



# 2013 ANNUAL REPORT



**ENVIRONMENT & PUBLIC  
HEALTH ORGANIZATION**

eco-friendly living for sustainable planet

© Environment and Public Health Organization (ENPHO)

**Materials &  
Photo Courtesy:** ENPHO Team

**Compiled by:** Ms. Rosy Singh

**Edited By:** Dr. Suman Kumar Shakya, Mr. Prajwal Shrestha,  
Mr. Bipin Dangol, Mr. Niranjan Pradhan

**Design & Print:** wps, tel 5555989  
email [wpsnepal@gmail.com](mailto:wpsnepal@gmail.com)

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## ACRONYMS

BIFAN	Bio-Sand Filter Association of Nepal	PAN	Practical Action Nepal
BORDA	Bremen Overseas Research and Development Association	PME	Planning, Monitoring and Evaluation
BSF	Bio-Sand Filter	PoU	Point of Use
CAWST	Centre for Affordable Water and Sanitation Technology	RAIN	Rain Water Harvesting Implementation Network
CCNN	Climate Change Network Nepal	R & D	Research and Development
CDD	Consortium for DEWATS Dissemination	RC	Resource Centre
CHC	Central Horticulture Centre	RMSO	Regional Monitoring and Supervision Office
CS	Colloidal Silver	RUAF	Resource Centre on Urban Agriculture and Food Security
DDC	District Development Committee	RWSSFDB	Rural Water Supply and Sanitation Fund Development Board
DEWATS	Decentralized Wastewater Treatment Systems	SANDEC	Water and Sanitation in Developing Countries
DPHO	District Public Health Office	SMS	Support My School
DRR	Disaster Risk Reduction	SODIS	Solar Water Disinfection
ECOSAN	Ecological Sanitation	SOP	Strategic Operation Plan
EDS	Environment and Development Society	Su-SWASTHA	School- Led Safe Water, Sanitation and Hygiene Improvement in Surkhet
ENPHI	Environment and Public Health Institute	SWASH	Sustainable Water, Sanitation and Hygiene
ENPHO	Environment and Public Health Organization	SWASTHA	Strengthening Water, Air, Sanitation and Hygiene Treasuring Health
EU	European Union	Tdh	Terre Des Homes Foundation
FIETS	Financial, Institutional, Environmental, Technological and Social	UAFH	Action Research on the promotion of Field application of Urine
FY	Fiscal Year	USSH4A	Urban Sustainable Sanitation and Hygiene for All
GESI	Gender Equity and Social Inclusion	VDC	Village Development Committee
HHs	Households	VWASHCC	Village WASH Coordination Committee
IEC	Information Education and Communication	WASH	Water, Sanitation and Hygiene
JICA	Japan International Cooperation Agency	WASH-CC	Water Sanitation and Hygiene Coordination Committee
MuAN	Municipal Association of Nepal	WASH – J	Water, Sanitation and Hygiene – Jhaukhel
MWASHCC	Municipal Water Sanitation and Hygiene Coordination Committee	WATSAN	Water and Sanitation
NWA	Nepal WASH Alliance	WET-C	Water Expertise and Training Center
NYCA	Nepalese Youth for Climate Action		
ODF	Open Defecation Free		

## FOREWORD

We are pleased to present the Annual Report 2013 that seeks to provide a glimpse of the accomplishments and the current work being undertaken by ENPHO as continuation of over two decades of involvement in Environment and Public Health sector in Nepal.

The year 2012-13 has been remarkable year for ENPHO as we continued to grow and expand our services. We further consolidated our efforts in areas such as WASH service delivery, DEWATS, WASH in emergency, water quality, roof top agriculture, climate change and energy. We joined hands with new partners such as The Norwegian University of Life Science, Norway, University of Cambridge, UK, RAIN Foundation, SNV Nepal and Regional Monitoring and Supervision Office, Pokhara to establish ourselves to promote and implement the concept of WASH, productive reuse, sustainable sanitation, climate change and knowledge management throughout Nepal and strengthen ENPHI.

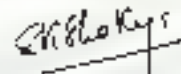


Prof. Dr. Kunjani Joshi  
Chairperson, ENPHO

The core of ENPHO are its working approach, where experts, partners and stakeholders get together on specific issues pertinent to environment, WASH, emergency and simple low cost innovations ranging from technical inquiries, implementation options, operation and maintenance, via governance aspects, such as planning, community involvement, to interconnected issues, such as sustainable sanitation, fecal sludge management, renewable energy, climate change and food security.

ENPHO still has lot of challenges though having amazing opportunities. Competition in sector and high expectation of counterparts are some of the major challenges of the organization. However, its goodwill and strong support of employees are the major strengths to achieve the targets in the last fiscal year.

We would like to express our thanks to all ENPHO staff. We also express our gratitude to all board & general members, donors and partners who provided their continuous moral and sensible support to ENPHO.



Dr. Suman K. Shakya  
Executive Director, ENPHO

### ENPHO Project Locations FY 2012/13



## INTRODUCTION

Established in 1990, ENPHO is a service-oriented, scientific, national Non-Governmental organization that envisages contributing in sustainable community development by combining research and actions through the integrated programs in the areas of environment and public health.

ENPHO runs a government accredited laboratory and promotes eco-friendly technologies such as SODIS, ECOSAN toilets and waste water treatment through reed bed systems.

ENPHO develops and promotes integrated community based approaches endorsing safe water, sustainable sanitation, solid waste management, hygiene behavior and improving indoor air, and environmental and air quality monitoring to create healthy societies.

Furthermore, knowledge-based education and advocacy campaigns help on achieving ENPHO's mission.

### Vision

Creating eco-societies

### Mission

Develop and promote appropriate technologies to enable societies become eco-friendly

### Goal

To support environmental study, sustainable total sanitation, hygiene practices and safe drinking water contributing to meet the national target.

### Strategic objectives

- To scale up promotion of environmental and sustainable sanitation systems
- To ensure improved access to safe drinking water
- To promote integrated water optimization technologies
- To enhance knowledge on hygiene behavior and sanitation practices
- To promote and implement WASH in emergencies

In order to achieve its goal of promoting eco-friendly societies, ENPHO has set the following strategies:

- Conduct research and develop appropriate technologies that are acceptable to local communities using local resources
- Demonstrate eco-friendly technologies and practices.
- Develop and implement effective strategies to promote eco-friendly technologies.
- Network with partners for coordination and advocacy
- Enhance organizational capacity
- Develop local capacities through ENPHI





## ENPHO'S MILESTONES

1990	Water Quality Monitoring of Bagmati River and Kathmandu's Water Supply System
1992	Initiated Air Quality Monitoring for the first time in Nepal within Kathmandu Valley
1994	Production and distribution of PIYUSH® Chlorine Solution
1997	Introduced Constructed Wetlands for Wastewater Treatment System in Nepal
2000	Production of ENPHO test kit, Arsenic Testing and Mitigation activities initiated in the Terai
2001	Initiated Research on SODIS and ECOSAN
2003	Received Award for Kanchan™ Arsenic Filter at World Bank Development Marketplace
2005	Environment Award from Ministry of Environment, Science & Technology
2006	Carried out Country Environment Analysis for the World Bank
2007	Initiation of Integrated Community based WATSAN Programme & Declaration of Open Defecation Free (ODF) at community level
2008	Scaling up of waste water treatment system at municipal level and integration of bio-gas system
2009	Received "Partnership for Clean Indoor Air (PCIA)" Award for Air Quality
2009	Establishment of Environment & Public Health Institute (ENPHI) within ENPHO
2009	Initiation of Paschim Paaila- A Youth Campaign against Diarrhea Epidemic in Western Nepal
2009	Establishment of Nepal Node for Sustainable Sanitation
2010	ODF declaration at VDC level
2011	ECOSAN poster attained the 1 <sup>st</sup> prize in pre-SACOSAN IV in Colombo, Sri-Lanka
2012	Started working on urban disaster risk reduction with focus on emergency WASH

## ACHIEVEMENTS ■ ■ ■

During the fiscal year 2012/13, ENPHO has managed on contributing safe water; sustainable sanitation; community based water, sanitation and hygiene and climate change adaptation and disaster risk preparedness through 28 projects in which 9 has been successfully completed and 1 project is under pipeline which will commence in the upcoming fiscal year.

The completed projects have benefitted about 50,000 people with capacity building of local people, community leaders and frontline workers on arsenic mitigation and improved drinking water and sanitation system in altogether 750 households comprising 4,500 population. In addition, ENPHO has also been able to carry out water quality testing in all 75 districts of Nepal.

SWASHTHA project which has been successfully demonstrated as integrated community based WASH approach directly benefitted 12,000 local people along with improved hygiene practices among 30,000 women and children; and improved indoor air quality standards in 10,000 HHs. The project successfully declared one SWASTHA community for the first time in Nepal, 3 Safe Water Zones, and 10 communities, 2 municipalities, 2 VDCs and 1 district as ODF zones. 1 VDC under WASH-J Project; 5 VDCs under Su-SWASTHA project, 1 VDC under SWASH Nagarkot project and 1 ward under USSH4A have been declared the ODF zones. Similarly, 4 communities have been declared as Su-SWASTHA communities.



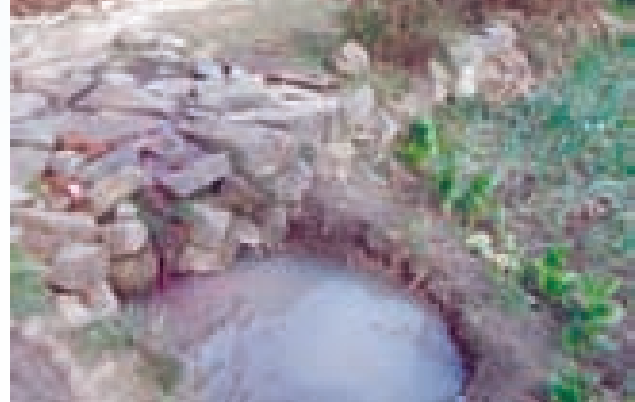
The completed projects supporting schools benefitted 6000 people, 11,161 students and 312 teachers improving access to water and sanitation along with construction of 100 improved toilets in the project areas. The project on Water, Sanitation and Hygiene Action in 6 Brick Kilns of Kathmandu Valley has successfully designed and demonstrated use of toilet slab to build temporary toilets for the first time in Nepal for the settlement of workers at brick kilns.



ENPHO is successfully implementing the project for the promotion of productive rooftops gardening with the use of harvesting rainwater and recycling organic household waste in 150 households of Kathmandu.

Along with the implementation of the project to reduce suffering and loss of life following a major earthquake in Nepal, the project DIPECHO-VII commenced at the end of the fiscal year intended to enhance the capacities in terms of WASH either structurally or non-structurally of the health facilities placed in Kathmandu valley so as to minimize the mass casualties in the time of emergency like earthquake.

Likewise, the projects to promote the safe and productive re-use of wastes (solid and liquid) for food production and the multiple uses of rainwater harvesting and 5R demonstration system are being implemented.



ENPHO has signed the Memorandum of Understanding for partnership with University of Cambridge, UK in December, 2012 for the research study and development of Arsenic Biosensor. This will be an important partnership for arsenic testing using biosensor and its mitigation activities in Nepal in the future.

Through ENPHO WET-C, Biosand Filter Association of Nepal (BiFAN) was established as network among active local entrepreneurs to work together particularly on filter promotion, knowledge sharing and quality control.

ENPHO has been continuously increasing its network nationally and internationally. Apart from being the advisory board member in Accelerating City to City Exchange on Sustainable Sanitation (ACCES Sanitation) and WASH cluster in Nepal, ENPHO now is a technical member in District WASH Coordination Committee, Bhaktapur.

## ODF declaration by ENPHO

- Sahare VDC of Surkhet district declared as an ODF Zone under Su-SWASTHA project of ENPHO with the financial support of USAID and EAWAG (27<sup>th</sup> December 2012)
- Nagarkot VDC of Bhaktapur declared as ODF zone under the SWASH Project of ENPHO supported by Water Aid Nepal in coordination with local stakeholders, local people, youths, VWASHCC and VDC (5<sup>th</sup> July, 2013)
- Kaprichaur VDC declared ODF under the Su-Swastha Project supported by USAID and EAWAG (23<sup>rd</sup> April 2013). This has been the 20<sup>th</sup> VDC to be declared ODF at Surkhet District in joint coordination with local development bodies like VDC, DDC, RMSO, DPHO and DEO.
- Jhaukhel VDC declared as ODF VDC under WASH project of ENPHO with support of WaterAid Nepal (30<sup>th</sup> March, 2013). Jhaukhel ranked as 4<sup>th</sup> position in declaration of ODF in Bhaktapur District.
- Kalyan VDC declared as the 21<sup>st</sup> ODF VDC of Surkhet district under the Su-SWASTHA project implemented by ENPHO with the financial support of USAID and EAWAG (8<sup>th</sup> May 2013)
- Birendranagar Ward No. 7 declared as ODF Ward under the SWASH project of ENPHO in coordination of Municipal Water, Sanitation and Hygiene Coordination Committee (MWASHCC) with the support of Nepal WASH Alliance (1<sup>st</sup> June, 2013)
- Mehelkuna VDC of Surkhet district declared ODF Zone under Su-SWASTHA Project supported by USAID and EAWAG (21<sup>st</sup> June 2013)



## PROGRAM

### Safe Water

Although Nepal has made remarkable progress in providing access to drinking water facilities, the quality of the water is a major concern. In order to promote access to safe water to all people, particularly the poor, ENPHO focuses on developing and promoting Point of Use (PoU) water treatment options and arsenic mitigation.

ENPHO is promoting PoU water treatment options such as Chlorination, Solar Water Disinfection (SODIS) and colloidal silver filters. The projects have been conducted at both household and institution levels all over Nepal with the support of various partners and agencies.

In the year 2012/13, production of Piyush Plus was 24,016 units. Altogether, 115,722 units of Piyush were sold through traditional as well as non-traditional outlets.

ENPHO successfully carried out the project to build local capacity for sustainable arsenic mitigation in Nawalparasi district with the support of JICA, Kyushu University. The project supported 59 arsenic affected communities from 15 VDCs and Ramgram Municipality of Nawalparasi district for local capacity building and awareness raising for arsenic mitigation and the provision of sustainable arsenic safe water facility.



ENPHO joined hands with University of Cambridge, UK in December, 2012 for the research study and development of Arsenic Biosensor. The Arsenic Biosensor Collaboration consists of partners from the range of stakeholders. The Wellcome Trust provides the primary funding for the core project. ENPHO will be an important partnership in the future of the arsenic biosensor promotion in Nepal.

ENPHO is involved in water sample collection and water quality analysis (physico-chemical and microbiological) of different water sources (117 samples) under 39 schemes of Batch IX – Development phase in 15 different districts of central and western development regions of Nepal. Similarly, it is involved in water sample collection and water quality analysis of



different water sources (261 samples) under 27 schemes of Batch IX – Implementation phase in 3 different districts of central and western development regions of Nepal.

### **Sustainable Sanitation**

ENPHO believes on promoting sustainable sanitation systems that are economically viable, socially acceptable and technically and institutionally appropriate; and protect the environment and natural resources.

ENPHO is involved in projects to provide waste water treatment as well as improving solid waste management and access to sanitary infrastructure in densely populated areas of Nepal with the support of BORDA and CDD Society.

An affordable and functional comprehensive solid waste management plan to implement effective and sustainable waste management service within Sagarmatha National Park and Buffer Zone area with the support of Sagarmatha Pollution Control Committee/EcoHimal,



the Society for Cooperation Alps–Himalaya is a new initiative undertaken by ENPHO to broaden its multi-sector engagement.

### **Integrated Water, Sanitation and Hygiene**

ENPHO promotes integrated water, sanitation and hygiene through various projects in communities, municipalities and schools for safe water, sustainable sanitation and promoting hygiene behaviors. The approach of SWASTHA has been successfully demonstrated as integrated community based WASH approach with the support of PAN, MuAN, EU and UN-Habitat contributing in improved access to safe drinking water and better sanitation facilities. It improved hygiene practices among 30,000 women and children and indoor air quality standards in 10,000 HHs. Similarly, SWASTHA approach is also used in Su-SWASTHA project to improve the health and well-being of poor people in mid-western Nepal through an integrated approach with the support of USAID and EAWAG/SANDEC.



Community Drinking Water and Sanitation Project and Education of Poor Children through long distance sponsorship with the support of Asia Onlus completed successfully benefitting 6000 people, 3200 students with 100 new improved toilet facilities. Similarly, Support My School (SMS) Campaign with the support of UN-Habitat, Coca Cola Company, Clean Energy Nepal improved access to water and sanitation for girls and boys in 9 schools in Kathmandu valley benefitting 7961 students and 312 teachers.



The project to increase WASH access to brick kilns workers supported by Terre Des Homes Foundation (Tdh) successfully designed and demonstrated use of toilet slab to build temporary toilets for the first time in Nepal benefitting 480 families with 2,640 direct beneficiaries.

The project to improve the drinking water supply facilities, sanitary conditions and public health status of the local people conducted with the support of Rural Water Supply and Sanitation Fund Development Board (RWSSFDB)/World Bank benefitted altogether 750 HHs.

Community based WASH project is being implemented to upgrade the existing water and sanitation situation of the Jhaukhel VDC with the support of Water Aid Nepal and Jhaukhel Village Development Committee whereby the VDC has been declared as an ODF zone along with 5019 and 6281 water and sanitation beneficiaries respectively.

ENPHO with the support of Helping Hands, NRN Canada and CAWST is implementing Maintada WASH project with hardware and software interventions for WASH improvement and capacity building of local individuals.

USSH4A project with the support of SNV Nepal at Birendranagar Municipality focuses to improve the health and quality of life by increasing access to sustainable sanitation and hygiene in the urban area.

ENPHO as a core member of NWA is leading urban WASH and implementing projects which are being implemented by adopting FIETS (Financial, Institutional, Environmental, Technological and Social) sustainability approach in Surkhet district. The SWASH project with the support of WASTE, the Netherlands is being implemented to improve WASH facilities through integrated approach in urban poor communities of Birendranagar Municipality and surrounding area. Productive Reuse Project with the support of RUAF Foundation, the Netherlands is being implemented to promote safe and productive re-use of wastes (solid and liquid) for food production and

the Rain Water Harvesting Project with the support of Rain Foundation, the Netherlands, Environment and Development Society (EDS) Society is being implemented to demonstrate the multiple use of rainwater harvesting system in Neta VDC.



Sustainable Water Air Sanitation and Hygiene project at Nagarkot (SWASH) an integrated WASH project, being implemented with the support of Water Aid Nepal, Bhaktapur District WASH-CC, Nagarkot VDC. The project is focused on providing safe drinking water, improving cooking stoves to improve indoor air quality, improve sanitation situation and facility, developing hygienic behavior to develop healthy environment.

### Climate Change Adaptation and Disaster Risk Preparedness

To reduce suffering and loss of life following a major earthquake in Nepal, an Urban WASH Preparedness and Community Based Disaster Risk Reduction



project has been initiated with the support of UK Aid, Oxfam GB Nepal and Lalitpur Sub-Metropolitan City.

Promotion of rooftop gardening as a potential adaptation option for Kathmandu's climate change strategies is being implemented with the support of RUAF, the Netherlands, UN-Habitat, and Kathmandu Metropolitan City Office with the objective of promotion of productive rooftops gardening with use of harvesting rainwater and recycling organic household waste in 150 households of Kathmandu city.

ENPHO also focused on contributing towards integrating urban agriculture with sustainable sanitation as an important component for Kathmandu climate change strategies and development of concept for a pilot project on urban agriculture.

Enhancing the health sector preparedness in the event of a high intensity earthquake in Kathmandu Valley, Nepal (DIPECHO-VII) is under pipeline which aims at contributing towards prevention, avoidable loss of life and disabling consequences through effective mass casualty management system.



## ENPHO LABORATORY

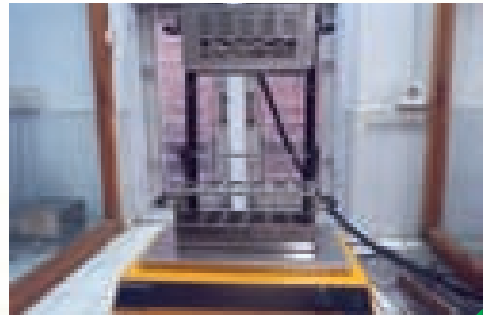
ENPHO laboratory, accredited by a government body “Nepal Bureau of Standard and Metrology” under NEPLAS system based on ISO 17025 has been providing its services of testing water, air, soil and food quality since the inception of this organization in 1990.

ENPHO laboratory is well equipped with sophisticated instruments like Atomic Absorption Spectrometer (AAS), Ultra Violet (UV) spectrophotometer, Gas Chromatograph (GC), High Performance Liquid Chromatography (HPLC) unit, Double Distillation Unit, four digital electronic balance, pH meter, electrical conductivity metres, two digestion and distillation units for physical and chemical analysis. Furthermore, it is equipped with several filtration units (Millipore and Del Agua units), different range of incubators, autoclave and refrigerators for microbiological analysis. The new and advanced UV spectrometer with in-built software, Automatic Distillation Unit and Digestion Unit were introduced in the lab during FY 2012/2013.

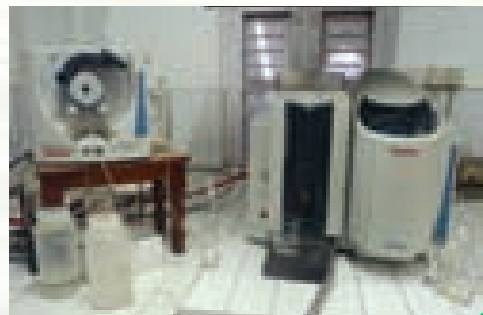
Besides analysis, ENPHO laboratory has developed various types of water testing kits like water quality field test kit, Arsenic test kit, Free Residual Chlorine (FRC) kit and Coliform Presence/ Absence Vial (P/A) vial.



UV Spectrophotometer



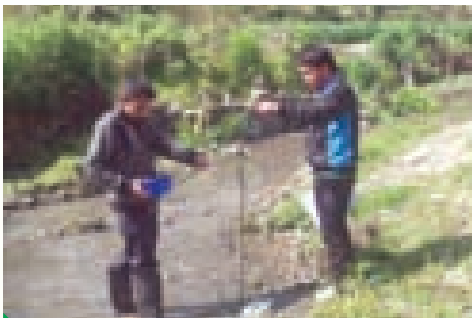
Distillation unit



Atomic Absorption Spectrometer



▶ ENPHO Lab



▶ River water quality monitoring



▶ Water sampling

During the FY 2012/13 ENPHO laboratory has been involved in three different projects:

- Water Quality Testing and Analysis for Batch IX Schemes, Development Phase - Package 2 (for Rural Water Supply and Sanitation Fund Development Board)
- Water Quality Testing and Analysis for Batch IX Schemes, Implementation Phase – Package 6 (for Rural Water Supply and Sanitation Fund Development Board)
- Research on Feasibility, Effectiveness and Efficiency of Various Filters in Surkhet

ENPHO laboratory management software has been introduced since FY 2012/13 for better laboratory database management. This application has significantly helped in efficient and easy tracking the laboratory analysis and has made database management and recording efficient reducing human labor and errors.

During the FY 2012/13, 2194 samples were analyzed on drinking water, 509 on waste water, 22 on soil, 32 on urine, food, feed and other samples while 28 were contributed on laboratory research. Similarly, altogether 9550 water testing kits were produced.

Besides water quality testing and analysis, ENPHO laboratory also conducted research in Jhaukhel, Bhaktapur with the aim to improve the fertility of sandy soil by the application of biochar.

## PRODUCTS AND SERVICES ■ ■

ENPHO laboratory has developed various types of products and services. It has been studying and developing simple, portable and low cost water testing kits and water purifying products

### Products

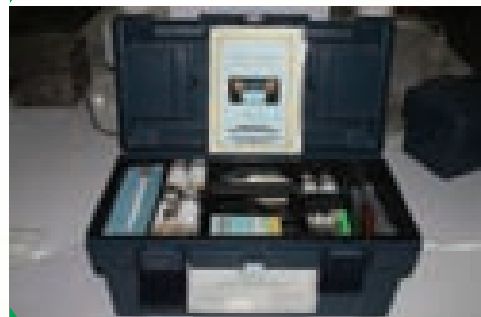
- ENPHO Water Field Test Kit
- ENPHO Arsenic Field Test Kit
- Free Residual Chlorine Test Kit
- Piyush – 0.5% Chlorine Solution for Water Disinfection
- Piyush Plus – 0.7% Chlorine Solution for Water Disinfection
- Chlorine Solution (1%) for Pre-treatment of Raw Water
- Coliform Presence/Absence Test Vial
- Kanchan Arsenic Filter
- Bio-Sand Filter
- Sand Tank Groundwater Model

### Services

- Water/wastewater quality monitoring and treatment
- Indoor/ambient air quality and stack emission monitoring
- Noise pollution monitoring
- Food, soil, clay and rock testing
- Testing of purity of metals and other products
- Research and development on environmental technologies



Arsenic Test Kit



ENPHO Water Test Kit



Free Residual Chlorine Test Kit

## ENPHI

ENPHI is the learning platform set by ENPHO to design and deliver professional training programmes with the sole objective of providing innovative tools for capacity building at community and organizational level. Professionals and decision makers are especially focused so that these empowered individuals can bring about changes through proper delivery of environmental services at local and national level.

### Action Research on the promotion of Field application of Urine (UPAFH)

From the research conducted at Central Horticulture Centre (CHC) from the year 2008 to 2013, human urine application in fruit sapling production gave different plant growth response than other source of fertilizers. The results showed the yield of the crops treated with urine as fertilizer was almost as high as the yield of chemically fertilized crops. Interestingly, the highest yield in all the years was observed in crops treated with the combination of urine and organic compost.

### Water Expertise and Training Centre (ENPHO WET-C)

The key approach of ENPHO WET-C is to provide improved access to safe drinking water and sanitation by building local capacity on WASH. The WET-C has targeted to benefit 15,000 community people.

Biosand Filter Association of Nepal (BiFAN) has been established as network among



active local entrepreneurs to work together particularly on filter promotion, knowledge sharing and quality control. 14 active BSF local entrepreneurs have been promoting BSF in various region of Nepal. Altogether 3,970 and 407 BSF have been installed in households and institutions where 21,000 people are consuming safe drinking water on regular basis and Regional WET-C has been established at Pokhara and Surkhet.

### Develop capacity of local entrepreneurs and mason at district and VDC level

The project to develop the capacity of local entrepreneurs and masons working in sanitation sector of five districts namely Arghakhanchi, Bajura, Bardiya, Sindhupalchowk and Sunsari are being implemented with the support of UN-Habitat/GSF, Institute for Professional Training and Management Nepal. This

project is designed to build local level capacity of entrepreneurs and masons, who will work actively to raise awareness, share information, build sanitation facilities and provide service later on.



## Organizational Development

ENPHO's main asset is its dedicated staff members. ENPHO is committed to build a strong and committed team to take it forward and enhance its organizational development. Hence, it promotes capacity building of staff and various relevant program participations at national and international levels.

The staff members are involved in training programs to upgrade their skills. ENPHO highly supports the empowerment and capacity building of staff at all levels. As a part of human resource development, ENPHO staffs have been pursuing further studies in regular basis.

Also, ENPHO provides the staff members to participate in various workshops,

trainings, orientations and programs at National and International level. This has enhanced the understanding, knowledge and skill of the staff through experience sharing. ENPHO recommends 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.

ENPHO is also providing opportunities to students and fresh graduates to get hands-on learning experiences in various WASH, Urban DRR, and laboratory projects by involving them as volunteers and interns. In 2012/13, 9 national interns and volunteers, 3 International intern, volunteer and a researcher worked with ENPHO.

Altogether, 52 trainings and 31 workshops, interaction programs and events have been organized during the fiscal year with the support of various projects.



## KNOWLEDGE MANAGEMENT AND ADVOCACY ■ ■

Knowledge-based education and advocacy campaigns are the core activities of ENPHO which is handled by the Resource Center (RC). The RC collects, stores and disseminates information and uses them to conduct education and advocacy campaigns on environment and public health.

### Knowledge Management

ENPHO website ([www.enpho.org](http://www.enpho.org)) has been regularly updated with project updates, major activities, news, events and articles. In order to disseminate information on different programs and technologies of ENPHO, RC produced, collected and distributed various IEC materials to suit the needs of various target audiences. During the FY 2012/13, IEC materials such as calendar, brochures, factsheets, reports, resource booklets, flip charts, pamphlets, note-copy, cap, t-shirts, kit bags were published and produced in coordination with the ongoing projects. ENPHO publishes its monthly E-Bulletin regularly to highlight updates on ENPHO's activities.

The ENPHO Paschim Paaila WASH forum organized 10 interaction programs related to water, sanitation and hygiene and other various health and environmental issues. ENPHO RC organized various interaction programs in association with Nepalese Youth for Climate Action (NYCA), Clean Energy Nepal (CEN), Climate Change Network Nepal (CCNN) and Cyberlink to share information among staff and key

stakeholders, and promote discussions on various issues of environment and public health. This included six 'Green Discussions' with one monthly interaction program organized from August 2012 to July 2013.

### Advocacy

ENPHO also participated in various events, exhibitions and campaigns to disseminate, advocate and share WASH activities through different projects. In the FY 2012/13, Paschim Paaila, an informal youth network, has conducted several activities to advocate and disseminate information on WASH, disaster and epidemic concerns. Various sensitization and advocacy regarding different issues related to WASH has been conducted at different sites and dynamics through campaigns, dramas, wall paintings, mass orientation, WASH Forums and exhibitions. In the FY 2012/13, Paschim Paaila has benefited more than 16000 children and youths.





## PLANNING, MONITORING AND EVALUATION ■ ■

### Finalization of Strategic Operation Plan (2012-2015)

The SOP of ENPHO has been finalized during the year 2012. The SOP 2012-2015 has been developed to meet the need of environment-related technology and support the national targets on WASH. ENPHO carries the vision of creating eco-societies with the mission of developing and promoting appropriate technologies to enable societies become eco-friendly.



### Revision of Gender Equity and Social Inclusion (GESI) Policy

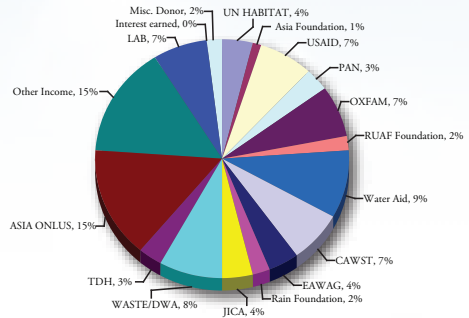
ENPHO believes that promotion of GESI is very crucial for achieving maximum impact on social and economic condition of community people since it is an integral part of community development process and should be integrated with water and sanitation programs. ENPHO has revised the GESI policy that reflects the underlying principles of ENPHO's policy and objectives in GESI promotion. Also, for better understanding of GESI policy it has also been translated in Nepali language.



# FINANCIAL MANAGEMENT

## Income

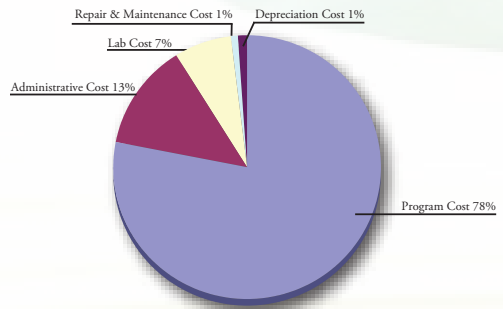
ENPHO's total income for the year 2012/13 was NRs. 12,44,44,141.47 (US\$ 13,09,938.33, 1 USD = NRs. 95). This is a 25.71% increase compared to the total income of 2011/12. ENPHO's income has been rising steadily over the past five years. The overall distribution of annual income is presented in the following picture.



Income for Fiscal Year 2012/13

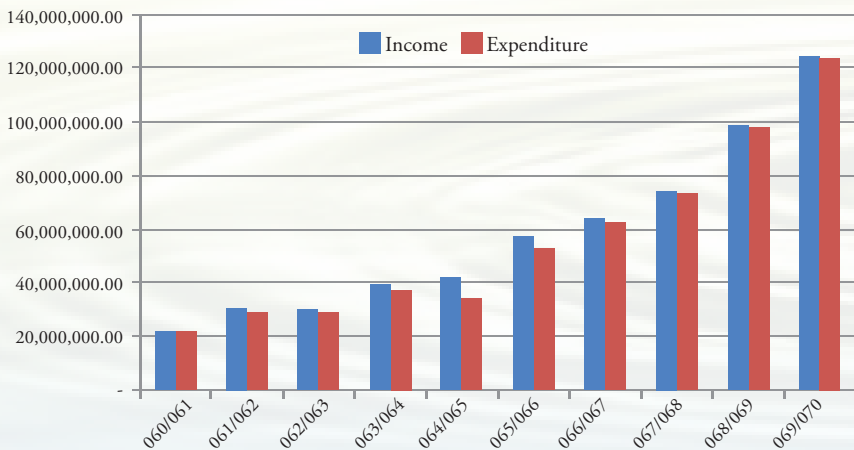
## Expenditure

ENPHO's total expenditure for the year 2012/13 was NRs. 12,39,69,108.60 (US\$ 13,04,937.99). This is an increase of 26.59% compared to the previous year's expenditure. The overall distribution of annual expenditure is presented in the following picture.



Expenditure for Fiscal Year 2012/13

ENPHO follows its financial regulations to manage finances and revenues. Financial records are kept up to date by using FAMAS software with regular external annual auditing.



Trend in income and expenditure over the past ten years



# FINANCIAL AUDIT REPORT

**S Dahal & Associates**  
Chartered Accountants

Annamagar, Kathmandu, Nepal  
Tel: +977-1-4247093, 4249388  
Mob: 98510 55815  
E-mail: sddahal@yashoo.co.np

## Independent Auditors' Report

On

### Financial Statements of Environment and Public Health Organization (ENPHO)

We have audited the accompanying financial statements of Environment and Public Health Organization (ENPHO) as on Asadh 31, 2070. The financial statements are the responsibility of the management of ENPHO. Our responsibility is to express an opinion on these statements based on our audit.

We conducted our audit of the financial statements in accordance with generally accepted standards and applicable national standards. These standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from any material misstatement. An audit includes examining on a test basis, evidence supporting the amounts and disclosures in financial statements. An audit also includes assessing the accounting principles used and significant estimates made by the management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, and to the best of our information and explanation given to us, the financial statements referred to above read with and subject to the notes thereon and accompanying memorandum of examination, present fairly, in all material aspects, the assets and fund balances as of Asadh 31, 2070 and the fund received and expenditures incurred during the period then ended.



CA. Sudip Dahal  
S. Dahal & Associates  
Chartered Accountants

Date: 26/05/2070  
Place: Kathmandu, Nepal

**Environment and Public Health Organisation  
New Baneshwor, Kathmandu  
Balance Sheet  
As on 31 Ashad 2070  
As on 15 July 2013**

Particulars	Schedule	Amount	Amount
		2069/70	2069/69
<b>A. Sources of Fund</b>			
Capital Fund Balance		1,070,081.50	1,070,081.50
Resvaluation Surplus Fund		8,108,757.12	8,108,757.12
Surplus Fund	1	22,495,129.24	22,495,129.27
<b>Total Sources of Fund</b>		<b>31,674,967.86</b>	<b>31,674,967.89</b>
<b>Applications of Fund</b>			
<b>B. Fixed Assets</b>	2	11,452,493.21	12,452,493.21
<b>C. Current Assets, Loans &amp; Advances</b>			
Program Advance and receivables	3	10,776,853.90	2,989,853.20
Other advance and Deposit	4	8,769,226.57	7,887,005.20
Project Advances/Receivables of Other program	5	8,748,458.92	8,899,524.31
Cash & Bank balance of Project Accounts	6	13,078,827.83	17,023,923.09
Cash & Bank Balance of (ENPHO)	7	8,794,277.89	11,782,480.97
		<b>47,273,441.71</b>	<b>47,628,886.82</b>
<b>D. Less: Current Liabilities &amp; Provisions</b>			
Liabilities for on going Other Programs	8	14,857,522.78	17,023,923.09
Sundry Creditors	9	7,887,241.94	8,281,859.18
Liabilities for on going Programs of Donors (Fund)	10	8,453,094.96	4,958,959.18
		<b>31,198,259.68</b>	<b>30,264,741.34</b>
<b>E. Working Capital (C-D)</b>		<b>16,075,182.03</b>	<b>17,364,145.48</b>
<b>Total Application of Fund (B-E)</b>		<b>27,192,867.48</b>	<b>28,719,324.76</b>

Notes to Accounts

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Schedules 1 to 21 form an integral part of this statement

  
Manager Pradip  
Admin & Finance Manager

  
Dr. Suman K. Shrestha  
Executive Director

  
Prady K. Acharya  
Treasurer



As per our report of audit date

  
CA. Sudeep Dopal  
S. Dopal & Associates  
Chartered Accountants

Date: 31/07/2013  
Place: Kathmandu, Nepal

**Environment and Public Health Organisation**  
New Baneshwor, Kathmandu  
**Income Statement**  
for the Year ended 31 Ashad 2070  
for the Year ended 15 July 2013

Particulars	Schedule	Amount 2069/70	Amount 2068/69
<b>Income</b>			
Remittances From Donors	11	8,236,866.46	2,582,452.08
Remittances From other Project Activities	12	80,285,297.36	88,287,345.08
Income from Activities	13	27,768,423.78	28,808,069.41
Income from Other Activities	14	723,555.96	312,867.73
		<b>124,444,141.67</b>	<b>98,990,834.34</b>
<b>Expenditure</b>			
Program Cost	15	4,812,426.00	1,031,958.60
Program cost of Other Project activities	16	81,958,878.84	88,428,481.87
Institutional / Administrative Cost	17	18,888,213.83	18,018,604.00
Repair & Maintenance	18	581,484.25	428,739.77
Lab activity expenses	19	8,819,381.33	7,298,584.78
Expenditure incurred to projects	20	1,388,488.00	1,825,472.00
Depreciation	21	1,813,264.60	1,802,042.18
		<b>121,863,256.60</b>	<b>97,801,719.64</b>
<b>Excess of Income over Expenditure</b>		<b>471,882.67</b>	<b>1,089,123.29</b>

Schedules 1 to 21 form an integral part of this statement

  
Nirajan Pradhan  
Admin & Finance Manager

  
Dr. Surman K. Shaky  
Executive Director

As per our report of even date

  
Prasad K. Acharya  
Treasurer

  
Dr. Kunda Joshi  
Chairman

  
CA. Sudip Dahal  
S. Dahal & Associates  
Chartered Accountants

Date: 24/07/2013  
Place: Kathmandu, Nepal





## THE WAY AHEAD

In the upcoming year, ENPHO will continue to build on its strengths to establish itself as a center of excellence in the areas of water quality, sustainable sanitation and hygiene, while expanding its involvement in other environment related issues such as climate change. ENPHO has developed its three-year Strategic Operation Plan 2012-2015 that will guide the organization towards reaching its goals at program, laboratory-research, organizational and institutional level.

ENPHO will strengthen its organizational capacity, particularly scaling up of sustainable solutions and project management by providing training opportunities for its staff and establishing systems for their effective functioning. ENPHO will focus to promote integrated programs such as SWASHTHA, and build ENPHI as a professional center for research and capacity building, particularly focusing on WASH sector.

### **In the area of water quality**

- Scale up Water Quality Monitoring programs
- Develop, demonstrate and disseminate PoU water treatment options
- Extensive promotion of Piyush and Piyush+
- Promote Water safety plan

### **In the area of service delivery**

- Scale up promotion of environmental and sustainable sanitation systems
- Ensure improved access to safe drinking water
- Promote integrated water optimization technologies
- Promote waste/wastewater management & reuse through of DEWATS/DISWATS/ DESWAM
- Enhance knowledge on hygiene behavior and sanitation practices
- Enhance and implement WASH in emergencies

### **In the area of sustainable sanitation**

- Piloting of Fecal sludge management in peri urban and emerging urban centers
- Promote City sanitation plan in small towns
- Establish ENPHO as a knowledge node for sustainable sanitation and promote ecological sanitation
- Demonstration and promotion of DEWATS in business sector
- Promote SWASTHA communities with safe water, sanitation facilities, ICS and hygiene behavior
- Promote WASH during emergencies

### **In the area of ENPHI**

- Establish RC in two development regions
- Capacity building to different stakeholders on WASH issues
- Provide professional training and research related services

### **In the area of knowledge management and advocacy**

- Establish itself as a Centre of Expertise and Knowledge on safe water and sustainable sanitation
- Conduct a variety of training programs
- Be an active member of various national and international networks to

share knowledge, coordinate activities and conduct advocacy campaigns.

- Mobilize youth, media and local communities for advocacy campaigns.

### **In the area of research & development**

- Strengthen the performance of ENPHO's laboratory by Improving the quality control procedures
- Conduct research on roof top agriculture and productive reuse, nutrient recycling
- Complete research on innovative technologies such as WAPIC, CS candles, performance of DEWATS

## PARTNERS

### International

- American Embassy
- Alliance for Sustainable Development
- Asia Arsenic Network
- Asian Development Bank
- The Association for International Solidarity in Asia (ASIA-Onlus)
- Australian Youth Ambassadors for Development (AYAD)
- Bremen Overseas Research and Development Association (BORDA), Germany
- Center for Affordable Water and Sanitation Technology (CAWST), Canada
- Center for Integrated Urban Development
- Center for International Studies and Cooperation
- Center for Science and Environment, India
- Consortium of DEWATS Dissemination Society, India
- Department for International Development (DFID)
- DISVI International, Italy
- Dutch WASH Alliance
- Eco Himal, the Society for Cooperation Alps – Himalaya
- Engineers without borders
- ETC Foundation, the Netherland
- European Commission
- Give2Asia
- Helping Hands for Hope, Canada
- Indian Embassy
- IRC International Water and Sanitation Centre, The Netherlands
- Japan International Cooperation Agency
- Japan Water Forum
- Non Residential Nepali-Canada
- Oxfam GB Nepal
- PLAN International
- Poverty Alleviation Fund
- Practical Action Nepal
- Pure Water's: International Water Purification Program Switzerland , Zurich
- Rain water harvesting implementation Network Foundation, the Netherlands
- RUAF Foundation, the Netherland
- Rotary International
- Rural Village Water Resource Management Program – FINNIDA
- SEECONGmbh, Switzerland
- SIMAVI, The Netherlands
- SNV Nepal
- Solutions Benefiting Life
- Solvatten AB, Sweden
- Sustainable Sanitation Alliance
- Swiss Federal Institute for Environment Science and Technology , Switzerland
- Terre des hommes Foundation , Switzerland



- The Asia Foundation
- The Research Council of Norway-The FRIPRO program
- United Nations Children's Fund
- United Nations Development Program
- United Nations Human Settlements Program
- United States Agency for International Development
- Urban Development through Local Efforts/GIZ
- WASTE, The Netherlands
- Water Aid Nepal
- World Bank
- World Health Organization
- World Vision International-Nepal
- World Wildlife Fund Nepal
- Hetauda Municipality
- Ilam Municipality
- Integrated Development Society Nepal
- Jhaukhel VDC , Bhaktapur
- Kamalamai Municipality
- Kathmandu Metropolitan City
- Kathmandu Upatyaka Khanepani Limited
- Kirtipur Municipality
- Lalitpur Sub-Metropolitan City
- LUMANTI Support Group for Shelter
- Madhyapur Thimi Municipality
- Ministry of Environment
- Ministry of Physical Planning & Works
- National Trust for Nature Conservation
- Nepal Bureau of Standards & Meteorology
- Nepal Red Cross Society
- Nepal WASH Alliance
- Nepal Water Supply Corporation
- Nepalgunj Municipality
- NGO Forum for Urban Water & Sanitation
- Park Village Hotel, Pokhara
- Ramgram Municipality
- Rural Water Supply and Sanitation Fund Development Board
- Rural Water Supply Sanitation Project-Western Nepal, Pokhara
- Water, Sanitation and Hygiene - Resource Center Network Nepal-Nepal
- Siddhipur Village Development Committee
- Smart Pani
- Social Welfare Council
- Siddharthanagar Municipality

## National

- Alternative Energy Promotion Centre
- AMDA-MINDS Nepal
- Amaghar Foundation
- Bharatpur Municipality
- Biogas Support Partnership Nepal
- Butwal Municipality
- Center for Integrated Urban Development (CIUD)
- Central Horticulture Center
- Clean Energy Nepal
- Department of Urban Development and Building Construction (DUDBC)
- Department of Water Supply and Sewerage (DWSS)
- Dhulikhel Municipality
- Friends Service Council Nepal
- Gularia Municipality

- Solid Waste Management and Resource Centre
- Society for Urban Poor
- The Coca-Cola Company / Bottlers Nepal
- Tikapur Municipality
- Total Management Services
- Urban Environment Improvement Project
- Urban Environment Management Society
- Women Environment Preservation Community

## Academic

- BOKU University, Vienna, Austria
- Kathmandu University
- Massachusetts Institute of Technology, USA
- Nepal Engineering College
- Pokhara University
- Sandia Laboratory, USA
- School of Environmental Management and Sciences
- Stockholm Environment Institute, Sweden
- Tribhuvan University
- University of Cambridge, London
- University of Kyushu, Japan
- University of Yamanasi, Japan

## MEMBER IN DIFFERENT CIVIL SOCIETY AND TECHNICAL FORUM

- Member of Consortium for DEWATS dissemination (CDD) network at South Asia
- Coordinating organization of NGO Forum for Kathmandu Valley Water Supply and Sanitation
- Core member in Coalition for Clean Environment (CCE)
- Sub-committee member of National Steering Committee on Arsenic for preparation of IEC materials on arsenic
- Sub-committee member of National Steering Committee for preparation of Interim National Policy on Arsenic in drinking water
- Technical committee member on Drinking Water Quality for NBSM
- Member of expert group for preparation of arsenic testing protocol formulation – NAST/National Arsenic Steering Committee
- Technical committee member for different environmental quality and lab issues for NBSM
- Member for development of Drinking Water Quality Standard, DWSS
- Member on coordination committee Small Town Water Supply & Sanitation Project, DWSS
- Network member in Resource Centre Network Nepal (RCNN)
- Member of WASH cluster
- Advisory Board Member, Accelerating City to City Exchange on Sustainable Sanitation (ACCESSanitation)
- Technical member District WASH Coordination Committee – Bhaktapur

**Environment and Public  
Health Organization (ENPHO)**  
110/25 Aadarsha Marg, New Baneshwor  
**G.P.O. Box** 4102, Kathmandu, Nepal  
**Tel:** +977-1-4468641/4493188  
**Fax:** +977-1-4491376  
**Email:** [enpho@enpho.org](mailto:enpho@enpho.org)  
**Website:** [www.enpho.org](http://www.enpho.org)

