Global Case Writing Competition 2009
Social Entrepreneurship Track

1st Prize

Trevor Field and the PlayPumps of Africa

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Abstract

The water crisis in the African countries is quite severe with two out of five people lacking access to improved water supply. The implication of this problem goes beyond diseases and deaths due to water-related disease. Particularly in peri-urban and rural areas, women and girls have to commute long distances (up to 8 kilometers) and spend hours collecting water from water sources that could be contaminated. In places where people rely on bore-wells, pumps may break down forcing them to go back to unsafe water sources. Since, the responsibility of fetching water in Africa is linked to gender, women and girls spend a disproportionate part of their time hauling water. This prevents the girl child from attending school regularly and women from indulging in other economic activity or spending more time with their family.

Touched by the hardship faced by these people, Trevor Field (Field) a UK-born advertising professional who had immigrated to South Africa, sought to do something to address this problem. In the late-1980s, he chanced upon a child’s roundabout (merry-go-round) fitted with a pump that could pump water as it turned. Field worked with the inventor of this roundabout to bring about improvements in the system and later developed the PlayPump Water System (PlayPump) that was attached to a high-capacity storage tank and a tap. The four surfaces of the storage tank were used as billboards for commercial and public education/social (such as HIV/AIDS prevention) messages. Revenue earned from the advertising helped maintain the water systems for up to a decade.

Field co-founded a for-profit organization with a social mission, Roundabout Outdoor Pty Ltd. (RO) to install and maintain these PlayPumps in various parts of Southern Africa. The funds for installing the PlayPumps were arranged by PlayPumps International (PI), a non-profit organization also co-founded by Field. By the end of 2007, more than 1,000 PlayPumps had been installed in four countries in Southern Africa.

Experts felt that the PlayPump was a social innovation that was also sustainable. Field had succeeded in scaling up installations of the water system across five countries in Southern Africa by adopting an innovative business model based on collaboration with individuals, corporations, governments, foundations, and non-governmental organizations, they said. However, Field faced a number of challenges in scaling up further as he aimed to install 4,000 PlayPumps in ten African countries by 2010.
“If I can make money and do good at the same time, that’s great. I’m a philanthrapreneur.”

- **Trevor Field, Founder and Director, Roundabout Outdoor, in 2007.**

“We believe that the PlayPump system, due to its practical, economic, and social viability, is a progressive and creative way to provide free fresh drinking water to rural communities... With the PlayPump we can make children happy, reduce the workload for women, make a visible step forward in rural water development, and slow down the spread of HIV/AIDS.”

- **Buyelwa Sonjica, Water Affairs Minister, South Africa, in 2005.**

**Water, Sustainability & Child’s Play**

In 2007, the PlayPump Water System (PlayPump) was nominated for the prestigious National Design Award, presented by the Smithsonian’s Cooper-Hewitt, National Design Museum. Though the water system failed to win the design award, it had won many hearts across the world ever since its launch in the mid-1990s, due to its ability to solve one of the most pressing problems in peri-urban and rural areas of Africa – water (Refer to Exhibit I for a brief note on the water problem).

In Africa, the water crisis is quite severe with around 40 percent of Africans lacking access to potable water supply. In addition to the deaths and economic loss caused by the lack of access to water, women and girls, on whom the burden of obtaining water for the family falls, have to trek long distances and spend hours collecting water from dams, springs, rivers, streams, and farm reservoirs. Where such traditional sources of water are not available, they have to rely on bore-wells, toiling hard over hand pumps. While this is back-breaking work, alternatives such as use of diesel, petrol or electric pumps are too costly to install and maintain. They have also to contend with the fact that hand pumps break down often and remain un-repaired for a period of time. “By some estimates, 35 percent of Sub-Saharan Africa’s improved water sources are out of service at any given time, mainly due to hand pump breakdowns. When broken pumps aren’t repaired, communities are forced to return to unsafe water sources,” wrote Geoff Hopkins, an operations analyst for the International Finance Corporation (IFC) in Johannesburg, South Africa.

Since this responsibility is linked to gender, women and girls spend a disproportionate part of their time hauling water – time that could be better spent with family or on economic activities, or in school. According to experts, in many regions of sub-Saharan Africa, women and girls have to trudge an average of 8 kilometers to the nearest water source every day, and haul back containers of water weighing about 40 pounds. The absence of improved water

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supply has not only led to gender inequality but also affected the growth potential of the region, they said.

The PlayPump was a child’s roundabout (merry-go-round) attached to a water pump, a storage tank, and a tap. As children played on the merry-go-round, the system pumped water to the storage tank and communities living nearby could use this clean water. The four surfaces of the storage tanks also doubled up as billboards for commercial and public education/social messages. Revenue earned from the advertising helped maintain the water systems for up to a decade. “It’s a win-win situation....Children enjoy riding on it, particularly as these are places with no toys. Villagers no longer have to walk hours to the nearest well... The beauty of the roundabout pumps is that they are really simple, low-tech, and exactly what Africa needs,” said Trevor Field (Field), the social entrepreneur who visualized the concept and gave up his well-paid job with an established publishing house to pursue it.

Roundabout Outdoor Pty Ltd. (RO), a for-profit organization with a social mission co-founded by Field, installed and maintained these PlayPumps while PlayPumps International (PI), a non-profit organization also co-founded by Field, helped arrange the funds for installing the water systems. Over the years, RO and PI were able to build innovative partnerships with individuals, corporations, governments, foundations, and non-governmental organizations (NGOs) to donate PlayPumps to African communities.

The PlayPumps and the business model that Field adopted attracted the attention of experts who felt that it was both innovative and sustainable. They felt that in addition to solving the problem of clean drinking water, the system addressed the closely-related health, education, gender, and economic issues. It was often cited as an example of the emerging trend in sustainable development that applied business solutions to social problems. Moreover, they said that tackling global challenges such as the water crisis required a collaborative approach such as the one that Field had adopted.

By early 2008, while Field had succeeded in installing more than 1,000 PlayPumps in five countries in Southern Africa, he also faced significant challenges in scaling up its operations further in order to achieve his objective of installing 4,000 PlayPumps in ten African countries by 2010.

**Background Note**

The Birmingham-born Field had a career in advertising and marketing. He had also worked extensively in the printing and publishing industries, both in South Africa and the UK. Between 1971 and 1974, he worked with British Telkom and trained as Senior Technician in transmission. The following year, he immigrated to South Africa and later settled down in Johannesburg. He had initially come to South Africa to install TV microwave links at a time when there was no TV in South Africa. Thereafter, he joined the publishing house First

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7 www guidestar.org/pqShowGsReport.do?partner=amex&ein=04-3839391

General Media (FGM) in 1980 and was National Sales Manager for the Penthouse Magazine both in South Africa and the US.\(^9\)

Field soon took a liking to the life and people in the country, but he was distressed to see the hardships that people, especially those in the rural and peri-urban areas of South Africa had to go through to get drinking water. The plight of women and girl children was especially troubling as they had the burden of collecting the water. They often had to trek long distances carrying heavy buckets. As he saw them toiling day after day for this precious resource, it became Field’s burning desire to do something to solve this problem.

In 1989, on a casual visit to an agricultural fair in Pretoria (on the outskirts of Johannesburg) with his father-in-law, Field chanced upon a roundabout designed by an engineer and professional borehole-driller Ronnie Styver (Styver) that had a water pump attached to it. As it turned, the small roundabout pumped water from beneath the ground. Field soon realized that this innovation could be used to benefit millions of lives. He carried the idea around in his mind, thinking of improvements he could make. And he came up with the concept of a water system with a big water storage tank that could provide four spaces for outdoor advertising.\(^10\) “I had seen 100 people battling to obtain water in various parts of the country. And I just thought it was a really good idea in a very simple way, and an environmental friendly way of providing water to people. If you look at rural African schools, they haven’t got swing sets and the kind of playground equipment that European and American kids have got. So it was like killing two birds – or, since then, about six birds – with one stone. That’s what turned me on to pursue it,”\(^11\) explained Field.

Field worked with Styver to design a much bigger version of the roundabout and also brought about further improvements. For instance, one of the initial versions moved in only one direction but the children wanted it to move in both directions. In 1994, Field received funding from the Umgeni Water Company to set up the first two water systems in Masinga.\(^12\) Consumer packaged goods major Colgate-Palmolive came forward to advertise its toothpaste on the storage tanks. The installation of the pumps was supervised by Field’s wife, a therapist by profession, as Field was caught up with his regular job. “I had no idea how it would work…. It was pretty crude to start with,”\(^13\) Field recalled. However, the system caught the imagination of the people in Masinga. Field decided to give up his job with FGM in 1995 and dedicate all his time and effort to providing such water systems to disadvantaged communities.

In 1996, Field convinced his long-term business colleagues, Paolo Ristic and Sarel Nienaber, to invest in the water system. Together they obtained the license for the product from the inventor, patented it, and started a small venture called ‘Roundabout Outdoor Pty Ltd.’ (RO) to market the product in 1997.\(^14\)

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\(^9\) www.mbaswithoutborders.org


\(^12\) Masinga district is one of the most remote areas in the KwaZulu-Natal Province of South Africa.


\(^14\) www.mbaswithoutborders.org
Roundabout Outdoor & PlayPumps International

RO was a for-profit organization with a social mission. Subsequently, Field and his colleagues made more changes in the PlayPump’s features and named the product ‘PlayPump Water System’, which they registered as a trademark. “We have trademarks in every country where we believe it will be used in the world,” said Field. For most of the 1990s, the promoters worked tirelessly to improve the water system’s functionality and durability. This was important as RO had to leave it in a rural community and there would be a lot of problems if the system was prone to breakdown or rapid wear-and-tear.

Another challenge was that the poor people for whom the water system was meant were unable to afford the system that cost around US$10,000 including installation then. Thus, RO had to be funded by private investment and international agency funds. Its business model used donations to underwrite the installation of the water system while revenues from advertising funded maintenance. However, the company did not find raising the funds easy in the initial years.

By 1997, 20 PlayPump water systems had been installed in South Africa. While RO looked after the marketing of the PlayPumps and the training of local teams to maintain the pumps, the manufacturing was done by a South African company Outdoor Fabrication and Steelworks (OFS).

In 1999, Nelson Mandela, then president of South Africa, attended the ceremonial installation of a PlayPump at a school in Rietfontein and was impressed by the water system. This paved the way for the installation of more such pumps in other parts of rural South Africa. The same year, RO entered into a public/private partnership (PPP) with South Africa’s Department of Water Affairs & Forestry (DWA&F) to assist the department in its mission to deliver water to all of South Africa by 2008. Under the terms of the agreement, RO had permission to access groundwater and distribute it free of charge on the condition that it would also maintain the water systems.

The following year, RO won the World Bank Development Marketplace award for the system’s ability to deliver water as well as HIV/AIDS prevention messages. While the funds from the World Bank (US$165,000) came in handy, the award also provided more visibility to RO and the company received additional funding from non-profit foundations such as the Henry J. Kaiser Family Foundation (KFF), and other companies. For instance, KFF provided RO with its first large grant for carrying public health advertisements concerning HIV/AIDS, requiring it to raise matching funds through DWA&F. The South African electricity supply

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16 www.nextbillion.net
20 HIV/AIDS is another huge problem facing sub-Saharan Africa. This region had the highest population of HIV/AIDS victims. Multinational beverage company Coca Cola was one of the early supporters that put up anti-HIV/AIDS messages in the PlayPump billboard.
company, Eskom, too joined in the effort and sponsored 40 PlayPump units by the end of 2003.\textsuperscript{21} “Without World Bank funding we’d still be in our infancy,”\textsuperscript{22} said Field.

In 2003, RO with Eskom and the DWA&F won the Mail & Guardian Investing in the Future Awards for effective use of partnerships offering innovation and social relevance. In 2004, Field co-founded Roundabout PlayPumps (the name was later changed to PlayPump International), a South African NGO, to forge partnerships with corporations, foundations, governments, and individuals and raise funds for the installation of PlayPump water systems. In 2006, PI was also incorporated as a US 501(c)3 (nonprofit) organization.

In 2005, RO was one of the ten companies shortlisted for the US$1 million Alcan Prize for Sustainability\textsuperscript{23} by The Prince of Wales International Business Leaders Forum (IBLF).\textsuperscript{24}

As RO entered into more partnerships, it continued to scale up; it installed around 700 PlayPump systems by the end of 2005, providing clean drinking water to more than one million people. Since the mid-2000s, it also started expanding into some other countries in sub-Saharan Africa.

During this time, the founders of Case Foundation, Jean and Steve Case, saw a PlayPump in Boikarabelo, South Africa, and joined in the organization’s effort to install more such water systems throughout Africa.\textsuperscript{25} Their support proved crucial in roping in US First Lady Laura Bush (Bush) to support the venture. On September 20, 2006, Bush announced a US$16.4 million PPP to install more PlayPumps including US$10 million from the US government, US$5 million from the Case Foundation and US$1.4 million from The MCJ Foundation.\textsuperscript{26} “[W]hen I told all my friends that I was going to make a children’s roundabout that pumps water. And I was going to change the affliction of Africa, they all laughed at me. All of them. But when Laura Bush announced the 16.4 million dollar investment into my company, there was nobody laughing then,” recalled Field. The Case Foundation continued its partnership with PI in its objective to raise a further US$45 million by 2010.\textsuperscript{27}

RO did not make its financials public. However, PI in its Form 990, reported that for the year ending February 28, 2007, it had assets and income of US$3,055,739 and US$4,699,314 respectively (Refer to Exhibit II for the organization’s statement of financial position and Exhibit III for its statement of activities). By early 2008, more than 1000 PlayPump systems had been donated to schools and communities in Lesotho, South Africa, Mozambique, Swaziland, and Zambia. The company employed some 100 people – 14 people in the office in Johannesburg who organized database and computer systems; 35 people in the factory manufacturing the product; the rest were contractors involved in the installation


\textsuperscript{23} The prize is created by Alcan Inc, a leading aluminum and packaging company, in 2004 to recognize outstanding contributions to the goal of economic, environmental, and social sustainability by not-for-profit, non-governmental, and civil society organizations. The prize is managed by IBLF.

\textsuperscript{24} Gareth Knight, “Roundabout Outdoor Shortlisted for Alcan Prize for Sustainability,” www.oneafrikan.com, September 8, 2005.

\textsuperscript{25} www.casefoundation.org


of the systems in various places in Southern Africa. The installation crew lived in the provinces in which these water systems were installed.

**PlayPumps – a social innovation**

The PlayPump water systems were installed in places such as school playgrounds, clinics, and community centers. According to Field, “It’s a positive displacement water pump, and as the children spin around, it transfers their energy into vertical or reciprocal motion, and that pumps water from an underground borehole or well to the surface where it’s stored in a tank for future use.” The PlayPump was fitted with a 2,500-liter tank standing seven meters above the ground. Dozens of changes made to the design of the PlayPump over one decade ensured that the system was robust with maintenance costs being minimal. It could draw up to 1,400 liters (370 gallons) of water per hour at 16 revolutions per minutes from a depth of 40 meters. It was also capable of drawing water from up to a depth of 100 meters. It was less arduous and more effective than a hand pump, which could only draw 20-40 gallons per hour.

The water drawn from underground went to the storage tank. All these, while children were having fun playing on the roundabout, something they did not have access to earlier. “Once they’re installed, you can’t get the kids off of them... For these children who have never experienced a slide or a swing, they’ve never seen anything quite like it,” said Field (Refer to Figure I for PlayPump water system: how it works; and, Exhibit IV for a photograph of children playing on a PlayPump).

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Figure I: PlayPump Water System: How it Works

While children go round and round on the merry-go-round (1), clean water is pumped (2) from underground (3) into the tank (4). People can draw water from the tap (5) while excess water is diverted from the storage tank back down into the borehole (6). The four sides of the water storage tank (7) provides space for advertising.

Source: www.playpumps.org

All the four surfaces of the storage tank were leased out as billboards, with two sides for consumer advertising and the other two for health and educational messages. On these billboards, local companies as well as multinationals could advertise their products to the communities while the other two sides could be used to provide social/health awareness messages. For instance, in South Africa, these spaces were used to provide HIV/AIDS prevention messages of South Africa's national HIV/AIDS prevention program, LoveLife. RO had a policy that prevented products such as tobacco, liquor, or other products that were inappropriate for children, from being advertised on these spaces. RO also saw to it that the content of the advertisements was culturally sensitive. It maintained the signages at regular intervals as part of its contractual obligations. The revenue generated from advertising was used for the maintenance of the water system for up to a decade. “We have shown that these water towers are the equivalent to television, billboards, and magazines in rural areas. A correctly placed ad can yield significant growth for a relevant product in these areas. The revenue we collect from this is plowed straight back into [the] project,”35 said Field. Each of these pumps worked for about 15-20 years before they needed to be replaced.

While the pumps were manufactured in Johannesburg, RO recruited and trained people in local communities on installing and maintaining the systems. According to RO, the cost of manufacturing one PlayPump was US$7,000.36 The total cost of setting up a water system was US$14,000 that included the roundabout and pump, storage tank, 7 meter tank stand

with boards, standpipe with tap and water runoff, and pipes. It also included set-up costs (such as country scoping, geo-hydro census, borehole assessment, site evaluation, water testing, community orientation, local crew training, specialized surface, transport, and system installation). Six percent of the cost went toward providing organizational support for the management of the US and South Africa offices.

“The PlayPump system makes water collection simple by providing an easy-to-use, sustainable source of water...The revenue generated from the advertising pays for the pumps’ maintenance and ensures each installation’s sustainability,” said Hopkins. What’s more, communities had access to water without having to pay any user fee. RO also worked with local governments and community leaders to ensure community involvement and ownership from an early stage.

The PlayPump & Sustainability

Experts felt that the PlayPump was a social innovation that was also sustainable. Herman Diale, Eskom's corporate social investment consultant, said, “Eskom decided to get involved because of the project’s sustainability and the viability of improving the quality of life for rural communities. The project also holds social and environmental benefits... The PlayPumps are an innovative way of introducing sustainable, inventive technology to draw water.”

PlayPumps provided access to clean drinking water, contributing to public health by improving sanitation and hygiene and decreasing the risk of water-related diseases. Clean water and sanitation were very important for people living with HIV/AIDS to remain in good health and to take medicine. What made the PlayPumps even more attractive was that they offered a renewable, self-sustaining way of providing improved supply of water with minimum wastage. They did not require electricity or diesel to operate. And as they were operated manually in the day time, the borehole had time to replenish its water resources during the night. With electricity or diesel-powered systems there was also the risk of the system being accidentally left on, leading to wastage. Another important benefit was proper storage, which prevented contamination and reduced wastage due to spillage and evaporation.

There were other benefits too. The PlayPumps helped remove the barriers to education as children could go to school and stay longer as they did not have the chore of fetching water. They also had access to safe drinking water, latrines, and hand-washing facilities and school days were not lost due to water-related diseases. The PlayPumps promoted gender equality as girls could also attend schools. And the children had an added motivation to go to school — the roundabout on which they could play to their heart’s content.

The system also promoted play in regions where there were few safe playgrounds or access to play equipment. This was important as play is considered vital for physical, social, and cognitive development.40

Women could spend more time on more productive activities or with their family. As they did not have to haul water over long distances, they were less likely to suffer an injury.41 “African and Asian women spend up to six hours a day walking to collect water... If we put a PlayPump in, if you look at the saving on time alone it’s phenomenal, and it does have a massive impact on the health of children and people in general,”42 explained Field.

Advertising revenue generated from leasing out of the billboard spaces not only helped maintain the water system but also helped provide social/health education messages, particularly HIV/AIDS prevention messages43 that were so important in regions struggling with this pandemic. These messages raised awareness and also helped reduce the stigma associated with HIV/AIDS. Billboard spaces such as these were quite rare in some of the communities served by PlayPumps.

According to experts, with all these benefits, the water systems also led to economic development and a foundation for sustainable growth. For instance, in some schools in South Africa, some children had even begun growing their own vegetable gardens.44 In addition to this, RO created jobs in manufacturing, installations, and maintenance. It created jobs in rural areas where PlayPumps were installed. According to PI, its water system helped achieve the UN’s Millennium Development Goals45 (Refer to Exhibit V for how the PlayPumps help in achieving the Millennium Development Goals).

Scaling Up

Many investors were attracted by the simple yet ingenious technology and the business model that supported the installation of PlayPumps, and since the late 1990s, RO was able to scale up significantly. PI worked collaboratively with government agencies, corporations, NGOs, and individuals to raise funds for the various projects.

The government provided logistical assistance such as finding suitable locations, safe drinking water, and getting approval from the local community.46 Once a community had agreed that it wanted a pump, a community liaison was appointed. Then RO went about its job of installing the water systems in cooperation with various government departments and agencies engaged in bore-well drilling.

45 The Millennium Development Goals are eight international development goals that 189 United Nations member states and other international organizations have agreed to achieve by the year 2015. They include halving extreme poverty, reducing child mortality rates, fighting disease epidemics such as AIDS, and developing a global partnership for development.
PPP with the DWA&F and funds from companies such as Eskom helped RO scale up significantly in South Africa. By mid-2005, over 600 installations had been completed, a large percentage of these at primary schools.\(^47\) RO also started venturing out of South Africa into Mozambique and Swaziland. In Mozambique, loans and technical assistance from IFC helped it to install many PlayPumps while its installations in Swaziland were sponsored by UNICEF and the telecom company MTN.\(^48\) IFC supported Roundabout to set up PlayPumps in primary schools in Mozambique through IFC loan and grant financing of US$125,000 and US$90,000, respectively.\(^49\) “Roundabout [RO] is an example where the innovation and experience of a private sector firm are leveraged to deliver big results at the grassroots level,”\(^50\) said Richard Ranken, director of IFC’s Africa Department.

After the setting up of PI in the US, funds started to flow more smoothly and RO made more elaborate plans to expand in other countries of Southern Africa, namely Mozambique, Swaziland, and Zambia.\(^51\) RO generally started with a pilot program of 100 pumps within a 150 km radius in the countries it expanded into before scaling up further. Before starting operations, PI had to secure government commitments for bore-wells that would be matched by funding for pumps by private donors.\(^52\) “[We] insist on putting an MOU, which is a Memorandum of Understanding between ourselves and the government. So that they [allow] free passage through their border posts with this equipment. There’s no way we’re going to pay import duty like gift. So they clear that import duty problem out of the way. They also help us with their Department of Water Affairs to identify certain boreholes or institute drilling programs for people who are disadvantaged,”\(^53\) explained Field.

By mid-2007, the number of PlayPumps installed had grown to over 900. The presence of PI in the US ensured that the initiative received additional funds from other companies in addition to the US$16.4 million committed by Bush. It also received support from Alexandria-based Motley Fool financial services firm, schools such as T.C. Williams High School, and celebrities such as rapper Sean “Jay-Z” Carter and tennis star Nicole Vaidisova (Vaidisova). Bill Mann, adviser to Motley Fool Global Gains (Motley Fool), said, “We found very few organizations that were able to create such an unbelievable change in people’s lives for such a small investment.”\(^54\) Jay-Z helped raise funds through concerts and his MTV documentary *Diary of Jay-Z: Water for Life* raised awareness about the water crisis with a part of the proceeds going to PI, while Vaidisova acted as the international spokesperson for

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\(^{49}\) IFC Sustainability Report 2004.

\(^{50}\) “The PlayPumps Partnership,” www.ifc.org/content_REALIFCPlayPumps.pdf


By early-2007, PI had donated more than 800 PlayPump water systems in South Africa, Mozambique, Swaziland, and Zambia. On the occasion of World Water Day, PI launched the “100 Pumps in 100 Days” campaign in partnership with Save the Children USA. The campaign called upon individuals, schools, faith-based organizations, and other community groups to mobilize funds for the installation of 100 PlayPumps in African communities. People could contribute to the campaign by raising funds or donating. On July 25, 2007, PI announced that it had raised US$1.5 million to donate 111 PlayPumps. Motley Fool helped raise funds for 3 PlayPumps. UK-based organization One Water that sold ONE Water bottled water product, under the slogan “When You Drink ONE, Africa Drinks Too” directed 100 percent of the proceeds from sales to the campaign.

Table I: 100 Pumps in 100 Days: Donation Levels

<table>
<thead>
<tr>
<th>Donation Level</th>
<th>Description</th>
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<tbody>
<tr>
<td>US$14,000</td>
<td>Sponsors an entire PlayPump system and brings clean drinking water to 2,500 people.</td>
</tr>
<tr>
<td>US$300</td>
<td>Gives a classroom of children playground equipment and clean water for drinking and hand washing.</td>
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<tr>
<td>US$60</td>
<td>Provides ten people with access to clean water for up to ten years.</td>
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<tr>
<td>US$36</td>
<td>Helps a family get the water it needs for good health and hygiene.</td>
</tr>
<tr>
<td>US$6</td>
<td>Provides one child with access to clean water for up to ten years.</td>
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Source: www.playpumps.org

In early 2008, Sandra Hayes (Hayes) of PI said, “Pilot projects will also be soon commenced in Lesotho, Malawi, Ethiopia, Kenya, Tanzania, and Uganda.” Entry into all these countries was to be achieved by the end of 2008, except Ethiopia where the organization planned to enter in 2009. In 2008, the second version of the “100 Pumps in 100 Days” campaign helped raise funds for another 109 pumps which included PlayPumps installed in Lesotho.

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58 United Nations General Assembly has declared March 22 as the World Water Day.
63 “PlayPumps International Surpasses Goal with Second “100 Pumps in 100 Days” Effort,” www.playpumps.org/site/apps/nlnet/content2.aspx?c=hnLNXOEKnFk&b=2603343&ct=5655795
to Exhibit VI for a map of Africa showing countries where PlayPumps were installed and future expansion plans).

In addition to the partners just mentioned, RO and PI partnered with hundreds of organizations and individuals to scale up its operations (Refer to Exhibit VII for a list of PI’s partners). PI’s mission was to donate and install 4,000 PlayPump in these ten countries, which would provide access to clean drinking water for up to 10 million people by 2010.65 After Southern Africa, RO wanted to enter Western and Central African countries.

Harnessing the Power of New Media

Another factor that attracted the attention of analysts was PI’s use of the Internet and social networks to mobilize funds to meet its objective. They noted that it was not an easy task for PI to raise funds as there were many stories about African poverty competing for the funds. However, PI used its website to promote its mission and help raise funds quite effectively. The website was well organized with plenty of information; it contained interactive Google maps that showed the location of pumps,66 and visitors could download action kit for raising funds, or connect to a number of popular social networking sites. In the second half of 2007, it started the “KnowH2O!” campaign to teach students about the global water crisis and how they could help solve the problem.67 The KnowH2O site had content relevant to students, teachers, and other groups and individuals. They could download free lesson plans, take a water quiz, and create their “Sponsor a PlayPump” page.

The major changes came post-2005, when to achieve its objective, PI moved its website from its South African host to one in the US. It also hired Net strategist Garth Moore to help it develop an “everyman” approach to raising online donations.

By mid-2007, PI had built up a following of more than 500 Facebook members, most of them at colleges, to support small-scale fundraising operations.68 Similar online communities were set up on Think MTV, Razoo, Change.org, and MySpace. In addition to this, its use of Kintera’s technology platform for content management in 2007 helped it to increase online donations and increased the subscriber base for its newsletter.69 “Before, there was overseas interest in PlayPumps but most of our donors were still local to Africa. The new use of the Web has made a huge difference,”70 said Hayes. Experts felt that the overall aim of PI’s digital initiatives was ‘sustainability through a network of linked supporters’.71

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65 www.guidestar.org/pqShowGsReport.do?partner=amex&ein=04-3839391
Challenges

Experts felt that RO and PI faced various challenges in meeting its stated mission. The challenges started with finding groundwater sources. This was followed by rigorous testing to ensure that the quality of water was good and that the bore-well recharge was sustainable. If the tests failed, the drilling costs were sunk.\(^{72}\) The cost of installations was not uniform across different countries and even in different provinces. Inflation in some African countries added to the challenges.

Expansion into a new country also involved a lot of challenges. The organization had to conduct initial country analysis and secure the necessary commitments from the respective government. RO’s teams had to conduct on-the-ground research, needs assessments, water testing, site evaluations, and consult with other groups and stakeholders in the area in order to find the best sites. It took months of groundwork before a single PlayPump could be installed in a new country.

Another challenge was dealing with political instability in neighboring countries when thinking of expansion. For instance, Field wanted to install his pumps in Zimbabwe but could not do so due to the volatile political situation in the country with Robert Mugabe at the helm. Field explained, “We’ve been wanting to help them for a very long time. But you can’t go into the place. We haven’t been there because we didn’t want [to] put any of our installation crews at risk for political harassment or worse, number one. Number two, they wouldn’t allow us to bring the equipment in without charging us a 32% import duty, which was never going to happen in my lifetime. And number three, you know, their own […] basic system. They go uphill. You can’t shove a truck up with diesel. You can’t go anywhere.”\(^{73}\) Field added, “It makes me sick that we can’t; they’re our neighbor… But I can’t risk what small amount we have in a war.”\(^{74}\)

Another challenge was emerging competition and protecting its IPRs. A South African for-profit entity had developed a similar water system. RO had to intimate the company through its patent attorney that the company was infringing on its IPRs. Field said that a similar system had also been developed in India but he felt that the system may not work as efficiently.

However, according to Field, funding still remained the biggest challenge.\(^{75}\) Lack of adequate funds was the major hurdle in its way of scaling up throughout Africa and beyond. It had no lack of people from around the world wanting to volunteer and get involved in the installation projects. But the company was unable to accommodate such requests. “It’s all very noble. But we’ve got African people that actually need those jobs…. And also, we have a problem guaranteeing the safety and well-being of foreigners in rural communities, working in areas that they’re not familiar with,”\(^{76}\) he said.


\(^{74}\) “PlayPumps Founder Has Unique Name for His Work,” www.wdi.umich.edu, January 15, 2007.


Looking Ahead

By mid-2008, PI/RO had set up more than 1,000 PlayPumps in five countries and was in the process of expanding to five more in sub-Saharan Africa. It was committed to reaching its ambitious target of setting up 4,000 pumps by 2010 and serving 10 million people. According to the company, moving into new countries was proving the viability of its business model for sub-Saharan Africa.

Field spent a lot of the time giving presentations in educational and other institutions in order to generate funds. According to him, he was engaged in a commercial activity but with the aim of ‘giving back to the society’ and this gave him a lot of satisfaction. However, he regretted the fact that he could not install PlayPumps in all the regions in and outside Africa that required such water systems. He was especially bothered about his inability to enter neighboring Zimbabwe. But with the environment showing signs of improvement in 2008, he said he was hopeful of venturing into Zimbabwe in the future.

Experts said that PlayPumps were simple yet innovative, sustainable, and capable of providing huge benefits to the disadvantaged communities. Its business model which was based on collaboration was also praised. It provided corporations with a chance to get involved as a part of their corporate social responsibility agenda. Moreover, many people who came to know about the concept said that it was very inspirational and had moved them to action – either by way of donating funds or by helping raise funds for the project. Some experts were also taking keen interest to see whether the concept could be moved to a broader commercial model.

Some people said that regions in Asia and Latin America should also benefit from this model and were unhappy that Field wasn’t doing enough to extend the benefit to disadvantaged communities in these regions. Field, however, believed that installing PlayPumps in Africa would take all of his life. “I’d like to export to other countries but Africa takes up too much of my time.” However, this did not stop him from exploring his alternatives. He said, “We’re working with all sorts of different people. We’re looking for partners in all sorts of different countries... if we could put out a model together in such a way that we can take it to Nigeria, Ghana, Côte d’Ivoire, Congo, India, Dinah, the Pacific Rim countries. If we could franchise the concept and the know-how and the IP to other groups. That they could work on it and we could change this water shortage problem that the world is facing in a much bigger fashion than what we would be able to do on our own.”

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## Exhibit 1: The water problem

<table>
<thead>
<tr>
<th>The Water Problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean drinking water is vital for human survival and economic well-being but many communities in developing countries in Africa, Asia, and Latin America have problems getting a regular supply of potable water. The scarcity of clean water forces these people to rely on water from sources that may be contaminated. Lack of clean drinking water is a leading cause of death in the developing world and is responsible for 80 percent of all sickness in the world. It has been estimated that water-borne diseases (such as, cholera, diarrhea, and hepatitis) account for 6,000 lives lost per day and one child dies from preventable, water-related disease every 15 seconds. According to experts, the chances of survival of these people can be increased by 50 percent if they are provided with access to improved supply of water.</td>
</tr>
<tr>
<td>According to the World Health Organization (WHO), reducing the proportion of people that lack access to safe water and adequate sanitation the world by half would save nearly US$90 billion annually. “The World Health Organization estimates that if everyone had access to basic water and sanitation services, the health sector would save more than US$11 billion in treatment costs, and people would gain 5.5 billion productive days each year due to reduced diarrheal disease,” said Vanessa J. Tobin, Water, Environment and Sanitation, UNICEF. In addition to disease and death related to water, experts estimate that 40 billion hours are lost annually to hauling water.</td>
</tr>
</tbody>
</table>

Compiled from various sources.

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83 www.playpumps.org/site/c.hqLNIXOEKrF/b.2603385/k.53B9/About_Us__More_Quotes.htm
### Exhibit 2

**PI’s Statement of Financial Position: Fiscal Year Ending February 28, 2007**

*In US$*

<table>
<thead>
<tr>
<th>ASSETS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>648,714</td>
</tr>
<tr>
<td>Pre-paid expenses and other assets</td>
<td>3,720</td>
</tr>
<tr>
<td>Pledges receivable, net of US$41,582 discount</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>3,055,739</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LIABILITIES AND NET ASSETS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LIABILITIES</td>
<td></td>
</tr>
<tr>
<td>Accounts payable and accrued expenses</td>
<td>112,597</td>
</tr>
<tr>
<td>Grants payable, net of US$23,404 discount</td>
<td>795,596</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES</strong></td>
<td>908,193</td>
</tr>
<tr>
<td>NET ASSETS (DEFICIT)</td>
<td></td>
</tr>
<tr>
<td>Unrestricted net deficit</td>
<td>(279,739)</td>
</tr>
<tr>
<td>Temporarily restricted net assets</td>
<td>2,427,285</td>
</tr>
<tr>
<td><strong>TOTAL NET ASSETS</strong></td>
<td>2,147,546</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES AND NET ASSETS</strong></td>
<td>3,055,739</td>
</tr>
</tbody>
</table>

*Source: [http://aidafrica.org](http://aidafrica.org)*
### Exhibit III

**PI’s Statement of Activities: Fiscal Year Ending February 28, 2007**

(In US$)

<table>
<thead>
<tr>
<th></th>
<th>Unrestricted</th>
<th>Temporarily Restricted</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revenue and Support</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions</td>
<td>1,221,971</td>
<td>3,472,085</td>
<td>4,694,056</td>
</tr>
<tr>
<td>In-kind contributions</td>
<td>817,460</td>
<td></td>
<td>817,460</td>
</tr>
<tr>
<td>Interest income</td>
<td>4,592</td>
<td></td>
<td>4,592</td>
</tr>
<tr>
<td>Net assets released from restrictions</td>
<td>1,044,800</td>
<td>(1,044,800)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Revenue and Support</strong></td>
<td>3,088,823</td>
<td>2,427,285</td>
<td>5,516,108</td>
</tr>
<tr>
<td><strong>Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Support Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fundraising</td>
<td>324,323</td>
<td>-</td>
<td>324,323</td>
</tr>
<tr>
<td>Management and general</td>
<td>119,401</td>
<td>-</td>
<td>119,401</td>
</tr>
<tr>
<td>Unallocated in-kind services from</td>
<td>816,794</td>
<td>-</td>
<td>816,794</td>
</tr>
<tr>
<td>affiliated organizations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total support services</strong></td>
<td>1,260,518</td>
<td>-</td>
<td>1,260,518</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td>3,368,562</td>
<td>-</td>
<td>3,368,562</td>
</tr>
<tr>
<td><strong>Change in Net Assets</strong></td>
<td>(279,739)</td>
<td>2,427,285</td>
<td>2,147,546</td>
</tr>
<tr>
<td><strong>Net Assets, beginning of period</strong></td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Net Assets (Deficit), end of period</strong></td>
<td>(279,739)</td>
<td>2,427,285</td>
<td>2,147,546</td>
</tr>
</tbody>
</table>

*Source: [http://aidafrica.org](http://aidafrica.org)*
Exhibit IV

A Photograph of Children Playing on the PlayPump

Exhibit V

PlayPump Water Systems: How they Help Achieve UN’s Millennium Development Goals

1. Eradicate extreme poverty and hunger.
   - Providing water close to home frees up time for more productive activities, and far fewer school/workdays are lost due to ill health.
   - A water supply helps ensure a robust garden and healthier livestock in times of drought.
   - Community water supplies can also lead to income generation activities such as brick-making, etc.

2. Achieve universal primary education.
   - A water supply ensures that children, especially girls, are more able to attend and teachers more willing to work at a school with such basic facilities.
   - Children that regularly suffer diarrhea and other water and sanitation-related diseases miss classes.
   - Children stay away from school because they are needed to carry out domestic chores or tend animals while their mothers are collecting water.
   - UNICEF estimates that more than half of the world’s schools lack drinking water, clean toilets, and hygiene lessons for school children. Safe water and sanitation are essential to protect children’s health and their ability to learn in school.
   - Children, particularly girls, are denied their right to an education because they are busy fetching water.

3. Promote gender equality and empower women.
   - The burden and drudgery of collecting water is mostly borne by women and especially girls.
   - In underserved African communities, women often walk up to 6 miles each day to collect just one bucket of water. Providing water close to home frees up women’s time for more productive uses, such as tending kitchen gardens or working in cottage industries. Income generation also leads to increased status for women.
   - Involving women in water projects is a direct means of empowerment. They are often involved in the management and maintenance of community water systems.

4. Reduce child mortality.
   - Diarrheal disease associated with water and sanitation leads to 2.1 million deaths each year — the majority of which are children.
   - It has been estimated that 5,000 children die every day from water and sanitation related diseases.
   - Children are most vulnerable to disease resulting from contaminated or inadequate quantities of water for drinking and personal hygiene.
   - Malnutrition, which is the most significant cause of immunodeficiency, is associated with about half of all child deaths.
   - Frequent bouts of diarrhea lead to further deterioration in nutritional status and ability to resist disease.
5. Improve maternal health.
   - Carrying heavy loads of water leads to spinal deformation that can result in obstruction of the birth canal, putting both the mother’s and infant’s life at risk.
   - Anemia is common in pregnant African women, and it is exacerbated by the continued heavy work of water collection. This has the potential to impair fetal growth and adversely affects the quantity and quality of breast milk. It is not uncommon for pregnant women to continue collecting water until the day they give birth.
   - Good hygiene of expectant mothers and safe delivery spaces are impossible without an accessible source of water.

   - Infected people are more vulnerable to opportunistic pathogens which cause diarrhea and skin diseases. This can be controlled to some extent by safe water and sanitation.
   - Diarrhea is a major cause of morbidity for people living with HIV/AIDS.
   - Water used for food security and improved nutrition also helps people to remain healthy.
   - Safe water is essential for ingesting any medications.
   - Less time spent on fetching water allows caregivers, who are usually women and girls, more time and energy for coping with the disease or for working outside the home.
   - In many of the countries in the world most affected by the HIV/AIDS pandemic, water and sanitation services are extremely limited. With the shift of focus from HIV/AIDS prevention efforts to treatment options, more attention must be given to improving water services.

7. Ensure Environmental Sustainability.
   - Integrate the principles of sustainable development into country policies and programs; reverse loss of environmental resources.
   - Reduce by half the proportion of people without sustainable access to safe drinking water.
   - Achieve significant improvement in lives of at least 100 million slum dwellers, by 2020.

8. Develop a global partnership for development.
   - Community water supply programs represent an entry point to the development of democratic society, leadership, and good governance.
   - A water supply program can be the catalyst for this process because there is a need for the community to organize a representative management committee.
   - Building a water system involves the community in an enormous amount of decision-making, and this continues after project completion as the community assumes responsibility for the installation.
   - Very often, a water supply project is the first time that a community learns how to administer a communal utility.
   - There are a wide variety of new skills learned in this process including technical, managerial, and leadership.
   - It is a confidence building experience for the community as a whole and often leads the community to undertake other projects entirely of its own initiative.

Milennium_Development_Goals.htm
Exhibit VI

Countries Where PlayPumps Were Installed And Future Expansion Plans

Flags represent the countries with PlayPumps in the ground as of April 15, 2008.


Exhibit VII

A List of RO and PI’s Partners

Featured Partners: Anheuser-Busch, The Case Foundation, The Film Connection, Flashbags, The Motley Fool, National Geographic Kids, One water, Save the Children USA

PI Programmatic, Government, Media and Education Partners

Cool Globes, Hasbro/Playskool, Lesotho Ministry of Natural Resources, Museum of Natural History (New York), National Geographic Kids, National Geographic Wild Chronicles, National Youth Leadership Council, Philani Maswati Charity, Save the Children USA, The Film Connection, Think MTV

PlayPumps International Funding Partners (1 pump or more):


RO Partners:

The Nelson Mandela Foundation, All advertisers, past and present (Clearwater Project, Colgate Palmolive, Highveld Steel, KFF, loveLife, Omidyar Network, Sesame Workshop, The World Bank)

* The list is not exhaustive.

Source: www.playpumps.org.
References & Suggested Readings:

27. IFC Sustainability Report 2004.
38. “PlayPumps International Increases Efficiency and Results Using Kintera,” http://www.kinterainc.com/site/owL8JoO7KzE/b.3367803/k.9A2B/PlayPumps_International_Increases_Efficiency_and_Results_Using_Kintera.htm
43. www.casefoundation.org
44. www.causemarketingforum.com
45. www.guidestar.org/pqShowGsReport.do?partner=amex&ein=04-3839391
46. www.nextbillion.net
47. www.playpumps.org