Mobilizing Resources from the Domestic Financial Markets for Local Service Providers Through Output-Based Aid

Innovative Financing Mechanisms for Water Supply

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Outline

- **Context**
- **Output-Based Aid: Definition**
- **Six Typical Design Questions**
- **Five OBA Cases**
- **Experience so far and outstanding design issues**
## Context

- How to **attract more investment** in the infrastructure sectors so that the poor have access and so MDGs can be reached by 2015?

- **Total cost recovery** of services through user/connection fees **difficult** – need better subsidy design

- How to ensure **greater efficiency and sustainability** of infrastructure service provision?

- How to ensure that operators are **accountable**, and rewarded for outputs and reaching the intended beneficiaries?

- How can **aid** be more **effective**?
The Challenge of Limited Grant Funds for Capital Investments

- Limited and unpredictable subsidy finance delays project development for community water projects
  - Average gestation period for community water supply projects ~ at least 3-5 years
- Limited accountability for ‘project performance’ impacts or sustainability of water systems – Focus on construction
- Limited availability of grant finance to meet total requirements (by using a 90% standard subsidy policy without financing)
- Basically no grant financing for expansion after initial project completed
- Grant limitations for drinking water supply and not for productive uses

Need for alternative financing mechanisms
it's been more than six months. you still believe that's going to happen?

coming soon free water fountain

Paying Fountain
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What is Output-Based Aid?

- A strategy for supporting the delivery of basic services – such as water, electricity, health – where policy concerns would justify explicit performance-based subsidies to complement or replace user fees.

- Core concepts of OBA:
  - **Explicit subsidies**: Ensures transparency -- who provides subsidies for what. Encourages targeting to reach intended beneficiaries.
  - **Payment on output delivery**: Shifts performance risk to provider by making him accountable.
  - **Innovation and efficiency**: Competition => value-for-$. Pre-determined subsidy paid on agreed output provides incentive for innovation and efficiency.
  - **Mobilizing the private sector**: Encourages private sector to serve (usually poor) targeted customers; opportunity to leverage private finance and expertise for non-subsidized customers as well.
  - **Sustainability**: Stresses source of future funding

- GPOBA – A global program to support new OBA transactions established by DFID and World Bank in 2003
Example of a typical OBA project

Municipality/Local Government

- Concession or service contract or other form ofLegal mandate

Greenfield or Incumbent Provider (private or public)

Provider

Financial Intermediary

- Subsidy

OBA Fund

Three types of subsidy:
- One-off connection subsidy
- Consumption Transitional subsidy
- Consumption subsidy

Output Delivered = Connections Installed, service delivered

Communities/consumers not yet connected

Output Verified
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<table>
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<th>Question</th>
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<tr>
<td>Subsidy structure</td>
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<td>Outputs</td>
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<td>Target beneficiaries</td>
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<td>Cost of service</td>
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<td>Tariffs</td>
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<td>Arrangements for incumbent service providers</td>
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Choosing A Subsidy Structure...

...that is sustainable, can be targeted and linked to outputs:

1. **one-off subsidies**, for example to expand access through new connections (most OBA schemes to date), and/or
2. **transitional subsidies** to cushion the move to cost recovering tariffs (increasingly explored), and/or
3. **ongoing subsidies** to targeted groups through, for example, a life-line tariff
Choosing an Output that...

- Is clearly definable
- Is easy to verify and measure
- Is as close to the desired outcome as is feasible

<table>
<thead>
<tr>
<th>Desired outcome</th>
<th>Possible contractual outputs</th>
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<tbody>
<tr>
<td>Increased household access to water services</td>
<td>Type 1</td>
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<tr>
<td>Payments linked to connection of new customers to network</td>
<td>Payments linked to supply of X m3 of water to each household per month</td>
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</table>
Selecting beneficiaries...

- Pre-selection of target beneficiaries based on social and/or technical criteria
- *Low income beneficiaries:* Should be targeted to low income consumers that are unable to pay the full cost of service - usually low value customers to providers.
- *Policy compliant beneficiaries:* areas or communities in line with government policies (for example, delegated management of service provision to communities or private entrepreneurs)
- *Technically feasible beneficiaries:* can the provider deliver service at a reasonable cost, e.g. is there sufficient water to serve additional connections
- **Examples:**
  - Jakarta, Manaus: known poor neighborhoods, which were also legal settlements and with a demand servable with existing sources of water
  - Philippines rural electrification: off-grid areas
Defining cost of service...

- **Greenfield project: Easiest to do competition for contract:**
  - It is critical to attract strong competition and get the most ultimate benefits to users
  - Bidders need certainty that subsidy funds will be available
  - Independent process for verifying outputs

- **Incumbent: Validation / negotiation with regulator**

  ![Diagram]

  Incumbent submits cost proposal

  Benchmark/negotiate/agree underlying efficiency parameters

  Benchmark/negotiate/agree unit costs

  Unit costs revealed by incumbent’s procurement
Determining tariffs and fees...

- Determine what tariff would be paid by beneficiary consumers
  - It is common to have extremes of tariff regulations: national tariffs for ALL rural areas or no tariff regulation at all
  - Need to understand willingness to pay
  - In all cases so far, tariffs are enough for full cost recovery (after OBA capital subsidy grant)
- Determine willingness to connect – through surveys that assess willingness to connect to a clearly defined level of service and tariff
- Need willingness to connect is above a reasonable threshold, e.g. say 70% to make the system financially viable and sustainable for expansions
When incumbent providers exist...

- Resolve absence of competition problem by defining cost of service
- The service targets and tariff provisions of the contract define a state of ‘economic equilibrium’ acceptable to both parties
- External subsidy should not distort this equilibrium
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Five OBA Cases in World Bank

- Cambodia – Traditional OBA cases with solid poverty targeting
- Paraguay – multi-village scheme
- Vietnam – combination OBA for network extension and WB project for non-revenue water reduction
- Morocco – three approaches to benchmark private and public operators
- Africa – combine OBA and microfinance lending
Cambodia: A Challenging Environment...

- Annual per capita income of $321; approximately 41% of the population live below the poverty line (2002)

- After decades of war and social disruption, less than one-third of Cambodia’s population has access to improved water services

- One of the highest infant mortality and morbidity rates caused by water contamination in the world

- Community “self-provisioning” of water supplies more common, including increased reliance on unregulated and unlicensed water vendors, including those providing piped water supplies

- Government trying to license and formalize private sector provision of water services beginning in 1997

- But weak regulation, non-transparent and uncompetitive procurement, high tariffs and most especially high one-off connection fees still limit access of the poor
**Cambodia: OBA Project Design and Bidding**

- Under OBA, a $3.1 million grant was provided to connect poor households.

- 4 Towns were selected along a vibrant route between Phnom Penh and Ho Chi Minh City to build a critical mass of growing middle and high income cities.

- 8 firms were pre-selected and invited to participate in an international Competitive Bidding process for the OBA first batch.
  - Two firms submitted offers – a Cambodian company, and a joint venture between Cambodian and Singaporean companies.

- Structure of the bid: Lowest cost per connection. End-users continue paying agreed water tariff (US$0.50 pcm)

- Winning bid for the contracts 22-28% less than the public sector comparator of US$500 equivalent per connection, ranging from $356 to $385.

- Under OBA, provider is paid the agreed bid amount regardless of the ex post connection costs, creating an incentive for efficiency.
Cambodia: Poverty Targeting Features

- Service providers must connect any household within their service areas that requests a connection.

- Methodology for targeting households with connection subsidies was community-driven.

- Results of community developed household surveys, and poverty criteria developed by village representatives and commune council members, were used to identify targets for connection subsidies.

- Household classification of “poor” were randomly verified by a consultant (monitoring).

- OBA providers use the subsidies to connect the targeted poor, but charge a connection fee to all other customers.

- Women were heavily involved in this process.
Paraguay – Multi-village System

- **Income:** GNI per capita US$1,170
  Lower middle income*

- **Population:**
  - 62% rural and small towns (<10,000) – 3.4 million, of which:
  - Living in concentrated areas: 2.9M (85% of rural)

- **Unified Financial Policy for the sector (2004)** for systems with more than 150 connections (about US$550/connection):
  - 5% in cash up-front
  - 10% in cash during construction
  - 15% in kind: land/labor/materials during construction
  - 30% as 10-year loan at subsidized interest rate (6% below market)
  - 40% (central government)
Multi-village System

- Integrated system for 5 communities - 1990 connections

- Fixed tariffs and fees (community participation/Junta):
  - Tariff first year:
    - Residential: $3.4/month
    - Commercial: $4.5/month
  - Connection fee:
    - Residential: $85/connection
    - Commercial: $119/connection

- Bidding variable:
  - Subsidy with a maximum limit of $250/connection

- Municipality played a key roll for integration
## Bidding Results:

<table>
<thead>
<tr>
<th></th>
<th>Integrated system (5 communities - 1990 conn.)</th>
<th>BOOT with OBA (US$)</th>
<th>Traditional Model (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Connection Cost</td>
<td></td>
<td></td>
<td>650*</td>
</tr>
<tr>
<td>Community (Water User Association)</td>
<td>85 - cash</td>
<td>97.5 – cash (15%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>97.5 - kind (15%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>195 – 10 year loan (30%)</td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>196</td>
<td>260 (40%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(250 Max subsidy)</td>
<td></td>
</tr>
<tr>
<td>Private operator (tariffs*)</td>
<td>369</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>
Vietnam – OBA and NRW

- Ho Chi Minh City is the largest city in Vietnam with 5.6 million inhabitants

- High GDP growth & track record of successful social programs

- BUT, pockets of deep poverty, including 89,000 ‘DOLISA’ households and 1.2 million unregistered migrants

- The OBA scheme will provide a subsidy to the water utility company (SAWACO) for each new working connection to a low-income household made using water saved through reduced leakage

- A parallel World Bank-funded Non-Revenue Water Management project will result in savings of 120,000 cubic meters/day

- Leakage savings sufficient to serve 120,000 households
OBA Funding and Poverty Targeting

- Poverty line defined at US$1 per day
- Regular surveys identify poor households

- Under the OBA scheme any poor household not currently in possession of an individual household connection will be eligible to apply for a subsidized connection
- Total cost of connections: $470 - $800
- Households will express demand through payment of a US$30 connection fee
- OBA subsidy will pay portion of the net remaining cost.
  - INFILL: flat payment of US$150
  - EXTENSIONS: variable payment of US$150 plus the pro-rated cost of extensions. Total subsidy cap of US$400 per DOLISA connection in extension areas.
- SAWACO contribution will cover remaining costs
- OBA payment designed to balance incentives to serve poor with incentives to serve the non-poor
- **Average OBA payment per person served: US$31**
Morocco – OBA and Benchmarking

- Middle-income, high-inequality
- Rural poverty, migration, urban exclusion.
- 30% of Casablanca population lives in illegal settlements
- Service: Good in urban areas, inadequate in rural areas, urban slums and fringes.

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<thead>
<tr>
<th></th>
<th>Urban Access</th>
<th>Connect.</th>
<th>Rural Access</th>
</tr>
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<tbody>
<tr>
<td>Water</td>
<td>100%</td>
<td>80%</td>
<td>65%</td>
</tr>
<tr>
<td>Sanit.</td>
<td>95%</td>
<td>80%</td>
<td>40%</td>
</tr>
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</table>
Urban water supply service issues

- **Connection fees unaffordable**
  - Unsubsidized, priced at estimated marginal cost
  - Unregulated, make up for loss-making social tariff.
  - “Social Connection“ payment facilities have reached their limits in urban fringes (Up to 10-yr installments)

- **Growing urban service deficit areas**
  - Urban slums: Undergoing restructuring/relocation as part of new aggressive housing programs.
  - Unzoned urban belt communities: Mushrooming, with no viable financing solution.
Incumbent operators (1 public, 2 private).

OBA-subsidy to fund gap between unit cost and maximum affordable “Social Connection” payment facility.

Test and benchmark OBA approaches in different contexts

- Lessons towards potential national scale-up.
The Potential of Microfinance in Rural Water Supply in Kenya

- Reasonably well-developed microfinance sector – and a key ‘credible’ partner
- Considerable liquidity in financial markets
- Potential to develop specialized product line for infrastructure loans
- Microfinance would leverage the use of capital construction grants to reach more unserved and to promote sustainability

BUT... lack of exposure to ‘project finance’ and ‘water sector’ leads to high transaction costs that prevents microfinance institutions (MFI) from coming to the sector

BUT... financial market conditions introduce ‘affordability’ concerns – need for careful financial and social analysis

BUT... lack of traditional collateral – pipes on the ground?

BUT... questions on legal status of small water supply projects (asset ownership, service arrangements, tariff setting)
OBA Pilot Projects in Kenya

- OBA Pilot Project for **Community-Managed Piped Water Projects (CWPs)** in rural/peri-urban areas
  - Rehabilitation/augmentation of existing projects
  - New/greenfield projects
- Projects to be pre-financed using market based finance from domestic private sector microfinance institutions

<table>
<thead>
<tr>
<th>Organization</th>
<th>During construction</th>
<th>After ‘Outputs’ are achieved</th>
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<tbody>
<tr>
<td>Community contribution</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>K-Rep Bank – loan</td>
<td>80%</td>
<td>40%</td>
</tr>
<tr>
<td><strong>OBA subsidy</strong></td>
<td>0%</td>
<td>40%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
<td>100%</td>
</tr>
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Case Study
Kanunga Water Project

- Location: Near Nairobi in Kiambu district
- Revived after system damaged by El Nino flooding
- 300 HH connections, 7 kiosks
- System losses are significant due to design inefficiencies
- Inadequate infrastructure to provide access to all area residents

Terms of loan:
- 5 years, 17% interest, 40% of capital plus capitalized interest during construction
Facilitating transactions and moving to scale

- Development of **project assessment tools**
  - Financial, technical and community management assessment
- Promotion of a **business development services market**
  - Construction project management, maintenance
- Development of **credit assessment tools, credit rating facilities, and credit enhancement tools**
  - Tenor extension facilities, partial risk cover
Looking beyond Kenya

- Exploring micro-finance in other countries
- WSP and GPOBA – Roundtable introductions to OBA program in East Africa completed – plans for West Africa underway
- Key parameters for country-level support – Phase I
  - Conducive policy environment that gives ‘space’ to and does not crowd out private market finance
  - Reasonably well developed domestic financial institutions
  - Regulatory framework that gives ‘legitimacy’ to small service providers
  - Viable demand from a sizeable ‘market size’
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Experience To Date with OBA Transactions in the World Bank

- **Over 50 World Bank projects** to date
- Mainly **infrastructure**
- Mainly **rural**
- About 60% design, 15% bidding process, 25% under implementation
- Mainly **small-scale**
  - many at $1m-$2m

**Distribution:**
- Transport 25%
- Telecom 29%
- Water and sanitation 17%
- Energy 17%
- Health 8%
- Multi-sector 4%
## Analysis Of some initial projects

<table>
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<th>Evaluation Criteria</th>
<th>Pilot results</th>
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<tr>
<td><strong>Targeting:</strong></td>
<td>- Mostly geographic targeting to poor communities (e.g. Paraguay water, Mozambique energy, Pamir power project)</td>
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<tr>
<td><strong>Accountability</strong></td>
<td>- Mostly <em>ex post</em> connection payment tied to service contract</td>
</tr>
<tr>
<td><strong>Innovation &amp; efficiency</strong></td>
<td>- Providers paid bid price but free to design (meeting quality specs)</td>
</tr>
<tr>
<td></td>
<td>- Cambodia water: $366 v. $500; Paraguay water: $166 v. $300</td>
</tr>
<tr>
<td><strong>Mobilizing private sector</strong></td>
<td>- Cambodia water: up to 1:3.5 subsidy : private finance</td>
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<tr>
<td></td>
<td>- Mozambique energy: approx. 1:3 subsidy : private finance</td>
</tr>
<tr>
<td><strong>Sustainability</strong></td>
<td>- Most projects involve a one-time connx subsidy</td>
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Remaining Design Questions

- Mapping of beneficiaries - to target or not to target, and how – subsidy leakage? Time efficiency?
- Capacity to take on pre-financing risk – especially in rural areas – links to microfinance?
- Design of monitoring regime, and local capacity
- A new way of working, and initial start-up costs
  - Initial transactions costs due to “learning”
  - Procurement issues – an output-based scheme in an input-based system
- How to get sanitation OBA transactions? Link to WSP program on Sanitation Market Development
For more information:
www.wsp.org

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