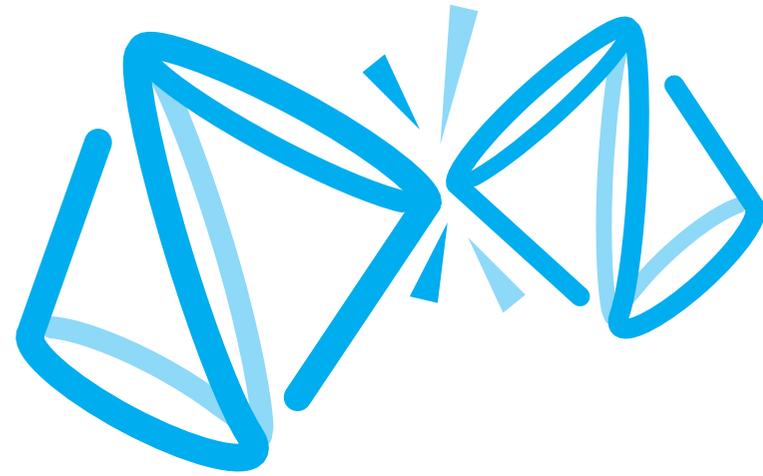


the arup cause

ARUP



Mission

- As a global organisation, we choose to work together to further our humanitarian aims in a way that is central to our shared values and our overall mission to 'shape a better world', seeking to reduce suffering and to improve people's lives.
- The Arup Cause provides a focus for our activity, encouraging and leveraging the individual abilities and contribution of our staff for maximum impact.

Objectives

- To enhance the capacity of humanitarian and development organisations by providing technical assistance or fundraising for specific **projects**.
- To improve awareness and understanding of poverty and its alleviation by capturing, sharing and disseminating **learning**.

Foreword

In 2006, Arup celebrated its 60th anniversary. Naturally, we recognised Sir Ove Arup, our visionary founder whose values, as articulated in his *Key Speech* of 1970, still inspire us today. The firm has developed into a global community with a concern for society and the environment at its core. A significant percentage of our people volunteer their time, money or expertise to humanitarian causes.

We wanted to mark six decades of this kind of commitment with a lasting legacy. We also wanted to provide a focus for the many community-centred and educational activities being carried out with energy and enthusiasm by people within Arup, who are keen to share their knowledge and time to benefit others.

The firm decided to invest in a global initiative, the **Arup Cause**. We sought to reward and encourage our people's abilities and interest, and to apply our collective technical expertise and creative ability to reduce suffering and improve people's lives. By bringing together a wide range of individual initiatives under a common global theme, we hoped to ensure that the many individual activities initiated by our people across the firm worked in concert and to maximum effect. We also wanted to provide more structured opportunities to

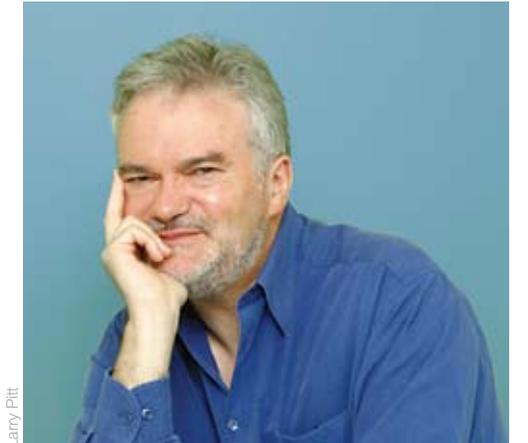
allow people to develop personally, deploy their professional skills and contribute to development globally.

Our research into the 'drivers of change' – key issues that play a role in our future – identified lack of water and basic sanitation as a fundamental cause of poverty, which affects almost all of the UN's Millennium Development Goals. Water was the theme and focus of the Arup Cause in 2006. In 2007, we added a second theme of shelter. Both are an essential need and also a focus for social networks and communities. Over time, we expect these key issues to evolve, and so our approach will too.

The groundswell of support for the Arup Cause across all our regions has exceeded our expectations. You can read in this booklet about some of the diverse projects that Arup people have undertaken, supported by this initiative. These people inspire me. I hope that we experience another six decades of commitment to humanitarian causes at Arup.

David Singleton

Chair, The Arup Cause
Member, Arup Group Board



Larry Pitt

The Arup Cause

We shape a better world

Arup is the creative force behind many of the world's most innovative projects in the built environment. As a global design and business consultancy of over 10,000 people in 37 countries, we have significant expertise which can be harnessed to reduce suffering globally. We also have a strong tradition of commitment to humanitarian causes at the core of our values and culture.

The aim of the Arup Cause is to create structured opportunities for our people to become involved in development. In so doing, it celebrates our determination to effect positive change in the developing world, particularly where a lack of access to safe water and sanitation or shelter perpetuates poverty.

An evolving approach

During our anniversary year we focused on the theme of water, access to which is a key issue for millions of people globally. To help focus our efforts, we formed a strategic partnership with the international charity WaterAid. The Arup Cause, launched on World Water Day in March 2006, has given us the chance to be as much an intellectual partner as a fundraising partner of WaterAid.

We set ourselves five distinct objectives for our first year – to **collaborate** with international aid agencies and charities, like WaterAid; to **donate** to worthy projects; to **participate** in activities and technical projects; to **educate** others and raise awareness of the issues; and then find solutions to these challenges and to **innovate** to bring about positive change – and we achieved all of them, exceeding our most optimistic expectations. In our second year, we added the theme of shelter.

To date, we have supported 30 projects around the world through the Arup Cause, bringing about positive change to the lives of many and working in-country, in collaboration with mainly local NGOs. We have also raised substantial funds for several WaterAid projects, some of which you can read about in this booklet, which have enabled more than 8,000 people to have access to water for life.

An awareness and understanding of what perpetuates poverty and how individual action can help to combat it is a critical part of the Arup Cause. 1.1 billion people do not have access to safe drinking water and 2.6 billion people do not have access to adequate sanitation. During its inaugural year, the Arup Cause developed educational material targeting our staff as well as our clients and the communities in which we operate, raising awareness of

poverty and, in particular, the fundamental need for safe water and sanitation. Some of our staff were also selected to take part in WaterAid's Supporters' Visits in Burkina Faso and Northern India in 2006 and 2007, respectively. This year several staff will gain hands-on experience with Habitat for Humanity, helping them to understand the importance of shelter.

The Arup Cause embodies our commitment to 'shape a better world' and to bring about positive change through **projects** and through **learning** more about the world and its challenges. It is an opportunity for staff to commit their energy and expertise to combating some of the big issues the world faces.

Arup has always been a collaborative organisation, exchanging ideas, sharing information and creating ideas and knowledge. The Arup Cause builds on this tradition, allowing our staff to develop skills and knowledge which will allow them to influence the future positively.



Pictured (top to bottom): **Ruth McBain**, **Isobel Byrne Hill** and **Dorothee Richter** all served as project managers for the Arup Cause, responsible for managing and coordinating all aspects of this initiative and for galvanising staff around the world.

Two heads are better than one

The power of collaboration

Our relationship with WaterAid goes beyond a traditional corporate partnership. As well as raising awareness and funds to help them carry out their valuable work, we offer a new dimension to this partnership, bringing long-term value through problem solving, creative thinking and knowledge sharing. Many Arup people observe that devoting their expertise to tackling problems, such as the lack of water for people struggling against poverty, ranks as one of the most satisfying experiences of their lives.

“Arup and WaterAid have enjoyed a long-standing relationship that continues to grow from strength to strength. The commitment of Arup extends across the entire organisation; the breadth of support starts at the grass roots with employees from across the world raising vital funds, and extends through to Arup’s considerable technical and strategic expertise directly benefitting our work in the UK and in our country programmes. WaterAid’s work now enables over one million people a year to access both water and sanitation, and the partnership with Arup will continue to help us grow and develop to enable even more of the world’s poorest people to escape poverty.”

Barbara Frost
CEO, WaterAid



Working with WaterAid in Bangladesh

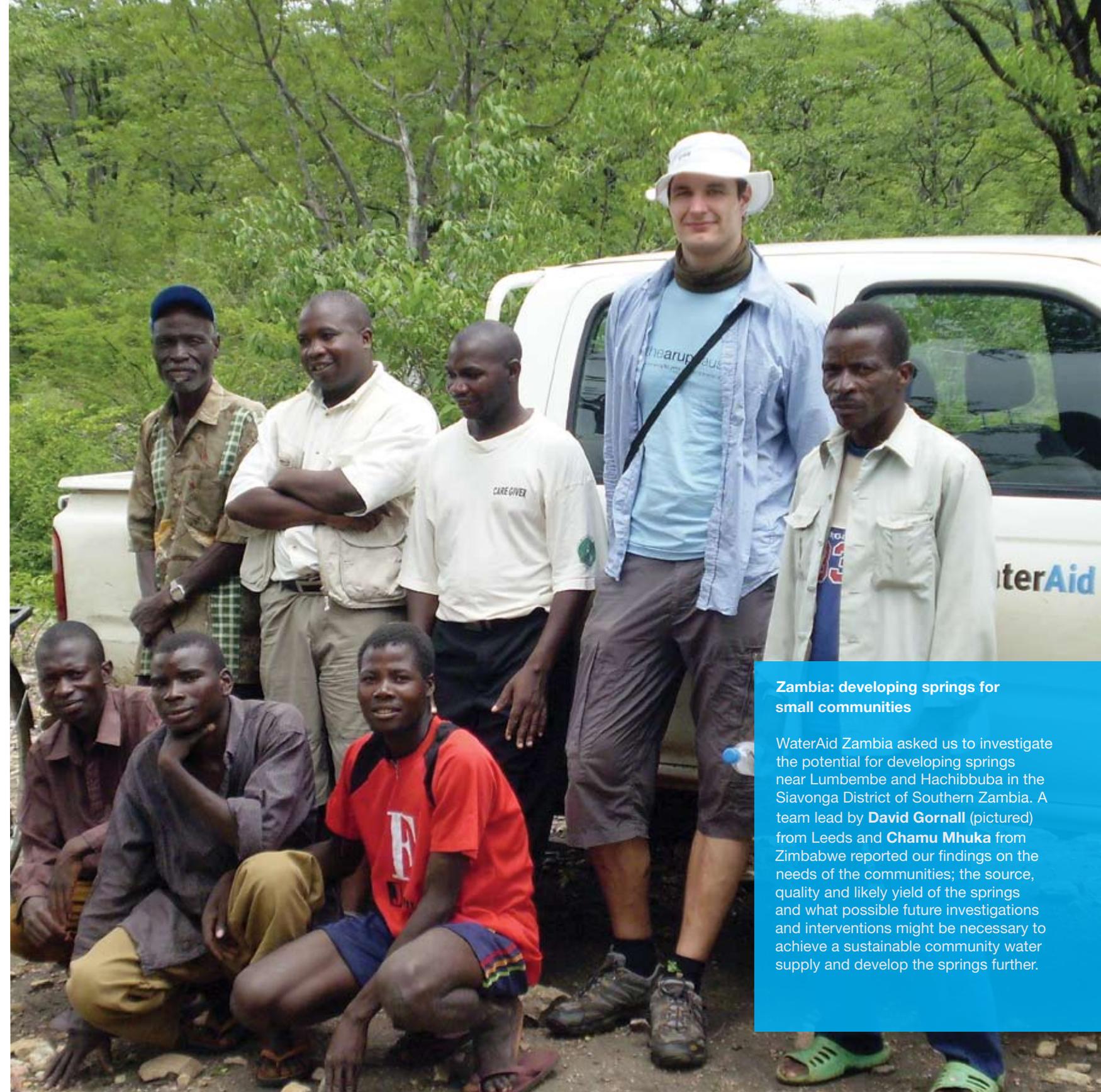
Bangladesh: investigating fresh water sources for saline areas

Saltwater shrimp farming, saline intrusion from the sea and arsenic contamination make freshwater scarce in the Satkira region of Bangladesh. Together with WaterAid Bangladesh, an Arup team, led by **Nick Swain** from our Adelaide office, assessed current water sources, identifying where alternative options such as rainwater harvesting might be viable and assessing the merits of various treatment options to improve water quality, including filters, solar distillation and desalination technology. We took account of traditional social structures, available skills and limited financial resources, recognising

that these are key issues in managing community-based schemes in less developed areas. Currently we are investigating reverse osmosis as a possible long-term solution and plan to develop case studies, with preliminary research, following a second, three week-long country visit.

Madagascar: improving construction and quality control of wells and latrines

WaterAid Madagascar identified examples of inadequate construction and quality control in wells and latrines in the area. **Alan Sam-Sun**, a Port Louis, Mauritius-based civil engineer, conducted a technical audit, reviewing technical designs and project approaches. Our recommendations included improvements in procedures for project selection, as well as how future monitoring and audits could be carried out most effectively, all of which are being implemented.



Zambia: developing springs for small communities

WaterAid Zambia asked us to investigate the potential for developing springs near Lumbembe and Hachibbuba in the Siavonga District of Southern Zambia. A team lead by **David Gornall** (pictured) from Leeds and **Chamu Mhuka** from Zimbabwe reported our findings on the needs of the communities; the source, quality and likely yield of the springs and what possible future investigations and interventions might be necessary to achieve a sustainable community water supply and develop the springs further.

Raising funds

The power of collaboration

Arup people throughout the world at all levels devote their time and energy to fundraising activities supported by the Arup Cause.

The creativity, the level of participation across the firm and the sheer range of activities are testament to the commitment of our people to humanitarian causes.



How did the money help?

Funding projects that make a difference



© WaterAid/Marco Betti

Nepal: water for life for 214 households and 1,289 people; sanitation installations for 1,560 people in 330 households in four communities

“I used to collect my water from the river – it was an hour away. I collected the water in the baskets on my head; it was very hard. I used to get up between 3am to 4am at night to collect the water otherwise there wasn’t any. I needed six to eight buckets per day. Each time I could carry two buckets so I had to go many times. It was two hours each time. There was no water before but now I have enough to grow vegetables to sell. Now I feel happy; it is very convenient with the water as we can sell the vegetables. I am very happy. I spend the money on the children and to purchase oil and salt, clothes and meat from the market, and for when guests come.”

China Maya B K
Tap volunteer, Terai community, Nepal

All money raised in 2006-07 was used to fund a range of WaterAid projects to improve, change and, often, save lives. These are just some of the projects funded with the **£103,213** raised by the Arup Cause in its first year:

Madagascar: building local skills and the capacity to deliver projects

We are working with WaterAid in Madagascar to build the capacity and the

skills of local staff in Madagascar. Part of this requires undertaking baseline studies and evaluating potential future projects.

Papua New Guinea, East Sepik Province: our next project

The project we will fund for WaterAid in 2008 will mean that over 400 people in Kumagora village will have access to sanitation and drinking water. Thanks to a project managed by Help Resource, a local

NGO, and jointly funded by WaterAid and the European Union, the village will now benefit from a gravity flow system of five community tap stands and four demonstration latrines, and villagers will receive hygiene education to gain maximum benefit from the new facilities.



© WaterAid/Suzanne Porter

Nigeria: a well serving 4,200 people

“Before the well was installed I had to go to the river at least three times a day for water. Each trip would take an hour to scoop and wait your turn, so three hours a day was spent just collecting water. My family got cholera and other sicknesses from drinking the water. One of my children died from this. After the intervention, all this has changed. I have more time and can make some extra money. We are not in debt from the medication and the extra money goes towards the cost of education and uniforms. All my school-age children are in school now. I used to have to keep them home to help me. Since the well I have more time to rest, the children don’t feel sick, and I am able to make things better for my family.”

Adana Haruna
30 year old mother of six
from Birnin Gaye, Nigeria

Building capacity

Helping organisations to achieve their objectives

Some Arup Cause projects aim to build the capacity of NGOs and other organisations in order to increase their sphere of influence and their effectiveness in achieving their objectives.

Maji na Ufanisi and the Freshwater Action Network (FAN)

Communications specialist **Karen Patey** and development expert **Jo da Silva** helped Kenya-based NGO Maji na Ufanisi to develop its capacity with strategic communications advice and a new visual identity. Following the project's success, the Freshwater Action Network (FAN) sought our advice on developing a global communications strategy to support their aim of providing a voice for civic society to influence global policy on water and sanitation. This was developed in conjunction with FAN at their Annual Advisory Committee meeting in Nairobi in October 2007 (pictured right), with guidance provided on implementation of that strategy.



A general brochure for IDE-UK

A key communication tool for International Development Enterprises (IDE)

Graphic designer **Nadia Georgiou** designed IDE-UK's general brochure, which is its key communication channel for its supporters. She used the opportunity to reinforce its brand and ultimately to raise its profile through design with potential sponsors and supporters.

WaterAid's website

Our corporate communications team helped WaterAid's web team to redevelop their internet site. We conducted a peer review of the site and surveyed web users from our own global network of activists. We compared it to those of key competitors, and our recommendations were given to WaterAid's external agency to develop further.



“Working with Arup on reinvigorating the Maji na Ufanisi website helped us to engage in a very deep reflection of the work we have done in the urban slums of Nairobi. The modern artwork and wonderful messages which resulted have literally given Maji na Ufanisi a much needed new look. We appreciate their professionalism and look forward to working together in the future”.

Edward Kairu
Executive Director, Maji na Ufanisi

Focus on water

Providing access to clean water and safe sanitation

Access to safe drinking water and sanitation is vital for the success of any community. Although water is an issue for communities all over the world, the problems are not the same: some people have too little water, others too much, or the wrong sort of water. An individual approach to each is essential. We have been involved in a range of water projects, from an assessment of water and sanitation on Wasini Island in Kenya to researching filtration technology for a community in Ghana. Read more about some of our work:

“It’s a humbling experience to meet entire families who struggle each day just to fill a single calabash. I left Benue with a renewed sense of what our collective resources can achieve and how many people we can impact.”

Gregory Hodkinson
Chair, Arup’s Americas Region and Chairman of WaterAid America, on his trip to Benue State, Nigeria

Nigeria: making existing WaterAid programmes more effective

On a three-month assignment to WaterAid Nigeria in late 2007, engineer **Zak Kostura** visited many communities where WaterAid is working with local communities to provide clean water and safe sanitation. With the



Zak Kostura working with WaterAid in Nigeria

support of Arup colleagues, he developed solutions to a number of technical and logistical challenges, including the innovation of lining household latrine pits with indigenous materials in areas where poor soil conditions have caused them to collapse. Zak is now back in New York, working to engage other Arup staff in support of WaterAid’s work in Nigeria and elsewhere.

Zambia: an ambitious hydroelectric scheme on the Zambezi

Sponsored by the North West Zambia Development Trust, this project created infrastructure to provide the clean water, sanitation, electricity and employment that the area lacked. It is small enough to avoid the environmental impacts of storage dams and only a small section of the



Borehole monitoring by Vicky Coy at Abonkosu

river experiences a change in flow. When complete, the project will operate as a private utility company, selling power to sustain itself. An Arup engineer and project manager took a year of unpaid leave of absence to provide design and design development on-site for the civil works during 2005/6.

Peru: combating high water levels in Lima

Around 12,000 people live in El Pinar, part of the Comas district of Peru’s capital Lima,



Children in Paposo, Chile



Sustainable development in Paposo, Chile

which is located in a natural, local depression of the ground. Since an extraction scheme for the city’s drinking water ceased, water levels have risen to their pre-settlement high, causing structural damage to dwellings and serious health problems for their occupants. Engineer **Alex Ramos** from our Madrid office provided technical and contractual engineering advice on solving the high water level problem. Excess water collected in four kilometres of new drains will feed a

lake within parkland at the lowest point of the depression, resolving the water table problems while providing a rare public amenity to residents.

Ghana: a sustainable water supply strategy for Ashanti

Hydrogeologist **Vicky Coy** and geochemist **Catriona Neath** from Arup’s London environmental team surveyed the water resources of villages in the Ashanti region of Ghana. Working with Ashanti Development, a registered charity that promotes health and development around the village of Gyetiase in Ashanti, Vicky and Catriona completed an initial desk review of available information followed by a site visit to Ghanaian institutes and around 20 visits to view community water sources such as boreholes, springs and streams. Their findings will inform a long-term strategy for the charity to provide water in this remote region.

Chile: sustainable development for Paposo

South American development specialist **Ignacio Barandiaran** from our San Francisco office heads a team that is providing technical advice and project leadership for a sustainable development plan for Paposo, a rural desert community in Chile. The plan aims to improve the town’s water supply and wastewater handling systems, encourage local businesses, improve the area’s infrastructure and promote environmental stewardship.

Focus on shelter

Improving living conditions for many

Shelter, a basic need for all, can be a literal building block for a community. Approximately one billion people are living in inadequate housing in urban areas, and about 100 million people worldwide are homeless. Shelter provides people with immediate health benefits and offers not only physical safety, but emotional and social safety as well. We have been involved in a range of shelter projects, from assisting orphanages in Uganda and Sri Lanka to the rebuilding of homes post-Hurricane Katrina in New Orleans. Read more about some of our work:



Nezi Gumpa structural survey team

India: Nezi Gumpa Monastery structural survey

The Nezi Gumpa monastery, located near Darjeeling in the foothills of the Himalayas, has been at the spiritual heart of its community for centuries, but is now crumbling. The Arup Cause supported a project where engineers **Brian Murrhly**, **Walied Jassat** and **Claudia Groth** surveyed the monastery and identified the repairs needed to preserve the 200-year old monastery building. They mapped the building and surrounds, undertook a mini-ground investigation and investigated the internal structure. Only local resources and skills will be used to carry out

the essential repair, to preserve this historic and spiritual centre for many more years to come.

Uganda: construction of a health centre

Five engineers from Arup's Cardiff office are taking part in the Institution of Civil Engineers Wales, Engineers for Overseas Development (EFOD) programme, which aims to assist in the development and training of engineers through working on public health programmes with local people in developing countries. The Arup team will be travelling to Soroti, Uganda to work with local partners on the construction of a medical centre. The team will help select

and procure materials for the centre and will be aiming to ensure that good safety and quality standards are adopted during the centre's construction.

India: digging foundations for homes in Bangalore

Building engineers **Hayley Gryc** and **Alfonso Senatore** from Arup's London office dug foundations, mixed concrete and helped with roofing, plastering, and painting the buildings as part of the Habitat for Humanity Community Challenge. The programme provides homes for poor families in Bangalore, India. The trip has contributed to strengthening Arup's relationship with Habitat for Humanity and we hope to assist on future projects.

Peru: post-earthquake mission

After an earthquake hit central Peru in August 2007, flattening about 90% of non-engineered structures in the area, the Earthquake Engineering Field Investigation Team (EEFIT), part of the UK Institution of Structural Engineers, undertook a post-earthquake field survey of structural damage with a view to understanding better the way in which non-engineered buildings respond to earthquake-induced loads.

The Arup Cause supported geotechnical and seismic engineering expert **Dr John Alarcon** to join the EEFIT mission and travel to Peru in September 2007. The survey was wide-ranging and included interviews with those affected and those in charge of relief operations. The resulting report was published on the Institution of Structural Engineers' website home page and was sent

to Peruvian authorities and to the European Commission to inform reconstruction.

South Africa: low-cost housing design

Mike Edmonds from Arup's Cardiff office is supporting Interactive Africa with their Design Indaba 10x10 Housing Project in Cape Town, South Africa. The aim of the project is to develop innovative designs, suitable for low-cost housing. We are providing technical advice on materials and construction, and we will assist in the capturing of the design principles of the project in a manual to be presented to South Africa's Minister of Housing. The information will be shared on an open-source, online space for architectural design, which will add to the international low-cost housing database.



Low-cost housing design in South Africa

Focus on learning

Raising awareness internally and externally



Daniel Lambert on a 'WaterAid Supporters' visit in Galior, Western India

Learning is crucial to the Arup Cause. When people understand the underlying cause of poverty and the impact they can have as individuals through their own actions and by influencing others, positive change can happen. Our staff have attended training courses on water and sanitation in Hong Kong and staff have taken to the streets of Leeds city centre in the UK to raise the general public's awareness of the issues of water, sanitation and hygiene in developing countries. Read more about some of our other initiatives:

World Water Day

The Arup Cause was launched with a series of global events on World Water Day – 22 March 2006. Nearly every employee wore blue for the day to raise awareness of World Water Day, and staff were encouraged to give a

donation for the use of taps and lavatories on that day. Over 540 people in 49 of our offices were connected electronically for a shared lunchtime educational presentation in a 'virtual wave' of learning across the Arup world.

Raising awareness of water issues: the drawing water exhibition

Arup engineers **Alistair Law** and **Will Laird** conceived *drawing water* – an exhibition where our architect and designer friends from around the world created hand-drawn postcards for auction on 'the meaning of water'. Over 300 original works of art were displayed at the Bargehouse at Oxo Tower Wharf in London, raising over £6,000 for WaterAid and setting the scene for the *drawing water challenge* described on the next page.



Raising awareness in Leeds city centre

WaterAid Supporters' Visits

Arup engineer **Sarah Hindle** spent two weeks in Burkina Faso with WaterAid in 2006. In 2007, engineers **Daniel Lambert** and **Claire Moore** attended the WaterAid Supporter's Visit to Gwalior in Western India, spending a fortnight visiting villages in the states of Madhya Pradesh, Uttar Pradesh and Chhattisgarh. All three engineers gained first-hand experience of the way in which WaterAid addresses the issues of need, poverty and equity in terms of water, sanitation and hygiene in the poorest and most vulnerable communities. They came back inspired by the way in which WaterAid helps communities, the context in which WaterAid operates and the challenges it faces.



Arup's drawing water challenge:

Supported by WaterAid, an Arup team created this international competition to find new ideas and concepts to help deliver clean water and sanitation. It attracted 91 entries from 19 different countries. Israeli architects Joseph Cory and Eyal Malka were the winners, for their design called *WatAir* (pictured) – an inverted pyramid that collects dew from the air, providing 48 litres of fresh water each day in almost any climate. The flurry of interest and activity around the challenge has culminated in many such successes for our entrants ranging from publicity in such prestigious media sources as the *New Scientist* to another entrant winning funding from multi-millionaire venture capitalists on the BBC programme *Dragons' Den* in the UK.

Enabling participation

Making connections

The **Poverty Action Network (PAN)** is a global network for Arup staff who are interested in poverty alleviation, international development and disaster relief work. PAN provides infrastructure support for the Arup Cause, with 24 coordinators globally. Talks from Arup people and speakers from universities and NGOs are teleconferenced monthly and attract up to 150 attendees. Some speakers give technical lectures; others share their personal experiences of working in developing countries. Some initiatives recently coordinated by PAN include:

Engineers Without Borders UK (EWB-UK)

EWB-UK is a charitable organisation based at British universities which draws together students, academics, and professionals to facilitate human development through engineering. Arup volunteers gave keynote speeches, coordinated role playing and training sessions about water and sanitation, management and marketing at EWB-UK's National Conference 2006, Sharing Skills for Development, pictured far right. Arup gave support to the National Conference for the second year in October 2007 which focused on building the capacity of the individual EWB-UK programme teams and university branches for the coming year. Ten Arup staff attended the event, supporting or presenting at workshops on project/placement planning, organisational management, fundraising, publicity and the professional network.



Stand Up Against Poverty

Arup staff joined over 38.8 million people in 110 countries on 16-17 October 2007 in support of a 24-hour global event – Stand Up Against Poverty – coordinated by the United Nations in support of the Millennium Development Goals (MDGs). It was the largest single coordinated mobilisation in history, exceeding last year's 23.5 million people in 87 countries. From all parts of the world, millions stood and spoke out to demand a more urgent political response to the growing crisis of global poverty and inequality. PAN coordinated 'Stand Up' events in Arup offices in Brisbane, Cardiff, Darwin, Gaborone, Leeds, London, Los Angeles, Manchester, Manila, New York, San Francisco and Sheffield which raised awareness of the MDGs, encouraged action by world leaders and highlighted opportunities to act.

World Scout Jamboree

Between the 27 July and the 8 August 2007, the World Scout Jamboree brought together 28,000 young people from all over the world. An Arup team organised the event and worked together with EWB to organise and run a workshop on water and sanitation in

slum communities. More than 200 scouts took part in the workshop over the eight days and it was great to see the different reactions of the groups from countries as diverse as Iceland, Trinidad and Tobago and the Sudan.



Going forward

Evolving with the issues



The Arup Cause has achieved so much. By focusing on water, sanitation and, more recently, shelter as key factors associated with poverty, and by joining together with partner organisations, we have been able to make a real difference to those most in need around the world.

We have done so in a number of ways, but most significantly we have done so by engaging the collective enthusiasm and commitment of our people. Learning from our efforts, being open to new ideas and changing direction if we need to are key to maintaining this positive contribution. We have learned that the most effective way for us to give something back is to provide our people with experiences and opportunities that enable them to contribute to society in broader ways than their day-to-day jobs might allow them to. In the process, we have developed new and rewarding relationships internally and externally.

As Arup's involvement with humanitarian causes evolves over the next few years to address new themes and key global issues, we hope to continue to provide a unique space for our staff to unite their energy, skills and experience to raise awareness and to tackle today's global challenges.

Jo da Silva

Arup Cause Steering Group



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technique

The background is a solid bright blue color. Overlaid on this are several large, abstract, white and light blue shapes. These shapes are composed of thick, rounded lines that curve and intersect, creating a sense of movement and depth. The shapes are primarily located in the right and bottom-right portions of the frame, with some extending towards the center.

arupcause@arup.com
www.arup.com/thearupcause