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# Lofty Goals Meet Financial Reality: The Power of Innovated Social-Business Partnerships— Bringing Safe Drinking Water to Bangladesh

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## Abstract

Grameen Veolia Water (GVW) is a social business launched in 2008 by a Bangladeshi NGO and a French multinational company to provide safe water to poor and rural areas in a context of arsenic contamination in Bangladesh. The joint-venture has managed to implement access to safe water, but sales remained initially far below forecasts. The existence of an urgent need for clean water to avoid arsenic contamination did not translate into the existence of a market and willingness to pay for clean water. GVW thus launched an action plan that involved hiring local people to raise awareness, cross-subsidization with sales in urban areas and a new performance measurement system. This plan allowed GVW to overcome the initial difficulties and dramatically improve its performance and sustainability. This case illustrates how challenging and rewarding the search is for new and innovative ways to combine social impact with financial sustainability.

## Introduction

Grameen Veolia Water (GVW) is a joint-venture launched in 2008 between a French multinational company - Veolia - and a Bangladeshi NGO - Grameen - to provide access to affordable drinking water for the rural populations of Bangladesh. The mission of the joint-venture was defined, from the start, as follows:



“A company dedicated exclusively to the performance of projects and/or services within the framework of

**bringing safe water drinking water to the people of the country**, to the poorest and the disadvantaged people particularly in the remote areas.”

(Joint-Venture Agreement). With lofty goals in mind, the partnership was soon tested in the village of Goalmari and had to adapt to several unexpected twists and turns before being scalable to other parts of Bangladesh.

## A Joint-Venture to provide access to clean water

Founded in 1853 in Paris as the *Compagnie Générale des Eaux*, Veolia Environment has grown into a French multinational company supplying environmental services ranging from water distribution, waste management, energy services and transport. It has been recognized as one of the world's leaders in the environmental field. Its water division, in particular, has specialized in the contract management of water supply and drainage services on behalf of local authorities or industrial and service companies. Over time, the company has also become one of the world's foremost experts in the development of technological solutions and builders of water plants. In 2008, Veolia Environment employed more than 300,000 people with total sales of nearly €35bn (approx. 82 percent of which were in Europe and the United States).

The idea of GVW arose from a meeting in March 2007 between Eric Lesueur, Project Director at Veolia Water, and Muhammad Yunus, Nobel Peace Prize winner and founding father of the global microfinance movement. It was while listening to Muhammad Yunus, during a seminar on microcredit in Paris, presenting his vision for social business and his experience of working with Danone on the production of yogurts in

Bangladesh, that Eric Lesueur had the idea of adapting the concept of social business to Veolia and its water division. Why not suggest that Grameen join forces with Veolia to develop a safe water supply in Bangladesh? Lesueur, who knew of the unique expertise of Veolia in the field of production and distribution of clean water, was willing to explore new models, especially if they might create social value. His company had committed to make a contribution to achieving the Millennium Development Goals defined by the UN in 2000. Isabelle Hellio, GVW project manager for Veolia, explained:

**“GVW is a solution for access to drinking water to help achieve the Millennium Goals. The main challenge is replicating the model. It is not a question of giving access to 20,000 inhabitants of Bangladesh, but to 1 billion people. This replication could be undertaken by Veolia or other actors. For example, we could develop models of plants for which we could sell licences. Experimentation is necessary to develop ways to replicate. Today’s challenge is to find a way to develop a model that would increase network density from the same plant. It is not a matter of constructing large plants with extensive reach, but of targeting small plants supplying a dense area. Bangladesh is a good site from this point of view because it is a very densely populated country”.**

## Fighting Poverty

Grameen was a very strategically chosen partner in this endeavor. Founded in 1976 by Muhammad Yunus, the Grameen Bank was originally a financial institution specializing in microcredit for farmers without land or resources. In 2008, the bank had more than 8 million borrowers (of whom 95% were women), covering more than 80,000 villages in Bangladesh with nearly 24,000 employees and had lent the equivalent of €800m through a variety of loans, all unsecured. Following its success in microcredit and in light of the legitimacy it had developed in fighting poverty, Grameen had diversified into a large number of business sectors: healthcare through Grameen Health Care, telecommunications with Grameen Communications, Grameen Telecom and Grameen Phone, energy with Grameen Shakti, textiles through Grameen Fabrics & Fashions or education with Grameen Shikkha. The GVW partnership’s potential rested on the undisputed skill of the Grameen Group in dealing with

poor inhabitants of rural areas in Bangladesh, and on Veolia’s complementary expertise in managing water.

The creation of GVW was also a crucial plank part of a broader strategy, driven by Muhammad Yunus, to promote the concept of “social business.” In his book, *Creating a World Without Poverty: Social Business and the Future of Capitalism* (2008, p. 20), he outlined this new concept for the first time:

**“This is a business created to meet social objectives. [...] A social business is a company that does not distribute dividends. It sells its products at prices that enable it to be self-financing. Its owners can recoup the amount they invested in the business over a period of time, but none of the profit is paid to them as dividends. Instead, profits made by the business remain within it to finance its expansion, to create new products or services, and to do more good in the world.”**

## A Social Business

The particularity of the “social business” model therefore arises from the combination of an equity-based legal company form and socially-targeted action, as well as the commitment made by the shareholders not to pay themselves dividends. The “No Dividends, No Loss” principle, enshrining the need for sound management but also reinvesting the profits into the company’s business, was the signature of the “social business” concept. This approach is related but separate to the “Base of the Pyramid” (BoP) approaches developed since 2002 from the article and subsequent book by Hart & Prahalad, *The Fortune at the Bottom of the Pyramid* (2002), which aimed to engage businesses in maximizing their profit by developing new markets to benefit the poorest populations. It was part of a broader search for what Bill Gates termed “compassionate capitalism,” which balances financial and social return.

## The drivers and motivation for the project

Veolia Environment had no presence in Bangladesh, and was not intending to use this project to enhance its local activities. In line with Yunus’ “No profit, no loss” principle, this project was also not intended to create new sources of profit for the company. However, GVW was also not considered part of the company’s philanthropy or sustainability activities. Affiliated to Veolia Water India, the company’s operational division, and

to the Innovation Division, GVW was actually developed as a “reverse innovation”<sup>1</sup> approach, within which social innovation had the potential to generate innovation benefiting the company’s main business.

This reverse innovation approach was particularly interesting for Veolia in the context of the company increasingly being called upon to respond to water supply issues in developing countries and to take account of underserved populations in its contracts.



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Thus, in 2002, Veolia Environment Morocco worked with Moroccan state authorities to develop “Social Connection” projects as part of water distribution contracts serving the 3 million inhabitants of Tetouan, Tangier and Rabat. These programmes were intended to connect public utilities to 120,000 low-income families living in slums whose homes were not connected to water, drainage or electricity supplies. In India, Veolia Environment had also been asked to include a social dimension in its contract with the city of Nagpur, India’s first public-private partnership for drinking water. Under this agreement, Veolia Environment agreed to supply access to tap water for all homes, 24 hours a day, seven days a week to the city’s 2.7 million inhabitants, 36% of whom lived in slums without a supply of drinking water.

## Focus on rural areas

However, the programs developed by Veolia Environment in India and Morocco were very different from the GVW project. While the Moroccan and Indian projects fell within the traditional scope of Veolia’s expertise, managing public-private partnership contracts on behalf of urban areas, the GVW project was intended to be developed in a rural environment, in a setting where no public authority existed and where the population was homogeneously poor.

Consequently, the initial assumption was that the business model could not be based on a cross-subsidy between more affluent and poorer populations. The challenge in Bangladesh was to rely only on revenues from poor people. For Veolia, their approach to the project was to develop new expertise and experience which would in principle be useful to the company’s

objective of increasing operations in other developing countries. This new expertise was not technical, because Veolia knew how to produce good quality water at low cost in these regions. It was more a question of Veolia mastering the process of distributing water in rural areas, without a public intermediary or a base of more affluent customers.

Finally, the GVW project enabled Veolia Environment to respond to major challenges to its legitimacy by certain NGOs, which considered that access to water to be a right and public responsibility, one that should not be managed by private interests. The end of privatization of water distribution in Paris, and the founding of a public municipal authority in 2010 to manage this resource, as well as the release in 2010 of a highly critical documentary – “Water Makes Money” – of French water multinationals raised all kinds of issues at the heart of the sustainability of Veolia’s economic model.

## Access to Safe Water in Bangladesh

Bangladesh had faced, over the years, many water-related issues. Up until the 1970s, the great majority of the Bangladesh population used surface water, which was shown to be unfit to drink due to the bacteria and viruses that grew in it and that caused numerous severe cases of dysentery. From the 1970s, faced with alarming infant mortality, UNICEF decided to join forces with the Bangladeshi government and the World Health Organisation to construct and promote the use of tube wells using groundwater with less bacterial and virus contamination. As a result about ten million tube wells were built throughout the country, contributing to a quartering of infant mortality in 30 years (from 193 per thousand in 1980 to 57 per thousand in 2008<sup>2</sup>). The population rapidly adapted to this new means of consuming water. In 2010, 81% of the population had access to an improved drinking water source and 80% in rural areas, mainly through the use of tube wells (WHO and UNICEF, 2012).

Unfortunately, when millions of wells were drilled in Bangladesh, no one suspected that the water tables from which the water would be drawn were contaminated by arsenic, as a result of geologic contamination, i.e. from the ground and not from human activities. Arsenic is naturally present in the soils of the Himalayas and was found in a number of the country’s water tables.

Tasteless and odorless, the arsenic was also colorless and poisonous. Unlike bacterial contamination, the effects of ingesting arsenic took 5 to 10 years to appear, but they were dramatic: consuming arsenic in drinking water or food cooked with contaminated water could lead to skin problems (loss of skin pigmentation, lesions, loss of sensation), skin, bladder, kidney or lung cancers as well as diseases of the blood vessels in the legs and feet.

<sup>1</sup> Govindarajan & Ramamurti, 2011

<sup>2</sup> The World Bank (<http://www.worldbank.org/>)

It was estimated that 35 to 77 million people in Bangladesh were chronically exposed to increased arsenic concentrations in drinking water. Among them, it was estimated that one adult death in 10 would be due to a cancer caused by this exposure to arsenic.

## The water ‘looked’ good

The challenge of combatting arsenic contamination was not only technical but also socio-cultural. How could local people be convinced that perfectly clear water could be dangerous for health, particularly when the first signs and symptoms developed many years after ingestion? How could inhabitants be encouraged to change a habit only recently formed, namely drawing water from wells? Additionally, consumption and distribution of water carried strong cultural associations and meanings. In Bangladesh, it was traditionally the girls and young women who carried water. They did this using the *kolosh*, a round pitcher following the shape of the female body and supported on the hip. The *kolosh* was consequently associated with femininity in such a way that a man carrying a *kolosh* was generally an object of derision. The *kolosh* was further associated with being old-fashioned. The most well-off families therefore aspired to seeing an end to the practice of carrying water, to display their social status. The most modern and prestigious water sources were thus private tube well or tap water. However, these fundamental cultural factors, which would significantly influence the development of the GVW project in Bangladesh, were familiar neither to Veolia, which had a poor understanding of the Bangladeshi situation, nor to Grameen, which had not investigated in-depth the issues of water consumption in rural areas.

Based on these criteria, Grameen recommended putting in place the joint venture’s first pilot project in Goalmari, a village with 20,000 inhabitants located 50 km from Dhaka, alongside the Meghna river.

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**83%** of the 1,648 wells of Goalmari were contaminated with arsenic.

## Off to a difficult start

The two partners initially engaged enthusiastically in this new partnership and adventure. Given the highly innovative nature of their approach, both partners very quickly agreed to adopt an experimental approach based on the “learning by doing” approach, thus confirming the status of this project as a research and development exercise. Activities got off

to quick start to meet the pressing health challenges on the ground and a pilot was soon undertaken.

A first important decision was made regarding the location of the project. Eric Lesueur, at Veolia, insisted that the village targeted should be affected by arsenic contamination to ensure the highest possible social impact. Furthermore, it was important that the project location be easily accessible from the capital Dhaka to facilitate project management. Finally, proximity to a river was an important criterion for the project’s technical feasibility, since Veolia had taken the decision, after various technical analyses, to produce GVW water by filtering surface water.

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The first steps of building a water treatment plant at Goalmari were taken rapidly. Two Veolia engineers were tasked with drawing up plans for the plant and supporting its construction on the ground, starting in July 2008. Veolia’s technological expertise enabled this plant to be constructed very quickly, while still meeting the highest water quality standards. In 2009, after a few months’ work, the plant was fully operational. Its opening was attended by Muhammad Yunus and Antoine Frérot, CEO of Veolia Environment, demonstrating the strong commitment of both parties to the project. In terms of supply and distribution, a pipe network was also built. The central pipe followed the route of the roads and then supplied the village’s various hamlets through public tap points, where GVW water sellers were selling water during specific opening hours. A few private connections in house were also made available to a few wealthier households. In line with the objectives of the partnership, the price of the water was set very low so that it would remain affordable for poor households.

## 80% penetration

Given the public health scope of the project, ambitious objectives were set from the beginning. The objective was to achieve a penetration rate of 80% of the village’s population. It was estimated that each family’s daily requirement was about 30 litres (10 litres to drink and 20 litres to prepare cooking). The plant was therefore built to meet these goals, and could reach an output about 60 m<sup>3</sup>/day. It was thought that during the first year the plant would only be used at 40% capacity, but that it would be running at full capacity by the second year. These forecasts should have led to the consumption of more than 16 million litres of water. Anticipated sales for 2009, based on these forecasts, were about 5 million Bangladeshi Taka (BDT)<sup>3</sup>. GVW did not expect to cover all its operating costs during the first year. The plan forecasted breaking even starting

in 2014 through the achievement of economies of scale, with a continuous increase in water demand of 5 percent and the opening of new tap points in a second phase.

And yet, after almost a full year in operation, the situation was radically different. While the quality of the water produced was excellent, as shown by frequent analyses performed by the team and outside experts, sales remained far below forecasts. Measurements of consumption indeed indicated considerable discrepancies between forecast consumption and actual consumption. Penetration rate was under 10% and financial results made the prospects bleak of ever getting to break even. An action plan was launched in 2010 to address this critical situation.

## The 2010 action plan

The action plan implemented in 2010 included three main steps. The first one was to launch an anthropological study to better understand the use of water by local people and why people did not buy GVW water. It is this study that allowed both partners to identify the social and cultural obstacles to the purchasing of GVW water from the public taps. This in-depth understanding of local customs and habits led to a new organization and the hiring of “auxiliaries”: local staff organizing communication campaigns to raise local people’s awareness about the importance of clean water consumption. Importantly, auxiliaries were hired as distinct staff, with no overlap with water dealers who sold the water – all to avoid any confusion between the two roles.

A second major step involved the launch of a new line of income generating activities, in order to improve the financial sustainability of the venture. In October 2011, a new “Jar Business” was launched in Dhaka City, capital of Bangladesh. Twenty-liter jars were produced in the Goalmari plant and shipped by boat to Dhaka City to be sold to corporations or public institutions at a price 14 times higher than the local price in Goalmari (70 BDT / 20-liter jar). The goal of this new urban activity was to cross subsidize the rural activities, which remained at the heart of the JV’s mission. This move was designed to help GVW reach breakeven more quickly and remain sustainable in a context where rural sales were taking off rather slowly.

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The third key pillar of this action plan was to develop a performance measurement system specifically designed to monitor performance in the context of a social business. An exploratory health study, conducted in the field by Veolia’s

research centre and an independent Bangladeshi research centre, showed a causal relationship between the presence of arsenic in drinking water points and arsenic contamination of inhabitants. This confirmed that the consumption of clean water should have a positive impact on the health of inhabitants.

## Embedding performance assessments

When the partnership was launched, GVW leadership had set as a main performance indicator the health of consumers, assessed in comparison with the health situation of non-consumers. This social impact was very difficult to measure in the short term, given the time required for health improvement to become measurable and the lack of a large enough sample of consumers to conduct a conclusive statistical analysis. Convinced that the monitoring of performance was key to achieving the partnership’s mission, the leadership team thus decided to embed performance assessments in the operational management of the project.

An important issue faced by the team was its capacity to achieve the targeted penetration rate as well as the average consumption levels in the various boroughs of Goalmari, two conditions that were essential to positively impact the health of Goalmari’s inhabitants.

The performance management system thus moved from a broad focus on health improvement to a more targeted focus on operational Key Performance Indicators (KPI). The leadership of GVW decided to develop a combination of social and economic KPIs designed to monitor the dual performance of the JV: achieving a social impact with a sustainable commercial business model. The following indicators were thus monitored on a monthly basis:

- 1 Number of people with access to GVW water in the Goalmari area, to monitor the accessibility of GVW water for the community.
- 2 GVW rural penetration rate, to measure the proportion of local households consuming GVW water. This rate did not indicate, however, whether these households were occasional or recurrent customers.
- 3 Rural regular consumption rate, to assess the degree to which these households were consuming clean water only occasionally, or whether they had in part or fully replaced the consumption of contaminated water by clean GVW water.
- 4 Self-financing rate, measured by the ratio between sales turnover and the sum of direct costs, head office costs and depreciation (excluding R&D costs supported by Veolia), to assess the financial sustainability of the venture.

The introduction of these KPIs allowed GVW to develop a shared vision of what the key objectives of the company were.

<sup>3</sup> 1 BDT = 0,013 USD at the time of publication of the case

The combination of social and financial indicators ensured that the economic objectives (achieving economic sustainability) would not take precedence over social ones (increasing the level of consumption of clear water for populations exposed

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to arsenic). These indicators were mainly focused on the rural water distribution activities because they were critical in driving social impact. KPIs thus helped avoid mission drift by focusing organizational attention to these issues, as opposed to the urban jar work in Dakka, that was generating cash but had no direct social impact.

## GVW achievements by 2016

Over the following years, GVW's performance dramatically improved. In January 2016, GVW provided drinking water to almost 10,000 people in the Goalmari area, distributed through 50 tap points and 74 house connections. The price was set at 2.5 BDT per 10 liters. This made access to water affordable for the local population since it kept the cost of water consumption at levels equivalent to 2% of the local households' budget.

The number of people with access to rural water doubled from 2010 to 2016, demonstrating GVW's ability to develop access to clean water to Goalmari's population.

The rate of penetration increased from 2% in 2010 to 50% in 2016, which confirmed the value of the approach relying on auxiliaries to make inhabitants aware of the importance of drinking clean water.

Regular consumption by households also increased, over time, reaching 35% in 2016. As a result, the economic sustainability of the JV was improving and breakeven was in sight for 2020. The launch of GVW positioned Veolia as a key player in terms of social innovation through new business models: It demonstrates that an approach that was neither philanthropy nor "business as usual" could contribute to achieving Millennium Development Goals. The trial and error approach had proven very useful to develop effective socially innovative solutions.

## Lessons learned

The analysis of the GVW case provides interesting insights for Veolia and for those interested in these emerging social business models. In particular, the case suggests that these social business models require different, adaptive, and innovative approaches to project management.

First, the GVW case illustrates that the existence of a social need (here, a need for clean water to avoid arsenic contamination) does not necessarily translate to the existence of a market (here, a demand and willingness to pay for clean water). People in rural Bangladesh were not aware of this need or did not intend to satisfy it by purchasing safe water. In the GVW case, a combination of fear of stigmatization, a lack of information, as well as the availability of free alternatives (contaminated tube wells water) hindered the conversion of a need into concrete demand, thereby jeopardizing the ability of the venture to achieve its mission. As a social business willing to resort to commercial rather than philanthropic means to serve that need, GVW thus had to develop strategies to create a workable market. This meant investing time and resources to learn and understand the real needs and perspectives of the targeted population, the cultural and economic obstacles to the satisfaction of that need, and the steps required to transform a need into marketable demand.

Other social business have faced similar issues, including Grameen Danone, the joint venture developed between the agri-food MNC Danone and Grameen, whose mission is to alleviate malnutrition among children by selling fortified yogurts. For the target population, the added value in terms of nutrition was not obvious at the beginning and was actually less important than the taste of the yogurt. As GVW, Grameen Danone had to transform a social need – alleviating malnutrition – into a marketable demand for yogurt.

The GVW case further demonstrates the importance of performance monitoring in social businesses. As companies pursue a combination of social and financial goals, social businesses are prone to mission drift. The impetus to achieve financial sustainability may lead to the development of activities that distract the organization from pursuing its social mission.

In the case of GVW, the development of the Jar business targeted to the middle and upper class in the city was just such an activity. It may have been required to achieve financial viability, yet it proved potentially "distracting" from the goal of providing access to clean water to the poor rural populations of Bangladesh.

To achieve a balance between social goals and financial goals, performance measurement proved to be key because it helped team members focus their attention on the organization's most

important objectives. The careful definition of multiple mission-focused performance measures was essential to the achievement of both social and financial goals. Such multi-dimensional performance tools are required for initiatives that have social impact and financial sustainability as joint objectives.

Finally, the GVW case highlights the value of business models involving cross-subsidization, where affluent clients pay a higher price for a product or service that allows the product or service to be offered at a much lower price to poor clients. Such models have been developed in a variety of fields. In the health field, the Aravind Eye Hospital offers eye surgery to middle and upper class clients at a price that allows them to offer this service almost for free to poor patients. In the energy sector, d.light sells solar-powered lights and power systems to affluent clients to subsidize more basic products for poor clients. Such cross-subsidization models may involve the provision of the exact same product at different price to different types of clients (such as Aravind), or the provision of differentiated products to different clients (such as d.light or GVW). These models are relevant when a market for a product (or an upgraded version of it) exists and the company has the capacity to adapt its model to different markets.

## A final note

While it is clear from the GVW case that social business models are not easy to implement, it is also evident that these models have value as the search goes on for new models for sustainable social innovation. No pure philanthropic or business approach would have had the potential to address the issue of clean water access in Bangladesh. A pure philanthropic model would have made it difficult to find the capital and expertise required to build the required facilities, while a pure business approach would not have been able to accept lower profit margins. Today, the search for new and innovative ways to combine social impact with financial sustainability goes on, as companies and non-profit organizations around the world look to find the best of the corporate and charitable approaches. The GVW is one example that shows just how challenging and rewarding this search can be.

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