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Byrraju Foundation SWEET Water Project

BY GITA JOHAR*

ABSTRACT

In January 2009 a team of students traveled to India to study the Byrraju Foundation's SWEET (Safe Water for Everyone Using Effective Technology) initiative. The team's charge was to make recommendations to Byrraju about how to increase usage of their safe drinking water throughout India.

CONTENTS

* ***Meyer Feldberg Professor of Business, Columbia Business School***

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Background

In the winter of 2009 Gita Johar, a marketing professor at Columbia Business School, led a group of students on a trip to India as part of her Global Marketing Consulting for Social Enterprise class.

Click here for an introduction to the world they would be visiting.

At the outset of the term, the class was broken out into teams, each of which was matched with an Indian client company. In the middle of the term the class travelled with Professor Johar to India to conduct firsthand research on their clients and their clients' customers. One student team—Cathrin Neugebauer (team leader), Erica Lock, Marielle Nagy, and Nicole Murphy—was assigned a consulting project for the drinking water program of Byrraju Foundation, an organization whose mission, according to its website (www.byrrajufoundation.org) was:

> …to build progressive self-reliant rural communities—adopting a holistic approach—by providing state of the art services in rural healthcare, environment, sanitation, primary education, adult literacy, and livelihood development. Currently, Byrraju Foundation runs over 40 diverse self sustaining services in 200 villages in Andhra Pradesh in India impacting over 3 million people.[1]

Click here to view Byrraju Foundation Chief Integrator Verghese Jacob discuss Byrraju Foundation's business model.

Through its work in these communities, Byrraju had observed that a high percentage of the people they treated at village health centers were suffering from waterborne diseases. This lack of clean drinking water had serious consequences for many Indians in the so-called Bottom of the Pyramid (BoP) segment. Studies indicated that waterborne illnesses, such as diarrhea, cholera, dysentery, viral hepatitis, typhoid, and poliomyelitis, accounted for 80% of the targeted population's ailments.[2] Diarrhea alone caused roughly 70,000 deaths in the Andhra Pradesh region each year.[3] In addition, 33% of the residents of rural Andhra Pradesh were children under age 15,[4] the age demographic most vulnerable to these waterborne illnesses. In an attempt to remedy this situation, Byrraju launched the SWEET (Safe Water for Everyone Using Effective Technology) initiative in 2004 to combat the health problems associated with contaminated drinking water.

Byrraju's approach to the clean water issue was to build water purification plants in many of the rural villages in which the foundation already had a presence. To build the plants and cover the costs of the program, Byrraju split construction costs with each village and charged villagers two rupees, or about

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[1] "Who We Are: The Vision," *Byrraju Foundation Web site,* http://www.byrrajufoundation.org/html/aboutus.php?cat=a1.
[2] Dandu Radha Prasada Raju, "Project Safe Water for Everyone using Effective Technology (SWEET)," *changemakers Web site,* March 5, 2008, http://www.changemakers.net/node/6160 (accessed April 15, 2009).
[3] Dandu Radha Prasada Raju, "Project Safe Water for Everyone using Effective Technology (SWEET)."
[4] *Census of India: 2001*, www.censusofindia.net (accessed April 15, 2009).

$.05, per 12-liter jug of water. The model was designed to be self-sustaining: if 500 households bought one 12-liter container per day, a plant would cover its costs.[5] (See Exhibits 1A, 1B, and 1C for Byrraju's operational, capital, and marketing models for its water filtration program in India as presented in an October 2008 *Monitor Report*).

By June 2008 Byrraju operated 57 water purification plants, each serving two or three villages; collectively they supported the water needs of 160 villages throughout the Andhra Pradesh region and gave Byrraju the potential to reach 850,000 people through the SWEET initiative (see Exhibit 2).

However, nearly five years after the initiative was launched, only 46% of the people in Byrraju's targeted villages were drinking Byrraju water on a regular basis; an additional 5%-10% drank it occasionally.[6] Villagers who did not drink Byrraju water typically got their drinking water from a village pond, well, or a rural water supply from village overhead tanks constructed by the government; the specific source a village relied on (other than Byrraju water) was determined by which was most readily available. As their main alternative to Byrraju water, roughly 60% of villages relied on irrigation canals and roughly 40% relied on ground water.[7] While water from these sources was free and readily available, it was not purified.

The Initial Strategy

THE ASSIGNMENT

The team's project was to develop a marketing strategy to improve penetration rates for Byrraju's SWEET initiative. In 2009 75% of Byrraju's plants were breaking even or profitable. Penetration levels hovered between 20%-45% across most villages. The mission for the students' project was to examine the plants that were not breaking even and recommend marketing strategies to increase customer usage and penetration. The team's travel to India would allow them to conduct detailed consumer research through a combination of visits to water plants, face-to-face interviews with villagers, and meetings with other organizations involved with drinking-water initiatives.

ENGAGING THE CLIENT

Before their first meeting, Byrraju representatives sent the SWEET team background information on the water issue in India, on Byrraju Foundation programs, and on previously completed consulting work on the SWEET initiative. At a brief kickoff meeting conducted by phone with Byrraju managers, the team was given a synopsis of the problem facing Byrraju. They were also told that while several world-class consulting companies had looked at the issue of clean water in India—and

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[5] Ashish Karamchandani, Michael Kubzansky, Paul Frandano, "Emerging Markets, Emerging Models: Market-Based Solutions to the Challenges of Global Poverty," *The Monitor Group*, March 2009, 43.
[6] Prasada Raju, "Chapter Four, Safe Drinking Water Scheme in Villages: A Sustainable 4P Model," in *Safe and Sustainable Clean Water Access,* ed. Whitman Direct Action (Thane, India: SMARAN Advertising, 2008), http://www.whitmandirectaction.org/cleanwater/book/chapter-four/ (accessed April 10, 2009).
[7] Dandu Radha Prasada Raju, "Project Safe Water for Everyone using Effective Technology (SWEET)."

more specifically, at Byrraju's pay-per-use model—the team needed to do more work to design actionable marketing programs. Team member Lock recalled:

> We had very little discussion with Byrraju up front about the project. Perhaps because they had presented the problem many times before, they gave a very basic scope of their problem which was that some of their water purification plants were performing well, and others were not. So we did our own research.[8]

THE SWEET TEAM'S DUE DILIGENCE

The team sought to understand exactly where Byrraju's utilization rates were low, but were only able to identify data on India in general or on the BoP socioeconomic strata. Team leader Neugebauer recalled:

> We wanted to do as much work up front before visiting India as possible and we began to be overwhelmed by the scope of the problem and our lack of resources to delve into the issues that faced individual plants and towns.

The team could not locate any specific demographic information on the regions they would be visiting nor were they able to identify water-usage patterns in those areas. So, using the more general data available to them, the team conducted as complete a review of the market demographics as possible before leaving for India, summarizing the geographic, demographic, and behavioral attributes of the target consumer segment. They also completed a comprehensive review of the competitive landscape, which showed that while use of bottled water and in-home filtration systems was on the rise across urban India, these alternatives to natural water sources were financially out of reach for Byrraju's rural target audience. Other foundation-backed competitors, such as Naandi and Poorvi, were making headway in providing clean water to the BoP rural segment, also by building water purification plants within low-income villages (see Exhibit 3).

After completing their initial research on BoP customers, Byrraju, and competition within the drinking-water segment, the team concluded that three key market trends would shape their project:

1. The increasing impact of climate change and aggressive population growth in India was worsening the quality of natural water sources available to rural villagers. As a result, consumers who had historically used those sources for drinking water were being forced to change their water-consumption practices.

2. The need to supply clean drinking water was an issue that was gaining traction within the global community—the Gates Foundation was funding a major explorative research project on the matter across all consumer segments. In addition, commercial enterprises, such as Aveda (which ran a global campaign for clean water in spring 2009) were helping to draw attention to the topic.

3. There was a growing trend in India to educate schoolchildren about the risks associated with

[8] All comments by SWEET team members are attributed to interview at Columbia Business School on May 7, 2009.

> unsafe water sources and incorrect purification methods. To the extent that this trend had the potential to massively impact the next generation's water consumption practices, it was by far the most relevant and critical factor regarding the future of India's water market. [9]

Useful background information regarding safe drinking water in India and models of social change that had succeeded in the past was both provided by Byrraju and uncovered through the team's own research. However, with regard to which elements helped create a successful or unsuccessful plant, Lock said, "We were left on our own."

PRETRIP PLANNING MEETING

To organize their thinking about a marketing strategy for SWEET, the team prepared a SWOT analysis to capture the key strengths and weaknesses of the SWEET initiative (see Exhibit 4). After discussing the information they had uncovered so far, Neugebauer observed:

> We thought this would be a straightforward campaign about raising awareness, and perhaps for some segments about affordability. We thought we could build a marketing strategy around literally showing potential customers the clean, clear Byrraju water next to the dirty, cloudy pond a town typically used for water and a dry government tap. We could put those images on a poster, maybe add some of the health benefits associated with clean drinking water and use that.
>
> On the affordability front, we believed, based on the research we reviewed, that virtually everyone could afford Byrraju water. We thought maybe we needed to do some price sensitivity analysis and evaluate the available substitutes to come up with a strategy on the pricing front, but we felt it would be easy to address.

The Trip to India

The SWEET team flew to Hyderabad, India—the capital of the state of Andhra Pradesh, with a population of just over 8 million people—in January 2009. Their itinerary called for them to spend several days travelling by car to peri-urban villages outside of Hyderabad and then to take an overnight train 400 kilometers southeast for a two-day tour of coastal villages served by Byrraju.

Click here for team leader Neugebauer's first impressions of Hyderabad.

The team members agreed to keep separate journals and make project notes during their stay so that their thoughts and observations would be documented for their final projects. Below are excerpts from these journals, compiled by Neugebauer.

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[9] Erica Lock, Nicole Murphy, Marielle Nagy, and Cathrin Neugebauer, *SWEET Water Initiative Final Analysis*, presented April 2009 in New York, New York.

VILLAGE TOURS: DAY 1

Representatives from Byrraju are taking us to five villages outside Hyderabad today. They brought along a translator so we could converse with villagers. Driving beyond the outskirts of Hyderabad, we could see how dry and arid the natural landscape was; almost desert-like.

Village 1: Byrraju representatives gave us a tour of the water treatment facility, and we learned that this village had an 80% usage rate for Byrraju water. It was clear that access to other water sources was limited and that awareness of the Byrraju Foundation and its water program was very high. Many people were already aware of the health benefits of clean water, perhaps because bottled water use is popular in Hyderabad. The village school also had a healthy-water awareness program in its curriculum. We met many people who loved Byrraju water and thought the quality was excellent and had improved their lives.

Click here to view footage of Byrraju water treatment plants.

Village 2: The second village was a bit farther from Hyderabad and shared the treatment facility in the village that we had visited previously. Distribution was more of a challenge in this village as walking to the facility to pick up the heavy bottles of water was a two-mile trip from the village on a dirt road with virtually no shade. An enterprising teen had been making some deliveries with his father's rickshaw, but had recently stopped because he found better paying work as a day laborer.

A father told us that since his family began drinking Byrraju water, they do not have to visit the village health center any longer because they don't get sick anymore.

A man told us he used to have terrible pains in his legs that made it hard for him to work. Since he started drinking Byrraju water he feels stronger and healthier and has been able to work consistently.

Village 3: This was a smaller village of about two thousand people. The biggest surprise in this village was some consumers' attitudes toward how they wanted to spend the little disposable income they had. We met several villagers who expressed that they would rather spend their money on new clothes or to save for a television than for Byrraju water. We were surprised people chose to spend on what were essentially luxury goods for them instead of such a basic necessity as clean water. Many villagers here expressed skepticism about the health benefits of Byrraju water, citing the longevity of their parents and grandparents who drank only well water. Others preferred the well water or believed the well water was just as healthy as Byrraju water if you boiled it.

Village 4: A woman told us she only bought the water for her children under three, and that she filled jugs from the government water tap for the rest of the family.

Several families said they bought the water only during the rainy season when other sources were muddied with debris.

PROJECT NOTES: DAY 1

Reviewing the day back at the hotel, it seemed that while each village had similar reasons for using or not using the water, there were few usage similarities within demographic segments, or segments

such as health-conscious consumers, across different villages. We might consider using testimonials in a marketing campaign. Not a bad idea given the power of peer review in this country. But who would be the best spokesmen? Based on our conversations today, I'm questioning who our target audience really is for Byrraju's marketing message: women of the house, the breadwinner, or the younger kids who might influence their parents?

VILLAGE TOURS: DAY 2

I realized we needed to focus more on the nonusers of Byrraju water rather than the users to get more insight into how we can induce people to switch to Byrraju. Will try to seek out nonusers today.

Village 1: In this peri-urban village many of the men travelled into Hyderabad to work as drivers and day laborers. The penetration rates were high—many families used Byrraju water, but they used it infrequently. We heard from multiple people that they didn't have time to stop and pick up Byrraju water from the water plant because they had so little free time each day. Water delivery was not consistently available.

Village 2: This village has a low utilization rate—around 15%. The key here is that the villagers have access to a pond that they believe has delicious, sweet-tasting water.

Village 3: We met a woman who was a housekeeper for a wealthy villager. Her employer offered her Byrraju water to bring home every day. She refused it because for many generations her family has collected water at the well and used the well water for their home—and she saw no reason to change her habits.

How can Byrraju gain enough trust to tear villagers away from their decades-old traditions?

Village 4: In this larger village, we met many people who told us their parents and grandparents had used the water for generations and were fine. They couldn't understand why they should buy water when they struggled to make it through each day.

Village 5: We spoke with many people who used Byrraju water in this village, but they used it only occasionally. When we tried to understand why, no one could really explain other than to say that "each day is different" or "life is short, who knows what is going to happen tomorrow." "Figure out today and then worry about tomorrow," was offered as an explanation of why someone would use their extra money on a new sari instead of Byrraju water. We are so used to planning out our lives every step of the way, but we saw these villagers were not thinking at all about the long run. Especially in the villages where there were natural alternatives to Byrraju water—no matter how unsanitary they were—we began to understand that the Byrraju product was seen as a luxury good and not a basic necessity akin to rent or food, which is how we had perceived the product. We still can't get a handle on where to start with customer segments for the consulting review. So far we are thinking maybe influencers, early adopters, the health-conscious, and rejecters?

PROJECT NOTES: DAY 2

After spending time with many villagers it is now clear that awareness isn't our challenge at all. In fact, almost everyone we talked to knew about Byrraju and Byrraju water. There sometimes was a lack of awareness about the health benefits of Byrraju water, but more often it seemed that people had doubts or suspicions about the legitimacy of the health claims. An eye-opening but sobering realization: these engrained beliefs were not going to be changed by an off-the-shelf communication or promotion strategy.

We are starting to understand some of the psychology and culture of the BoP now that we have seen what it really means for people to live on the equivalent of a few dollars per day. The BoP statistics did not tell the whole story.

VILLAGE TOURS: DAY 3

Click here for footage of the team's train ride from Hyderabad to India's southeast coast.

We got off the train in the moderate-sized coastal town of Bhimavaram, 400 kms away from Hyderabad, cars and rickshaws zipping by. Byrraju sent a car for us to bring us to their guest house just outside of town. With white knuckles we rode in the back of the car, speeding around a seemingly random route, honking almost continuously through crowds of people and animals, around stalls selling wares and food, around rickshaws, bicycles, and children playing games in the road. There were no stop lights or stop signs.

Village 1: The paradox continues. We had been surprised by what we viewed as short-term decision making by some people we spoke to, but we just left a school where girls about the age of 13 were studying. They were so excited to see us and seemed entirely future-focused! They were so open and friendly; expressing little interest in American pop culture or materialistic things. We heard about their plans to be doctors and engineers; they wanted to know about our families and work and hobbies.

Village 2: One villager told us that he had missed many fewer days of work due to illness after he began using Byrraju water. Another told us her son missed many fewer days of school. Another woman told us she had fewer pains and felt stronger.

Several people thought it was silly to pay for the water, period. They flatly refused to accept that drinking this water would make them or their children healthier. Some of them went so far as to say that if the water were free, they still would not want it, because the other water sources were closer and more convenient for them.

Village 3: A customer told us she much preferred the taste of the water she fetched from the local river to that of Byrraju water, which was tasteless. Many others we met complained about the difficult access to Byrraju's facilities compared to their own local sources.

Click here for footage of villagers fetching Byrraju water.

PROJECT NOTES: DAY 3

The more people we talked to, the more confused we became about how to classify users into the segmentation buckets we had been taught to use. Whether we applied demographic, behavioral, psychographic, or even more basic principles, such as purchaser type (initiator, influencer, decider, purchaser), we could not detect a pattern across all the customers we spoke with. Instead, it became clear that each village needed to be segmented uniquely, as the villages and the villagers' circumstances were utterly different. It is clear that applying a traditional segmentation strategy would be virtually meaningless for Byrraju because it would not be actionable.

We started to feel totally overwhelmed and dejected. How could we overcome the deeply entrenched psychological beliefs that prevented customers from using water that was good for them? We went from feeling that this project would be easy to feeling as if it would be impossible to accomplish! Thinking about Byrraju's marketing mix, there were few levers we could move to address these deeply engrained beliefs about drinking water. Maybe educational programs, but it would take time to make an impact.

Specific learnings from today include that educational/promotional materials need to emphasize that the highest quality water should be tasteless and colorless. Also, I am convinced that using local success stories as part of a marketing strategy could be a really impactful tactic. Also, have been thinking about the literacy rates in the villages we have visited and whether mass media is accessible enough to be impactful for this target audience. Need to check rates and media-reach information…

VILLAGE TOURS: DAY 4

Village 1: The main source of jobs in the village is rice farming. We travelled along the one main road that parallels the river, watching women in colorful saris washing clothes and laying them on rocks to dry. Men were bathing their cows and men were up in trees harvesting coconuts.

When we veered along some dirt roads, we could see the wells built in some people's backyards as well as the location of several government taps where water is sporadically supplied.

The men we spoke with worked from very early until very late. Their wives were in charge of collecting water, and the men were happy for them to collect the free water, especially since they felt they didn't have time to pick up Byrraju water.

Before we came to India, we thought of gaining access to clean drinking water as something everyone would automatically want to make sacrifices to do. It became clearer and clearer that making Byrraju water a priority took a lot of effort and scarce disposable income.

Village 2: This village had a popular pond that was the main source of drinking water for its population. Again we heard from a nonuser that her parents and their parents had been drinking from the local pond for hundreds of years and that they never got sick. She boiled the water and thought it was fine. Another woman did not believe that clean water would make her healthier, and she thought it absurd to pay for water when there was free water down the road.

Village 3: This village shared the treatment facility with the last village. Four customers told us they can use the local pond, backyard wells, or the government tap for free and that all three are located more conveniently than the Byrraju plant.

Two women told us their children asked them to try Byrraju water because they had learned about it in school, and they believed their families were all healthier because of Byrraju water.

Village 4: Several customers told us they use Byrraju water for their infants in the rainy season. Another man told us he had visited a Byrraju clinic nearby and they had treated him for a waterborne disease and now he uses the water to stay healthy.

In the car heading back to the Byrraju compound. We are all a bit anxious because we haven't nailed down a framework for the marketing strategy. We were getting nowhere fast with a segmentation strategy. We decided to look at the marketing mix as a whole—product was set, price was pretty set, distribution could use some work; we heard a lot about convenience and delivery. But we knew what Byrraju was looking for were promotion strategies to increase usage. Finally, we decided to get back to basics…forget trying to bucket people by common attributes across villages. Maybe create programs which address the reasons people don't use Byrraju water within each village—create a marketing toolbox that can be customized within each village to win over the non-users. Finally, a notion that might add real value to the foundation's strategies.

PROJECT NOTES: DAY 4

It sounds silly as we write it down after the fact, but it was a revelation to us that we could diverge from the client's original request. Suddenly we realized we could suggest impactful strategies if we just reframed the problem—it was a real "Aha!" moment for us and reenergized us to address our task. After spending time with Byrraju users and potential customers and seeing the treatment sites and varying topography, we now see that the foundation's challenge is to develop strategies to eliminate the "obstacles to adoption" (OTAs) we have been finding within each village. This concept addressed the problem we struggled with once we saw the on-the-ground realities of life here—each village contained a homogeneous group that could be segmented, but we could not categorize across villages in any meaningful way.

VILLAGE TOURS: DAY 5

Click here to view footage of remote villages also served by Byrraju.

Here we heard mostly that people had many convenient ways of collecting water, so many families used Byrraju water only sporadically, if at all.

Village 1: Byrraju also operates a health clinic in this village. We met a woman employed by Byrraju who visits homes to educate villagers about the importance of clean drinking water. She made a strong impact and many families were using Byrraju water. She believed that the next generation will be much more likely to drink only purified water because of the education they receive about clean water in school.

Village 2: Several women told us their families have been collecting water at the town well for generations. Each day they meet and discuss family life with the other women at the well, and it seemed to be a social outing that was important to many. Two of the women actually said the same thing to us: "Who are we to break with tradition?"

Village 3: Here utilization was very low. We met with the water-plant operators (two local young men) to try to understand differences in process flow or customer service. They believed that because this plant was located on the outskirts of the village, people did not want to carry the heavy jugs back to their homes.

PROJECT NOTES: DAY 5

We should do a cost analysis of employing more outreach workers as it seems to be a successful strategy. Also, we are struggling with our new understanding of how Byrraju water is seen as a luxury good by many people rather than a basic necessity. How should this be reflected in our final project?

FINAL OBSERVATIONS

We are committed to the belief that to increase Byrraju water usage, marketing plans must be tailored to each village, not created in the abstract for a demographic segment. Our idea of segmenting the market by OTA would provide Byrraju localities with actionable tools to overcome each of their identified barriers. Using a menu of identified challenges, each village will be able to self-diagnose the specific obstacles that affect it. Providing villagers with this sense of autonomy ensures better buy-in and support for the proposed solutions and addresses the possibility that a village may face a complex combination of OTAs. In addition, this unique approach to segmentation mitigates the need for conducting difficult-to-access consumer research to correctly identify traditional consumer segments within each village (i.e. influencers, the health-conscious, etc.).

So far we have outlined the following OTA categories (they spell out WATER!):

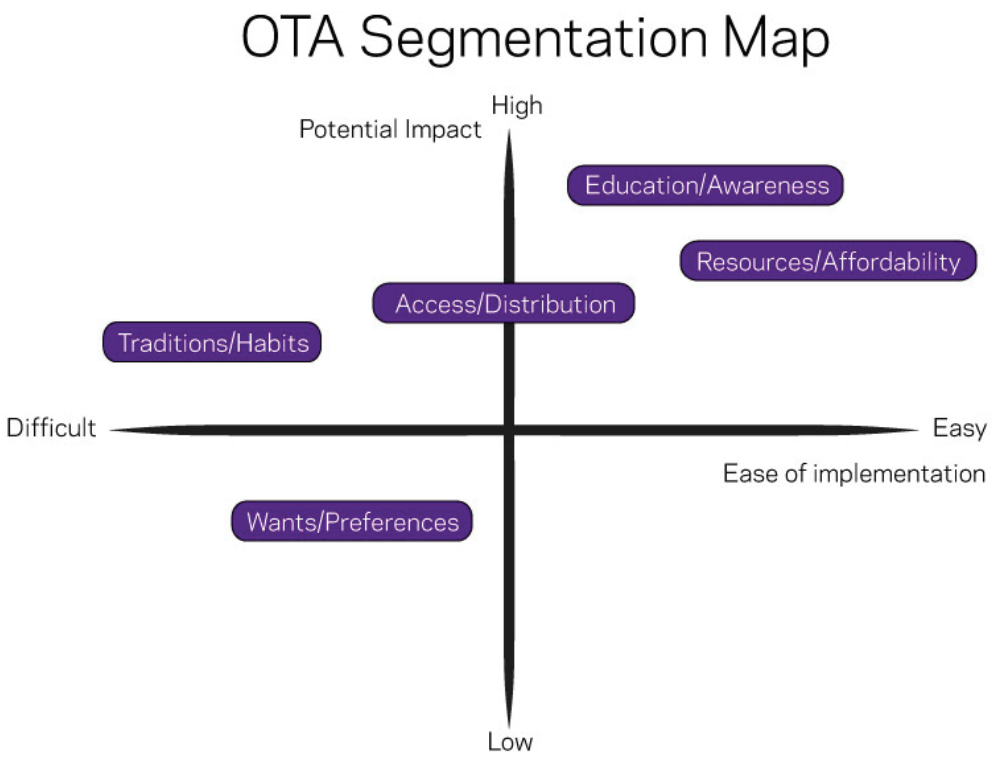
1. Wants/Preferences
2. Access/Distribution
3. Traditions/Habits
4. Education/Awareness
5. Resources/Affordability

Presentation is finally taking shape….

Final Presentation

The SWEET team pondered both which recommendations would make an immediate impact on Byrraju water usage as well as which longer-term strategies, such as advances in distribution and

education, would ensure the continuation of the program. As a first step, they created the following segmentation map:



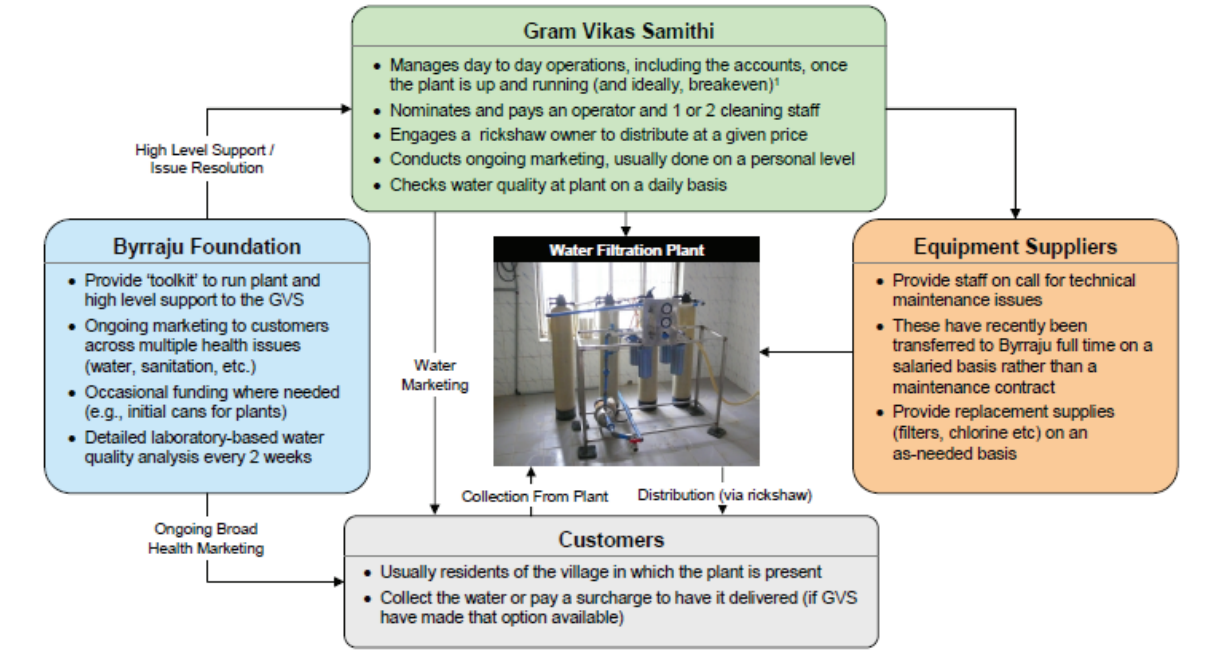
They also achieved consensus about the need to develop an "Ambassador Program" to encourage usage (see Exhibit 5), but wondered what other recommendations they could make to Byrraju that would help the foundation increase usage of their safe drinking water throughout India?

Exhibits

Exhibit 1A

Byrraju Foundation: Operational Model

The Gram Vikas Samithi operates the plant on a day-to-day basis, but the Byrraju Foundation provides high level support when needed



Note: For a typical plant; [1] In some instances an entrepreneur takes over the running of the plant, and the GVS oversees and provides guidance
Source: Monitor Analysis; Byrraju Foundation

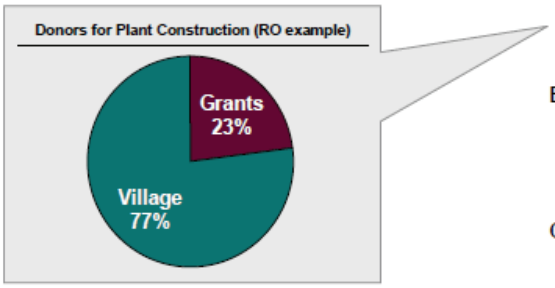
Source: "Market Based Solutions to Social Change in India: Community Water Filtration Models," *Monitor Inclusive Markets*, October 2008, 7.

Exhibit 1B

Byrraju Foundation: Capital Model

Capital costs are roughly split between building and equipment expenses; village donations make up the majority of the funds needed to construct the filtration plant

Uses of Capital	
Building (500 sq. feet):	Rs. 4.0 lakhs
Equipment and Installation:	
• Conventional:	Rs. 3.5 lakhs
• Reverse Osmosis:	Rs. 4.5 lakhs
Total	**Rs. 7.5–8.5 lakhs**



Sources of Capital

Village Equity

- Residents pay for the building and 50% of the equipment costs
  - 5.25 lakhs, or 84% for a conventional plant
  - 5.75 lakhs, or 77% for an RO plant
- Village donors are usually the highest income in the village or even non-resident villagers who earn in the cities
- The number of donors ranges between 5 and 100 depending on the village

Byrraju Foundation

- Donates the remainder, i.e., 16%–23% of plant cost
- Mobilizes funds from within and also external donors

Gram Panchayat

- Often donates land close to the water supply

[1] For an RO plant [2] The actual capital structure varies from plant to plant

BZR-SAB-Extedning Pay per use Models-15062008-MA 6

Note: A lakh is equal to 100,000 rupees (Rs.).

Source: "Market Based Solutions to Social Change in India: Community Water Filtration Models," *Monitor Inclusive Markets*, October 2008, 6.

Exhibit 1C

Byrraju Foundation: Marketing Model

Byrraju employs a largely informal marketing model which relies heavily on the GVS for door-to-door marketing and billboard-style generic health messaging

	Description
Pre-Launch	• **Gram Vikas Samithi volunteers raise awareness about the plant** – Generally a door-to-door operation with all the households in the village – Health benefits of clean water are explained and testing vials or TDS meters are sometimes used to demonstrate the poor quality of the source water – They may focus on the higher income houses for the purposes of collecting donations
During Launch	• **Purified water is given away free for the first two weeks** • **General health messaging painted on village walls and houses** – e.g., *"Let's work together and reduce pollution"* (see below) and *"Cleanliness of drinking water provides security for health"*
Ongoing	• **'Awareness Van' covers all Byrraju's adopted villages, roughly twice a year** – Shows videos in common village spaces – Generic health and sanitation marketing • **Very little other sustained marketing** – BF guidelines state that plant operators should visit '10 families a day' to increase awareness – In some villages, free water given to schools

Typical Byrraju Foundation health messaging painted onto a wall in the village of Palakoderu

Source: Monitor Analysis; Byrraju Foundation

BZR-SAB-Extedning Pay per use Models-15062008-MA 8

Source: "Market Based Solutions to Social Change in India: Community Water Filtration Models," *Monitor Inclusive Markets*, October 2008, 8.

Exhibit 2

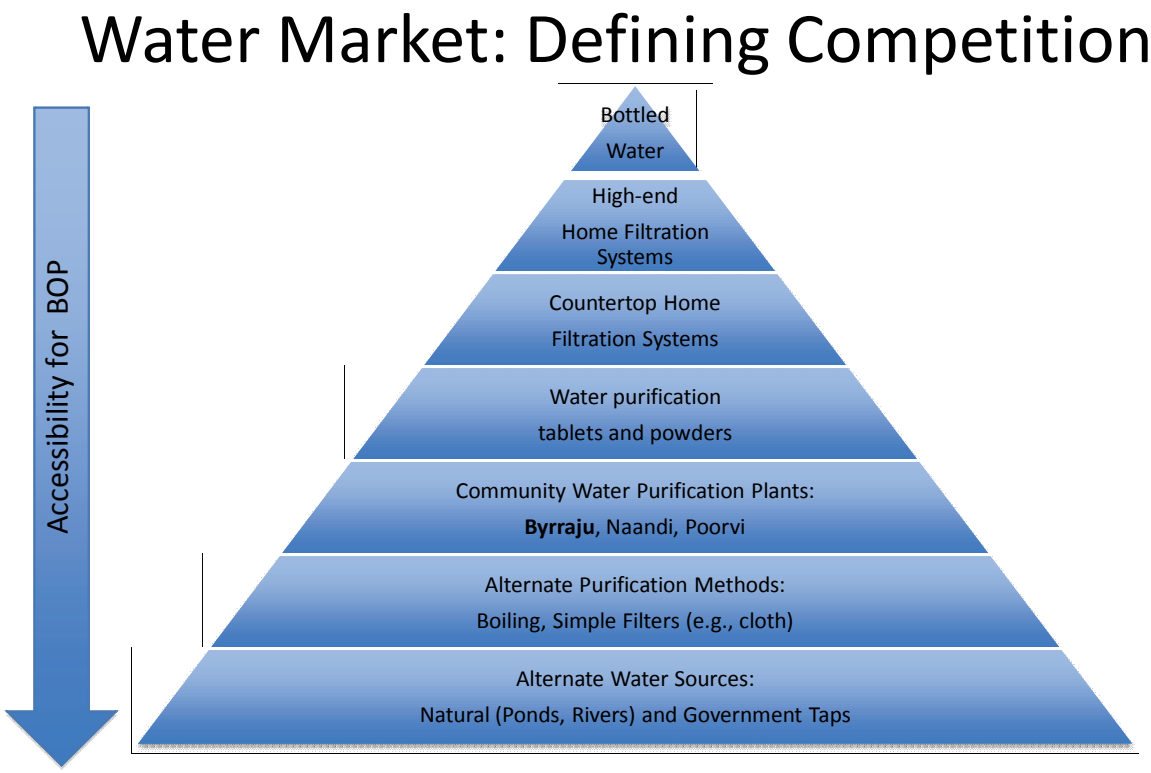
Water Treatment Plants as of June 2008

	Operated by Byrraju	Operated by Competitors	Total
No. of plants installed	57	18	75
No. of villages with access to SWEET	170	18	188
Population with access to SWEET	850,000	100,000	950,000
No. of additional plants (in progress)	4	2	6

Source: Professor V. S. Raju, "Workshop on Safe Drinking Water in Rural Areas: Issues and Challenges," The Byrraju Foundation (internal foundation document).

Exhibit 3

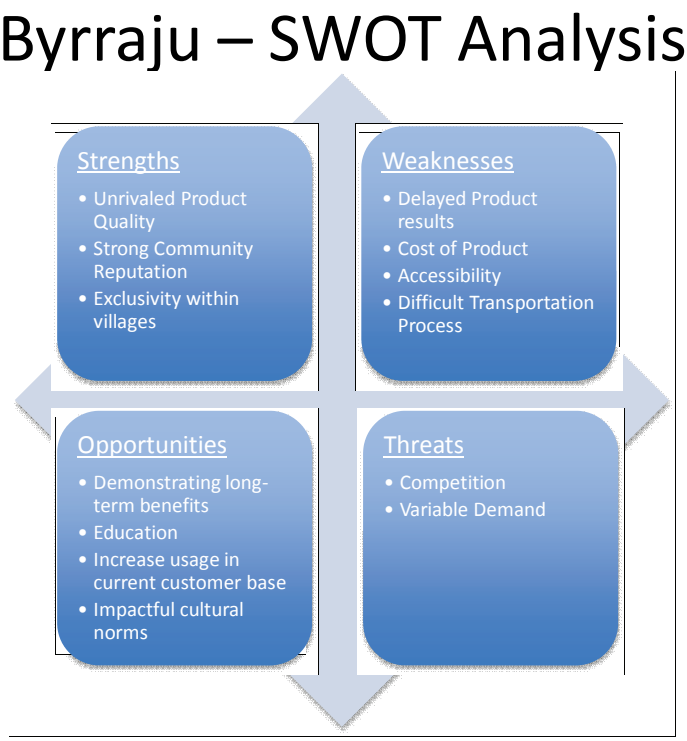
Competitive Analysis



Source: Erica Lock, Nicole Murphy, Marielle Nagy, and Cathrin Neugebauer, *SWEET Water Initiative Final Analysis,* April 2009.

Exhibit 4

SWOT Analysis



Source: Erica Lock, Nicole Murphy, Marielle Nagy, and Cathrin Neugebauer, *SWEET Water Initiative Final Analysis,* April 2009.

Exhibit 5

Ambassador Program

Recommended Strategies by OTA
Traditions / Habits

Tactic: Modify drinking water drinking habits to include consistent use of of Byrraju water for all drinking needs

Programs:

- Recruit village elders as influencers
- Ambassador program
- Referral program
- "Clean Water, Good Health, Better Life" Festival

Source: Erica Lock, Nicole Murphy, Marielle Nagy, and Cathrin Neugebauer, *SWEET Water Initiative Final Analysis,* April 2009.