Output-based Aid for Rural Water Supply in Vietnam

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eastmeetswest

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The Clean Water Program analyzed in this report was implemented under the direction of Minh Chau Nguyen and Hoang Thi Hang Tam. Valuable comments on various drafts of this policy note were received from Leslie Villegas and Carmen Nonay of GPOBA.

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Abbreviations

ADB	Asian Development Bank
AusAID	Australian Agency for International Development
AUD	Australian dollar
CPC	Commune People's Committee (Vietnam)
CSS	Customer Satisfaction Survey
Danida	Denmark's Development Assistance Organization
DFID	UK Department for International Development
EMW	East Meets West Foundation
GPOBA	Global Partnership on Output-Based Aid
HH	household
IEC	information, education and communication
IVA	Independent Verification Agent
MDG	Millennium Development Goal
NGO	nongovernmental organization
OBA	output-based aid
O&M	operation and maintenance
OM	operations manual
pCERWASS	Provincial Center of Rural Water Supply and Environmental Sanitation
RWS	Rural water systems
VND	Vietnamese dong
WASH	Water, sanitation and hygiene

Note: All currency amounts are in U.S. dollars unless otherwise noted.

Executive Summary

In November 2007, the Global Partnership for Output-Based Aid (GPOBA), a trust fund managed by the World Bank, awarded a $3 million grant to the East Meets West Foundation (EMW) to provide sustainable access to clean water services using output-based aid (OBA)[1] to low-income rural communities in the central region of Vietnam. In 2009, this grant was subsequently increased to a total of $4.5 million and the scope was expanded to include the Mekong Delta, where EMW established an innovative partnership with the private sector to build, own, and operate village water supply systems.

The project was successfully completed in November 2011. The project surpassed the target number of households connected by 10 percent, bringing access to affordable clean water to about 35,900 households (about 180,000 people). In addition, the project demonstrated the feasibility and merits of greater private sector involvement in rural water supply. The success of this project has spurred major interest from donors and governments alike, which see OBA as a useful tool to effectively realize water, sanitation, and health targets under the Millennium Development Goals (MDGs) and beyond.

OBA is now being increasingly used and is recognized as one of the key financing mechanisms to expand targeted access to basic services for the poor. EMW is currently scaling up the OBA approach in the water, sanitation and hygiene WASH sector in Vietnam, Cambodia, and the Lao People's Democratic Republic (Lao PDR) with funding from the Bill and Melinda Gates Foundation and AusAID. The government of Vietnam formally supports the scaling up of the OBA approach within the National Target Program, the main government vehicle for expanding rural water supply and sanitation services targeting the rural poor.

The purpose of this policy note is to examine the lessons learned from the implementation of this output-based rural water supply project in Vietnam, the first of its kind in the country. **The following are the key lessons learned,** which are described in detail in this policy note:

1. The OBA approach provides strong incentives to reduce costs and streamline implementation.
2. Service quality rather than the tariff level seems to be the main determining factor for households' willingness to pay for clean piped water.
3. The project demonstrates that donors need to be flexible and ready to re-evaluate the output-based grant levels under extraordinary circumstances and that such an attitude does not dilute the OBA approach but expands it.
4. The smaller service providers do not have robust cash flow or access to reasonable financing in the market to take on the entire prefinancing risk necessary under OBA. This potentially presents a case for advances or interim payments that need to be evaluated on a case- by-case basis.
5. By its very nature, OBA linked directly to capital costs and completion of certain physical targets does not address the long-term sustainability of village water supply systems—which is a global problem. This issue must be tackled not only through traditional capacity building but also through greater attention to asset management, such as long-term concession contracts with

[1] OBA is a results-based funding mechanism where the disbursement of public funding (donor or government) is tied to the successful delivery of predefined outputs.

cooperatives or private operators and adoption of a life cost cycle approach. Private operators in the Mekong Delta have higher labor productivity, lower water losses, better collection performance, fewer system breakdowns, and attend to repairs more quickly and provide for greater reserves to meet future repairs compared with schemes owned by the local authorities, the Commune People Committees (CPC). Thus, for future sustainability and performance of the rural water supply sector, governments as well as official donors should enhance and expand the role of the private sector.

The project has provided valuable lessons that have played a critical role in scaling up the OBA approach in Vietnam and other countries in the region, such as Cambodia and Lao PDR. By sharing these experiences and lessons learned, all stakeholders will better understand the processes and challenges involved in OBA program design, implementation, evaluation, and scale up.

The purpose of this policy note is to examine the lessons learned from the implementation of the GPOBA funded output-based rural water supply project in Vietnam.

Background

Over the last two decades, Vietnam has made major efforts to reduce poverty and expand basic services to both the urban and rural population. Thus, according to the 2013 update by the Joint Monitoring Programme for water supply and sanitation, the country is well on track to meet the Millennium Development Goals (MDG) target for improved water supply. However, progress is well behind the government's own targets and the rural water supply sector is riddled with problems. Only 40 percent of the rural population has access to water that meets the Ministry of Health's standard for safety.[2] Where piped water systems exist, connection rates are low—between 20 percent and 80 percent—and the quality of operation and maintenance is poor, jeopardizing the long-term sustainability of the systems. These problems are compounded by high investment costs.

In order to address some of the challenges in the rural water sector outlined above, the Global Partnership for Output-Based Aid (GPOBA) partnered with East Meets West Foundation[3] (EMW) in November 2007 to pilot an output-based approach (OBA) for the implementation of the Rural Water Supply Development Project (the "Project") in the central region of Vietnam. OBA[4] is a results-based funding mechanism where the disbursement of public funding (donor or government) is tied to the successful delivery of predefined outputs such as the number of household connections The original objective of the project was to provide sustainable access to clean water services using output-based aid (OBA) to low-income rural communities in five provinces that are among Vietnam's poorest. In 2009, the scope of the project was expanded to include the Mekong Delta, where EMW established an innovative partnership with the private sector to build, own, and operate village water supply systems.

The project was successfully completed in November 2011. The project demonstrated how OBA worked to promote transparency, accountability, innovation, value for money, and sustainability through explicit determination of financial support based on outputs and by shifting the performance and financial risks to service providers. The project surpassed the target number of households connected by 10 percent, bringing access to affordable clean water for about 35,900 households (about 180,000 people) through 82 rural water systems. In addition, the project demonstrated the feasibility and merits of greater private sector involvement in rural water supply.

The purpose of this policy note is to examine the lessons learned from the implementation of the GPOBA funded output based rural water supply project in Vietnam, the first of its kind in the country. This policy note is also based on a beneficiary assessment—*Output-Based Aid for Rural Water Supply in Vietnam: The*

[2] Ministry of Agriculture and Rural Development, 2013

[3] East Meets West Foundation (www.eastmeetswest.org) is an international nongovernmental organization with its global headquarters located in Oakland, CA and Asian headquarters in Hanoi, Vietnam. EMW has programs across many sectors—including rural water supply and sanitation, health, and education—and operates across eight countries including Cambodia, Myanmar, and Benin. EMW has a 25-year successful track record of implementing large-scale programs, primarily in Vietnam.

[4] OBA is used in cases where poor people are being excluded from basic services because they cannot afford to pay the full cost of user fees such as connection fees.

Role of Private Entrepreneurs in Enhancing Impact and Ensuring Sustainability—that provides details on surveys from beneficiaries and operators of the rural water supply schemes in the Central and the Mekong Regions.

The policy note also provides a comprehensive review of the findings of consumer satisfaction surveys (CSS),[5] technical reviews, conferences, and capacity building workshops. These lessons learned have played a critical role in scaling up the approach in Vietnam and other countries in the region such as Cambodia and Lao PDR.

Key Elements of the GPOBA-Funded Rural Water Supply Project

Output-based Aid (OBA). OBA differs from other contractual arrangements, as funding is provided by GPOBA after independent verification of predefined outputs. The output measure in the Project is a working household connection to safe piped water with six months of paid consumption. The amount of OBA capital grant is predetermined prior to the contractual arrangements based on the real costs of building such water systems by EMW and private enterprises and affordability for households. After independent verification, the GPOBA output-based capital grant is disbursed as follows to EMW:

- 80 percent is disbursed once working household connections are realized.
- 20 percent is disbursed after six months of paid consumption that serves as proxy for satisfactory service delivery.

EMW therefore bears the full responsibility and risks for prefinancing the outputs, implementing the project, and ensuring satisfactory service provision. However, EMW has the autonomy to find the most appropriate solution to provide the specified output.

***Geographic Targeting*.** Poverty targeting is an integral part of OBA and is achieved in this Project by selecting communities in provinces with poverty rates above the national average. Within the selected communities, all residents[6] benefit from the output-based project and are eligible for the subsidized connection fee.

Community-based Approach. The project used a consultative approach to inform, build ownership, and ensure commitment of prospective beneficiaries and local authorities on the development process and on responsibility-sharing among all stakeholders. The consultation process was designed to engage the whole community to make certain that the interests and concerns of the poorest households were reflected in the design, construction, and operation of the subprojects, as well as in the tariff structure.

An integral part of the consultation process was an information, education and communications (IEC) campaign. The IEC campaign not only sought to raise awareness about the merits of piped cleaned water but also to teach the community about improved sanitation and hygiene practices.

[5] Surveys were conducted in May 2011 and August/September 2013.

[6] Piped village water supply is a "network industry with declining costs." As a result, the project seeks to connect as many households in the village as possible to lower the costs for everyone, including the poor households.

Affordable but Cost-covering Tariffs. For each water scheme, EMW enters into a Memorandum of Understanding (MOU) with the local authorities, Commune People's Committees (CPC), that clearly outlines the responsibilities of the CPC after the water system is transferred to them. One of the main preconditions for EMW to consider and implement a water scheme is that the local CPCs agree to set and revise water tariffs so that operation and maintenance costs are covered and reserves for repair and possible extension are set aside. Affordable connection charges (less than $20) and water tariffs ($0.21–$0.22 per m^3) ensured that poor households connected to the systems at virtually the same rate as wealthier households.

Revision to the Scope of the Project in 2009. The mid-term review in September 2009 resulted in the Project being extended to the Mekong Delta,[7] where a new management model was implemented in partnership with local entrepreneurs who mobilize financing, build, own, and operate village water supply systems (table 1). The private owners/operators subsequently receive the predetermined capital grant from EMW (financed through the GPOBA grant) based on the number of working household connection to safe piped water (80 percent) and six months of paid consumption (the balance of 20 percent of the capital grant). To finance this expansion of the Project, EMW was granted an additional$1.5 million for a total of $4.5 million.

Table 1. The Two OBA Models Used to Implement Rural Water Supply in Vietnam

Model 1. Central Region with CPC owned RWS	**Model 2. Mekong Delta with privately owned RWS**
EMW is responsible for construction and supervision of the rural water systems (RWS). Upon completion, EMW hands over the operation of the RWS to the Commune People Committee (CPC), the local authorities that own the RWS. The CPC either operates it on its own or contracts out ongoing operation and maintenance with cooperatives, private water managers, or water users associations. EMW guarantees the water system for one year, and trains operators.	Private entrepreneurs are the service providers; they mobilize financing, build, own, and operate the village water systems. Private providers are responsible for construction of RWS with guidance from EMW (before and during implementation).
EMW selects subprojects proposed by CPCs according to specified criteria (poverty level, sources of water, community agreement, tariffs)	EMW selects subprojects proposed by entrepreneurs with agreement from local government (CPC) and provincial rural water agency (Center of Rural Water Supply and Environmental Sanitation, CERWASS) based on poverty level, financial, and technical capability.
EMW prefinances the outputs entirely and takes the full performance risk.	EMW shares the prefinancing and performance risk with private RWS providers.
The predetermined capital grant was set at $140 per connected household and funded by GPOBA.	The predetermined capital grant, ranging from $80 to $120 per connected household (including EMW's administration and management costs), is agreed between EMW and private entrepreneurs and funded by GPOBA.

[7] Dong Thap and Tien Giang provinces.

Model 1. Central Region with CPC owned RWS	Model 2. Mekong Delta with privately owned RWS
Independent Verification Agent (IVA) verifies the outputs and GPOBA then disburses the capital grant.	EMW verifies first (together with the provincial authority) and disburses the capital grant to the private providers. The IVA then verifies the output for GPOBA to make the payment to EMW.

Results

In the Central Region, covered by the original Project, EMW built 41 village water schemes, serving 22,900 households (about 115,000 persons). In addition to the GPOBA grant, the Project beneficiaries provided about $300,000 in connection charges and an estimated $380,000 in-kind (labor for installation of the household connection). The value of land provided by local governments (communes) is estimated at $50,000.

In the Mekong Delta, the private providers implemented 41 piped village water supply systems, serving 13,000 households (about 65,000 people). The predetermined capital grant per connection varied somewhat from scheme to scheme based on the estimated capital cost; typically, it covered 50–60 percent of the construction cost. In total, the private investors in the Mekong Delta mobilized about $550,000 in addition to the $1.5 million provided by GPOBA (which also covered EMW's preparation and supervision costs) and around $250,000 in connection fees paid by project beneficiaries. For further details on the breakdown of the connection costs by funding source, see table 2.[8]

Table 2. Targets and Achievements

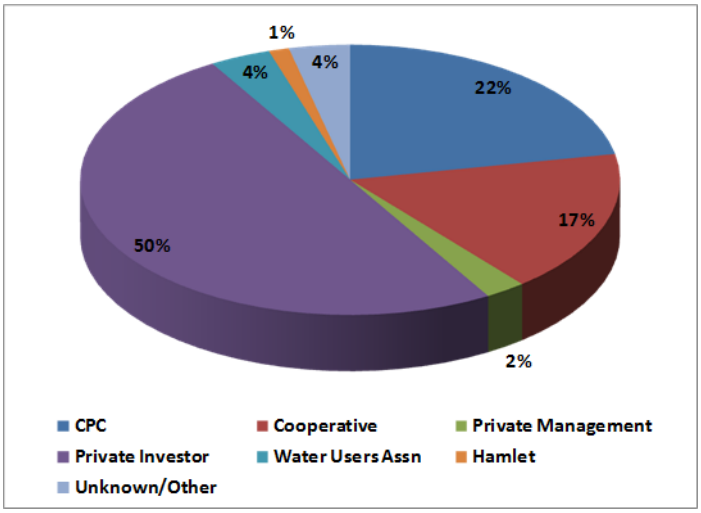
	Original Target (2007)		Revised Target (2009)		Achievement (2012)	
	Schemes	Households	Schemes	Households	Schemes	Households
Central Region (Model 1)	75	30,000	50	23,000	41	22,931
Mekong Delta (Model 2)	0	0	25	9,700	41	12,993
Total	75	30,000	75	32,700	82	35,924

EMW conducted a customer satisfaction survey (CSS) shortly after Project completion in 2011 and another in 2013. The surveys showed that overall satisfaction with the schemes was high. For example, 95 percent of households that previously relied on surface and/or rain water reported that the Project represented a

[8] The unit subsidy was increased to $140 in April 2009 due to factors beyond EMW's control, including sharp price increases for construction materials (and overall acute inflation) pushed up by rapid economic growth and slower uptake in household connections in the first year of project implementation. Given the fixed grant amount ($3 million), the target for output/households was revised from the original 30,000 to around 23,000 households.

"marked improvement" in water quality. For households that had previously used groundwater, the figure was 86 percent. What people appreciated most was the convenience of water piped into the house, followed closely by the perceived positive impact on family health. The reported time savings—typically in the range of 15 to20 minutes per day[9]—are in an international perspective quite modest and were rated quite low by the interviewed households. However, the 2011 CSS indicated that there were significant differences in the quality of service between the private sector schemes and those handed over to the CPCs. Thus, the CSS carried out in August and September 2013 examined in greater detail how different operators performed and sustainability of project benefits. To throw further light on these questions, an operator survey (OS) was undertaken to examine how different managers/owners operated their systems. The focus was on the three main management models used in the GPOBA financed sub-projects: private ownership, cooperative, and CPC management (figure 1). The results of the 2013 consumer satisfaction survey and operator survey are discussed later.

Figure 1. Management Models in EMW's GPOBA-funded Rural Water Schemes



Lessons Learned

Value for money—OBA provides strong incentives to reduce costs

The investment costs under the GPOBA-funded output based rural water schemes are far below other donor-financed traditional input-based projects[10] executed by the Provincial Center for Rural and Clean Water and Environmental Sanitation department (pCERWASS) (table 3). The design standards of the water systems funded under the traditional approach are similar to the ones adopted for EMW's GPOBA Project,

[9] Three-quarters of the households have access to "dirty" water from shallow dug wells and hence the amount time saved is limited (but the health benefits of piped, treated water are appreciated).

[10] The traditional donor projects are supported through conventional project loans (ADB, World Bank) or through program support (AusAID, Danida, and DFID).

but minor variations exist. For example, the Asian Development Bank (ADB) project in the Central Region provides for 80 liters per capita per day, while EMW uses 60 liters. Overall, the OBA approach has provided strong incentives to reduce costs and streamline implementation:

- **Procurement and disbursements**. EMW operated under the World Bank's procurement guidelines and, due to the small scale and spread-out nature of the work, used prudent shopping for a speedy and transparent procurement process. EMW also had a reputation of prompt payments to suppliers and contractors without reliance on budget appropriations and bureaucratic approval procedures that delay most government payments to contractors. These two factors considerably reduced the risk for contractors and helped their cash flow. As a result, the unit prices EMW (and the private entrepreneurs) had to pay typically were well below the rates paid by the provincial government.
- **Balanced design**. EMW carefully balanced the design of the projects, while many government schemes have over-designed headworks (wells, pumps, storage and treatment facilities), pushing up the investment costs.
- **Incentives to households**. Most importantly, due to the structure of the OBA payment, EMW (and the private entrepreneurs) had a strong incentive to make sure that households connect to the system. Additionally, EMW conducted extensive information and education campaigns in the project areas as part of its community based approach. As a result, the connection rate in EMW's projects averaged 77 percent, while the majority of government schemes have much lower connection rates.[11] This had a major impact on the investment cost per household served (table 3).
- **Private investment in the Mekong Delta, resulting in greater output-based grant efficiency**. The private providers in the Mekong Delta mobilized part of the funding for the schemes, which reduced the extent of contribution from GPOBA and local governments ("public money") to about $103 per household, compared with $130[12] per household in the Central Region (table 4). In contrast, in public sector- and donor-financed schemes, the beneficiaries are typically required to contribute 10 percent of the investment costs (averaging $450 per household for pCERWASS, as seen in table 3), with the government providing 90 percent of the capital cost; this implies subsidies of about $400 per household.

[11] In rural Vietnam (unlike most urban areas), some households have easy access to alternative water sources (such as dug wells in the yard) that provide water of adequate quality for the bulk of the daily needs, such as laundry, house cleaning, and personal hygiene. For their drinking and cooking requirements, they might buy bottled water, get water from the neighbor's tap, or filter/boil water from their own well. Thus connection rates are unlikely to be close to 100 percent.

[12] An average of greenfield (new) schemes and extension of existing schemes.

Table 3. Investment Costs in EMW- and Donor-Financed Rural Water Supply Schemes

Service Provider	Average Cost per HH (USD)	Notes
EMW executed CPC sub-projects	161	22,931 HH connections in the Central Region
Private Enterprises under GPOBA	177	12,993 HH connections in the Mekong Delta
pCERWASS	450-500	World Bank's Red River Delta Project (2010)
pCERWASS	355	ADB Central Region Rural WSS Project (2009)
pCERWASS	500-550	NTP III Draft Document (2011-15)

Note: Design standards for projects are similar but not identical

Table 4. The Cost-Effectiveness of OBA with Private Providers

	EMW/CPC ($ per household)	Private
Construction cost charged to donors/GPOBA	93.99	64.11
Beneficiary contributions in cash	13.01	18.47
Beneficiary contributions in kind	16.55	0.00
Local government contribution (land, etc.)	2.02	0.00
Private enterprise investment	0.00	53.55
Total construction cost	**125.58**	**136.12**
EMW design, supervision, training, etc. (funded by GPOBA)	35.83	39.01
Total cost per household	***161.41***	***175.13***

Note: Inflation largely explains difference in construction costs.

Rural households are willing and able to pay cost recovering tariffs for quality water supply service

Tariffs are approved by the concerned Provincial People's Committee (PPC) and vary from scheme to scheme. In 2013, they ranged between VND 3,000 and VND 7,000 per cubic meter, with an average of about VND 4,500 ($0.21–$0.22). Rural water tariffs in most of Vietnam are in the same range. According to the 2013 CSS, a huge majority of respondents (81 percent) considered the tariffs to be fair. There was virtually no correlation between the tariff level and households' opinion about the tariff. However, when the users thought that the quality of service (management, water availability, water quality, and the like) was high, they were much more likely to think that the tariff was fair. Consequently, service quality rather than the tariff level seems to be the main determining factor for households' willingness to pay for clean piped water. Indeed, the 2013 CSS showed that households in poorly managed schemes consumed, on average, less water than those served by well-operated systems, with negative impact on financial viability and long-term sustainability.

Reaching the poor

As noted, the main tool for targeting the poor was to build the systems in areas where the poverty rate exceeded the national average. Global experience has shown that the upfront payment of a connection charge can be a significant deterrent, especially for poor households. The government's policy is that households should pay about 10 percent of the capital cost of the schemes. This means that many provinces charge connection fees of $40–$50. The connection fees in EMW's schemes were less than half this amount. The special efforts of the service providers to connect all households (to get the OBA payment) and the low upfront cost probably explain why the household connection rates in the Project are higher than in most donor/government schemes. At the Vietnamese rural poverty line of VND 400,000,[13] a poor household has an annual income of about $1,000. Overall, the upfront connection charge was less than $20, or 2 percent of annual income. This was certainly affordable to the great majority of the poor.

In the central region (Model 1), the need for upfront household cash contribution (table 4) was further reduced to $14 by complementing it with in-kind work (digging and back-filling trenches). However, EMW found it difficult to get households to commit to trench digging (to keep cost down), and to pay for household connections in time of disaster and peak agricultural operations. As a result, EMW has limited the use of in-kind contributions in subsequent projects.

In the Mekong Delta (model 2), the private providers did "deals" with poor households that could not afford the connection charge. The private provider either forgave the charge or agreed to be paid in installments. The calculation was easy: either the owner/operator would insist on payment of the $15 charge and have the household refuse to connect, or to forgive it and collect the OBA payment of $50–$60.

At the tariff levels described above, monthly water bills remain below 2 percent of the monthly income of the poorest households

Flexibility is key to delivering a successful OBA scheme

Though grant levels are usually predetermined under OBA, the project demonstrates that there needs to be flexibility to reevaluate the grant levels under extraordinary circumstances, and that such an attitude does not dilute the OBA approach. In 2007 and 2008, Vietnam experienced considerable inflation, pushed up by rapid economic growth that especially affected the construction sector. Since EMW's submission of unit costs and capital grant levels were based on its experience prior to the beginning of 2007, it became clear that the capital grant of $100 per household needed to be adjusted. After a review of expenditure data for the first 10 projects, GPOBA agreed in April 2009 to increase the capital grant payment to $140 per connection for new projects and to $132 per connection in schemes that involved extensions of existing systems.

Governments and large enterprises might be able to assume cost overrun risks due to spikes in inflation. The funding structure for most nongovernmental organizations (NGOs) such as EMW is such that it is impossible to fill shortfalls due to events outside their control. The funding sources are earmarked for

[13] The Vietnamese poverty line is lower than the commonly accepted "extreme poverty" criterion of $1.25 per capita per day in 2005 PPP terms.

specific activities, and no individual donor or charitable foundation is likely to provide funding for cost overruns on "unrelated" projects or programs. One possible solution, which has been used in some OBA projects, is to have a standard clause in the grant agreement that explicitly indexes the unit subsidy to exchange rate movements and to measures of inflation such as the Producer Price Index (PPI). However, there is still a need for flexibility to accommodate changes beyond the service provider's control. For example, the government could change water quality or other design standards significantly increasing the construction costs.

The case for advances or interim payments in OBA

On average, the World Bank/GPOBA disbursements were received 79 days after the end of each quarter. Since connections were made on a continuous basis, the "average" connection was completed 45 days before the end of the quarter or four months before the corresponding disbursement was made. Furthermore, EMW incurred the expenditures on planning, design, construction, and commissioning subprojects long before the completion of the household connections. This gives an average time-lag between expenditures and receipt of the GPOBA funds of around eight months—with GPOBA's procedures accounting for roughly half of this time lag. This created serious strain on EMW's cash flow. However, EMW was able to successfully manage the disbursement lag due to the following factors:

- At the time of the GPOBA grant, EMW was undertaking a major construction program on behalf of another charity. This program had a unique payment structure that provided EMW with a certain amount of free cash flow, which enabled EMW to manage the disbursement lag.
- EMW's Board of Directors provided a reserve fund to be used as a collateral for a line of credit to EMW for the purpose of helping it manage the cash flow problem.

However, these were one-time occurrences that EMW cannot rely on for future OBA programs. Most NGOs would experience the same difficulties due to the nature of most of their funding. Many NGOs are also barred from borrowing to manage their cash flow, either because of their own bylaws or because of the national legal framework governing charities and nonprofit entities.

The delay in OBA disbursements can be overcome either by allowing interim disbursements based on completion progress as recorded by EMW (without going through the whole verification process); providing a certain amount of advance financing (which would be offset when outputs have been verified and the regular OBA disbursements were made);[14] or more frequent verifications and streamlining of GPOBA/ World Bank's internal procedures. While the latter would alleviate some of the strain on the cash flow, it does not address the fundamental working capital difficulties that small-scale service providers face in implementing OBA water supply and other infrastructure schemes.[15]

Access to finance

Access to finance was a major challenge for many of the private entrepreneurs in the Mekong Delta, who needed to contribute tens of thousands of dollars for the construction of the schemes. They were unable to

[14] EMW has backed subsequent OBA facilities with other donors that have supported alleviation of cash flow problems.

[15] This problem is discussed further in *Access to Finance in Output-Based Aid* by Geeta Kumar, Ira Lieberman, and Yogita Mumssen. 2010. OBA Working Paper Series No. 11. Global Partnership on Output-Based Aid, World Bank.

use the water systems as security for bank loan. This problem was exacerbated by the time lag between expenditures and receipt of the GPOBA funds, which put additional financial strain on these small private providers, and could potentially increase costs significantly. To alleviate some of the access to finance challenges faced by the private providers, EMW decided to step in and disburse the grants before it received approval from GPOBA. EMW was able to take on this additional risk due to the two one-time occurrences described above, but cannot rely on them for future OBA projects.

Access to finance for consumers (when the connection charge is high, as in many public sector schemes) can also be a constraint, but this did not appear to be a significant problem in the GPOBA-financed systems.

Capacity building for long-term sustainability

In Vietnam, there was also a need for more conventional capacity building. To this end, EMW provided on-site training for the operators during construction and early operation of each subproject. In addition, EMW sponsored conferences and workshops for over 200 private enterprises and water managers in both the central and southern regions to build their capacity in technical knowledge and management of water systems, financial management and accounting, customer service, and feasibility design work for expansion of new water systems. OBA financing should therefore not only cover the service provider's cost for planning and implementation, but should also cover appropriate capacity building for scheme operators, as well as awareness raising for government officials responsible for allocation of O&M funds and the like.

Still, by its very nature, OBA linked directly to capital costs and completion of certain physical targets does not address the long-term sustainability[16] of village water supply systems—which is a global problem. This issue must be tackled not only through traditional capacity building but also through greater attention to asset management, such as long-term concession contracts with cooperatives or private operators and adoption of a life cycle cost approach.[17]

Expand the role of private sector for long-term sustainability

The real lesson of the GPOBA rural water project is that private operators (in model 2) have higher labor productivity, lower water losses, better collection performance, and fewer system breakdowns, and attend to repairs more quickly and provide for greater reserves to meet future repairs than the operators in CPC-owned schemes. This is because the water managers contracted by CPCs for ongoing operations and maintenance (O&M) were typically hired on salary basis and thus lacked the motivation and incentives to conduct repairs faster and maximize tariff collection. In addition, the accounting and budgeting procedures used by CPCs are ill suited for utility-type operations. While handing over management to a multipurpose cooperative generally leads to a more business like operation, it still does not provide sufficient incentives for high-quality operation. EMW examined the performance of the dominant management models under the Project (private ownership, CPC, and cooperative management; figure 1). The 2013 operator survey collected a number of performance indicators similar to those used for "benchmarking" of urban water

[16] To some extent, the sustainability problem was addressed by paying 20 percent of the OBA grant first after 6 months of successful operation. This "performance period" could be extended to provide better incentives to the service provider to ensure long-term sustainability of the scheme. However, this would exacerbate the working capital problems discussed earlier.

[17] This implies that planning and budgeting should not only focus on investment costs but also on operating, routine maintenance, major repair/replacement costs as well ongoing technical assistance/capacity building, as needed.

utilities. The customer satisfaction survey looked at scheme performance from the consumers' point of view. Both surveys corroborate the general conclusion that private entrepreneurs manage their schemes better and, as a result customer satisfaction is much higher than in cooperative or CPC systems (table 5). Thus, for future sustainability and performance of the rural water supply sector, the central and provincial governments as well as official donors should enhance and expand the role of the private sector.

Table 5. Results of the August 2013 Customer Satisfaction Survey and Operator Survey (percent of respondents, except as noted)

	Management Model		
	Private Owner	Cooperative	CPC
OPERATOR SURVEY			
Reading Production Meter at least Monthly	81%	43%	18%
Water Losses	23%	23%	31%
Percent of Schemes where Revenues Do Not Cover O&M Costs	4%	7%	35%
Percent of Revenues for Repairs	18%	11%	11%
Percent of Schemes where Overdues Exceed 10%	18%	50%	47%
Revenues per Worker (VND million)	7.9	2.5	2.8
CUSTOMER SATISFACTION SURVEY			
Percent Rating Management as Good & Very Good	98%	64%	67%
Percent Rating Water Quality as Good & Very Good	92%	45%	60%
System Breaks down 3 or more Times per Month	12%	45%	55%
Repairs Take Longer than 1 Day	3%	30%	46%
24 hours Supply	75%	65%	50%

Conclusion

The success of the GPOBA-funded rural water project has spurred great interest from donors and governments alike, which see OBA as a useful tool to effectively realize water, sanitation, and health targets under the MDGs and beyond. As a result, EMW has received funding from other donors to expand the use of OBA in sanitation and hygiene behavior change programs and to pilot OBA approach in other sectors. Example include a $3 million grant from GPOBA in 2010 to increase access to secondary education for poor girls and boys in Vietnam.

These lessons learned have played a critical role in scaling up the approach in Vietnam and other countries in the region, such as Cambodia and Lao PDR. The Bill and Melinda Gates Foundation awarded its first output-based grant of $10.9 million (2012–15) to EMW to increase sanitation adoption and hygiene behavior change for 344,000 households and 1.7 million people located in poor rural areas of Vietnam and Cambodia.

More recently, in August 2013, the Australian Government approved AUD 7.0 million (2013–17) to scale up the output-based water, sanitation, and hygiene program to 200,000 people in Vietnam. In this recent program, EMW decided to modify the OBA approach in Vietnam to encourage competition and greater efficiency among the provincial Centers for Rural Water Supply and Sanitation (pCERWASS), the implementing government agencies for rural water supply under the National Target Program (NTP), by providing the capital grants on an output basis.

EMW has also documented its experience of applying OBA in Vietnam in a handbook—*Output-based Aid for Rural Water Supply in Vietnam: A Handbook for Practitioners*—with all the key steps and relevant details for each phase of OBA projects. By sharing these experiences and lessons learned, all stakeholders will better understand the processes and challenges involved in OBA program design, implementation, evaluation, and scale-up.