

WATER WORKS! RESOURCE KIT 2

WORKING TOGETHER FOR POTABLE WATER PROJECTS





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ACRONYMS AND ABBREVIATIONS USED

ADB	Asian Development Bank
BWSA	barangay water supply association
CDA	Cooperative Development Agency
CO	conduit organization
COD	chemical oxygen demand
CSDO-SC	Coalition of Social Development Organizations in South Cotabato
DENR	Department of Environment and Natural Resources
DILG	Department of the Interior and Local Government
DOH	Department of Health
DOLE	Department of Labor and Employment
DPWH	Department of Public Works and Highways
DSWD	Department of Social Welfare and Development
ECC	Environmental Clearance Certificate
FIES	Family Income and Expenditure Survey
GI	galvanized iron
GOCC	government-owned and -controlled corporations
GTZ	German Development Cooperation
HDPE	high density polyethylene
IRR	implementing rules and regulations
JBIC	Japan Bank for International Cooperation
JVO	Jaime V. Ongpin Foundation
KALAHI-CIDSS	Kapit Bisig Laban sa Kahirapan-Comprehensive and Integrated Delivery of Services
LGC	Local Government Code
LGSP	Local Government Support Program
LGU	local government units
Lpcd	liter per capita per day
Lpd	liters per day
Lps	liter per second
LWUA	Local Water Utilities Administration
Mcm	million cubic meter
MDG	Millenium Development Goals
Mm	millimeters
MOA	Memorandum of Agreement
MPDO	Municipal Planning and Development Office
MWSS	Metropolitan Waterworks and Sewerage System
NGO	nongovernment organizations
NWRB	National Water Regulatory Board
PAC	Partnership and Access Centers
PCWS-ITN	Philippine Center for Water and Sanitation-International Training Network
PDME	Project Development, Monitoring & Evaluation
PE	polyethylene

PEF	Peace and Equity Foundation
PEO	Provincial Engineering Office
PHO	Provincial Health Office
PO	people's organization
PPDO	Provincial Planning and Development Office
PVC	polyvinyl chloride
PWWA	Philippine Water Works Association
RWSA	rural waterworks and sanitation association
SEC	Securities and Exchange Commission
Sq km	square kilometer
STRIDES	Surveys, Training, Research & Development Services, Inc.
UN	United Nations
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USC-WRC	University of San Carlos-Water Resource Center
WHO	World Health Organization
WSSP	Water Supply and Sanitation Program



FOREWORD

In its five years of implementing and supporting potable water projects across the country, the Peace and Equity Foundation (PEF) has benefited and learned from a variety of resource materials on the subject. The Philippine Center for Water and Sanitation and the Water Resources Center of the University of San Carlos, in particular, have developed many excellent materials on potable water project implementation.

Why, then, did the Foundation decide to develop its own manual? The decision was also a result of our learning process. In working with NGOs, communities, local government units, and experts, we increasingly recognized that project implementation required a range of technical, social, legal and economic knowledge. Local contexts and conditions also serve as important factors in our projects. Navigating this complex terrain required know-how, intelligence and good judgment.

At the same time, many of the partners we work with, and want to work with, are relative newcomers in the field of potable water provision. For a long time, the potable water sector has been largely in the hands of government and specialists and it is only recently that development organizations and communities have started making this field their own. We thus saw a clear need to equip them with the requisite knowledge to help them successfully implement their projects.

With the Foundation's growing focus on potable water provision as an effective strategy to our overarching goals of poverty reduction and empowerment, we also recognized the need to get better organized and put systems in place to ensure that our increasing interventions in this sector were effective, beneficial and sustainable.

Finally, this manual hopes to supplement other available materials on water project development. Thus, this resource kit provides information spanning technical, legal, social, and economic/financial dimensions of potable water project implementation. It provides tools and methods that are applicable or adaptable to various contexts and conditions that partners encounter. And it is packaged in a user-friendly style that would be accessible to newcomers in the field.

At the same time, this resource kit also promotes the Foundation's standards and objectives for effectiveness, sustainability, cost-efficiency, partnership, collaboration, and poverty reduction. Thus, it contains standard formats, procedures and requirements to help partners ensure that their projects work and benefit their communities for a long time to come.

Water Works! then, represents PEF's contribution to the larger potable water sector and the growing number of communities, NGOs, LGUs, and stakeholders who are implementing potable water projects. It is our hope that it will serve as a small step forward in the larger task of providing clean and safe water for all.

VERONICA F. VILLAVICENCIO
Executive Director

ACKNOWLEDGMENT

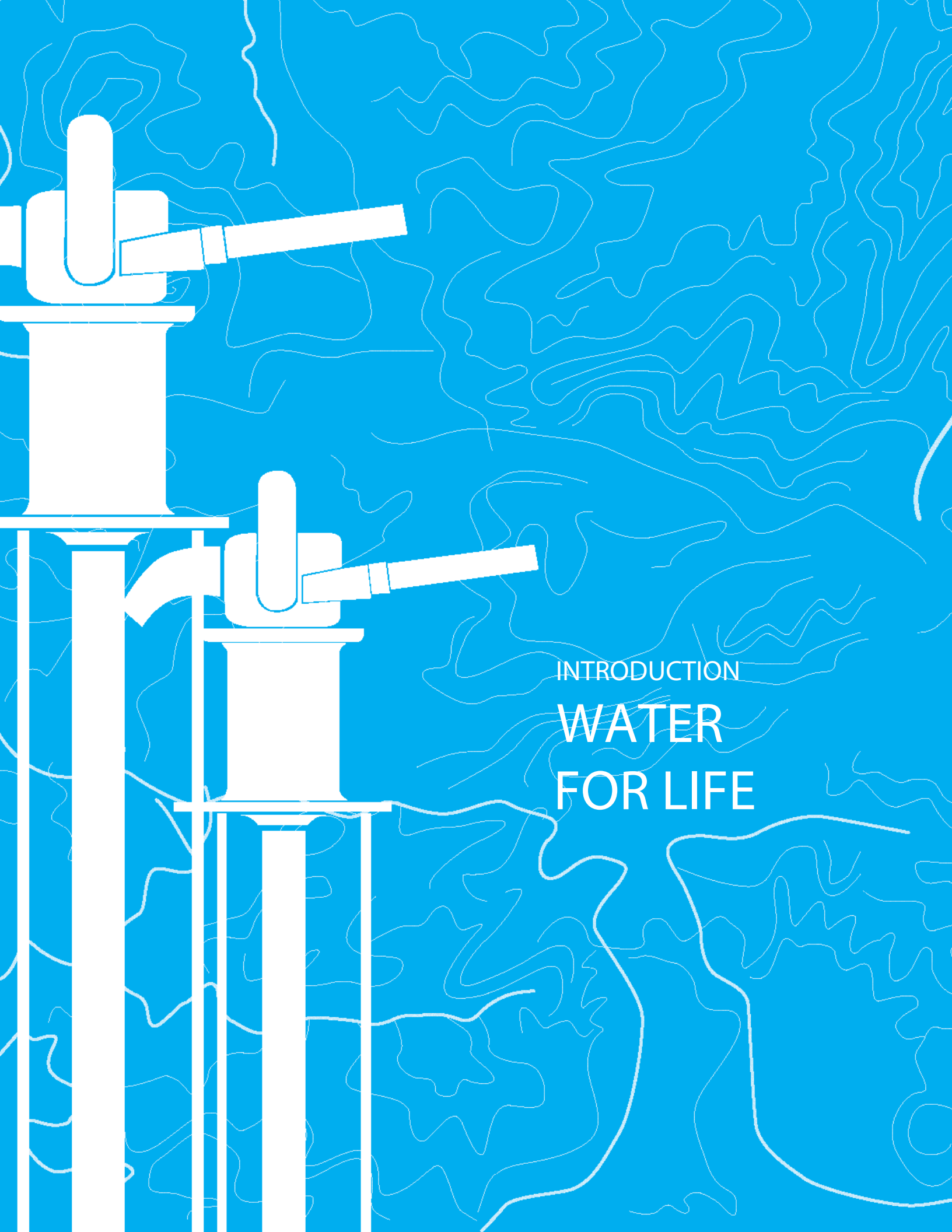
Water Works! distills within its pages the collective experiences, learnings, and expertise of the Foundation and its partners. As can be inferred from its title, it also carries an advocacy—our advocacy that if done properly, potable water projects work and can make a difference in improving people’s lives.

We thank our development associates who, because of their commitment to potable water provision, especially for the poor, volunteered their time, ideas, drawings, photos and writings for this resource kit. We also thank our NGO partners, who candidly shared their good and bad experiences to help other NGOs after them. We thank partner-organizations, especially the Philippine Center for Water and Sanitation, the Water Resources Center of the University of San Carlos, the Jaime V. Ongpin Foundation, Inc. and the Coalition of Social Development Organizations in South Cotabato, for their pioneering and current work on potable water and for allowing us to use some of their materials for this manual. We thank STRIDES for overseeing the processes that went into developing this manual, as well as all PEF staff who gave their ideas, shared materials and allowed themselves to be interviewed for this resource kit.

Finally, we are grateful to our partner-communities, who worked with STRIDES Inc. and PEF, and shared valuable insights that other communities can surely learn from. We include all the names of those who participated in the development of this resource kit in the list of key informants found at the end of the kit.

Water Works! is a work in progress. As we use it, we are hopeful that we, along with our partners, will gain new insights on how we can continue to implement successful potable water projects in many poor communities in the country.

PEACE AND EQUITY FOUNDATION INC.



INTRODUCTION

WATER

FOR LIFE

Like the air we breathe, water is one of our most basic needs. Today, however, more than one billion people in the world have no access to improved potable water supply. In the Philippines, 30-40% of the population have limited or no potable water supply; less than 20% of the rural population and less than 50% of the urban population have running water in their homes (PW4SP, 2004).

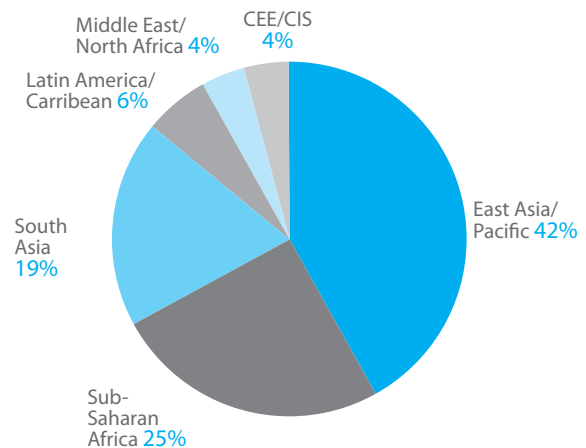
Along with the problem of access, experts have also warned of impending water shortages and a global water crisis by the year 2025 unless appropriate action is taken (Tacio, 2004). Water shortages can lead to declines in agricultural productivity and economic development, which can result in food shortages and massive increases in morbidity and mortality rates. Experts point to two major weaknesses of governments and societies in general — our inability to provide safe water for all and our inadequate efforts to use water efficiently and well.

In 2004, the United Nations (UN) declared 2005-2015 as the Decade of Water for Life. The UN declaration called on all countries to halve the number of people without access to safe drinking water (1 billion people) by 2015. This represents Target 10 of the Millennium Development Goals (MDGs) adopted by the UN in 2001, which now serve as framework for many development efforts.

Global focus on water reflects a growing concern for sustaining human life as well as ensuring the quality of life. For those working on potable water project implementation, these two challenges reflect two major areas of work to be done:

FIGURE 1
GLOBAL ACCESS TO WATER SUPPLY

1.1 BILLION ARE STILL WITHOUT ACCESS TO IMPROVED WATER SUPPLY; MANY OF THEM LIVE IN ASIA



- 1) working to provide and increase access to potable water for all, and
- 2) managing and preserving our water resources for the present and the future.

WATER FOR POVERTY REDUCTION AND IMPROVED QUALITY OF LIFE

In the Philippines, problematic potable water supply is compounded by poverty, underdevelopment and unequal access to water between the rich and the poor. More than 30 percent of Filipinos still have no access to potable water.

Most of them live in underdeveloped and marginalized rural areas, but others can also be found in the most urbanized centers like Metro Manila and Cebu (See Table 1 on page 13).

Poverty and lack of access to potable water often go hand in hand. It is the poorest of the poor who often lack access to safe drinking water. On the other hand, lack of or limited access to potable water makes it more difficult for people to meet their daily needs.

Often, people who have the smallest incomes pay the most for water, leaving less money for food, medicine, education and other needs. Lack of potable water makes people more prone to disease and illness because they have less water for drinking, hygiene and sanitation.

Fetching water from afar means less time allotted to earning a living. For women, who often bear the brunt of bringing water to their homes, this means less time spent in caring for their children, or engaging in economic, leisure or creative activities. It also means dealing with the stress and worry of saving water and finding the money to pay the bill. Children, who are usually called upon to help, have less time and energy for play, school, and rest.



CO Multiversity

Barorao, Lanao del Sur potable water system

Quality of life, therefore, is seriously diminished and endangered by lack of access to potable water. Conversely, access to potable water can have a profound positive impact on quality of life. Not only can families enjoy safe water to drink and more sanitary living conditions, but they can also do more productive activities for livelihood, such as gardening, farming, livestock raising, and food making as well as reproductive and recreational activities essential to people's well-being.

WHY IMPLEMENT POTABLE WATER SUPPLY PROJECTS?

Value and benefits

Helping communities gain access to potable water is important work. It is becoming even more critical today. In discussions of the MDGs, experts emphasize that unless potable water access is improved significantly and the targets for water and sanitation are first met, no other millennium development targets can be achieved.

The reason is simple. As long as people have limited access to potable water, they will continue to be poor and at risk. Without potable water supply, social, economic and environmental development cannot be attained.

For development practitioners, this is an urgent call to consider and prioritize water supply provision in their development work.

Benefits for communities

- Having safe drinking water fulfills a basic human need, one that is critical to the survival and development of individuals, families and communities.
- Improving access to water gives immediate, direct and manifold benefits to communities. It also improves health, hygiene and sanitation conditions, reduces the risk of illness and disease, creates opportunities for livelihood and employment, and allows more time and energy for productive, reproductive and recreational activities.
- Improved access to potable water also enhances the overall development and wellbeing of a community. A reliable potable water supply system serves the needs of households, schools, churches, government offices, businesses and contributes to their effectiveness.
- Operating and managing a potable water system also develops a community's capabilities in managing local-level projects and identifying other needs in their area.



Project management consultation (Minol Women Association, Mabini, Bohol)



Supervising actual construction of a ferrocement tank in Bgy. Sirao, Cebu City

Benefits for NGOs and other implementers

- Potable water supply projects are easy to implement, given the right know-how and perspective. They are straightforward in terms of design and implementation, and, assuming no major technical problems are encountered, can be completed in as short a period as less than a year.
- The effects of potable water projects, e.g., the time and effort saved in fetching water, are instantly felt by people and can be measured immediately.
- Prioritizing the provision of potable water keeps the focus of interventions on the poorest of the poor, to those who need help the most. Unlike microfinance and livelihood activities which are often accessible only to the middle poor or those with income to spare, water projects target the most marginalized sectors.
- Water projects encourage community participation because water is a felt and basic need. Implementers of such projects have greater chances of ensuring sustainability and community involvement and ownership.
- Potable water supply projects can provide a good starting point for other interventions or a more comprehensive program of interventions in a particular community or locality.
- Including water supply in larger programs and projects improves a community's prospects for success. People are more likely to go into livelihood, environmental conservation, waste management and other efforts when their lack of access to water is first addressed.

- Getting involved in potable water projects also builds the technical and administrative capacities of NGOs, POs and individuals within these organizations.

Benefits for LGUs and governance

- Most sectors have a stake in and can benefit from potable water supply provision because providing water also addresses problems in health, sanitation, livelihood, and environment protection. Thus, potable water supply projects can create opportunities for multi-stakeholder partnership and action. Local government, NGOs, community associations, schools and the private sector can be invited to collaborate and share technical and financial resources and expertise in water projects.
- Implementing or helping implement potable water supply projects enables LGUs to fulfill their mandate in delivering basic social services, including water and sanitation to their constituency.
- Getting involved in the potable water projects builds the LGUs' capacities, credibility and track record in good governance and service delivery.

AT A GLANCE

BENEFITS OF IMPLEMENTING POTABLE WATER SUPPLY PROJECTS

Benefits for communities

- fulfills a basic human need for the survival and development of individuals, families and communities
- gives immediate, direct and manifold benefits to communities: health, hygiene, sanitation, livelihood, employment, productive, reproductive and recreational activities
- builds local capacities in project management and development

Benefits for NGOs and implementers

- easier to implement with the right know-how and perspective
- effects are instantly felt by people and can be quickly measured
- keeps the focus of interventions on the poorest of the poor
- encourages communities to participate in and be committed toward sustaining local projects
- provides a good starting point for other interventions and improves their prospects for success
- builds the technical and administrative capacities of NGOs, POs and individuals within these organizations

Benefits for LGUs and governance

- creates opportunities for multi-stakeholder partnership, resource sharing and action
- enhances local ownership and prospects for sustainability
- serves as a means for achieving more participatory and effective governance
- enables LGUs to fulfill their mandate in delivering basic services, including water and sanitation
- builds the LGUs' capacities as well as the credibility and track record in good governance and service delivery

WATER WORKS! : HELPING PARTNERS MEET THE CHALLENGE

One of the mandates of the Peace and Equity Foundation is to facilitate the delivery of basic services such as potable water supply to the poorest of the poor. PEF has increasingly recognized the value of implementing water projects as a key strategy to its overall mission of poverty reduction. This is reflected in the increasing number of potable water projects it has supported and in the growing number of PEF partner-NGOs and communities keen on implementing water projects.

How Water Works! was developed

A multi-stakeholder approach has guided PEF's water initiatives. PEF linked partners to water experts, e.g., civil engineers and development associates, to assist in designing and managing water projects. It created mechanisms to guide the implementation, including the conduct of water project writeshops and technical appraisals by civil engineers to assist partners in developing project proposals. The Foundation has also encouraged partners to tap other expertise through the conduct of capacity-building programs, e.g., watershed management or financial management.

Amid these efforts, the need for the documentation of a guide in implementing water projects where many stakeholders are involved. Despite an abundance of international and local materials, PEF partners have expressed the need for consolidated guidelines that address PEF-specific needs and realities and further clarify the many forms of involvement that PEF stakeholders can take.

Similarly, PEF noted that the implementation of water projects across project sites has been uneven. Thus, it saw the need to establish guidelines that encourage cost efficiency and ensure project sustainability.

Water Works! was thus developed to:

- 1) standardize the steps, practices and guidelines in project implementation; and
- 2) provide partners with a useful tool and reference when undertaking water projects.

The development of this resource kit was supervised by STRIDES, Inc., while a technical working group (TWG) composed of PEF senior officers and expert consultants provided inputs and served as review committee. The TWG include representatives from Philippine Center for Water & Sanitation–International Training Network (PCWS–ITN) Foundation, University of San Carlos–Water Resource Center (USC–WRC) and Jaime V. Ongpin Foundation

Inc. (JVOFI), all with a long track record in implementing potable water projects in the country.

To develop this resource kit, PEF undertook a review of existing materials from partner organizations engaged in water system development. It reviewed, in particular, two local field manuals that have guided project implementation and community organizing in rural water projects in many parts of the Philippines since 2000. These are:

- *A field manual on formation of rural waterworks and sanitation associations (Levels II & III)*, developed by the USC–WRC in 2000, unpublished but widely disseminated to the USC network, specially in Visayas and Mindanao, particularly among KALAHI-CIDSS and PEF partners.
- *Community organizing: a process guidebook*, published in November 2001 by Rural Water Supply & Sanitation Project-Phase V of Department of the Interior and Local Government (DILG), developed for the DILG by PCWS-ITN Foundation.

What is *Water Works!*?

This material is composed of two kits and a field manual.

Kit 1 (*The ABCs of potable water projects*) presents basic information on how potable water systems are designed, constructed, and operated. It offers design models, technologies and management schemes on water supply, delivery and treatment, and describes the legal and other requirements implementers need to comply with for such projects.

Kit 2 (*Working together for potable water projects*) provides a guide in implementing a water system project. It describes PEF's framework for implementing potable water projects. It outlines important guidelines and requirements at every step, and offers effective strategies learned from the experience of PEF partners and other practitioners in the field. It advocates a participatory approach in undertaking water projects.

Water Works! Field Manual supplies the annexes to Kits 1 and 2, consisting of samples and formats for various documentation and legal requirements, as well as training modules that can be used for capacity-building activities.



THE 40-LITER CHALLENGE
SITUATING
OUR WORK

By general consensus, Filipinos must have access to at least 40 liters of clean water per person per day (lpcd) from a point of at most 250 meters away. Below this level, households are considered water-poor and should be given “first priority attention in any social water supply program” (Gendrano, 2006).

This standard is not always feasible to attain especially in areas with no groundwater or other water sources, but it is a target that is easy to remember and aim for, for potable water project implementers.

Studies by the United Nations and the Presidential Task Force on Water Management (PTFWM) show that if all the country’s surface water were tapped, it would be sufficient “to meet all the water requirements of the Philippines beyond 2000” (USC-WRC, 2006).

BOX 1
“WATER, WATER EVERYWHERE...”

Filipinos consume 310 to 507 million cubic meters (mcm) of water everyday. Where do we get our water? The Philippines has many water sources:

- The country has 59 natural lakes and 421 river basins, which have drainage basins of 40 to 25,649 square kilometers (sq km). Of these, 18 river basins have drainages of 1,400 sq km.
- Rainfall is another water source. The Philippines gets an annual rainfall of 2,400 millimeters, or 2.4 meters. From this, a mean surface runoff (based on 90 percent at a time) of 257,000 mcm is generated. Groundwater from this has an area of 50,000 sq km and reaches up to 251,000 mcm. In total, the Philippines receives 508,000 mcm daily. Rainfall is uneven across time and geographical areas. Southern Tagalog has the most freshwater available, and Western Visayas has the least.
- Everyday, we are able to take in 833 mcm from our surface runoff (from rivers and lakes). These are found in dams and water reservoirs along rivers or lakes.
- We take in 142 mcm from the groundwater (water stored below the ground) every day. The country has 130,000 hectares of artificial reservoirs and 50,000 sq km of groundwater reservoirs.
- We have 57,787 hectares of total land with shallow wells and 123,064 sq km of total land with deep wells.

Sources: USC-WRC, 2006; PCEC 2004; NWRB, 1980

Despite such abundance, and although potable water supply provision has continually improved in the last twenty years, 30–40 percent of Filipinos still have limited or no access to safe drinking water. The percentage of Filipinos with access to potable water went up from 68 percent in 1995 to 79 percent in 2000, according to one study (PW4SP, 2004). Yet, water supply and sanitation services still cannot meet the country's health and environmental requirements.

BOX 2

... AND NOT A DROP TO DRINK"

A number of studies and agencies put various figures on the state of waterlessness experienced by Filipinos across the country (See Table 1. on page 15 for proportion of households with access to potable water in their homes).

- According to the Department of Health (DOH), only 77% of all households have access to Level III service. Nearly a third of all households, therefore, resort to self-provisioning and buying from vendors—which raises the cost of water for the urban poor.
- Agham, an organization of scientists, pegs the number of people with access to potable water at 48 million, or 63% of the population. This is based on data released by the UN and PTFWM. In Metro Manila, only 60% of the population have access to potable water.
- According to the PW4SP studies, 20 to 30% of existing water sources in the rural areas fall in the category of underserved or unserved in terms of safe or unsafe sources, damaged and non-functioning sources. Hence, of the rural population, it was estimated that only about 60 to 80% was served adequately by safe

sources. This implies that around 72% of the total population (excluding Metro Manila) have access to adequate and safe water supply services.

- According to the NWRB, there are 432 waterless municipalities in the Philippines, municipalities where more than 30% of the population have no access to safe drinking water.
- Access to safe drinking water declined from 81.4% in 1999 to 80.0% in 2002. The picture is even worse for the poorest Filipinos, whose access declined from 71.5% in 1999 to 70.2% in 2002. Only 63.0% of Filipinos are connected to formal water services; the rest rely on their own resources and systems (World Bank, 2005).

Water access does not mean piped water supply. Less than 50% of the urban population and only 20% of the rural population have household or piped water connections. To give a regional perspective, 1 out of every 4 Cebuanos have no access to improved water sources. In Guimaras, 6 out of 10 residents lack potable water. In Lanao del Sur, it is 7 out of 10 (Tacio, 2004).

Sources: NWRB, USC-WRC.

TABLE 1
PROPORTION OF HOUSEHOLDS WITHOUT HOUSEHOLD WATER CONNECTIONS

Region	Province	Not using faucet, FIES 2000 (%)	Not using faucet, FIES 2003 (%)	Percent change (%)	Rank
Ilocos	Ilocos Norte	75.8	72.6	3.2	45
	Ilocos Sur	89.5	79.6	10.0	24
	La Union	83.2	88.8	-5.6	60
	Pangasinan	61.0	85.2	-24.1	75
Cagayan Valley	Batanes	5.2	0.0	5.2	41
	Cagayan	94.3	88.2	6.1	38
	Isabela	90.3	88.6	1.7	52
	Nueva Vizcaya	79.8	91.6	-11.8	67
	Quirino	44.6	86.6	-42.0	77
Cordillera Administration Region	Abra	35.6	72.8	-37.2	76
	Apayao	86.3	84.3	2.1	50
	Benguet	32.1	41.0	-8.8	64
	Ifugao	51.4	48.5	2.9	46
	Kalinga	54.6	54.1	0.5	55
	Mt. Province	21.7	44.3	-22.6	72
	Central Luzon	Aurora	87.5	37.7	49.8
	Bataan	56.9	46.3	10.7	22
	Bulacan	50.9	43.9	7.1	36
	Nueva Ecija	91.6	83.5	8.1	34
	Pampanga	87.0	55.2	31.8	4
	Tarlac	82.4	81.3	1.1	54
	Zambales	71.7	63.3	8.4	32
Southern Tagalog	Batangas	32.9	32.5	0.4	56
	Cavite	35.3	25.7	9.6	27
	Laguna	49.4	39.5	9.9	25
	Marinduque	65.1	50.0	15.1	19
	Occidental Mindoro	77.0	85.9	-8.9	65
	Oriental Mindoro	60.9	84.0	-23.1	73
	Palawan	70.5	67.7	2.8	47
	Quezon	96.0	69.9	26.1	9
	Rizal	74.6	34.8	39.9	3
	Romblon	67.7	58.3	9.4	29
Bicol	Albay	62.3	57.0	5.3	40
	Camarines Norte	70.5	66.9	3.5	44
	Camarines Sur	69.4	69.9	-0.5	57
	Catanduanes	84.4	35.5	48.9	2
	Masbate	89.0	86.4	2.6	48
	Sorsogon	75.6	47.0	28.6	7
Western Visayas	Aklan	84.0	91.9	-8.0	63
	Antique	81.8	63.3	18.5	14
	Capiz	79.8	70.2	9.5	28
	Guimaras	91.1	70.3	20.8	13
	Iloilo	83.1	76.5	6.6	37
	Negros Occidental	72.2	73.5	-1.3	58

TABLE 1 continued

Region	Province	Not using faucet, FIES 2000 (%)	Not using faucet, FIES 2003 (%)	Percent change (%)	Rank
Central Visayas	Bohol	67.1	45.5	21.6	11
	Cebu	55.9	47.5	8.4	33
	Negros Oriental	72.9	54.8	18.0	15
	Siquijor	50.3	34.5	15.8	18
Eastern Visayas	Eastern Samar	71.2	58.2	13.0	21
	Leyte	49.9	55.9	-6.1	61
	Northern Samar	85.2	75.4	9.8	26
	Western Samar	57.2	49.2	8.0	35
	Southern Leyte	57.7	33.3	24.4	10
	Biliran	22.3	16.4	5.9	39
Western Mindanao	Zamboanga del Norte	48.4	66.6	-18.1	70
	Zamboanga del Sur		42.4		
	Zamboanga Sibugay		62.0		
Northern Mindanao	Bukidnon	45.8	41.5	4.3	42
	Camiguin	12.0	1.5	10.5	23
	Lanao del Norte	40.8	59.1	-18.2	71
	Misamis Occidental	32.2	48.3	-16.0	69
	Misamis Oriental	28.2	19.0	9.2	30
Southern Mindanao	Davao del Norte	62.8	61.3	1.4	53
	Davao del Sur	37.1	46.4	-9.3	66
	Davao Oriental	84.0	68.0	16.1	17
	Compostela Valley	76.4	67.7	8.6	31
Central Mindanao	North Cotabato	97.8	67.1	30.7	5
	Saranggani	88.9	67.6	21.3	12
	South Cotabato	75.8	62.7	13.2	20
	Sultan Kudarat	92.7	90.7	1.9	51
ARMM	Basilan	66.8	90.5	-23.7	74
	Lanao del Sur	99.6	70.7	28.9	6
	Maguindanao	94.6	92.1	2.5	49
	Sulu	72.2	86.0	-13.8	68
	Tawi-tawi	83.5	90.6	-7.1	62
CARAGA	Agusan del Norte	65.5	68.4	-3.0	59
	Agusan del Sur	75.5	71.3	4.2	43
	Surigao del Norte	51.1	23.7	27.4	8
	Surigao del Sur	63.3	45.7	17.6	16
NCR			16.4		
	Manila	3.0			
	NCR-2nd District	9.8			
	NCR-3rd District	30.1			
	NCR-4th District	24.6			

Source: Peace and Equity Foundation poverty maps, 2006

Legend:



BOTTOM PROVINCES

TOP PROVINCES

THE POLICY ENVIRONMENT: FROM CENTRALIZED TO LOCAL MANAGEMENT OF WATER

The national government's official water policies are based on the principle that water:

- 1) water is a limited resource that must be conserved and managed efficiently, and,
- 2) water has an economic value in all its competing uses and shall be treated as an economic good; thus capacity and willingness-to-pay must be taken into consideration in pricing water.

Based on this, the 1976 Water Code of the Philippines states that all water sources, including rainfall, are the property of the state. Any entity that wishes to develop a water source has to acquire a water right, granted by government as a water permit through the National Water Resources Board (NWRB). (The exception to this requirement is domestic use of water from undeveloped water sources.) The Water Code, which provides the framework for water resource management, also calls for centralized control and integrated management of water resources.

The Code also calls for the adoption of a river basin approach. This approach clusters localities and water resources around major river basins, and requires that all activities related to water supply and sanitation, resource use and management be coordinated and complementary. All water development projects should also be aimed at multipurpose use.

In 1973, the Provincial Water Utilities Act delegated water supply provision to water districts, which function as government-owned and -controlled corporations. The Act also established the Local Water Utilities Administration (LWUA) to serve as financing institution for the setting up, operation and maintenance of local water districts.

In 1991, the Local Government Code (LGC) was passed, which called for more decentralized provision, delivery and management of potable water supply. Local governments received a mandate to provide water services, previously held by the Department of Public Works and Highways (DPWH).

WHO REGULATES POTABLE WATER SUPPLY AND MANAGEMENT?

Two line agencies, the DILG and the Department of Health (DOH) and two government-owned and -controlled corporations (MWSS and LWUA) are currently responsible for the water sector at the national level. The Metropolitan

Waterworks and Sewerage System (MWSS) regulates Metro Manila private franchise areas (Manila Water and Maynilad) and LWUA regulates water districts for areas outside Metro Manila. Other government agencies concerned are the Department of Environment and Natural Resources (DENR) for watershed protection, and the National Water Resources Board (NWRB, now also under the DENR), to regulate the franchising of water rights.

At the provincial level, involved agencies include the Provincial Planning and Development Office, the Provincial Engineering Office, the Provincial Health Office, and other offices.

Similarly, at the municipal/city level, the Municipal/City Planning and Development Office, the Municipal/City Health Office, and the Municipal/City Engineer's Office are concerned with potable water supply.

BOX 3

LINE AGENCIES IN THE WATER SUPPLY SECTOR

DPWH. The Department of Public Works and Highways is responsible for the development of Level I water systems and flood control, in line with national plans and policies. It performs engineering and construction works such as drilling of wells, development of spring, installation of rain collector and flood mitigation structures.

NWRB. The National Water Resources Board is a high-level body responsible for coordinating and integrating all the activities related to water resources development and management. It formulates policies, evaluates and coordinates water resources programs, regulates and controls utilization, exploitation, development and conservation of the country's water resources and the regulation of the water utilities operation.

DILG. The Department of the Interior and Local Government participates in the general administration/institution-building, such as assistance to local governments

in the formation of rural waterworks and sanitation associations (RWSAs) as well as in the identification, implementation, repair and maintenance of Level II water systems.

LWUA. The Local Water Utilities Administration is responsible for water supply development in all areas outside Metro Manila. It provides water services for Level II and Level III systems. In addition, it undertakes institution building, planning and engineering for the implementation of sewerage projects in several urban areas.

Specifically, LWUA provides loans to water districts for the development of water systems at concessionary terms based on their development potentials and continued viability. It extends engineering services to water districts as well. Its functions includes the promotion of organizations or rural water works and sanitation associations (RWSAs), and the provision of institutional, technical and financial assistance to financially viable RWSA's in the construction, operation and maintenance of rural water supply systems.

WHO CAN OPERATE/MANAGE POTABLE WATER SUPPLY FACILITIES?

- **LGUs.** Under the Local Government Code, local government units (provincial, city, municipal, and barangay) can directly construct, operate and manage potable water systems.
- **Water districts.** Water districts are classified as government-owned and -controlled corporations. As such, they are subject to government regulations relating to employment, budget, audit and management. Water districts usually cover areas within cities and municipalities. Most water districts are set up through loans provided by the LWUA. Water districts pay back the loans from income earned on water tariffs.
- **Rural water supply associations.** RWSAs are non-profit associations of water users, where members have no equity. Despite the name, RWSAs can be found in both rural and urban areas. They serve small communities within barangays (barangay water supply associations, or BWSAs) or larger areas of two or more barangays. RWSAs are usually set up and funded by LWUA to enable water users and project beneficiaries to own, operate and maintain their own water system and sanitation facilities. RWSAs usually manage Level I or Level II water systems.
- **Water cooperatives.** Like RWSAs, water cooperatives are community-based associations of water users, except that members contribute equity. This means that members have a financial stake in the cooperative's success and sustainability. Water cooperatives are overseen by the Cooperative Development Authority (CDA).
- **Private sector-managed systems.** Privately managed water systems are commercial, profit-oriented enterprises. They can be small-scale operations, covering only subdivisions and villages, or large-scale, such as the Maynilad and Manila Water concessionaires.

A recent study on management models in the Philippines has found the *community-managed model* as the most consistently successful (World Bank, 2005). LGUs and water districts are prone to inefficiency because of their government identity. On the other hand, privately managed systems, being largely unregulated, have limited accountability and transparency.

Whether in the form of RWSAs or water cooperatives, community management allows for greater transparency and accountability, affords the community a greater sense of ownership and responsibility for their water supply, and promotes empowerment.

At the same time, the study showed that successful community-based water management requires more sophistication and expertise than just organizing and running a typical community association. In fact, experience shows that many community-managed water systems are not sustained due to

dwindling interest and support of members and partners, inefficiency and lack of capacity.

Successful community-based models are run like small businesses: water is metered, billing and collection are systematized, financial management is transparent and organized, and personnel are trained and professionalized. They also get considerable technical training and support from partners.

This means that for NGOs and institutions pursuing community-based management of water systems, capacity- and institution-building should be intensively and systematically provided to partner communities in order to empower them into taking on the responsibility.

TABLE 2
AREAS OF RESPONSIBILITY FOR POTABLE WATER SUPPLY

AREA	MANAGEMENT	SERVICE LEVEL	COVERAGE
1. Metro Manila	MWSS MWCI MWSI	III	5.9 M people or 44.12% of 13.33 M
2. Provincial Urban	WDs by LWUA LGUs Private utilities	II and III	18.3 M people
3. Provincial Rural	RWSAs BWSAs LGUs	II and III (DILG, DPWH, LWUA)	35.76 M people or 84.77% of rural people
TOTAL			59.96 M people (2000) of 76.2 M or 79%

Sources: USC-WRC; NWRB

ISSUES RELATED TO POTABLE WATER SUPPLY

Unequal access to potable water. Because of economic, social and geographical differences, there is great inequality in access to potable water between rich and poor families, communities, municipalities and provinces, and between urban and rural/upland and lowland areas.

Declining water sources. Pollution, deforestation, watershed deterioration, inefficient water use, increasing demand and limited technologies for optimizing water utility all have resulted in the decline of clean water sources. In 1991, nine major cities in the country were listed as “water-critical areas” (JICA, 1991). These were Metro Manila, Cebu, Davao, Baguio, Angeles (Pampanga), Bacolod (Negros Occidental), Iloilo, Cagayan de Oro and Zamboanga. The same is true today.



*Water
tapstand,
Bohol*

The country's water resources are poorly used and maintained, and often become dumpsites for wastes and pollutants. Of the 421 rivers in the Philippines, 50 are considered biologically dead due to pollution. Of 60 major lakes, only Laguna de Bay receives attention, and yet it has also become increasingly polluted. Of 74 water monitoring stations scattered all over the country, 65 percent report that water quality has deteriorated to the point that it no longer meets the standards for beneficial use (PCEC, 2004).

Competing uses. Water has multiple uses; aside from households, it is also important for manufacturing and industrial activities, for irrigation, and power generation. The biggest user of water is the agriculture sector, with 76 percent of the total; followed by industry at 16 percent and domestic consumers at 8 percent. Increasing demand means more competition among various users, which means less water for those who now have none or very little of it.

Limited investments. Over the last two decades, funds given to water supply and sanitation have fallen short of requirements estimated to achieve the millennium development goals for water supply—only about PhP 3–4 billion out of PhP 6–7 billion.

Existing technologies for ensuring optimal use of potable water supply are also limited. Resources that go into developing more efficient technologies for extracting, conveying, delivering, and using potable/freshwater remain inadequate.

Policy/regulatory weaknesses. The transition from centralized control to devolution has met with other problems. A total of 32 government agencies are currently tasked with different but related water functions. This can be confusing and difficult to handle. Various kinds of water service providers are supervised by different agencies and are subject to different laws and policies. As a result, subdivision and housing developers, water peddlers and haulers, water districts, community associations and cooperatives follow different regulations in their water operations.

For example, NWRB grants water rights and regulates all water operators excluding water districts, whose supervision falls under LWUA. Community-based water operators such as water cooperatives and associations, on the other hand, are regulated by the CDA, LWUA, and LGUs. No coordinating mechanism exists among the various concerned agencies, so efforts are fragmented and policies sometimes contradictory. This is not to say that a unified agency can do the job better. It is clear however that potable water supply provision is best managed by those closest to it and by those sharing the same resource, and with people downstream, the actual community, having a say in its management.

Moreover, while various policies abound, these are not always matched by enforcement. On the contrary, most water service providers operate outside the jurisdiction and monitoring of government. Not all water providers have water rights/permits from the NWRB, and the NWRB is constrained from monitoring all areas in the country due to limited resources and staff.

Also, while LGUs and other local entities have been granted the right to develop and maintain potable water supply systems, LGUs are constrained from fulfilling this mandate by limited resources and capacities, and the lack of a mechanism for inter-LGU coordination/collaboration to maximize resources and water service coverage.

AT A GLANCE

ISSUES RELATED TO POTABLE WATER SUPPLY

1. Unequal access to potable water
2. Declining water sources
3. Competing uses
4. Limited investments
5. Policy/regulatory weaknesses

EMERGING EFFORTS

Despite these problems, much progress has been made in the last decade in improving potable water supply and access. By 2002, 82 percent of people in Asia and the Pacific had access to water, up from 74 percent in 1990. UN agencies like the United Nations Development Program (UNDP), World Health Organization (WHO) and the United Nations Children's Fund (UNICEF) as well as major multilateral financing institutions like the World Bank and the Asian Development Bank (ADB) are pouring more resources and attention to water supply and management.

Various international movements have been launched. Vision 21 advocates giving priority to hygiene, sanitation and sharing the management of water resources. The WASH campaign is a global effort of Water Supply and Sanitation Collaborative Council launched at the International Conference on Freshwater in December 2001 to provide safe water, sanitation and hygiene for all. ADB, UNDP, and WHO, among others, also launched Asia Water Watch 2015, to assess the progress in Asia and the Pacific region of Target 10 of the UN Millennium Development Goals.

In the Philippines and elsewhere, there is increasing focus on participation and on capacity- and institution-building of national and local governments, communities, and NGOs for water supply and management.

National government agencies are expanding their water programs. The DILG is currently undertaking the Water Supply and Sanitation Program (WSSP), which capacitates LGUs in providing water supply services to their localities. The program is supported by the World Bank, Japan Bank for International Cooperation (JBIC) and German Development Cooperation (GTZ). The Department of Social Welfare and Development (DSWD) is also implementing KALAHI-CIDSS, which has a strong potable-water supply component.

NWRB is also taking steps to improve its functions. In July 2006 it amended its implementing rules and regulations on to the Water Code to rationalize water permit pricing.

Donor agencies and NGOs have also amassed a wealth of experience and lessons in implementing water supply projects. They are documented and used to improve programs and projects. For example, a study by the Water Supply and Sanitation Performance Enhancement Project found that water projects have greater chances of success and sustainability when the following factors are present:

- LGU and community involvement
- Capacity- and institution-building

- External monitoring and evaluation
- Cost recovery mechanisms, incentives for local investment
- Focusing on needs of the poor (World Bank, 2004).

Because of previous experience, succeeding projects and programs on water are increasingly demand-driven, participatory, and capacitating.

THE 40-LITER CHALLENGE

Given the current situation, providing potable water for all is an enormous challenge. Insofar as the Millennium Development Goals on water supply provision are concerned, for example, a recent ADB study pointed out that the Philippines is lagging behind the rest of Asia and the world. While countries like India, China, Micronesia, Myanmar and Tuvalu are making progress and are expected to meet the 2010 UN goals for improving water supply, the Philippines might not be able to meet such goals. (ADB, 2006).

At the same time, the work being done by groups like Peace and Equity Foundation and its partners, as well as national and local governments, communities, civil society and other stakeholders shows that this challenge can be hurdled. Hopefully, this resource kit will be a useful tool in striving for providing potable water for all, or 40 liters of water, more or less, for each person per day.

CO Multiversity



Barorao, Lanao del Sur potable water system



WORKING
TOGETHER
FOR
POTABLE
WATER
PROJECTS

This resource kit distills the implementation steps and activities derived from PEF's actual field experience since 2002. It also seeks to share and standardize some successful and proven practices in water system projects.

It was written primarily for PEF partners, like the Partnership and Access Centers (PACs) that are embarking on potable water projects and for other stakeholders looking for other techniques and tools in water project implementation.

The kit is also useful to non-PEF groups or organizations interested in undertaking potable water projects.

This resource kit benefited from inputs of the PEF water manual technical working group, composed of PEF managers and development associates, LGU partners and from Philippine Center for Water & Sanitation-International Training Network, University of San Carlos - Water Resource Center and Jaime V. Ongpin Foundation.



Molobolo Rural Welfare & Services Association, Tuburan, Cebu

I. A GENERAL IMPLEMENTATION FRAMEWORK

Undertaking potable water projects is made more efficient if guided by:

- A. A vision for the community, translated into measurable short-term up to long-term outcome indicators
- B. General principles in potable water project implementation
- C. A snapshot of the general flow of project activities showing the different components and phases of the project

It is important to lay these items out at the start.

A. Articulating a vision for the community and translating it into project outcomes

Like other development projects, the implementation of potable water projects needs to be anchored on a vision for the community. The vision is then translated into specific objectives and goals, and more concretely, into outcome indicators that can be achieved through potable water projects.

- *Having a clear community vision and project goals and objectives*

Implementers will find that achieving clarity in their vision for the community, and translating this vision into concrete goals, project objectives and measurable project outcomes, before implementation, always make good project sense. It also helps shape the direction and priorities of the project.

TABLE 3
BEFORE AND AFTER: COMMUNITY-MANAGED LEVEL II POTABLE WATER SYSTEM. BRGY. SAN PEDRO, BIRI, NORTHERN SAMAR

INDICATORS	BEFORE WATER PROJECT	TARGET	AFTER WATER PROJECT
Number Of households without potable water (whole barangay)	178 households (929 individuals)	Reduced	43 households (224 individuals)

INDICATORS	BEFORE WATER PROJECT	TARGET	AFTER WATER PROJECT
Number of households with potable water (whole barangay)	None	Increased	135 households (705 individuals)
Water fetching time	3 Hours	Reduced	10 minutes
Distance from water source	> 1 Km	Reduced	20 meters
Number of tapstands	None	Increased	8
Length of pipes	None	Increased	1480 linear meters
Price of water per day per household	None	Increased	Estimated at PhP 4.57 per day per household
Price of water per 20-liter container	None	Increased	Estimated at PhP 0.44 per 20-liter container
Income of newly-formed water association	None	Increased	PhP 18,495.00 per month

- *Keeping the community at the heart of the project*

More importantly, anchoring project implementation on a vision for the community ensures that the community remains at the heart of the project. With a clear vision and a set of measurable outcomes, implementers are reminded that completing the construction of a water project or organizing the barangay water association is not the end-all of the project.

Instead, implementers are required to move beyond the immediate concerns of construction, community organizing and water systems installation towards project sustainability and community impact. As such, it emphasizes the need for quality control in ongoing activities and the implementation of other complementary activities to ensure that the potable water project actually contributes to improving community life and empowering the community. It also reminds implementers that the community should be a key player throughout the project.

- *Translating vision to concrete indicators*

Outcome indicators are tangible and specific manifestations of a project's impact on the target community and other stakeholders. Implementers can decide to identify:

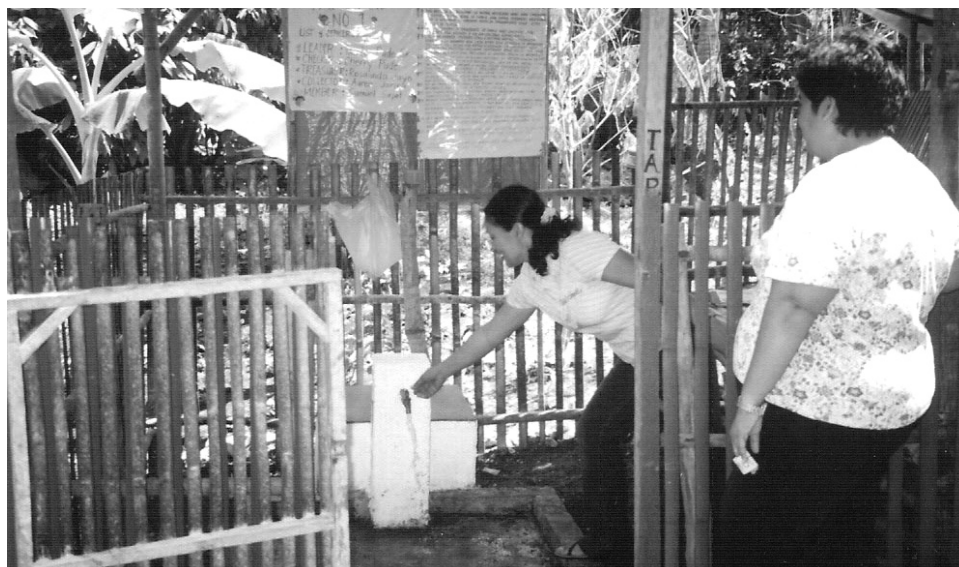
1. medium to long-term outcome indicators that are achievable within a number of years that will be realistically determined by implementers.
2. short-term indicators that are achievable immediately or up to one year upon project completion.

Outcomes should be phrased unambiguously, with clear indicators of how they can be qualitatively or quantitatively measured.

Translating a community vision to measurable outcomes can be tedious and difficult, but development workers recognize that it is worth the effort to have concrete measures for determining project results. Measurable indicators facilitate monitoring and ensure project efficiency and effectiveness.

- *PEF's vision and outcome indicators for its water projects*

- empowered communities
- basic need for water met
- enjoyment of improved quality of life
- meaningful participation in community life and socioeconomic activities.



Covered tapstand in Barangay Mangool, Baclayon, Bohol being managed by the Mangool Active Mothers' Association (MAMA)

PEF's target communities are impoverished communities in rural and urban areas in the poorest provinces in the Philippines that have limited access to water. For PEF, the ultimate goal of potable water projects is not solely to increase the access of poor and waterless communities to water but for a potable water system to ultimately contribute to the improvement of a community's political, economic, cultural, physical and social well-being.

PEF has translated its vision into a number of terminal (medium- and long-term) outcome indicators, achievable in one year or more, and immediate/short-term outcome indicators that should result immediately or in less than a year upon project completion. Since PEF endorses a multi-stakeholder approach, outcome indicators cover not only the beneficiary-client communities, but also the other key stakeholders in the project as well (See Figure 2 on page 32).

By being aware of PEF's target outcome indicators, PEF partners can strategically work towards monitoring and achieving them.

For non-PEF groups or organizations, PEF's vision and outcome indicators for potable water projects can serve as a starting point for developing their own vision and outcome indicators while customizing these according to their respective needs and contexts.



The Torrijos Municipal Employees Association, conduit organization and lead project implementer in the Torrijos project site, Marinduque

B. Laying out important principles

Implementers often want to apply certain principles or values to ensure that standards are met when implementing a project. These principles are usually the result of lessons learned from past projects, or distilled from an organization's vision-mission-goals (VMG). PEF, for example, endorses the following principles when undertaking a potable water project:

FIGURE 2

PEF VISION FOR THE COMMUNITY & TARGET OUTCOMES FOR POTABLE WATER PROJECTS

PEF VISION		
EMPOWERED COMMUNITIES WHOSE BASIC NEED FOR WATER ARE MET AND ENJOYING IMPROVED QUALITY OF LIFE WHILE PARTICIPATING MEANINGFULLY IN COMMUNITY AFFAIRS AND SOCIOECONOMIC ACTIVITIES		
VISION TRANSLATED INTO CONCRETE OUTCOMES		
IMMEDIATE/SHORT TERM OUTCOMES		
<ul style="list-style-type: none"> • Sustainable and functional potable water systems • Capable and skilled community water associations managing and sustaining the system • Communities with improved access to potable water 		
COMMUNITY OUTCOMES	GOVERNANCE OUTCOMES	FOR OTHER PEF PARTNERS
<p>Direct community outcomes</p> <ul style="list-style-type: none"> • Reduction of water-fetching efforts (time and distance) • Reduction in cost of water • Savings in household chores using water • Reduction in water-borne diseases • Improved hygiene and sanitation • Improved recreation • Greening of the community • Employment and livelihood opportunities from potable water project <p>Empowerment and community organization</p> <ul style="list-style-type: none"> • Active participation and decision-making by community in ensuring water project sustainability • Sustainable and active community water associations with (1) capable leaders & staff with managerial skills, and (2) transparent financial and operational policies and systems • Scheme for cost recovery being implemented (if deemed feasible) towards collecting funds for maintenance and sustainability 	<ul style="list-style-type: none"> • LGUs endorsing multi-stakeholdership and partnership for potable water project implementation • Mechanisms for LGU-PAC-community partnerships in place for improved basic services delivery • Improved LGU capacities in the delivery of potable water systems 	<ul style="list-style-type: none"> • Implementation partners, including cooperatives, NGOs, POs, and PACs have the technical know-how and the capacity to implement potable water projects, and they use these skills in the implementation of other projects • Presence of a multi-stakeholder provincial network (PAC) in priority provinces supporting new potable water projects and ensuring the sustainability of potable water systems by providing ongoing guidance to PEF partner water associations
LONG -TERM OUTCOMES		
COMMUNITY OUTCOMES	GOVERNANCE OUTCOMES	FOR OTHER PEF PARTNERS
<ul style="list-style-type: none"> • Adequate and reasonable tariff being collected by the water association from water system to cover operation and maintenance and to fund expansion or repair • Cost of construction recovered • Skilled and capable community water associations networking with other organizations/groups to implement other community projects • Water project generating income to fund other development projects in the community • New livelihood opportunities or increased economic opportunities for the community • Presence of environmentally-friendly schemes to protect and/or develop the water source and system e.g., (1) watershed management plan, (2) metering system to regulate water use and monitor wasteful consumption, (3) appropriate sanitating systems that include functioning drainage and appropriately-located sanitary latrines 	<ul style="list-style-type: none"> • Improved basic service delivery, particularly of potable water by local government units 	<ul style="list-style-type: none"> • Partnership and Access Centers and other PEF partners that were previously involved in potable water projects providing coaching and mentorship to new potable water project implementers • Long-term partnership mechanisms for development projects in place

1. Build where there is a clear, verifiable and urgent need for potable water.

Choose to implement potable water projects in communities that have an expressed and verifiable need for potable water. PEF experience has shown that potable water systems are sustained most successfully by communities that have long been deprived of clean, regular and accessible water supply. Communities that do not see potable water projects as an urgent need find it difficult to sustain participation, making implementation and maintenance tedious and inefficient. This principle is emphasized in existing literature, such as those by PCWS-ITN and USC-WRC.

2. Engage community participation from the very start.

PEF encourages the involvement of communities from the start or during the pre-project or preparatory phase, long before a community water association is even formed or actual construction is initiated. Early community participation through community consultation and information and education campaigns (IEC) increases project ownership and accountability, and contributes to project sustainability.

3. Ensure the participation and empowerment of marginalized and vulnerable groups in the community, particularly women.

PEF's mandate is to reach the poorest of the poor. As such, PEF encourages implementers to ensure the participation throughout the project of vulnerable groups in the community, particularly women. The specific needs of vulnerable groups should also be met and their concerns addressed. For example, women, who normally are the ones fetching water should be made to decide on the tapstand location. Informal leaders like the elderly, teachers and retired officials, also need to be involved in the formulation of policies surrounding the use of the water system.

4. Adopt a multi-stakeholder approach.

The multi-stakeholder approach allows resources to be shared and work distributed. Through this approach, the project is able to maximize the resources of LGUs, other NGOs and the community. The approach also entails that management structures for ensuring optimum participation by all stakeholders are in place from the start.

5. Promote partnership-building.

Project implementers must aim to build strong partnerships, particularly among project stakeholders (LGUs, PEF, PAC, NGOs/POs, community and clients). Partnership-building also means nurturing a supportive and mutually-beneficial relationship among stakeholders. Partnerships must clearly define the roles and resource-sharing among partners.

6. Develop and promote innovative and appropriate water technologies.

Implementers should adopt water technologies that are appropriate to the communities and meet existing needs and concerns. Implementers are challenged by PEF not to get used to old and established ways of doing things but always to try cost-effective, appropriate and innovative technologies that enhance current approaches. For example, the rise of forroccement technology is being promoted actively despite the familiarity of local contractors or engineers with “buhos”-type tanks.

7. Use local knowledge and be respectful of local culture at all times.

Respect community culture and practices. Ensure that project implementation always takes into consideration local culture and local knowledge. Conduit organizations that are not part of the community must try to study local practices, belief systems and traditions in the community. Some local practices may have to be considered during groundbreaking or upon project completion. Communities may also have indigenous ways of sustaining potable water projects.

For example, in Barangay Alegria, Bohol, the water system’s all-around operator makes offerings of eggs and precious metal every full moon to ensure that the natural spring, the main source of water, does not run dry. In the Cordillera, a ritual offering before and after a water project is a must to encourage community ownership and ensure project success.

8. Ensure that the water project builds peace and does not create conflict in the community.

The introduction of development projects sometimes becomes a source of conflict in a community, as competing parties position themselves to gain access to limited resources. PEF partners can ensure that the water project contributes to peace in the community by (1) facilitating genuine partnership among stakeholders, and (2) ensuring that no group or individual is marginalized in the distribution of water or other resources. One way to do this is by identifying the right spots for tapstands and conducting regular consultations with the community.

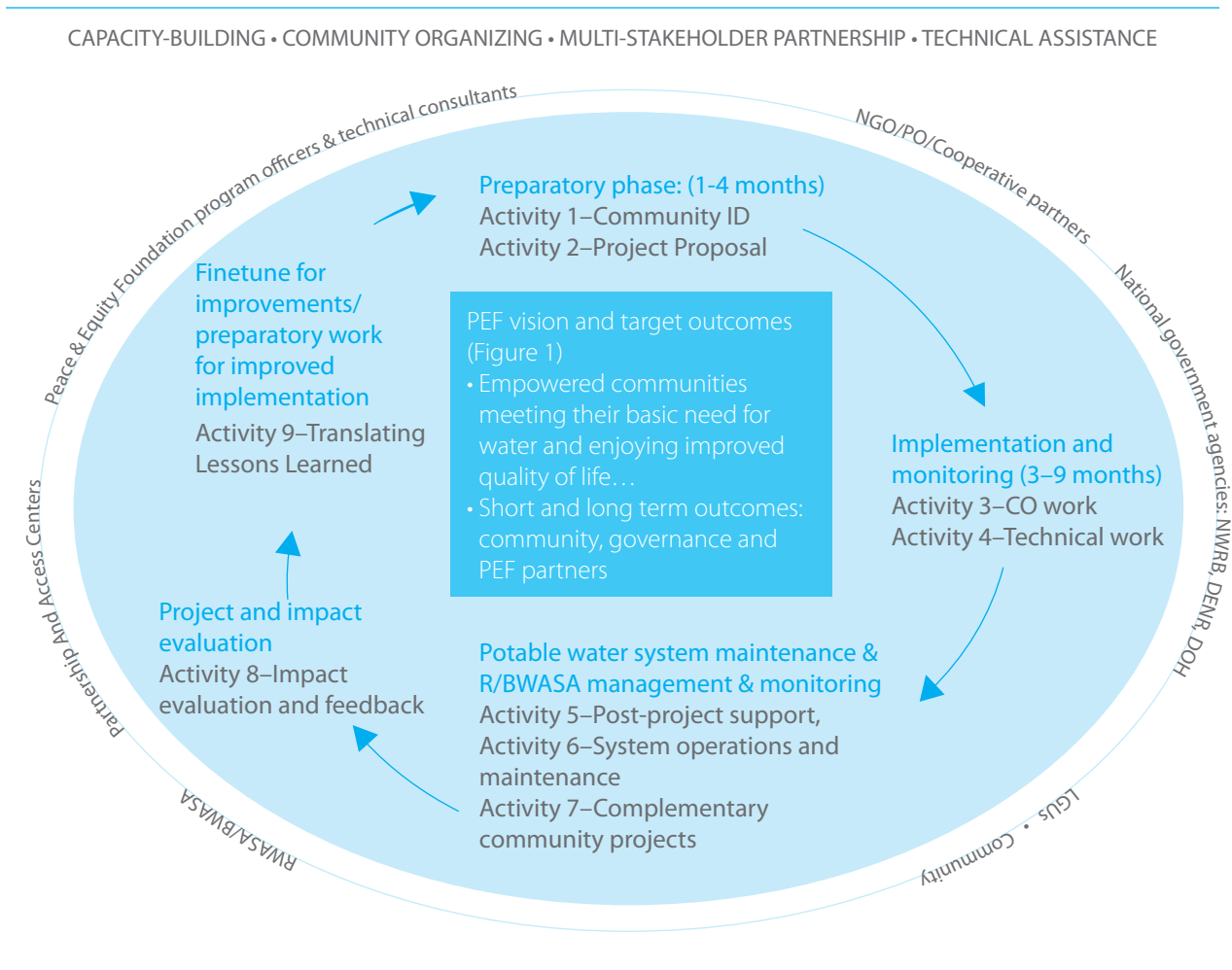
For example, PEF makes it a policy to build tapstands on places of worship, school grounds and barangay health centers. These places ensure the availability of water to everyone. PEF has promoted peace-building in many areas in Mindanao through potable water system projects.

C. Anchoring efforts on a set of steps

An implementation framework provides a picture of how a project should be implemented. Having such a framework at the start of a project provides implementers with concrete planning and managerial handles. It is best for implementers to level off and design their implementation framework before the project begins, taking off from their own experiences and their understanding of what is required in implementing a potable water project. An implementation framework usually shows the goals, objectives and target outcomes of the project as well as its main activities or general flow.

Figure 3 is PEF’s potable water implementation framework. It can serve as an example to other groups interested in designing their own implementation framework. For PEF partners, Figure 3 should also serve as a general guide in implementing their own water projects.

FIGURE 3
PEF IMPLEMENTATION FRAMEWORK FOR POTABLE WATER PROJECTS



Important elements in the PEF implementation plan

1. Vision for the community and project outcomes forming the core of the framework

At the center of the PEF framework are its vision and target project outcomes. By completing the nine major activities in coordination with local partners, outputs should lead to concrete outcomes (e.g., reduction of water-fetching time, reduction of waterborne diseases) and contribute to PEF's vision of empowered communities.

2. Cyclical nature of project implementation: Learning circle

PEF suggests a circular framework in project implementation to ensure and emphasize that:

- a. Completed projects are reviewed, and learnings are used for project improvement and identification of future activities and avoidance of mistakes.
- b. PEF assistance, or the assistance of their other partners, does not have to start at the preparatory phase, and may start at any phase wherever there is a need; this is the essence of PEF's customization of development approaches.

3. Multi-stakeholder partnership: Circle of partners

PEF's endorsement of multi-stakeholder partnership is visible in this framework. PEF believes that different stakeholders in a locality, including the national and local government, nongovernment organizations and the community (e.g. BAWASA, target clients) have to contribute with PEF and its provincial counterparts, like the Partnership and Access Centers, to ensure that impoverished and waterless communities gain access to potable water.

4. Five main project phases

The PEF framework represents the complete project cycle. For PEF, it is not sufficient to be concerned only with the preparatory, implementation and monitoring phases or the first two major phases. Instead, implementers have to be concerned also with post-project sustainability and long-term impact. Thus, the PEF framework endorses undertaking several activities in five phases, namely:

- Preparatory, pre-project phase
- Implementation and monitoring
- Post-project sustainability
- Impact evaluation
- Fine-tuning for continuing improvement



Construction of a ferrocement tank in Maniwaya, Marinduque, a PEF-funded project.

The first two phases cover site identification up to construction, and can last from 3–12 months or even longer, depending on the particular water system’s magnitude and coverage. This is when financial and technical assistance from project partners are provided and the activities in the community are at their most intense, and therefore, many might consider these as the major project phases.

However, it is also important to make sure that the water system is able to serve the community for many years. If managed and maintained effectively, most of the components of potable water systems should last 15 to 20 years (see Section 1.2 of the *Water Works! Field Manual* for the average life of water system components).

The third phase thus covers tasks related to project maintenance, management and monitoring by local water associations and their partners to ensure sustainability. The fourth phase calls for the systematic measurement of the project’s impact on the community as well as the documentation of lessons learned after the project has been completed for at least a year, lessons that can help future similar efforts. The fifth phase ensures that the learnings in the impact evaluation are translated into doable activities to further improve the project and ensure sustainability.

5. Nine major steps or activities

In PEF's implementation framework, nine major steps or activities have to be undertaken under the four major phases. These activities are:

PHASE 1

Preparatory or pre-project phase (1-4 months)

- Activity 1. **COMMUNITY ID.** Identify project site/s, forge partnerships with stakeholders and get their counterpart commitments.
- Activity 2. **H2O PROJECT PROPOSAL.** Develop water proposal (technical/social) and comply with all requirements.

PHASE 2

Planning, implementation and monitoring: CO and technical components (3-9 months)

- Activity 3. **COMMUNITY ORGANIZING AND CAPACITY-BUILDING.** Create an ad hoc management committee to oversee project in the community, organize community, create the necessary structures (water association and tapstand groups), build capacities and formulate responsive policies for construction, maintenance, management and sustainability.
- Activity 4. **TECHNICAL/ENGINEERING WORK.** Oversee the construction of an appropriately-designed water system, test-run it, and make it operational.

PHASE 3

Post-project sustainability: Maintenance, management and monitoring

- Activity 5. **POST-PROJECT SUPPORT.** Ensure that the water association and the water system is sustainable (tariff collection, enforcement of policies, improving capacities, cost recovery).
- Activity 6. **OPERATIONS AND MAINTENANCE.** Conduct regular potability test, maintain the water system and its services, and collect water fees regularly.
- Activity 7. **COMPLEMENTARY PROJECTS.** Implement complementary projects in the community.

PHASE 4

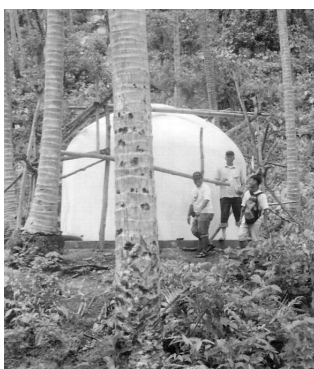
Impact evaluation and feedback phase

- Activity 8. **IMPACT EVALUATION AND FEEDBACK.** Evaluate outcomes, impact and processes to inform future potable water projects.

PHASE 5

Fine-tuning for improvement and translating lessons learned from evaluation.

- Activity 9. **SOCIAL MARKETING**



Almost completed construction of a ferro-cement tank in Barangays Boi and Bayuti, Boac, Marinduque

II. A MULTI-STAKEHOLDER APPROACH IN WATER PROJECTS

A multi-stakeholder partnership assumes that various stakeholders in a particular site are asked to actively participate in implementing a project. This means that the main implementer (in PEF's case the conduit organization, usually an NGO, a cooperative or a people's organization) or the community is not doing the project all by itself. Instead, all local stakeholders who may have an interest in it are tapped. Such stakeholders may include:

- Local government units (municipal and barangay levels), which are mandated to deliver basic services
- Nongovernment organizations including NGO or civil society groups and networks
- Private sector, including contractors and suppliers
- Technical experts (e.g., hydro-geologists, GIS experts and engineers)
- National government agencies such as the NWRB, LWUA, DOH and DENR

Multi-stakeholdership can take different forms. In its most ideal form, it involves the creation of a structure where stakeholders meet regularly and together conduct the activities necessary for the project. They share resources and contribute their skills throughout the project. Multi-stakeholdership may also mean tapping key stakeholders at different times or when their expertise or assistance is needed.

A. Value of multi-stakeholdership

A multi-stakeholder approach has many benefits, like:

1. Maximum use of limited resources through the sharing of resources

When many stakeholders become involved in a project, limited resources are pooled together such that more resources become available to the project. For example, a community might get the barangay government to donate the site for a water tank and the municipal government to shoulder the cost of heavy construction equipment. These can create substantial savings for the community, which can be used for capacity building or to expand the project, e.g., additional tapstands or the purchase of a chlorinator.

2. Participatory governance and good governance

With the involvement of government, NGOs, the private sector and the community, public-private partnership and participatory governance are concretely formed. These promote good local governance, which is crucial to project sustainability.

3. Project sustainability

The involvement of key stakeholders from the start of and throughout project implementation exposes the community to certain stakeholders who might be tapped for assistance after the project has been completed. This contributes to project sustainability.

B. Requirements of multi-stakeholdership

A multi-stakeholder approach can be tedious and challenging, and can even be ineffective if not managed well. Thus, a few requirements have to be met to ensure its effectiveness:

1. A credible and capable lead organization

One of the project stakeholders has to serve as lead organization or lead convener. This organization should provide overall leadership, invite the different stakeholders and ensure the maximum participation of all stakeholders. The lead organization also sees to it that all stakeholders fulfill their respective commitments. It networks with various stakeholders throughout the project and becomes the overall coordinator of activities to ensure that all stakeholders are tapped and get equally recognized for their respective contributions. The lead organization must have networking, managerial and troubleshooting skills to be effective. Most importantly, the lead organization has credibility and enjoys the community's respect and trust among the stakeholders. Often, the lead organization holds the project funds for the potable water project.

2. Legal or official recognition of partnership and documentation of agreed-upon commitments/role of each stakeholder

The partnership among stakeholders may be recognized through an LGU Resolution or a Memorandum of Agreement/Understanding or another form of legal document that lists the role/s as well as the respective commitments of each stakeholder. The document should be signed by all concerned parties, and at best should be a legally binding document (See Section 1.2 of the *Water Works! Field Manual* for sample memorandum of agreement), especially if financial commitments are involved. It is best to do the signing in a public forum to encourage transparency and allow for levelling off of expectations.

3. Regular updating and information dissemination on project progress

All stakeholders must be sufficiently updated about the project's progress, including problems and accomplishments, throughout the project.

TABLE 4
ROLES AND RESPONSIBILITIES OF COMMUNITY PARTNERS AND STAKEHOLDERS

Target communities	Preparatory (1-4 months)	Project implementation and monitoring (3-9 months)	Post-project sustainability	Impact evaluation
Households that will have access to potable water upon project completion	<p>Participate in community consultations undertaken to ascertain relevance of project in the site.</p> <p>Elect, choose or nominate representatives to the ad hoc management committee that will meet regularly to facilitate project implementation.</p>	<p>Participate actively in community meetings.</p> <p>Provide labor counterpart (voluntary) and help monitor construction.</p> <p>Contribute indigenous knowledge that will enhance project implementation and upkeep.</p> <p>Elect tapstand leaders.</p>	<p>Ensure the maintenance and upkeep of the water system.</p> <p>Follow the policies of the community water association in availing of water: e.g., cleanliness, water rationing schedules.</p> <p>Pay water fees regularly, and if necessary, contribute to the project's cost-recovery.</p>	<p>Participate in other complementary projects that will help sustain the gains of the project. Participate in any impact evaluation.</p> <p>Identify project impact on themselves.</p> <p>Provide feedback on how project can ensure overall well-being.</p>
Ad hoc management committee in the community	<p>Assist conduit organizations comply with legal and documentary requirements.</p> <p>Assist in disseminating information about the project in the community.</p> <p>Network with barangay officials to get barangay endorsement for the water project.</p>	<p>Attend capacity-building programs like ferrocement training, finance and management.</p> <p>Assist conduit organization in identifying community members who can provide counterpart labor during construction.</p> <p>Assist conduit organization in organizing the community for other activities: e.g., tapstand formation, community water association formation.</p> <p>Oversee and monitor construction.</p>	<p>Help monitor the performance of the community water association.</p> <p>Join the water association that will oversee the operation and management of the water project.</p>	<p>Participate in any impact evaluation process.</p> <p>Identify the project impact on themselves.</p>
BWASA/ community water association	<p>(If old BWASA structure is already in operation in the community): BWASA should ensure that it is consulted and that it participates in all preparatory work.</p>	<p>Create tapstand groups and elect tapstand leaders.</p> <p>Formulate and implement tapstand policies and water tariff.</p>	<p>Maintain systems and ensure watershed protection. Implement and enforce water policies.</p> <p>Collect water tariff and ascertain the feasibility of a cost-recovery scheme, if deemed feasible, implement a cost-recovery scheme.</p> <p>Maintain and undertake repairs of water systems; provide ongoing water services to the community.</p>	<p>Assist PEF/ external group in the conduct of an impact evaluation.</p>

Target communities	Preparatory (1-4 months)	Project implementation, and monitoring (3-9 months)	Post-project sustainability	Impact evaluation
			<p>Continue to update the conduit organization about the project.</p> <p>Continue to build managerial and operational skills.</p> <p>Tap other opportunities for increased empowerment and participation.</p>	

4. Acknowledgment of the contribution of each stakeholder upon project completion

The contribution of each stakeholder must be properly acknowledged, before and upon completion of the project. This may be announced on billboards near the project site or if funds are available, through other public means such as announcements in the local paper or other forms of mass media.

Political grandstanding must be avoided and discouraged. Acknowledgment must not be used as a venue for personal or private gains. In many cases, the community's contribution is often not mentioned due to its non-cash nature, e.g., labor, free materials, or food.

C. Project stakeholders and their respective roles

The multi-stakeholder approach is a key PEF implementation and management strategy in implementing potable water projects. PEF courses its project funds through Partnership and Access Centers (PACs), nongovernment and community organizations. PEF also works closely with LGUs and encourages its PACs and conduit organizations to ensure the participation and involvement of LGUs, national government agencies, private sector groups and technical experts in the implementation of potable water projects. Towards this end, PEF has created specific project policies in support of a multi-stakeholder approach. Some of the more important mechanisms include:

- (a) requiring counterparting
- (b) ensuring LGU endorsement, and
- (c) the holding of water forums participated in by all key local stakeholders.

In PEF experience, these are some of the key partners in potable project implementation, namely:

- Target community (project site)
- Conduit organization/lead project implementer

- Local government unit at the barangay and municipal levels
- Partnership and Access Centers
- Peace and Equity Foundation
- Other donors / funding agencies

Over time, PEF and its implementation partners have managed to clarify and define the roles of each stakeholder. They are outlined below:

1. Target community (project site)

A target community can be classified into three groups, each with distinct roles:

- The household water system clients-beneficiaries* are the households that will benefit from the project. Upon project completion, they can join the water association as members paying monthly fees.
- The ad hoc management committee in the project site* is a temporary management structure organized by the lead implementer in the community during the preparatory phase. It is composed of formal or informal leaders in the community who can oversee and assist the lead implementer in constructing the water system and in organizing the community. The ad hoc committee may later be converted as a community water association.
- The community water association* is the official association created to oversee the water system's operations, maintenance, and sustainability, and to ensure that water fees are collected.

Table 4 on page 41 to 42 details some of the roles and general responsibilities of the community in project implementation and management.

2. Conduit organization/lead project implementor (NGO, PO or cooperative)

The conduit organization or lead implementer is either a nongovernment organization, a cooperative, local foundation, or a people's organization. It serves as the proponent of the project in the target community. It is called a conduit because it serves as the intermediary between PEF and the community, implementing the project in the community while complying with PEF policies. It manages PEF funds and takes charge of all PEF reporting requirements on the project. It is most active during the first two phases of project implementation as it oversees community identification, proposal development and the CO and technical components of systems installation. Table 5 on page 45 outlines its roles and responsibilities.

3. LGUs

The active involvement and support of barangay and municipal governments in PEF potable water projects are essential for project sustainability and overall impact. Their involvement contributes to good governance.

4. Partnership and Access Centers

One of PEF's major strategies is supporting local networks of civil society organizations (CSOs) to implement local poverty reduction programs. For this, PEF forges partnerships with existing provincial networks or initiates the formation of such networks in its priority provinces. Provincial-wide partner networks of PEF are called Partnership and Access Centers or PACs (See Box 4 on page 48 for detailed description of PACs).

The PAC is a strategic PEF partner. Depending on its level of readiness or capability, it can directly handle a cluster of water projects or provide a PEF area office (Luzon, Visayas, Mindanao) with crucial management support, e.g., project monitoring, material procurement, or partnership development.

Table 7 on page 47 presents the role of PEF and PACs in project implementation.

5. Other stakeholders

Other stakeholders tapped in implementing water projects are private sector representatives (e.g., suppliers and contractors) and national government agencies. NWRB, DOH and DENR, for example, play an important role in supporting different aspects of the project at specific junctures, e.g., water potability tests, deed of land donations, or land classification.



Bulalakin I Water and Sanitation System Management Committee Meeting, Municipality of Dolores, Quezon

TABLE 5
ROLES AND RESPONSIBILITIES OF A CONDUIT ORGANIZATION

Preparatory (1-4 months)	Project implementation and monitoring (3-9 months)	Post-project sustainability	Impact evaluation
<p>Gather baseline data on the target community to assess the feasibility of a project site.</p> <p>Participate in a writeshop.</p> <p>Conduct community consultations to assess the feasibility of a project site.</p> <p>If a water association exists in the community, assess its status and ascertain its needs and strengths.</p> <p>Develop the project proposal with both technical and financial parts. Prepare all the technical, social, financial, legal supporting documents to the proposal.</p> <p>Solicit LGU endorsements and approval for the project.</p> <p>Refine the proposal based on feedback from appraisal.</p>	<p>Access counterpart funds/ resources (may be in the form of labor or site donation).</p> <p>Oversee or manage CO process: formation of community water association and water management body.</p> <p>Implement a capability-building program.</p> <p>Oversee the engineering or technical component (construction of the water system).</p> <p>Set up sustainability measures and develop a cost-recovery scheme in consultation with the community.</p> <p>Submit quarterly terminal financial and narrative reports.</p>	<p>Provide ongoing mentorship for community water associations in both technical and management aspects of water operations.</p> <p>Provide occasional refresher courses, especially for newly elected officials to the community associations.</p>	<p>Assist PEF in the conduct of an impact evaluation of the potable water project one year after project completion.</p>

TABLE 6
ROLES AND RESPONSIBILITIES OF LGUS IN PEF PROJECT IMPLEMENTATION

Target communities	Preparatory (1-4 months)	Project implementation, and monitoring (3-9 months)	Post-project sustainability	Impact evaluation
Barangay LGU	<p>Endorse the potable water project through a barangay resolution.</p> <p>Actively participate in project conceptualization and community identification.</p> <p>Assist in the project's information campaign.</p> <p>Provide inputs on possible water sources or other local information that will be important in the conduct of the project.</p> <p>Commit to provide counterpart.</p>	<p>Provide counterpart cost of at least 25% of the total project cost. Counterpart can be in the form of:</p> <ul style="list-style-type: none"> • Donation of site for components of water system • Fund support for specific components of the project • Labor; actual assistance in the construction of water components <p>Actively participate in construction and capacity-building.</p>	<p>Provide ongoing assistance to sustain the community water association.</p> <p>Provide policy support in terms of a specific barangay ordinance or resolution.</p>	<p>Participate in the impact evaluation by providing data and information.</p>
Municipal government	<p>Participate in the water forum.</p> <p>Endorse the water project through a municipal resolution.</p> <p>Commit to provide counterpart.</p> <p>Provide technical assistance in proposal development.</p> <p>Provide engineering supervision for engineering design in the proposal (optional).</p> <p>Provide policy support in terms of a specific municipal ordinance or resolution.</p>	<p>Provide technical expertise during construction or in the conduct of capacity-building programs (as needed).</p> <p>Send a representative in major project undertakings in the community.</p> <p>Fulfill its counterpart commitment.</p> <p>Support the community water association by registering them.</p> <p>Participate in project monitoring and evaluation.</p>	<p>Check the potability of the water system through the Rural Health Unit.</p> <p>Provide policy support in terms of a specific municipal ordinance or resolution.</p>	<p>Participate in the impact evaluation by providing data and information.</p>

TABLE 7
ROLES AND RESPONSIBILITIES OF PAC AND PEF IN PROJECT IMPLEMENTATION

Target communities	Preparatory (1–4 months)	Project implementation and monitoring (3–9 months)	Post-project sustainability	Impact evaluation
PEF	<p>Facilitate the conduct of poverty mapping if none has been undertaken in the province.</p> <p>Identify PAC/forgo partnership with the existing networks to serve as PEF’s PAC, and work closely with PACS to orient them about potable water implementation policies of PEF.</p> <p>Conduct a multisectoral water forum, in partnership with the PAC.</p>	<p>Perform overall financial oversight functions.</p> <p>Undertake monitoring.</p> <p>Provide capacity-building support and technical assistance if needed.</p> <p>Contribute knowledge management (water materials, networking, development of manuals, maintain a directory of available expertise).</p>	<p>Provide continuing support to PAC which will oversee the sustainability of water systems and services.</p> <p>Sustain partnership or relationship with other stakeholders.</p>	<p>Oversee the impact evaluation of potable water projects.</p>
Partnership And Access Centers	<p>Identify the site through poverty maps; use the criteria for identifying project sites.</p> <p>Conduct writeshop.</p> <p>Facilitate the PEF/PAC project development process using PEF/PAC guidelines and policies (See PEF website).</p> <p>Provide overall financial oversight functions.</p> <p>Conduct management-specific trainings for conduit and community organizations: e.g., ferrocement and financial management.</p>	<p>Provide overall supervision and monitoring in the construction of water projects in the province, especially in upholding technical standards and ensuring the formation of functional and sustainable community water associations in project sites.</p> <p>Prepare regular province-wide monitoring reports for submission to PEF (quarterly) and PAC-BOT (monthly or as agreed upon).</p> <p>Ensure the submission of terminal financial and narrative reports by conduit organizations.</p>	<p>Find ways to ensure the sustainability of water systems and services.</p> <p>Set up mechanisms for sharing and continued mentorship for community water associations.</p> <p>Continue to link community water associations with other stakeholders.</p> <p>Facilitate the systematic implementation of the project after it has been turned over to the community.</p>	<p>Participate in the impact evaluation and the translation of the learnings to other potential projects.</p>

BOX 4

PARTNERSHIP AND ACCESS CENTERS

The PAC assists the foundation in pursuing the following operational goals:

- *Ensuring maximum reach and impact of the Foundation's resources.*

The PAC is a mechanism for focusing on the priority areas and sectors within the province; for poverty mapping, diagnosis, planning and monitoring; and for engaging the various sectors including: the barangay, municipal and provincial governments, other government agencies at the regional and national levels; other civil society organizations; business sector; faith-based and religious groups, and, most importantly, the basic and marginalized sectors in the poor areas.

- *Building and sustaining partnerships between and among the Foundation, CSOs and CSO networks, local government units and other stakeholders in pursuing poverty reduction and empowerment efforts*
- *Strengthening institutional capacities of organizations on the ground.*

The Foundation shall delegate decision making to selected qualified partner CSO networks to be designated as PACs with regard to the development, approval and monitoring of projects to be supported

at the local level. Financial as well as non-financial resources shall also be provided by the Foundation to partner CSO networks to encourage the management of these resources at the local level.

- *Developing and supporting best practices and innovative and trailblazing strategies for poverty reduction and empowerment.*

ROLES OF THE PAC

The PAC is a consortium of local civil society organizations with the following roles:

- Utilize and manage Foundation resources provided for the PAC in supporting projects by local organizations on poverty reduction and empowerment.
- Assist communities (focusing on the poorest) to develop poverty reduction projects.
- Access and leverage funds for these projects.
- Engage multiple stakeholders in the province.
- Attain sustainability through resource mobilization and leveraging, especially institutional capacity-building and good governance.

Source: PEF Operations Manual, 2005

BOX 5

WHAT WILL MAKE A PAC SUCCESSFUL IN WATER PROJECT IMPLEMENTATION?

The Coalition of Social Development Organizations in South Cotabato (CSDO), which serves as PAC for South Cotabato province is one of PEF's most effective PACs in the country. The CSDO provides these tips for successful PAC work.

- *Get the right perspective.*

See the PAC as an opportunity for you and your local partners to pursue development goals and projects that were not possible before PEF funds came along. This should be based on a solid development agenda of the network to pursue its efforts in partnership with PEF.

- *Do what you are good at.*

Using existing strategies and systems that have worked for you in the past makes it easier to assimilate PAC work in your existing programs. CSDO's structure, including its Board of Trustees have integrated PAC work/ concerns in its functions.

- *Ensure strong partnerships* with member NGOs, LGUs, POs and communities and other partners to guarantee efficiency, counterparting and commitment.

- *Do not work on your own.*

Find out what other programs and projects are being done in your area (KALAHYAN-CIDSS, GEM, etc), coordinate with implementers from government, donor agencies and other NGOs on how the various efforts can complement each other. Try to explore complementary efforts to ensure co-ownership of development.

- *Systematize and organize.*

Cluster partners, municipalities or projects for easier appraisal, monitoring and management. Create levels of decision-making and mobilize people to do their part in reviewing and finalizing proposals, training, monitoring, etc.

Source: Interview with Mayen Olmedo, CSDO-SC Provincial Coordinator

III. MAIN COMPONENTS IN IMPLEMENTING POTABLE WATER PROJECTS

Lead implementers and the target community have two major concerns throughout project implementation:

- (1) building community capacities and structures, and
- (2) installing the water system.

These two concerns correspond to two main tasks of lead implementers, namely: (1) CO/capacity-building and (2) technical/engineering work. These can be broken further into smaller tasks, but understanding the major tasks helps make implementation more straightforward and doable.

A. Community organizing and capacity-building

Community organizing is a broad term used to refer to all tasks related to mobilizing the community towards participating actively in different project activities. The objective of community organizing is to empower the community to manage a successful water system in the long-term.

Community organizing includes:

- conducting regular meetings with the community to encourage participation
- deciding on counterpart contribution or resource-sharing
- identifying informal and formal community leaders who can help initiate activities in the community
- creating structures and corresponding policies that will enable active participation and involvement of the community
- identifying the types of skills and knowledge that a community needs to ensure project success
- deciding on water tariff rates, tapstand policies, maintenance schedules and other decisions needed for project management.

From PEF experience, community organizing primarily entails the creation and strengthening of (1) an ad hoc management committee at the community level that will help manage construction and CO work, and (2) a community water association that will oversee systems operations, maintenance and water fees collection, upon systems completion.



Installing plumbing fixtures to the frame of the ferrocement tank, Bgy., Sirao, Cebu City

B. Technical work: installation of the potable water system

The technical side of implementing a potable water project in a community involves the installation of a potable water system, which entails:

- overseeing the completion of technical designs and other documentary requirements for proposal development and submission to PEF or PAC
- procurement of services and supplies which can either be in the form of bidding or canvassing, followed by evaluation and contracting
- construction of the different components of the water system
- systems testing and actual water systems maintenance and operations

Most of these technical requirements are presented in *Water Works! Resource Kit 1: The ABCs of Potable Water Projects*. In the figure on the following page, these technical requirements are framed into a proposed set of activities, a step-by-step guide in implementing water projects.

FIGURE 4
NINE MAJOR ACTIVITIES AND DELIVERABLES IN POTABLE WATER PROJECT IMPLEMENTATION

Preparatory (1–4 months)	Project implementation and monitoring (3–9 months)	Post-project sustainability	Impact evaluation	Translating lessons learned
<p>Activity 1. COMMUNITY ID. Identify project site/s, forge partnerships with stakeholders get counterpart commitments from stakeholders.</p> <p>Activity 2. H2O PROJECT PROPOSAL. Develop water proposal (technical/ social) and comply with all project development requirements.</p>	<p>Activity 3. CO AND CAPACITY BUILDING. Create an ad hoc management committee to oversee project in community, organize community, build capacities, create the necessary structures (water association or tapstand groups) and formulate responsive policies for construction, maintenance and management.</p> <p>Activity 4. TECHNICAL WORK. Oversee the construction of appropriately designed water system, test run and make water system operational.</p>	<p>Activity 5. POST-PROJECT SUPPORT. Continue to ensure that the water association and water system become sustainable (tariff collection, enforcement of policies, improving capacities, cost recovery).</p> <p>Activity 6. OPERATIONS AND MAINTENANCE. Conduct regular potability test, maintain water system and its services and regular collection of water fees.</p> <p>Activity 7. COMPLEMENTARY PROJECTS. Implement complementary projects in the community.</p>	<p>Activity 8. IMPACT EVALUATION AND FEEDBACK. Evaluate outcomes, impact and processes to inform future potable water projects.</p>	<p>Activity 9. SOCIAL MARKETING OF COMPLETED WATER PROJECT.</p>
Deliverables/expected outputs				
<p>Responsive and technically-sound project proposals for water in communities that have a real need for water</p> <p>Expressed commitment to the project and clear delineation of roles and responsibilities by different stakeholders (MOAs and counterpart funds)</p> <p>Leveled-off terms of partnership</p>	<p>CO (social preparation and capacity-building) component</p> <ul style="list-style-type: none"> • water association with operations and financial policies in place • skilled and competent core group <p>Engineering/technical component</p> <ul style="list-style-type: none"> • water system properly constructed, technical standards met <p>Appropriate and/or innovative technologies developed: water supply, water treatment</p> <p>COWASA management and operational policies and systems installed</p> <p>Multi-stakeholder partnership in place with stakeholders providing counterpart</p>	<p>Water association</p> <ul style="list-style-type: none"> • managed by competent leaders and staff • collecting fees regularly from water tariffs and using funds for regular maintenance and upkeep • networking with other groups that can help organization grow <p>Water system and services</p> <ul style="list-style-type: none"> • fully functional • properly maintained • watershed protection policies in place and being implemented <p>Support network (LGU & PAC)</p> <ul style="list-style-type: none"> • with technical know-how • providing ongoing mentorship to water association 	<p>Insights and lessons from project experience documented for use by others</p> <p>Clear data on project impact</p> <p>Information on how problems were solved</p> <p>Gaps or areas for improvement identified and addressed for project sustainability</p>	<p>Areas for improvement and translated into new plans</p> <p>New project proposals</p>

IV. NINE MAJOR ACTIVITIES IN IMPLEMENTING WATER PROJECTS

An outline of the implementation activities (or project inputs) are presented in the succeeding sections. The activities are clustered into nine major implementation activities.

Activities per phase are further anchored on a set of deliverables or expected outputs as well as on a list of who are expected to oversee or participate in the activities. The outline of activities is followed by a listing of some of the issues or concerns that may arise for implementers with each phase. Tips and reminders are also presented under each phase.

Finally, an illustrative case of an innovative practice from PEF experiences is presented under each phase to provide an additional perspective of how water projects can be implemented by PEF partners and non-PEF organizations or groups.

Phase 1 Preparatory or pre-project phase

- Deliverables/expected outputs during the preparatory phase
 - a. Waterless project sites (community/ies that need/s water) have been identified.
 - b. A number of water project proposal/s with measurable targets, sound technical design and well-thought-out implementation mechanisms, complete with the necessary documentary requirements have been appraised and approved for funding.
 - c. Partnership mechanisms between and among the following local stakeholders are in place (a) conduit organization between the PAC and the community, (b) target beneficiaries or community partners, and (c) local government units at the barangay and local government levels.
 - d. Community members that have a stake in the water project, including the LGU, conduit organization and community, have committed to provide counterpart resources to facilitate water implementation.
 - e. Roles and responsibilities of each stakeholder have been clearly identified and leveled-off.

- Stakeholders involved during the preparatory phase

Responsible groups: PEF, PAC, conduit organization
Participating groups: community, LGU






Major activities at the preparatory phase

Major Activity 1 **COMMUNITY ID**

Identify project site/s and forge partnerships with local stakeholders.

Specific Activities	PEF	PAC	Conduit organization	Community	LGU
<p>1.1. If poverty mapping has not yet been undertaken, facilitate the conduct of a provincial poverty mapping to ascertain the needs of the province and to identify where water is most needed.</p> <p>Poverty mapping is a tool and a process used by PEF to assess the poverty situation of a province. The map becomes the basis for designing a comprehensive development program for the province. Conducting a poverty map is one of the first tasks of a Partnership and Access Center in PEF's priority provinces.</p> <p>Refer to Section 2.1 of the <i>Water Works! Field Manual</i> for a detailed poverty mapping description.</p>					
<p>1.2. Conduct a water forum (optional). In a water forum, key LGU and civil society stakeholders in the province are given an orientation about available PEF funding for water projects, including information about who can avail and how interested parties can avail of funds.</p>					
<p>1.3. Identify project site/s based on results of poverty mapping (e.g., poorest barangays with the greatest need for water) and the interest of specific communities expressed during the water forum. This may also be communities that have sought the assistance of PEF or the PAC for the development of their own potable water system.</p>					

Main implementor
 Participant

Specific Activities	PEF 	PAC 	Conduit organization 	Community 	LGU 
<p>1.4. Identify the NGO or cooperative that will serve as conduit organization for the identified project site/s. The PAC can decide to allow the conduit organization to implement one to two potable water projects in a province.</p>	Main implementor	Participant	Participant	Participant	Participant
<p>1.5. Conduct community consultations to ascertain the need for a potable water project in the identified site/s. The conduit organization may have to adopt various entry strategies if it is entering the community for the first time. It may entail a two-step process, namely identifying and meeting key leaders (traditional, informal, barangay), explaining its intentions to community leaders and getting their endorsement for the project before any community-wide consultation is conducted.</p>	Participant	Participant	Main implementor	Participant	Participant
<p>1.6. Gather feedback from the conduit organization on site/s identified and finalize list of sites that have expressed interest and that will be invited to the writeshop.</p>	Main implementor	Participant	Participant	Participant	Participant

Main implementor

Participant






Major Activity 2 H2O PROJECT PROPOSAL

Develop a water project proposal (technical/social) complying with all requirements, and ensuring that counterpart commitments are provided.






Specific Activities	PEF	PAC	Conduit organization	Community	LGU
<p>2.1. Conduct a potable water writeshop with conduit organizations and representatives of selected communities that have been identified as possible partners for project implementation.</p> <p>A writeshop assists conduit organizations and communities in developing/formulating their potable water project proposals for submission to PEF.</p> <p>Refer to Section 2.3 of the <i>Water Works! Field Manual</i> for a sample writeshop design.</p>					
<p>2.2. Provide technical assistance to the conduit organization to facilitate the preparation of project proposal (if necessary). A development associate can be tasked by PEF or PAC to help the conduit organization develop its technical proposal.</p> <p>Refer to Section 2.4 of the <i>Water Works! Field Manual</i> for the PEF project proposal and appraisal process.</p>					
<p>2.3. Undertake spot mapping/baseline data-gathering to ascertain community benchmark data as well as locate possible sources of water in the communities, which can become the basis for an engineering design and a full proposal.</p>					


Main implementor


Participant

Specific Activities	PEF 	PAC 	Conduit organization 	Community 	LGU 
<p>2.4. Prepare an engineering/technical design and conduct a feasibility study on the water source or the proposed water system if necessary.</p> <p>Refer to Section 2.5 of the <i>Water Works! Field Manual</i> for a sample format of a feasibility study.</p> <p>Technical design includes the preparation of the following:</p> <ul style="list-style-type: none"> • Maps (elevation, geodetic, vicinity, location) • Engineering design of water system: intake box, need for pump house, transmission lines, water tank, distribution layout, tapstand) • Hydraulic computations • Bill of materials • Work program • Cost estimates 	<div style="background-color: #0099cc; width: 100%; height: 100%;"></div>				
<p>2.5. Gather all the documentary requirements, including:</p> <ul style="list-style-type: none"> • PEF requirements on organizational track record: (CDA/SEC registration, copy of articles of incorporation, audited financial statement in last two years, notarized board resolution indicating assistance requested from PEF, notarized board resolution naming two authorized representatives) • Potable water project documentary requirements: <ol style="list-style-type: none"> (a) Technical: engineering plans – spot maps, structural and plumbing, hydraulic computations, bills of materials, work schedule. (b) Legal papers (application for a water permit with NWRB, deed of donation, certificate of non-coverage if applicable, claimant’s consent to right of way) (c) Endorsement of barangay and municipality through a barangay resolution (d) Cost estimates to include 10 percent contingency funds and hauling (e) Training program and budget (f) Potability test of water (from DOH, RSI) <p>Refer to Section 2.6 of the <i>Water Works! Field Manual</i> for documentary requirements checklist.</p>					

Main implementor
 Participant

Specific Activities	PEF	PAC	Conduit organization	Community	LGU
					
<p>2.6. Meet with LGU and community to decide and define respective counterparts. Each stakeholder will be asked to provide details of their counterpart commitments (LGU community)</p> <ul style="list-style-type: none"> • LGUs are required to provide a counterpart amounting to at least 25 percent of project cost, which may be in the form of heavy equipment, personnel/staff, construction materials or actual funds, design. • Community provides its own counterpart in the form of labor, rental of space, others. 					
<p>2.7. Prepare a notarized board resolution indicating assistance requested from PEF. At the same time, prepare a MOA with the LGU or community indicating that a partnership will be forged with them for the project.</p> <p>Refer to Section 2.2 of the <i>Water Works! Field Manual</i> for sample MOAs.</p>					
<p>2.8. Submit a proposal complete with attachments or technical documentary requirements using PEF formats.</p> <p>Refer to Section 2.7A and 2.7B of the <i>Water Works! Field Manual</i> for proposal format and sample proposal.</p>					
<p>2.9. Screen the proposals (PAC or PEF) and choose projects that will go through project appraisal.</p>					
<p>2.10. Prepare an appraisal report using the project presentation report format of PEF.</p> <p>Refer to Section 2.7A of the <i>Water Works! Field Manual</i> for project presentation report.</p>					
2.11. Project gridding or review of proposal					
2.12. Project approval					
2.13. Agreement signing					
2.14. Open a separate bank account for project.					

Main implementor 

Participant 

Specific Activities	PEF	PAC	Conduit organization	Community	LGU
<p>2.15. Follow up and collect counterpart commitments of partner-LGU.</p> <ul style="list-style-type: none"> • Have the sanggunian/council endorse commitment through an SP resolution. • Identify the department within the LGU that can facilitate the release of funds, materials or heavy equipment and follow-up counterpart. • Come up with set of mechanisms for availing of the specific counterpart. 					
<p>2.16. Follow up and collect counterpart commitments of the community.</p> <ul style="list-style-type: none"> • Meet with the community and draft mechanisms that will facilitate its provision of volunteer labor during construction. • Agree on mechanisms for availing of the community's other commitments. • Implement mechanisms. 					
<p>2.17. Put up a billboard showing project activities: total cost, updates, list of steps and people involved including budget, flow and status of the project. This builds community awareness and cooperation.</p>					

Main implementor

Participant

The table shows that the preparatory work is handled by PEF and PAC, and the conduit organizations. Conduit organizations under the PEF scheme are also assisted by PAC and PEF during the preparatory stage to enable them to come up with technically sound water project proposals. At the same time, PEF and PAC implement a set of stringent documentary requirements, proposal screenings and appraisal processes to ensure that only the most technically sound and feasible projects eventually get approved for funding.

In established Partnership and Access Centers like CSDO-SC, proposals even go through an additional layer of appraisal. Cluster management groupings within the network review proposals before they enter the regular PDME process of CSDO.

- **Issues to watch out for during the preparatory stage**

- a. The community chosen to host the water project does not see water as an “urgent” need, i.e., it sees other priorities; it does not see water access as a major problem, etc. If this problem is encountered, it may be a clear warning to reassess the choice of site. However if there is sound basis for selecting a site, an information campaign on the importance of the water project should be undertaken. There are cases when communities need to be provided with information to make guided decisions.
- b. Poor relations or bad blood exists between or among project partners that need to work together. Identifying the root cause of the tension and finding ways to resolve the conflict among local stakeholders will go a long way in ensuring the smooth implementation of the project.
- c. The LGU wants to implement the project by itself and resists tapping non-government or people’s organizations. An orientation about the benefits of multi-stakeholder approach may address this situation.

- **Tips and reminders for project preparation**

1. Identify a good water source.

The identification of a good water source is one of the most critical concerns during the preparatory stage. Miscalculations in the identification of a potential water source can become very costly. The search for a good water source, however, can be difficult. Care has to be taken when identifying water sources especially groundwater sources that require drilling. Asking the assistance of a geologist to identify groundwater sources before any drilling is done and testing water sources for potability are two concrete steps to minimize such risks.

2. Get early commitments on counterparting, especially from the LGU.

Leveling off on the counterparts that various project stakeholders are willing to give to the project is also one of the most important activities during the preparatory stage. PEF requires counterparts from partners as a sign of their commitment and to instill a sense of project ownership. Most especially, counterparting is an essential strategy to enhance partnership and sustainability.

Tips in getting counterpart commitments from partners:

- Build a relationship with partners, including LGU officials and other local partners.
- Ensure that the LGU and the community acquire an ownership of the project through regular feedback and consultation.

- Acknowledge and give importance to the contributions of partners, however big or small, in cash or in kind, during speeches, public avenues and in IEC materials.

Possible forms of LGU counterparts include rental of heavy equipment, provision of technical assistance, skilled or unskilled labor, food for work program (DSWD program), access to pork barrel or resources from congressman and actual funds for specific supplies.

3. Conduct a baseline study of selected indicators.

Conduit organizations and communities must conduct a baseline study of selected community indicators that relate to water provision during the preparatory stage. Baseline data on the following can be gathered and used to assess gains during impact assessment.

- Reduction of water-fetching efforts (time and distance)
- Reduction in cost of water
- Savings in household work due to water availability
- Generation of new livelihood opportunities for the community (from construction, operations and maintenance, increase in economic enterprises because of water availability)
- Decrease in water-borne diseases, e.g., diarrhea
- Effect of water availability on children and women; e.g., children have more study hours, women have more time for self-development.



*Plumbing fixtures
of a ferrocement
tank, Nagkahiusang
Mag-uuma
sa Overland
(NAMAQ),
Brgy. Overland,
Buenavista, Bohol*

...A STORY TO TELL

SCALING UP IMPACT THROUGH PROVINCIAL STRATEGIES

NAME OF THE PROJECT

Bohol Water and Sanitation Area (BWASA) Project

KEY IMPLEMENTER/S

Peace & Equity Foundation-Visayas

UPON TURNOVER

Partnership and Access Center-Bohol

YEAR IMPLEMENTED

2006

LOCATION OF WATER PROJECT

20 water projects in 12 Bohol municipalities

PROJECT COMPONENTS

Water system construction and rehabilitation in 20 sites; capacity-building on water operations and management for communities and partners

PROJECT COST

PhP 14,983,497.29

WATER ASSOCIATIONS

20 water associations

NUMBER OF BENEFICIARIES

2,274 households

In 2006, PEF worked to scale up its water-related interventions. This was particularly evident in island provinces like Bohol, Marinduque and Romblon where Partnership and Access Centers (PACs) were still in the process of being established. The strategy entailed simultaneous implementation of several water projects in these provinces.

This was meant to achieve cost efficiency and ease in monitoring and province-wide impact. The strategy, implemented over a period of 6–9 months in these provinces, targeted the completion of a number of functional potable water systems and the capacity-building of community water associations so that they could manage their water systems after construction. NGOs and cooperatives were tapped by PEF as conduit organizations while the PEF-regional office provided provincial supervision.

The strategy helped develop several useful implementation tools and mechanisms which could be adopted by PACs or other organizations to achieve economies of scale in water project implementation.

PEF-Visayas' decision to adopt a province-wide water implementation strategy in Bohol was reached partly as a response to its initial difficulties in organizing a PAC in Bohol. Its year-long negotiations with Bohol NGOs to organize themselves into a PAC that would oversee PEF projects in the province met with little success.

As a stop-gap measure, PEF-Visayas chose to be at the helm of implementing a province-wide water project. Calling the initiative BWASA or the Bohol Water and Sanitation Area Project, PEF-Visayas oversaw the preparatory work and the implementation of 20 water projects in 12 municipalities in Bohol. In implementing BWASA, PEF-Visayas developed tools and implementation mechanisms around three key strategies:

- a) **Mobilization strategy:** Adopted during the first three months of project implementation which included community identification and project proposal development.
- b) **Monitoring strategy:** Implemented with the assistance of development associates who

oversaw and monitored partner organizations in water system construction and capacity-building.

- c) **Capacity-building strategy:** Included the formulation of a capacity-building framework that shows the most critical skills and knowledge that partners need to have to implement construction and formation of a water association that would manage the system upon project completion.

Under these strategies, PEF-Visayas developed concrete tools and mechanisms that would help facilitate a project of this scale, namely:

1. Conduct of a writeshop

PEF-Visayas conducted a water writeshop to help POs and NGOs in Bohol develop sound proposals. In the four-day workshop, proponent (conduit) organizations and community representatives were oriented about the socioeconomic data they needed to gather.

Engineers were invited to give a talk on the requirements of designing water systems. (Refer to Section 2.3 *Water Works! Field Manual* for sample writeshop designs.)

2. Hiring of Development Associates to monitor the implementation of important project components

PEF-Visayas hired three development associates (DAs) to assist the regional office in the implementation of its strategies on a regular basis, namely:

- a. a technical/engineering DA,
- b. a community organizing/capacity-building DA and
- c. a finance DA.

The first three months of project implementation saw these DAs working almost non-stop in the field. In succeeding months, PEF-Visayas decided on monthly visits by DAs to selected sites and the conduct of monthly cluster meetings for updating and mentoring.

TASKS OF DEVELOPMENT ASSOCIATES

- Technical/Engineering DA oversees the technical components of project implementation in all project sites, ensuring that canvasses and quotations of materials are within current standards and that schedule of works is being followed closely. He also assists and monitors the performance of the site engineers.
- Community Organizing/Capacity-building DA does the coordination work, ensures community structures and policies are in place, and helps POs resolve everyday/administrative problems. He “provides the follow through” and ensures the communities are assisted and capacitated beyond the project implementation.
- Finance DA focuses on installing appropriate bookkeeping mechanisms and enabling partners to manage not only project funds but also the projected revenues and expenses incurred by the water system when in full operation. The Finance DA provides mentoring or training in financial managements to POs on schedule.

If DAs are not in the field, they are tasked to closely monitor the site engineer, community and conduit organization through telephone, text and email. After turnover by PEF-Visayas to Bohol PAC, only DA-CO would be retained to ensure follow through.

3. Matching interventions with assessment of level of organization of partner-groups

Because of the number of project partners, PEF-Visayas also devised a system of classifying community and proponent organizations into three organizational levels for strategizing and technical assistance. The organization's assessed level determined the extent of intervention and assistance that it needed from PEF-Visayas: (a) Levels 1 and 2 POs were assessed as needing close mentoring to be able to install financial and other systems and to prepare documentation reports and board resolutions. (b) Level 3 POs required less technical assistance. The DA-CO was also tasked to monitor the activities of Level 1 and 2 POs closely to ensure that planned activities pushed through. On the other hand, Level 3 POs required the least assistance and were expected to submit their reports with minimal supervision.

4. Cluster meetings

Two geographical clusters of projects were also formed. The clusters met regularly for updating and information-sharing. PEF's development associates could also convene cluster meetings for monitoring purposes. Expected to attend cluster meetings were: site engineer, community organization president/ chairperson, vice-chair, treasurer, relevant committee chairpersons, site community organizer and project officers of NGO or conduit organizations.

5. Implementation of a strategic and systematic capacity-building program

PEF-Visayas identified seven basic training programs necessary in building functional water associations at the community level, namely:

- a. Project Orientation – one and a half days
- b. Values formation/leadership formation – one day
- c. Project/organization management – two days

- d. Educational tour – four days
- e. Hygiene and Sanitation/Water and watershed management – two days
- f. Operations Management – two days
- g. Financial Management – two days

PEF had to identify local NGOs/experts who could conduct training. PEF-Visayas also took special interest in developing training modules for operations and financial management (included in Section 3 of the *Water Works! Field Manual*), which PEF-Visayas considered to be the most critical capacity-building program in the overall management of the water system. Part of the task that PEF-Visayas took in ensuring the development of a strategic capacity-building program was the compilation of training modules on these seven basic programs.

6. Mentoring in financial management

PEF-Visayas believed that building the capacities of partner organizations in financial management was a very important part of the strategy. From its experience, poor financial management could become the number-one cause of failure of water projects. To address this often neglected area, capacity building on financial management included training and mentoring. PEF-Visayas developed a mentoring mechanism to assist partner organizations in handling their funds and managing water fee collection in the future. Financial mentoring was also viewed useful as an input to project monitoring as it helped PEF assess a PO's capacity to absorb funds. Based on PEF-Visayas' experience, financial management mentoring concretely involved the following:

- a) Teaching communities simple techniques in computing water consumption and revenues/fees due (communities should know how many containers are equivalent to one cubic meter).
- b) Helping communities understand requirements of tariff/fee setting

which includes such considerations as direct project cost, estimate of useful life of water system, true value of money (inflation), depreciation and the communities' capacity to pay. Communities should be trained to understand this computation and to do it themselves.

- c) Assisting communities gain appreciation of the need for cost recovery
- d) Teaching POs to keep books, but always having community organizations keep the receipts. This way the Finance DA can double-check when he visits so that if books were done incorrectly, the books can still be corrected based on receipts.
- e) Monitoring community organization for a period of time, assisting them using hands-on methods to really teach them how to do it on their own.

These mechanisms proved effective.

By early 2007, 20 newly-constructed water projects, implemented by different community and proponent organizations with varying levels of success, were being managed by 20 different community water associations. It was a reverberating testimony of the scale achieved by the project. Upon project completion, PEF-Visayas turned over the projects to the newly established Bohol PAC who was asked to sustain the potable water efforts of PEF-Visayas in the province.

Based on the experience of PEF-Visayas, the advantages of undertaking provincial-wide potable water implementation are evident and include the following:

- The strategy minimizes direct actual cost and effort. It allows for clustering the projects and activities so that interventions, like trainings, can be given to all the projects at one time. Monitoring visits of several sites are also more cost-efficient.



Water tank construction in Cabangahan, San Miguel, Bohol

- The strategy provides PEF a bigger sense of accomplishment, coverage and impact. In the case of Bohol, 20 water projects were completed simultaneously with a larger number of beneficiaries.
- The strategy builds the capacities of PEF development associates and PEF regional staff in project management.

These advantages emphasize why PACs should consider adopting some of the mechanisms outlined above. PACs should note however that simultaneous implementation of water projects can become taxing to monitoring staff. This was the experience of PEF-Visayas. This can be addressed with PACs ensuring that the load is shared with their local NGO members and other community stakeholders.

Phase 2 Project implementation and monitoring

- Deliverables/Expected Outputs:

CO (Social preparation and capacity-building) component

- a. Water association and tapstand groups are organized and are functioning with clear operational and financial policies in place.
- b. The core group/officers of the water association are committed, skilled, competent and well-versed with their roles and responsibilities.

Engineering technical component

- c. The water system is assessed to be properly constructed, meeting technical standards (in terms of materials and workmanship) and passing the system test-run.
- d. Appropriate and/or innovative technologies on water supply, water treatment, RWSA management and operational policies and systems have been adopted or developed by implementers.

- Stakeholders involved during the project implementation and monitoring phase

Responsible groups: conduit organization, community

Participating groups: LGU, PEF, PAC








Joint PEF-NAMAO visit to the potable water system project, Buenavista, Bohol






Major activities in project implementation, monitoring and evaluation phase

Major Activity 3 CO AND CAPACITY-BUILDING






Create an ad hoc project management committee that will oversee potable water project implementation in the community; organize the community, build capacities, create the necessary structures (water association and tapstand groups) and formulate responsive policies for construction, maintenance and management.

Specific Activities	PEF	PAC	Conduit organization	Community	LGU
					
<p>3.1 For the conduit organization: create an ad hoc project management committee to oversee project at the community level.</p> <p>The ad hoc management committee should be composed of:</p> <ul style="list-style-type: none"> Community/PO representatives: key PO leaders or informal community leaders LGU representative: barangay officials or other LGU representatives Conduit organization: community organizer/s or staff of conduit organization <p>Community members in the ad hoc committee can later form the core group of the community water association or management body for the water system.</p> <p>The ad hoc management committee meets regularly for planning and decision-making and has three primary functions:</p> <ul style="list-style-type: none"> Oversee community tasks for the duration of the project. Mobilize the community and facilitate project implementation: technical (construction) and CO-CB components of the project. Ensure the formation and capacity-building of a water association that will oversee operations and management. 					

Main implementor
 Participant

Specific Activities	PEF 	PAC 	Conduit organization 	Community 	LGU 
<p>3.2. For the ad hoc management: create important community structures for (1) water system construction and (2) water system maintenance and sustainability.</p> <p>On community structures for water system construction:</p> <ul style="list-style-type: none"> • Conduct a community orientation. Orient the community about the water project, its technical requirements and the need to provide counterpart labor. • Ask for volunteers who will form part of the committees that can assist in project implementation: Important committees: (a) education & recruitment (IEC, advocacy and membership), (b) bids and awards committee or procurement, (c) inventory and construction, Optional committees: (d) monitoring, evaluation and control or audit particularly during construction (f) documentation. • Facilitate a planning session where committees are oriented about their tasks and where committees can make detailed plans. Members are also asked to choose/elect their committee chairperson. During the planning session, the community also discusses how they should go about providing their counterpart labor throughout construction. • Ensure that committees deliver on their tasks and their counterpart commitments. <p>On community structures for water system maintenance and sustainability:</p> <ul style="list-style-type: none"> • Identify a BWASA structure, elect a set of officials, identify relevant committees and decide on tapstand groupings. Officials and tapstand leaders form the core group of the community water association. • Organize tapstand groupings around the tapstands that were constructed. • Tapstand groupings are clusters of 4-10 households accessing water from a specific tapstand. They agree on systems maintenance as well as water and fees collection policies. <p>Refer to Section 2.8A and 2.8B of the <i>Water Works! Field Manual</i> for sample organizational structures of a community water association.</p>					






Main implementor
 Participant


Specific Activities	PEF 	PAC 	Conduit organization 	Community 	LGU 
<p>3.3. For the conduit organization to identify (a) its own training needs that would facilitate project implementation as well as (b) the training needs of the community. Conduit organization, or in some cases the PAC/PEF then facilitates the provision of the necessary capacity-building programs to enhance capacities of members of the community in (a) project implementation and management, (b) water system management, operations and sustainability.</p> <ul style="list-style-type: none"> • Identify knowledge, values and skills training needs of adhoc committee and core group and leaders and implementing stakeholders. • Prepare and implement appropriate training programs. Options on trainings that can be provided: (1) water project operations and management skills training-covering engineering,/operations and financial skills training; including educational tour and (2) leadership, values formation and teambuilding skills training, and (3) sustainability training programs: hygiene and sanitation training, watershed management and protection. <p>Refer to Section 3.1–3.4 of the <i>Water Works! Field Manual</i> or sampling training modules and sample training designs</p>					
<p>3.4. Assist community water association or core group members and tapstand groups in formulating their own policies. Policies cover the following:</p> <ul style="list-style-type: none"> • Community association policies: (1) membership policies: how members can join, etc. (2) decision-making and project management flow (3) tariff collection, (4) financial management, (5) operating and maintaining the system like tapstand use, water rationing, metering and monitoring of water use (6) hygiene and sanitation and watershed protection. <p>Refer to Section 2.9 of the <i>Water Works! Field Manual</i> for sample community water association policies</p>					
<p>3.5. For conduit organization: prepare and submit quarterly status reports.</p> <p>Refer to Section 2.10 of the <i>Water Works! Field Manual</i> for progress narrative and financial reports and 3.11 for accomplishment report</p>					


Main implementor
 Participant


Major Activity 4 TECHNICAL WORK

Assist and oversee the construction of appropriately designed water system, test-run and operationalization.

Specific Activities	PEF	PAC	Conduit organization	Community	LGU
					
<p>4.1. Put together a construction team:</p> <ul style="list-style-type: none"> • Hire a site engineer who will oversee the construction of the water system. • Identify skilled labor that can be hired from the community (mason, plumber). • Identify unskilled labor who will volunteer for the duration of the project. 					
<p>4.2. Provide training on the engineering and operational aspects of water systems (e.g. ferrocement training).</p> <p>Refer to Section 3.1 of the <i>Water Works! Field Manual</i> for sample training on ferrocement technology and Section 3.2 of the <i>Water Works! Field Manual</i> for water operations management training</p>					
<p>4.3. Finalize technical design, program of works, bill of quantities.</p>					
<p>4.4. Undertake procurement procedures.</p> <ul style="list-style-type: none"> • Organize a bid and awards committee (BAC) to oversee procurement of supplies and/or services. • Decide on form of procurement: (a) canvassing/shopping-getting three quotes from different sources, (b) competitive bidding. • Advertise and make known bidding procedures or ask interested suppliers to submit bids given required procedures. • Convene BAC to decide on criteria for selection. • Identify winning bidder based on set of criteria. • Award contract to the winning bidder. 					
<p>4.5. Monitor the delivery of materials.</p>					

Main implementor 

Participant 

Specific Activities	PEF	PAC	Conduit Organization	Community	LGU
					
4.6. Start and oversee construction, troubleshoot problems, ensure community participation during construction in terms of providing volunteer labor, inventory or monitoring.					
4.7. Assist PEF or PAC monitoring officer by providing data and making self/group available for interviews or group discussion. Steps when conducting appraisal (as DA): a. Read proposal of assigned area and take down notes to prepare for fieldwork. b. Meet proponent. • whole group: NGOs; check if structures are working • discuss notes and management of project c. Conduct courtesy calls to authority/leaders. d. Conduct ocular inspection: for terrain: check if plan correlates with actual conditions, conduct an actual survey if necessary; check profile/layout of pipes/check water source and its viability in relation to houses; ascertain rate of flow. Refer to Section 2.12 of the <i>Water Works! Field Manual</i> for PEF appraisal form					
4.8. Test-run the water system.					
4.9. Prepare and submit the terminal report. Refer to Section 2.13 A and Section 2.13B of the <i>Water Works! Field Manual</i> for terminal report format (narrative and financial)					
4.10. Install a billboard acknowledging the contribution of all stakeholders. You can also print on the ferrocement tank to acknowledge contributions. Refer to Section 2.14 for of the <i>Water Works! Field Manual</i> for the proposed PEF format of billboard					
4.11. Commence water facility operations, management and maintenance.					

Main implementor
Participant

- **Issues to Watch out for During Project Implementation**

Some of the most challenging problems during actual implementation include:

- a. Discovering that the technical design for the water system is faulty and problematic, thus requiring major adjustments or major overhaul of the engineering design, program of works and bill of materials
- b. Infighting within the water associations, leading to poor communication and affecting operations and management
- c. Poor appreciation of the project by the community and thus seeing a low level of community participation

- **Tips and reminders during project implementation**

Some helpful reminders to facilitate implementation work include:

1. Take a multi-stakeholder approach in project implementation. Involve as many of the community and the LGU as possible during construction, capacity-building and organizational development, and strengthen community ownership throughout the project.
2. Work closely with the LGUs since they can provide concrete resources and help troubleshoot problems.
3. Work with the right community leaders. Spotting the right leaders is an important step in the formation of a viable water association.
4. Hire a good engineer who can oversee construction.
5. Monitor construction closely to ensure that the correct materials are being delivered and used and that engineering standards are met.
6. Water tariff collection and other operational mechanisms must be in place and they should be working before the formal turnover of the water system.
7. Implement a systematic information and advocacy campaign on the proper use of water system.

...A STORY TO TELL WATER FOR PEACE

NAME OF THE PROJECT

Margues-Taviran Potable Water Spring Development Project

CONDUIT ORGANIZATION

Kadtabanga Foundation for Peace and Development Advocates, Inc. (KFPDAI)

YEAR IMPLEMENTED

2006

LOCATION OF WATER PROJECT

Barangays Taviran and Margues, Datu Odin Sinsuat, Maguindanao

WATER SYSTEM COMPONENTS

Development of a natural spring water source in Margues, construction of 5mx4mx3 m intake box, an 80,000 liters concrete water tank, rehabilitation of Taviran's existing water tank, transmission and distribution systems for a Level 2 system, construction of 80 tapstands in two barangays

PROJECT COST

PEF grant: 4.408 million pesos
Counterpart: 1.210 million pesos

WATER SOURCE

Natural spring in Margues

WATER ASSOCIATION

Joint Water Committee from the Tabanga Livelihood Farmers Multipurpose Cooperative and Nuron-nisa Kutawato Multipurpose Cooperative

NUMBER OF BENEFICIARIES

800 households

PRE-PROJECT SITUATION

Sourcing water from water vendors for 5 pesos a container, walk for 20-30 minutes to fetch water

PROJECT STATUS

Early stages of operations

Potable water projects can aim to address more than just a community's urgent need for potable water. This is a story of how a potable water project helped sustain peace and enhance community ties among residents of two war-hit barangays in Maguindanao.

Kadtabanga Foundation for Peace & Development Advocates, Inc. (KFPDAI) PEF is conduit organization in Barangays Taviran and Margues in Datu Odin Sinsuat, Maguindanao. Registered with SEC in September 2002, KFPDAI is composed of former MNLF combatants who decided, after the signing of the peace agreement between government and the MNLF in 2001, to form their own NGO to work for the upliftment of the "Bangsa Moro" (Kido, 2006).

Since 2002, KFPDAI's has worked mainly in organizing peace and development communities (PDCs) in the province of Maguindanao. It has since organized a total of 21 PDCs, mostly in Datu Odin Sinsuat and neighboring municipalities. KFPDAI assistance to PDCs has included community organizing, capacity building, livelihood projects and potable water systems.

In 2005, under Oxfam funding, barangays Margues and Taviran, also populated by families of former MNLF combatants, were organized into PDCs. During the course of their work in the two barangay, KFPDAI conducted barangay consultations where the two barangays' urgent need for potable water was revealed. The dominantly Muslim populated barangays were relying heavily on water vendors selling water for PhP5 per container. If residents had no money to buy from water vendors, they had to take a 30-minute walk to the nearest water source. The barangay had an old water system built years ago with the CDF of a congressman but it required rehabilitation and was no longer functional.

In KFPDAI's search for solutions to the water problem in the two areas, barangay

representatives were introduced to PEF. In September 2005, KFPDAI, with Margues and Taviran representatives, were asked to attend a PEF writeshop sponsored by PEF-Mindanao. Even with KFPDAI attendance in the writeshop, preparations for the project proposal took time because KFPDAI had to familiarize itself with PEF's documentary requirements.

A big challenge was how to fund the feasibility study which PEF required as a supporting document to the proposal. KFPDAI found that the feasibility study would cost the organization PhP 15,000 per kilometer. Because the project area covered 5 kilometers, the feasibility study would cost close to PhP.90,000, which KFPDAI had no funds for. A private contractor offered to do the study for free if KFPDAI would give them the supply contract for the materials. KFPDAI negotiated for a discounted price on the feasibility study and told the contractor that it would get the contract for materials only if it submitted the lowest bid during canvassing.

Despite these early difficulties, KFPDAI was able to comply with all requirements, especially with the assistance of a PEF development associate who helped with the technical proposal preparations. By March 2006, KFPDAI was informed that its water project proposal amounting to PhP 4.4 million was approved for funding by PEF. KFPDAI members attribute their success in getting the significant amount to the soundness of the proposal, the area coverage of the water project, the urgent need of the two barangays for potable water and their expressed commitment in sustaining peace, and in ensuring the full involvement of the two communities in the project.

Ground breaking for the project was held on 20 March 2006. During the groundbreaking ceremony, the community and KFPDI performed a ritual sacrifice and made offerings of gold and food to Allah to ensure the smooth implementation of the project.

Two water systems were originally envisioned for the two barangays. However, Taviran was unable to obtain permission to use the identified water source (a natural spring) in the barangay because the landowner wanted to develop the particular source into a resort. The refusal of the landowner to provide access to an identified water source could have escalated into a conflict situation, but the community working closely with KFPDAI, decided to look for other sources. The natural spring in neighboring Margues with its strong water flow was assessed and found able to serve the needs of the two barangays.

A spring intake box, with an overflow outlet, was constructed in the Margues spring site. (An overflow outlet continues to be used by nearby households for washing and other activities.) A 1.6 kilometer transmission pipe was built to bring the water to the 80,000-liter reinforced concrete tank constructed at an elevated point near the highway. From the tank, distribution pipes were laid out leading to 80 tapstands constructed around clusters of households in the two barangays.

A joint water committee consisting of members from two barangays was set up as the core/decision-making group for the project. Having two barangays work together on a specific development project was unprecedented, and also became a concrete mechanism for peace building in the area.

The joint water committee organized two other committees. There was a training sub-committee composed of three groups: (1) Management, (2) Education, (3) Audit and Inventory, and there was a subwater committee composed of (1) a security committee, (2) checkers, (3) operators (water source), (4) pipe filter plumbers and (5) monitoring team. These committees were staffed not only by members of the two POs organized by KFPDAI under the Oxfam project but also by barangay officials of the two barangays.

KFPDAI and the two barangays asked the municipal government to provide a counterpart. The municipal government provided a backhoe and additional labor for the excavation of the mainline. The two communities provided skilled (paid) and unskilled (without pay) labor. The Training Committee assisted in information dissemination and explained the progress of the project and its requirements to other members of the community.

Active community participation was most evident in the construction of tapstands and the laying of pipes for distribution lines. Household clusters were formed for each tapstand. Each cluster was to take charge of constructing their own tapstand. The site engineer first conducted a demonstration of how the tapstand should be constructed. Then clusters were provided a checklist of materials that they would need and given schedules as to when they could get the materials. A *bodegera* was hired to supervise the distribution of materials from a temporary storage site. Then household clusters hauled the materials to their areas and proceeded with the construction. This facilitated the work so that in two weeks time, 80 tapstands were built to cater to 800 households. Some tapstands had minor defects when inspected by the PEF monitoring DA, but no major problems were found. The joint water committee agreed to charge each household a monthly fee of PhP 120 to cover the cost of maintenance, security and electricity.

A few adjustments had to be made during the construction of the water system. To ensure a stable electric connection, the local water utility informed KFPDAI that it had to install a transformer, which meant additional cost. More skilled workers had to be hired because of the magnitude of the work required by the water system.

To address this, KFPDAI decided to reduce the wages of skilled workers to enable the project to hire 13 workers instead of the nine (9) workers

stipulated in the budget. During the construction of the spring intake box, delays were encountered because they had a difficult time emptying the source of water. Despite these difficulties, the water system in barangays Taviran and Margues was completed in October 2006, and is now in full operation. At the moment, KFPDAI is monitoring the joint-water committee's performance in actual operations and in getting members of clusters to pay the monthly fee.

As the experience of KFPDAI and barangays Taviran and Margues show, a water project can help sustain peace and bring development in the locality, as long as transparency and active community involvement is ensured.

KFPDAI tips

- KFPDAI came to the communities with no agenda or specific project in mind except to organize them to work for the improvement of their community.
- A water project should be demand-driven; it should be identified by the community through consensus and the need for it should be real. It should not be imposed by a funder or NGO.
- For a potable water project to take off, a conflict-affected community should already be at peace and no longer conflict-prone.
- The NGO and PO should maintain transparency in all financial transactions and processes; the community should know the total amount of funds allocated, how much is spent and how, and what counterpart is required of them, throughout the project; KFPDAI made sure that the community leaders (barangay, PO) had copies of the project proposal.
- The NGO and PO should work as a team, maintain constant communication and keep everything transparent.

- Encourage active community participation throughout the project, especially during construction, as KFPDAI did when it encouraged the community to construct the tapstands themselves.



Handing over the management of the potable water system project to the proponent (Villafructe Multi-Purpose Cooperative, Brgy. Villafructe, Carmen, Bohol)

Facilitating factors in implementing potable water projects at the community level

- Install a community leadership that is committed, consultative and trustworthy especially with funds.
- Encourage community ownership through strong volunteerism among members especially when there is no administrative funding for projects—when project expects that conduit organization provides administrative cost for its counterpart.
- Face problems head on through dialogue and consultation.
- Be transparent to the community.
- Install good CO workers in the community, lead CO should be integrated in the community and be well-respected.
- Ensure the support of the barangay and religious sector as well as key MNLF leaders in the community.
- Closely monitor the project.
- Ensure counterparts and tap local resources—donation of land, voluntary labor.
- Sustain interest in the project. Guard against *ningas cogon*.
- Learn from the project, particularly the technical components.
- Work for community unity and empowerment, with the community showing cooperation and active participation.
- Allow the project to strengthen existing community organizations.



Potable water system project of the Mangool Active Mothers' Association (Sitio Mangool, Bgy. San Isidro, Baclayon, Bohol)

- Get to know the local culture.
- Encourage barangay officials to participate, even serving as committee leaders; have barangay endorse a resolution for the project.
- Ensure effective financial management and maximize project savings.

Phase 3 **Post-project sustainability**

- Deliverables/expected outputs
 - a. A community water association that is being managed by competent leaders and staff and is collecting fees regularly from water tariffs and using funds for regular maintenance and upkeep
 - b. A community water association is networking with other groups and exploring opportunities for growth
 - c. A water system and services that is fully functional and properly maintained
 - d. A set of hygiene, sanitation, environmental and watershed protection policies that is in place and is being implemented
 - e. Support groups and networks (LGU & PAC) are providing ongoing mentorship and assistance to the water association
- Main stakeholders involved

Responsible groups: community, LGU
Support groups: PEF, PAC, conduit organization

Major activities in post-project sustainability






Major Activity 5 POST-PROJECT SUPPORT

Continue to assist the water association until the water system becomes sustainable (tariff collection, enforcement of policies, cost recovery and improving capacities).

Specific Activities	PEF	PAC	Conduit organization	Community	LGU
5.1 Provide continuing guidance to the community association concerning project management and operations, including guidance in water tariff collection, policies on sanctions, and implementation of cost-recovery scheme.			Main implementor		
5.2. Provide a refresher course on facility management and operations for newly elected officials.					
5.3. Assist community association in linking up with other groups for other projects and opportunities.					
5.4. Ensure close relations between association and the LGU.				Participant	

Major Activity 6 SYSTEMS OPERATIONS AND MAINTENANCE

Conduct regular potability test, maintain water system and its services, and collect water fees regularly.






Specific Activities	PEF	PAC	Conduit organization	Community	LGU
					
6.1. Make the necessary repairs and conduct regular maintenance checks of water facilities.					
6.2. Conduct potability test and water treatment regularly.					
6.3. Collect water fees regularly and implement a cost-recovery scheme.					

Main implementor

Participant

Major Activity 7 COMPLEMENTARY PROJECTS

Implement complementary projects.

Specific Activities	PEF	PAC	Conduit organization	Community	LGU
					
7.1. Assess other needs of the community that will enhance the sustainability of the potable water project. Projects can include watershed management and sanitation.					
7.2. Find funding or project support for the implementation of complementary projects.					
7.3. Implement complementary projects.					

Main implementor
 Participant

- **Issues to watch out for during post-project sustainability**

1. The biggest problem of post-project sustainability is the community's lack of appreciation for their water system and the need to collect water tariff for its maintenance and upkeep. This has to be addressed long before the facility is turned over to the community.
2. Ningas cogon and poor leadership also contribute significantly to the non-implementation of financial and operational policies.
3. If the managers of the community association are not skilled in overseeing water collection fees and fund management, it will be difficult to sustain the water project and the cooperation of members of the community water association.

- **Tips and reminders for post-project sustainability**

Some helpful reminders to facilitate post-project sustainability include:

1. Community ownership of the water facility needs continuous mentoring by the conduit organization even after project completion. Opportunities for networking or linkaging with other established groups are essential in keeping water associations alive.
2. Ensuring sustainability begins at the preparatory stage.

...A STORY TO TELL **HURDLING THE TOUGH ROAD TOWARDS SUSTAINABILITY**

NAME OF THE PROJECT

The Irisan Community Water Project

CONDUIT ORGANIZATION

Jaime V. Ongpin Foundation

YEAR IMPLEMENTED

2002

LOCATION OF WATER PROJECT

Purok 15,16,17,18, Irisan, Baguio City

WATER SYSTEM COMPONENTS

Development of water source, construction of two ferrocement tanks, transmission and distribution systems for a Level II system

PROJECT COST

PhP 3,007,257 (PEF grant: PhP 1,918,257)

DECLARED COUNTERPART OF PROponents AND BENEFICIARIES

PhP 1,089,000

WATER SOURCE

Spring inside a cave; using RAM pump

COMMUNITY WATER ASSOCIATION

Irisan Community Environmental and Multipurpose Cooperative (ICEMPC)

NUMBER OF BENEFICIARIES

168 households

PRE-PROJECT SITUATION

Water being brought by residents at PhP20-22 per drum, delivered by water trucks

PROJECT IMPACT

In the process of working for Level III water connection

On first impression, Purok 17 of Barangay Irisan, Baguio City does not appear to be a poor barangay. Houses here are two storeys-high, perched on steep hills along very narrow winding roads. Like other parts of Baguio City, most houses in Purok 17 also have individual water tanks in their backyards. This is the site of one of the early water projects funded by the Peace and Equity Foundation in 2002 in partnership with Jaime V. Ongpin Foundation.

Upon closer inspection, it becomes evident that residents of Purok 17 subsist on recycling or selling scraps from garbage. Purok 17 is the main dumpsite of Baguio City and most of its residents scavenge for a living. The individual water tanks are also not a sign of affluence; instead they represent a way of life in Baguio City where individual water tanks simply serve as the most logical response to the strict water rationing system brought about by severe water shortage in the city.

"Before the JVO water project," Cecilia Edralin and Ben Carbonel, long-time residents of barangay Irisan and current officers of the water cooperative narrated, "we were buying potable water for PhP 22 a drum from a local supplier. Water trucks would come to deliver water which we would store in our individual watertanks. Today, 168 households already have water flowing out of their own faucets and the water cooperative is working so that more households get Level III connection. These would not have been possible without the JVO water project."

Barangay Irisan was a long-time project site of JVO for its health projects. In May 2002, JVO introduced the PEF potable water project in the barangay. Construction was completed in February 2003 and the Irisan Community

Environmental and Multipurpose Cooperative (ICEMPC) composed of selected leaders in the community was organized to oversee the management of the water system as well as the collection of water fees. With the technical expertise provided by JVO through a senior engineer and the counterpart labor provided by the community, construction went smoothly and the water system was constructed in no time. Upon completion of the water system, non-members and members alike wanted to have a household connection. Priority for household connection was given to members who could fund their own water meters and who could make available pipes for individual household connection. By 2006, 168 households were enjoying Level III potable water system in their houses.

Pre-project implementation activities of JVO in Barangay Irisan

1. Site selection which included the following
 - (a) identified criteria for site selection: income below poverty threshold, incidence on water borne diseases, no access to potable/drinking water
 - (b) gathering baseline data on the environment, economic and social aspects of the community where community get their water and how much they are paying for it
2. Conducting initial talks with barangay leaders to introduce the water project
3. Getting to know the community, particularly the following:
 - Community practices including cultural ways and beliefs
 - Power mapping to identify key people in the community who wielded power and made decisions in the community.
4. Undertaking community dialogue: JVO representatives, accompanied by the barangay captain or mayor where the project is introduced. This is also the venue where it is emphasized that for the project to commence the list of requirements of NWRB-NIA, the claimant's consent to the right of way and the deed of donation of the property where the source of water is should be completed first.

Construction of the water system

1. JVO provided technical supervision by hiring a part-time senior engineer and junior engineers to supervise and monitor construction.
2. The community was asked to provide manual labor.
3. Counterpart funding and support
 - Level I and II funds from PEF and JVO
 - To convert system to a Level III system, barangay government gave PhP 100,000 for pipes; each household interested in getting household connection was asked to pay PhP 950 for a water meter.

CO/capacity-building work

1. Addressing the following problems in organizing the water association:
 - *Identifying the right leaders.* Initial set of officers did not function well, so JVO had to appoint another set of leaders for the cooperative.
 - *Wait-and-see attitude of residents.* Some residents did not believe that a water project was feasible in their area, hence their lukewarm participation during project implementation.
2. *Formation of the water association leaders.* JVO representative(s) selected/appointed the leaders of the association.
 - They were "emerging leaders" respected in the community.
 - They had no conflict of interest.

3. *Conduct of value formation, leadership training, team building and crisis management:* JVO offered to hold meetings and help in deliberation when there was arbitration needed among the BAWASA members.

In contrast to the ease in the technical work that the community experienced during construction, organizing the Irisan community around sustaining the water project after construction was a different story. It has been an uphill battle for JVO and ICEMPC. The community was apathetic and indifferent as shown in poor participation in project activities, like general assemblies or meetings. Of 391 registered members of the water cooperative, 223 or more than half have been inactive. Collection of fees has also proven to be quite a struggle. Even if policies dictated that new members pay a PhP100 membership fee and an initial share capital of PhP 500. (Share capital has since increased to PhP 2000), many members have not completed payment. Problems on delinquent payment of monthly water bills have also cropped up.

One of the most contentious issues that the community has had to face was project cost-recovery. When the by-laws of ICEMPC developed with the assistance of JVO, detailing fees and obligations of members, were presented to members, only a few attended. Implementation was met with resistance and even anger from residents unwilling to pay membership fees or share in recovering the cost of the project.

Even when the maintenance of water system was already the main responsibility of ICEMPC after system construction, JVO remained ICEMPC's mentor and guide in the management of the water system. As such JVO assisted ICEMPC surmount these problems. In 2005, JVO pushed for the replacement of the original set of non-performing officers. Not having been the beneficiaries of initial trainings given by JVO, the new set of officers were asked to attend seminars

sponsored by the Baguio-Benguet Electric Credit Cooperative. This move became a significant turning point for the cooperative. ICEMPC is now being run by dedicated officers. The cooperative has recently been able to complete all documentary requirements for membership into the Cooperative Development Authority. In order to address delinquency in water payments, officers resorted to going to individual houses to explain water bills and to collect fees. In the last year, despite continuing problems in delinquent payments of water bills and unpaid share capital by members, ICEMPC's assets has grown. In fact, from its water fee collection, the cooperative will be able to make cost-recovery payments to JVO in 2007. The cooperative also has money to buy a new water pump to improve its service to its 168 service areas and for future expansion. ICEMPC is also able to pay rent for its office space and has three full-time employees overseeing centralized and effective collection.

The experience has yielded many lessons in sustaining gains for JVO and ICEMPC members, which could prove useful to other potable water implementers, namely:

Lessons learned in sustaining a water cooperative

1. Formulate and implement clear guidelines for accepting new members in the cooperative.
2. Implement stricter policies for delinquent members.
3. The supervision and learning process should continue for the conduit organization even after the water system has been constructed.
4. The conduit organization should also aim to mentor water association until the cost of the infrastructure is recovered. In the Irisan case:
 - ICEMPC oversees collection, maintenance and management,



Ferrocement Tank in Irisan, Baguio City

- JVO (conduit organization) continues in monitoring and arbitration. JVO is also still a co-signatory of the cooperative's checks and serves as arbitrator/facilitator when conflicts arise from among the coop members and/or officers.

Lessons learned on sustaining a potable water supply system

1. Implementing a water project in a garbage dumpsite can prove more challenging because there is also a need to address health concerns and social problems in the area.
2. The computation of the annual repayment rate should consider depreciation cost and related expenses of the project because of wear and tear which is computed as the total cost of the infrastructure over its useful years.
3. Implement a transparent cost recovery scheme that has undergone community consultation.
4. Take a multi-disciplinary approach when sustaining the water system and consider all important elements including capability building and exploring the provision of economic (microfinance and livelihood) opportunities.
5. Protect the water shed/water source by undertaking the following:
 - Annual tree planting, cleaning of the water sheds/water source,
 - Seminar on forest protection, encroachment and squatting and formulate local ordinances and sanctions,
 - Strong linkages with DENR.

Phase 4 Impact evaluation and feedback


- Deliverables/expected outputs
 - a. Insights and lessons from project experience have been documented for use by other implementers.
 - b. Set of clear data on project impact has been gathered for PEF use.
 - c. Information on how problems were solved is aiding other related initiatives.
 - d. Gaps or areas for improvement are identified and addressed for project sustainability.


- Main stakeholders involved
 - Responsible groups: PEF, PAC
 - Support groups: community, LGU, conduit organization

Major Activity 8 IMPACT EVALUATION & FEEDBACK

Evaluate outcomes, impact and processes to inform future potable water projects.

Specific Activities	PEF	PAC	Conduit organization	Community	LGU
8.1. Decide on who will conduct impact evaluation.	Main implementor		Participant		
8.2. Level off on key impact indicators that will anchor impact evaluation based on outcome and output indicators.	Main implementor			Participant	
8.3. Conduct impact evaluation.	Participant		Main implementor	Participant	
8.4. Use results of the impact evaluation to: <ul style="list-style-type: none"> • Ensure project sustainability. • Identify other projects that can implemented at the community level. • Inform other initiatives. • Improve policies and mechanisms in water project implementation. 	Main implementor				

Main implementor 

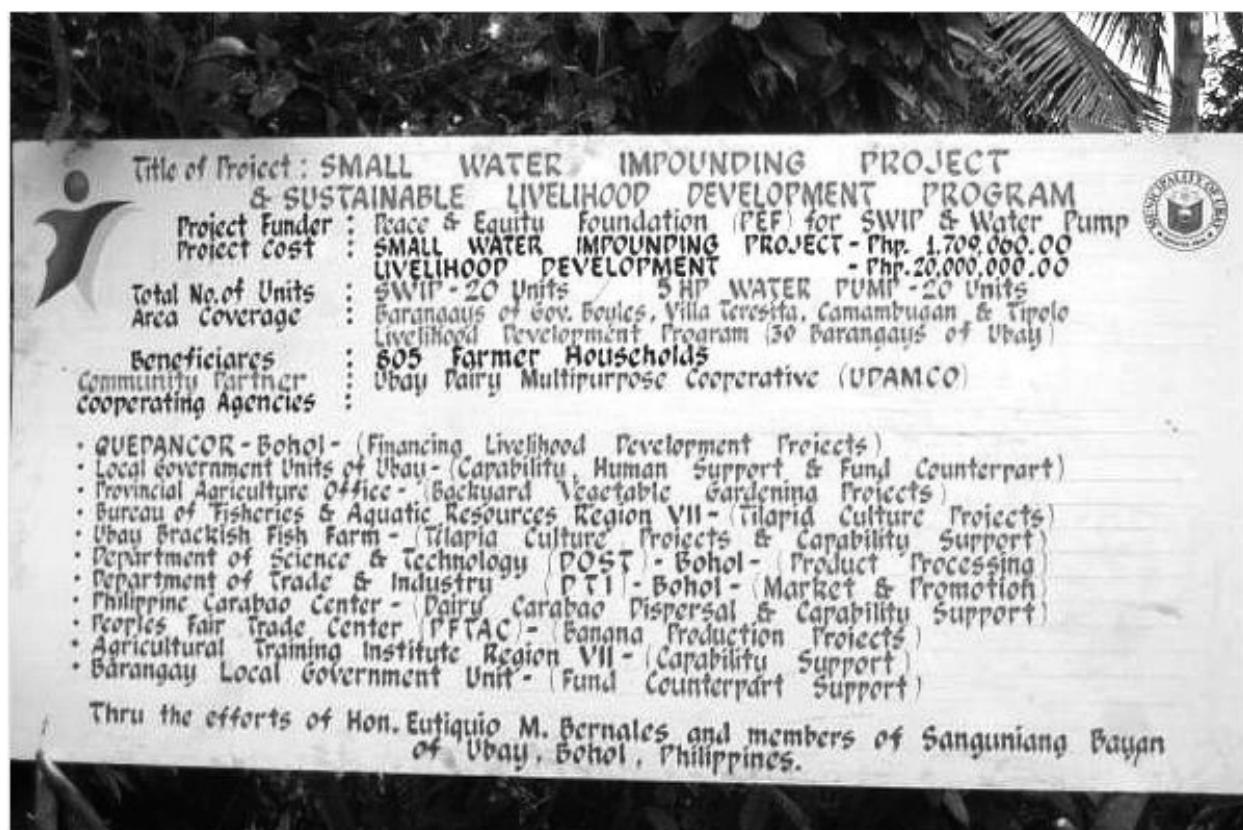
Participant 



Fetching water at one of the newly constructed tapstands (Mabini, Bohol)

- **Issues to watch out for during impact evaluation and feedback**
 1. The conduct of an impact evaluation is sometimes dependent on the availability of funds. This can be addressed by incorporating its budget under the first two phases of project implementation.
 2. One of the problems in the conduct of impact evaluation is disagreement over the assessment indicators used by evaluators. Stakeholders must agree on a clear set of indicators that will be used to assess the impact of the project even before the project starts. The objective of the evaluation must also be clear, and its value appreciated, rather than being taken as simply a project requirement.
 3. Sometimes the results of an impact evaluation are not communicated to all the stakeholders, thus its value is not maximized and the appropriate people are not provided feedback.

- **Tips and reminders in the conduct of impact evaluation for potable water projects**
 1. A good impact evaluation is dependent upon the collection of baseline data on the impact indicators before the project was even implemented. Ensure the collection of baseline data at the very start.
 2. Use the results of the impact evaluation to:
 - a. Determine community issues and needs that have to be addressed.
 - b. Improve existing structures, mechanisms and policies for the implementation of future projects.



Multi-stakeholder partnership. Ubay, Bohol

Phase 5 Translating lessons learned

Major Activity 9 SOCIAL MARKETING OF COMPLETED WATER PROJECT

The lessons learned from the project and impact evaluation must be shared and discussed with the community and all stakeholders to encourage:

- a. innovations in future projects
- b. development of new proposals, e.g., livelihood projects, like small gardening
- c. use of learning for other activities, even if not water-project-related, e.g., value of partnership, counterpart strategies, problem/conflict resolution, etc.

Translating lessons learned requires a new set of project activities, e.g., social marketing of the completed water project.

KEY INFORMANTS FOR WATER WORKS!

LUZON

Taradungan Water System Association (TAWASA), Palawan

Edison T. Lagrosa	<i>Barangay Captain, Taradungan</i>
Reynaldo Nangit	<i>President</i>
Ruben Rodriguez	<i>Vice President</i>
Marilyn Gonzales	<i>Secretary</i>
Emy Basaya	<i>Treasurer</i>
Nelina L. Tabla	<i>Auditor</i>

Palawan Center for Appropriate Rural Technology (PCART), Palawan

Bobby Dioso	<i>Operations Supervisor</i>
Cyril Flores	<i>Community Management Staff</i>

Bulakin I Water and Sanitation System (BWSS), Dolores, Quezon

Michael A. Cauyan	<i>General Manager</i>
Francisco Brinoza	<i>Kagawad</i>
Josephine B. Penaloza	<i>Barangay Secretary</i>
Mildred B. Carabio	<i>Finance Officer</i>
Marcia B. Penaloza	<i>Bookkeeper</i>
Adelia Benes	<i>Customer Service</i>
Adorado Chumacera	<i>Storekeeper</i>
Andrew Jeprie	<i>Dangca Meter Reader</i>
Susan Felicita	<i>Utility</i>
Elenorie B. Annes	<i>Member</i>
Amelia R. Alcanso	<i>Member</i>
Rorie Barcelona	<i>Member</i>

Irisan Community Environment and Multipurpose Cooperative, Irisan, Baguio City

Ben Carbonel	<i>Chairperson</i>
Cecilia Edralin	<i>Board Member</i>
Jaime V. Ongpin	<i>Foundation, Baguio City</i>
Rhoda Fe Buenavista	<i>Ecological Enhancement Program Manager</i>
Virgilio Orca, Jr.	<i>Consultant Engineer</i>

Cainta Homeowners Water Service & Multipurpose Cooperative, Cainta, Rizal

Alex Kimpo	<i>Founding Manager of the Cooperative</i>
Andres Prevendido	<i>Pump Manager</i>
Robejel Coniendo	<i>Bookkeeper</i>
Roselyn Loveras	<i>Cashier</i>

Balita Multi-purpose Cooperative, Marinduque

Agripino Malapot	<i>Member</i>
Melan M. Mayorga	<i>Member</i>
Serlita P. Migol	<i>Member</i>
Juan M. Pilar	<i>Member</i>

MarinduCARE, Marinduque

Chona Vega Colayco	<i>Executive Director, MarinduCARE</i>
Herbert Monreal	<i>Project Engineer, MarinduCARE</i>
Nimfa F. Montiel	<i>Community Organizer, MarinduCARE</i>

Center for Island Resource and Development

Greg V. Padernal	<i>Executive Director</i>
Rodrigo N. Masuliar	<i>Site Engineer</i>

Mogpog Municipal Employees Multipurpose Cooperative, Marinduque

Edgardo Fabrero	<i>Municipal Accountant</i>
Jerome Manguera	<i>Municipal Engineer</i>
Lloyd Manguera	<i>Project Manager</i>

Biga, Sta. Cruz, Marinduque

Alfonso Fidelino	<i>Barangay Captain, Biga, Sta. Cruz</i>
Engr. Rustico R Constantino	<i>Municipal Engineer</i>
Galor Peña	<i>Ex-Board of Director, Sta. Cruz Credit Cooperative</i>
Godofredo I. Buenaventura	<i>CE-Aide</i>
Frederick P. Principe	<i>CE-Aide</i>
Jimmy Ricohermoso Driller	<i>Contractor</i>
Edilberto Sajer	<i>Provincial Cooperative Development Specialist (CDA) for Marinduque and Romblon Residents of Maniwaya, Sta. Cruz</i>

Suha/Matuyatuya, Torrijos, Marinduque/ Torrijos Municipal Employees Association (TORMEA)

Ricardo P. Palma	<i>Punong Barangay, Suha</i>
R. Decaña	<i>Barangay Kagawad</i>
Lauro V. Peñaflor	<i>Barangay Kagawad</i>
Francisco Estrella	<i>Barangay Kagawad</i>
Justo A. Regis	<i>Vice President, TORMEA</i>
Meynardo A. Basco	<i>Information Officer (former President), TORMEA</i>
Emeterio F. Tabaleña	<i>Board of Director, TORMEA</i>
Marlon Azares	<i>Board of Director, TORMEA</i>
Ronan L. Regio	<i>Board of Director, TORMEA</i>
Bernardo V. Par	<i>Municipal Engineer/Member, TORMEA</i>
Baltazar P. Reginio III	<i>Member, TORMEA</i>

Malibago, Torrijos, Marinduque

Conegunda R. Orbac	<i>Barangay Captain, Malibago, Torrijos</i>
Nenita M. Cruzado	<i>Barangay Treasurer, Malibago, Torrijos</i>
Ramon Regis	<i>Manager, BAWASA Credit Cooperative/Brgy Kagawad</i>
Salome S. Berdin	<i>Bookkeeper, Malibago, Torrijos</i>

Boac, Marinduque

Meynardo B. Solomon	<i>Boac Municipal Mayor</i>
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VISAYAS**Partnership and Access Center-Bohol/Feed the Children Foundation**

Maricor Burbos	<i>Feed the Children Visayas Area Manager</i>
Lare Tumalak	<i>Provincial Coordinator, PAC-Bohol</i>

PROCESS

Joyce Bucha	<i>Community Development Facilitator</i>
Aida Relator-Sumampong	<i>Community Development Facilitator</i>

Minol Women's Association (MWA) in Barangay Minol, Mabini

Jessilita Espinosa	<i>President</i>
Catalina P. Felicio	<i>Vice President</i>
Nelda V. Felecio	<i>Secretary</i>
Stella B. Bersano	<i>Treasurer</i>
Ramona R. Soliano	<i>Collector</i>
Faustina J. Cano	<i>Auditor</i>
Artemia O. Cano	<i>Press Relation Officer</i>
Elenita T. Melloria	<i>Member, Board of Director</i>
Maria F. Porongao	<i>Member, Board of Director</i>
Annie B. Felecio	<i>Member</i>
Concepcion Cano	<i>Member</i>
Conchita Tutor	<i>Member</i>
Jovencia T. Masinopa	<i>Member</i>
Juanita Olandria	<i>Member</i>
Lorenza B. Telece	<i>Adviser</i>
Lucena F. Salaum	<i>Member</i>
Pilar Amaquin	<i>Member</i>
Roberto Ayade	<i>Member</i>
Roberto G. Tutor	<i>Member</i>
Rosalina A. Demegillo	<i>Member</i>

Panaghiusang Mag-uuma sa Cabangahan (PMC) in Cabangahan, San Miguel

Abundio A. Nunez	<i>Member</i>
Alberto A. Boncales	<i>Member</i>

Bernardo Macabenta	<i>Member</i>
Norberto P. Bunao	<i>Member</i>

Pundok sa mga Mag-uuma sa Alegria Norte (PUMA) in Barangay Alegria Norte, Loay

Elena Benatero	<i>Vice President</i>
Perlita Milo	<i>Collector</i>
Antenogenes Gamil	<i>Member</i>
Bonifacio Aures	<i>Member</i>
Casiana Anito	<i>Member</i>
Eutopia Gaslang	<i>Member</i>
Ignacia Molej	<i>Member</i>
Nanie Bolong	<i>Member</i>

Mangool Active Mothers' Association (MAMA) in Barangay Mangool, Baclayon

Salome Miculob	<i>Chairperson</i>
Necitas Jayo	<i>Project Manager</i>
Lelanie Ugay	<i>Secretary</i>
Honorata Iyog	<i>Treasurer</i>
Rosalinda Jayo	<i>Bookkeeper</i>
Gliceria Beray	<i>Audit Inventory Chair</i>
Alfredo Jayo	<i>Member, Board of Director</i>
Elpedia Iyog	<i>Member, Board of Director</i>
Aguida Hayo	<i>Member</i>
Felipe Hayo	<i>Member</i>
Gliceria Hayo	<i>Member</i>

MINDANAO

Joint Water Committee, Barangays Taviran and Marques, Datu Odin Sinsuat, Maguindanao

Edria Makalapin	<i>Barangay Kagawad</i>
Mahaliden Diocolano	<i>Barangay Kagawad</i>
Rahib "Senc" Macalapin	<i>Secretary</i>
Nhuky Dicolano	<i>Treasurer</i>
Hja Normen Diocolano	<i>Committee Secretary</i>
Balit Tasil	<i>Member</i>
Datuali Bangkas	<i>Member</i>
Gumbay Bangkas Taviran 2	<i>Member</i>
Sanny Diocolano	<i>Member</i>
Kalim Guimalon	<i>Member</i>
Ermail Husain	<i>Member</i>
Sanimban Kalim Nuron-Nisa	<i>Member</i>
Rowena Puti	<i>Member</i>

Kadtabanga Foundation for Peace and Development Advocates, Inc.

Hja Giobay Diocolano	<i>Executive Director</i>
Makaledin P. Kido	<i>Board of Director, Kadtabanga</i>
Abdulnasser Mulod	<i>Project Documentor</i>
Juhanga Bayan	<i>Community Organizer</i>
Kusain Amino	<i>Community Organizer</i>
Oting Agting	<i>Community Organizer</i>
Khanappi "Sonny" Ayao	<i>Operation Officer</i>

**Coalition of Social Development Organizations in South Cotabato/
Partnership and Access Center -Cotabato**

Maria Ena Olmedo	<i>Provincial Coordinator</i>
Jimmy Unsoy	<i>Program Officer</i>

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Ofelia Rivamonte-Cardeno	<i>Regional Manager – Visayas</i>
Cristituto G. Bual	<i>Regional Manager – Mindanao</i>
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Russell Herrera	<i>Senior Program Officer – Visayas</i>
Leonardo Valle	<i>Senior Program Officer – Mindanao</i>
Mercedita Coca	<i>Program Officer-Visayas</i>
Elbe Dagulpo	<i>Program Officer-Luzon</i>
Sostenes Genzola	<i>Development Associate, Luzon</i>
Edil Sajer	<i>Development Associate-Luzon</i>
Engr. Virgilio Orca Jr.	<i>Development Associate-Luzon</i>
Engr. Carmelo Gendrano	<i>Development Associate-Luzon</i>
Engr. Geoffer Gonzaga	<i>Development Associate-Visayas</i>
Apolonio Sambas	<i>Development Associate-Visayas</i>
Mico Canares	<i>Development Associate-Visayas</i>
Engr. Agripina Leonica	<i>Development Associate-Mindanao</i>
Engr. Roman Reinhardt Ladao	<i>Development Associate-Mindanao</i>

National government agencies

Floremel Balbedina	<i>Policy Department, NWRB</i>
Fe Banluta	<i>Program Manager, WSSP, DILG</i>
Virgilio Gacusana	<i>Technical Assistant, DPWH</i>
Nenette Javier	<i>Office Manager, PWWA</i>
Luis Rongavilla	<i>Engineer III in charge of GIS, NWRB</i>
Emy Ruales	<i>Head, Policy Department, NWRB</i>

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LIST OF PEF & PARTNERS PROJECT DOCUMENTS

- Background papers and organizational profile of the Water for the Baguio Dumpsite Community project.
- Barangay Alegria Norte, Loay, Bohol assessment on water project proposal and presentation report.
- Barangay Minol, Mabini, Bohol water project profile and background papers.
- Bulakin I, Dolores Quezon Water Works and Sanitation System organizational profile, project profile and related data.
- Cainta Homeowners Water Service and Multi-purpose Cooperative legal documents and organizational profile.
- Dolores Development Cooperative 2005 annual report.
- Jaime V. Ongpin Foundation, Inc. organizational profile.
- Marinduque water projects profile and background information of the sites.
- Marques-Taviran, Datu Odin Sinsuat, Maguindanao water spring development project profile and background papers.
- Saligang Batas ng Taradungan (Palawan) water system association.
- Sitio Mangool, Barangay San Isidro Baclayon background papers on the construction of water tank and pipeline installation.
- Other materials from PEF (loose sheets).
- Comparative cost of different types of tanks.
- Indicators for PEF-assisted water projects by Lyn N. Capistrano.
- Listings of approved proposals as of December 2005.
- Operations update as of August 31, 2006.
- Operations update as of December 30, 2006.
- Project proposal: Villafuerte initiative in enhancing water access & watershed, Villafuerte, Carmen, Bohol.
- Project proposal: Level II piped-water system development in sitios Lited and Centro, barangay Ilaya, Inabanga, Bohol.
- Project proposal writing: case data (checklist of information that should contain in the proposal).
- Water project monitoring indicators.



The Peace Equity Access for Community Empowerment Foundation, Inc. (or Peace and Equity Foundation, PEF) is a non-stock, non-profit organization founded in October 2001 to empower the poor and marginalized communities in Philippine society. PEF administers an endowment fund established by the Caucus of Development NGO Networks (CODE-NGO).

PEF focuses its assistance to the country's poorest provinces (initially focusing on 28 priority provinces and the National Capital Region). Based on a national poverty mapping conducted in 2003, these are areas with low income, large magnitude of poor residents, inadequate health and education services, and other generally accepted indicators of poverty. PEF works in partnership with civil society organizations such as people's organizations, cooperatives, faith-based groups, non-government organizations, and similar entities that serve the struggling households in the poorest communities.

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