PRIVATE SECTOR SERVICE PROVIDERS PERSPECTIVE
Sustainable management of manual pumps: the DRC case

In seven countries in sub-Saharan Africa less than half of the population uses an improved drinking water source; rural drinking water coverage lags far behind urban drinking water coverage.

Source: JMP 04/13

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For more than 30 years, VERGNET HYDRO has been known as a major stakeholder of rural water supply. Since 1978: 100,000 manual pumps have been installed, serving 50 millions of users. Since 2004: 200 water supply systems for small towns have been built.

We are the specialists in finding energy solutions (wind and sun) and supplying water to isolated zones.
DRC drinking water situation

Urban drinking water trends

Rural drinking water trends

Total drinking water trends

Source: JMP - 2012
Objective: to empower communities to improve water and sanitation (Implementation: Ministries of Health and Education with the support of UNICEF)

Certification of schools and villages based on potable water supply and latrines availability through 7/8 steps to be followed and 6/7 standards to reach (www.ecole-village-assainis.cd)

Targets:
- Phase 1: 2008-2012 3 850 villages/schools
- Phase 2: 2013-2017 6 000 villages/schools
- Regular monitoring to confirm/cancel the certification
Results of Phase 1

End of 2012:

3,046 certified villages
978 certified schools

Source: UNICEF 2012
Results of Phase 1:

Out of 4 024 certified villages/schools, 620 manual pumps including 418 on manual boreholes

Survey in 2013 on 418 manual boreholes fitted with Vergnet pumps:

100 % pumps functioning: 32 % (134) have been repaired but for 70 % (94) of them, breakdowns were due to boreholes’ construction
During the programme implementation, VERGNET convinced the Programme Management Team to involve a local private operator for maintenance of the manual pumps (contract signed in March 2011)

418 VERGNET pumps installed on manual boreholes: 187 before private operator involvement and 231 after

2013 survey: The 94 pumps broken down due to boreholes’ construction were installed before private operator involvement
Advantages of a private operator: manufacturer representative, in charge of installation and maintenance:

- Installation of pumps only if good conditions are met (borehole well constructed)
- Cost of water service to be borne by the beneficiaries
- Professionalisation of the sector (training of pump caretakers/repairmen)
- Real partnership between the manufacturer and the Government to improve efficiency (reactivity, exchange of data...) of after sales service
To guarantee a sustainable potable water supply service in rural areas: a manual pump, a market-oriented service, a job

1/ No sustainability without money: Pay as you fetch

2/ No sustainability without potability: Chlorination

3/ No sustainability without a close monitoring of the supply chain: Web plateform
SDGs post 2015 – Water meter
SDGs post 2015 – Chlorination

Solar production of chlorine from water and salt: EChlo

Gamme 2 g/l : more important production

Graphs showing the relationship between power of the solar generator (We) and the quantity of chlorine solution (l/d) or treated water (mp3/d) for different electrode setups and insolation levels.
Chlorination on Vergnet Hydropump with a Dosatron

Flow rate: about 1 m³/h

Chlorinated water 1 mg / l

Lifetime without maintenance: about 4000 m³ of water

Only a 20 liter tank for 20 m³ water treatment

Concentrated chlorine solution (1 g/litre = 50% diluted EChlo’s production)
SDGs post 2015 – Monitoring of the supply chain

Manual pump

- Operation rate of equipment
- Data history of the pump
- Unique ID for each pump

Caretaker

- Maintenance monitoring
- Data series collection
- Transmission to the information system via SMS or Web access

Information system in Data Center

- Data flow collection
- Data storage
- Reports and decision-making tools
- Performance indicator

Governments – Financial Backers

- Real-time data access
- Equipment and stakeholders performance assessment monitoring
- Control/Monitoring/Planning
- Sharing information with other databases

Repairman/Spare parts Dealer

- Easiness of daily data collection
- Data flows control/monitoring

Local Private Operator

- Virtually real-time data flow monitoring
- Equipment update
- Financial monitoring of sales

Manufacturer

- Pumps monitoring
- Stimulation of after-sales service
Thank you!