Public-Private Partnerships in Madagascar: a promising approach to increase sustainability of piped water supply systems in rural towns

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&

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Presentation Outline

1. Madagascar’s rural water sector

1. Introduction to the PPP model for construction and management of piped water supply systems

1. Three case studies

1. Key factors for success

1. Recommendations and obstacles to overcome
The Alarming State of Rural Water supply in Madagascar

- 21 million inhabitants, of which 70% live in Rural Communes
- Madagascar is a low income country:
  - Per capita income: $400
- Water supply coverage rates in rural areas: 29% (WHO, 2010)
- Functionality of existing systems?
  - 90% for boreholes according to 2009 RWSN report
  - 20% according to 2010 baseline survey from the USAID-funded RANO HamPivotra Project
  - Actual functionality rate is likely between 40 – 50 % nationally
Legal framework of Madagascar’s rural water sector

- The Water Code, January 1999:
  - Set the groundwork for decentralization of the Madagascar rural water sector
  - Communes are the owners/contracting authority for public water supplies
  - Water from improved source is to be paid for
  - Encouraged private sector investment

- The Ministry of Water
  - Established in 2008
  - Network of Regional Directors: 18 of 22 Regions now have a Regional Director

- In Practice, 2012:
  - The Ministry of Water is poorly funded, understaffed, limited presence in rural areas
  - No accurate database of existing water points
  - Misconceptions as to the roles of local government structures vis-à-vis management of infrastructure
  - Local leaders and community groups lack the political will or capacity to respond when water supplies fail
The emergence of Public-Private Partnerships (PPP) in Madagascar’s rural water supply sector

The first PPP to supply water in rural Madagascar was launched in 2005 between Sandandrano and the commune of Ambohijanaka, 20km south of the capital, Antananarivo.

- Goal: Construct and manage a piped water supply network serving 6,000 persons
- Funding: Material support from the World Bank and 60% private funding from Sandandrano
- Engagement: 25-year management contract
- The commune’s population has increased by 25% and the system has spawned a number of micro-enterprises dependent on the water supply

Today there are an estimated 20 piped water systems managed through PPP in rural Madagascar.
• Has invested over $400,000 in private funds in building and maintaining eight water supply systems
  – Responsible for providing water services to an estimated **200,000 people daily**
• Introduced the concept of a “social water point”
  – Goal: Increase household water consumption and offer a service option in-between private connections and public water points.
  – Advantages:
    1. Water service fees are typically lower than for private connections
    2. Households have access to water at all hours
    3. Water points are installed at a convenient location agreed upon by the users
• Founded the Association of Private Sector Water Distributers
  – 09 founding members in 2005 ➔ 17 members as of May 2011
Generic Cycle of Establishing a PPP for Managing a Piped Water Supply Network

1. **Train commune authorities and bid committee members**
2. **Prepare tender documents: site information, Scope of Work, sample contract**
3. **Publish call for tenders either nationally or targeting a pre-selected list of contractors**
4. **Conduct site visit**
5. **Select, notify, and negotiate with winning bidder**
6. **Evaluate tenders: commune bid committee (sometimes with support from local partner)**
7. **Submit tenders**
8. **Clarify roles, and responsibilities of each party (commune, manager)**
9. **Sign management contract**
10. **Operate, monitor and report**
Case Studies: Three examples of established PPP that are thriving in rural Madagascar

<table>
<thead>
<tr>
<th>Company</th>
<th>Commune/Region</th>
<th>Year Established</th>
</tr>
</thead>
<tbody>
<tr>
<td>AπR</td>
<td>Fihaonana/Analamanga</td>
<td>2008</td>
</tr>
<tr>
<td>Sandandrano</td>
<td>Ambohibary/Vakinakaratra</td>
<td>2009</td>
</tr>
<tr>
<td>VELO</td>
<td>Anivorano Est/Atsinanana</td>
<td>2011</td>
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</tbody>
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Case Study #1: AπR/Fihaonana

• Rural community of 5,000 people.
• The commune awarded AπR a 15-year contract to manage the system in November 2008
• Supported by the World Bank-funded FID project
• AπR invested $4,500 into system construction
• Today the community has 73 private household and 24 semi-private connections (all connections are metered).
• Water pricing (per cubic meter):
  – Household connections: 500Ar (0.25 USD)
  – Social connections: 250Ar (0.13USD)
Case Study #2: Sandandrano/Ambohibary

- Rural community of 7,000 people
- 20-year management contract
- Supported by the EU/Agence Française de Développement-funded, Méddea project implemented by GRET
- Sandandrano invested 40% of construction costs ($65,000)
- Water pricing (per cubic meter):
  - Public tap stands and household connections: 1,000Ar (0.50 USD)
  - Social connections: 500Ar (0.25USD)

Map of water points in Ambohibary as of February 2011: private connections (red), social water points (blue), and public monoblocs (yellow)
Case Study #3: VELO/Anivorano Est

- Community of 5,200 people
- Supported by the USAID-funded RANO HamPivoatra (Water for Progress) Project implemented by CRS/MG and CARE/MG
- The commune awarded VELO a 10-year contract to manage the system in March 2011 (service began in September 2011)
- 53 private connections, 82 social connections, and two public water points
- Water pricing (per cubic meter):
  - Household connections: 1,000Ar ($0.50)
  - Social connections: 800Ar ($0.40)
  - Public water points: 700Ar ($0.35)
Metrics from Anivorano Est

Monthly water consumption (cubic meters)

Average daily water usage (L/pers/d)

<table>
<thead>
<tr>
<th>Connection Type</th>
<th>Nbre users</th>
<th>Sept-11</th>
<th>Oct-11</th>
<th>Nov-11</th>
<th>Dec-11</th>
<th>Janv-12</th>
<th>Fev-12</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household Connection</td>
<td>352</td>
<td>36,20</td>
<td>40,81</td>
<td>45,82</td>
<td>45,96</td>
<td>49,43</td>
<td>42,20</td>
<td>43,40</td>
</tr>
<tr>
<td>Social Connection</td>
<td>2,159</td>
<td>7,49</td>
<td>18,13</td>
<td>21,02</td>
<td>17,91</td>
<td>20,72</td>
<td>13,43</td>
<td>16,45</td>
</tr>
</tbody>
</table>
Setting a tariff?

Components of a water tariff

- Maintenance, repair
- Overhead
- Taxes
- Profit
- Extension
- Sanitation
- General Commune tax

Pie chart shows:
- 35% Maintenance, repair
- 30% Taxes
- 25% General Commune tax
- 10% Overhead
- 4% Profit
- 3% Extension
- 3% Sanitation
Discussion: Key Factors for Success

1. **Political Will:**
   - Collecting a levy on a public service is risky for even the most popular politicians.
   - The provocative decision to engage in a PPP is rare in Malagasy politics.

2. **Size and Geographic Location:**
   - Populations of more than 5,000 people
   - Situated within less than 50km from a major urban center.
   - Emergence of a middle class with increased capacity to pay for professional services
   - Cellular phone networks exist
   - Public services (health centers, primary and secondary schools, bus stations,...) are functional
3. **Latent Demand for Modern Services:**
   - **Choice of service levels according to personal preferences and willingness to pay.**
   - Higher services required a level of technical and managerial complexity that justified the need for a professional service provider.

4. **Donor Support:**
   - Financial support for the construction and/or rehabilitation of the system.
   - “Soft side” i.e. to cultivate an “enabling environment” within the commune.
Demand: What the rural consumer wants
(slide adapted from Richard Carter, WaterAid)

Cf human rights normative criteria (General Comment 15):
‘the human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic uses’.
Evidence of Ownership

Personal Investment (beyond the initial connection costs) in amenities related to the water service
Evidence of Ownership
Recommendations

1. **Expand Private Sector Participation in Rural Water Supply**
   - Encourage a new generation of entrepreneurs to participate in PPP
   - Offer specialized training and ongoing support to assure professionalism
   - Support the expansion of the Association of Private Sector Water Distributers
   - Reduce the tax burden on the private sector

2. **Increase Public demand and support for water service providers**
   - IEC campaigns to increase demand for modern water services.
   - Increase the capacity of the MoW at the local, regional and national levels to monitor, regulate PPP
Recommendations

3. **Target Large Rural Towns**
   - Focus on large rural centers with between 2,000 and 10,000 people.
   - Hundreds of towns in rural Madagascar fit this profile; an estimated collective population of at least 5 million
   - “Low hanging fruit” to rapidly increase rural water coverage rates over the next decade.

4. **Emphasize Service Delivery**
   - High demand for private and social connections
   - Offer multiple service options (design considerations) and pricing structures
   - Increased water use leads to healthier populations and livelihoods benefits
Obstacles to overcome (no silver bullets...)

1. **Contracting and Regulation?**
   - Contracts for existing PPP arrangements are not standardized
   - The MoW currently lacks the capacity for formative oversight and regulation

2. **Long term profitability?**
   - number of connections per service provider is low compared to other countries (e.g. Cambodia)
   - To keep tariffs low, capital maintenance expenditure (CapManEx)* is not typically included in business plans

3. **Equity?**
   - The case of the most vulnerable?

* [http://www.washcost.info/](http://www.washcost.info/)
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