation
WASH-R	WASH Recovery
WASHRCNN	Water, Sanitation and Hygiene- Resource Centre Nepal
WHO	World Health Organization
WQT	Water Quality Testing
WSUC	Water Sanitation User Committee
WSP	Water Safety Plan
WUC	Water Users Committee





**Together We Can!**



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