

Cambridge and international development

The ideas, the people, the impact

2010 report: Innovation in international development





> Some of the team for the **Cambridge and international development** report at the Humanitarian Centre. From left to right, Ngan Nguyen, Kate Bonham, Miranda Swanson, Dmitriy Myelnikov, Charlotte Pearce Cornish, Evie Browne

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Author:

Ian Steed

Editorial Team:

Richard Carter

Paul Chinnock

Steve Jones

Charlotte Sankey

Project Manager:

Evie Browne

Graphic Designer:

Dmitriy Myelnikov

Case Study

Researchers:

Kate Bonham

Sophie Fallows

Euan Jones

Ngan Nguyen

Contributors:

Fiorenza Brady

Charlotte Pearce

Cornish

Helen Denyer

Miranda Swanson

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Introduction



Ian Steed

Author
Director, Humanitarian Centre



Steve Jones

Chair of Trustees
Humanitarian Centre

Cambridge is an international city. Through its two universities, hi-tech industries, its world-ranking Addenbrooke's Hospital and vibrant international population, Cambridge has a greater impact on global problems than most other cities of its size.

This report is the first in a series of annual publications by the Humanitarian Centre examining the ways in which Cambridge has a real impact on the lives of people living in developing countries. We have chosen the theme of innovation because it is strongly associated with Cambridge's path-breaking academic research, pioneering hi-tech companies and dynamic non-governmental organisations (NGOs).

This report aims to raise awareness in Cambridge and beyond of the impact that Cambridge has in this sector. We want to inspire and encourage individuals and organisations to reflect on how they can contribute to tackling global problems of poverty and inequality.

Fuller case studies on the work of Cambridge individuals and organisations mentioned in the report can be found at www.humanitariancentre.org/publications. Links to individual and organisational websites can be found in the listing at the back of this report.

Why international development?

- In 2010, the chances of a mother dying in childbirth are **100 times greater** in the developing world than they are in the UK. Most of these deaths are avoidable
- In 2005, **1.4 billion** people around the world lived on **less than 1.25 dollars per day**
- In 2008, **11%** of the world's children did not attend primary school.*

Conflict, natural disasters and disease affect tens of millions of the poorest and most vulnerable people in developing countries each year. While progress is being made, the global community has to do much more if we are to see a world where everyone has an acceptable standard of living and equal opportunities.

* Data from the
UN Millennium
Development
Goals gateway,
[www.un.org/
millenniumgoals/
news.shtml](http://www.un.org/millenniumgoals/news.shtml)

> In the severe 2010 floods in Pakistan, 2,000 people lost their lives and over two million houses and 10,000 schools were destroyed. Bourn-based consultancy **Meta-Development** is advising the European Union on the design of its €120 million, community-based recovery programme, and DFID on its school rebuilding programme



What is innovation in international development?

Innovation transforms lives. It shakes up the established way of doing things. Innovation is about new ideas, and turning these ideas into reality in the face of stark challenges. The sheer numbers of people living in poverty require new approaches that move beyond 'business as usual'

International development aims to improve the lives of the poorest people by raising incomes, providing health and education and giving them the power and opportunities to change their lives. It aims to reduce inequality and protect the most vulnerable during disasters and conflict. Development takes place in communities but can be steered by governments, businesses or non-governmental organisations (NGOs).

Innovation is the process of new ideas and inventions being developed and becoming the regular way of doing things. It is about creativity, problem solving, adaptation and change. And it is going on all around us every day, from Cambridge high flyers to those struggling to survive in the developing world. Innovation challenges existing ways of doing things. It is the opposite of 'business as usual'.



>> *Innovation is the translation process, getting the invention to a place where it can be used*

Shelley Gregory-Jones

Development Director
PHG Foundation

Innovation takes many forms. It may:

- be planned or spontaneous
- result from research or emerge from practice
- result from action by individuals, communities or organisations
- involve a complete change in the way things are done or achieve smaller incremental changes
- involve the active participation of its target group or be carried out in a more top-down way.

Innovations are created by people who see the world in a slightly different way – those who see opportunities that others overlook. For innovations to be successful they must meet a need and be adopted by people. Adaptation and learning (including learning from failure) are therefore key parts of the innovation process, making it both dynamic and unpredictable.

How does this relate to international development?

International development cannot happen without innovation. Without innovation things stay as they are. In previous years, development aid involved exporting ideas and technology directly from developed countries



> Millions of vulnerable children around the world are left with no choice but to live on the streets. When four Cambridge families visited South Africa in 2007, they brought back the idea of holding a World Cup for street children, leading to the inaugural **Deloitte Street Child World Cup** in March 2010.

Here, a South African participant works on a piece for an exhibition of artwork by street children at the Durban Art Gallery, facilitated by Cambridge social enterprise **Momentum Arts**

without adapting it to local conditions. Such aid was often rejected by local people, resulting in failed projects and little impact.

Development initiatives today work far more closely with communities and organisations to identify what is really needed, and to build local skills and knowledge. The aim is to sustain new systems and technologies and produce new and better solutions. Over time, development organisations have learned to take good ideas and inventions and turn them into innovations with sustained and widespread impact.

Both innovation and development are 'messy' processes that are difficult to predict or control. Both are people-centred and rely on participation and learning to be effective. Both are on-going and political. They change accepted ways of doing things, produce winners and losers, and challenge existing power relations.

Businesses innovate to increase profit or market share; organisations in international development innovate to improve incomes and opportunities for poor people. While business innovation is likely to lead quickly to measurable changes in performance, the impact of innovation in international development may only be seen after many years. It is likely to be difficult to measure, and can be hotly contested.

Cambridge people spark the first Street Child World Cup

In March 2010, the London-based **Amos Trust** organised a football World Championship in Durban, South Africa for street children from eight countries. This continued years of campaigning for human rights for street children, alongside South African organisation Umthombo. The idea came after four Cambridge families visited Umthombo in 2007. Kevin Jones, head teacher at St John's College School, made the suggestion in a morning assembly that ultimately led to eighty of the world's poorest children representing their countries in their own World Cup.

Momentum Arts, a Cambridge social enterprise, joined with the Amos Trust and ran an arts programme for the visiting street children and children from South African schools. An exhibition of their work was launched at the Durban Art Gallery – a building none of the South African street children had ever been inside before. Many people from Cambridge travelled to South Africa to volunteer at the event, with many more following and actively supporting it back in the UK.

The **Deloitte Street Child World Cup (SCWC)** shows that innovation is a journey. It starts with an idea or vision that takes shape gradually and changes in response to unexpected barriers and opportunities. And it is not always clear when the innovation journey has

Beyond commercial outcomes

> Innovation challenges attitudes

The **Deloitte Street Child World Cup** treated participating youngsters with dignity. A conference in Durban gave them the opportunity to reflect on their lives and tell the world what they want to see changed. At the same time, the whole event challenged commonly held stereotypes of street children by showcasing their sporting and artistic talents. The event was publicised widely in South Africa and around the world.

> Innovation identifies opportunities

Whilst not connected to Cambridge, one of the best-known innovators in international development is Nobel Laureate Professor Muhammad Yunus. He developed a microfinance model now used in many developing countries, in Bangladesh in the 1970s. Learning that banks would not lend money to poor women wanting to start microbusinesses because they were not credit worthy, he started the **Grameen Bank** to give loans to groups of them. From a small start in a few villages near Chittagong University, the model was so successful that it spread worldwide.

> *Four ways to innovate:*

<p>Product innovation <i>Avoiding broken water pipes in landslides</i></p>	<p>Water pipes are often damaged by landslides following earthquakes or torrential rainfall leading to communities being cut off from safe drinking water. To avoid this, Ian Ball, a student on the Cambridge University MPhil in Engineering for Sustainable Development, designed ‘snaked pipes’ capable of moving through sliding earth and not fracturing. This innovation has been used by Oxfam in mountainous areas of Pakistan.</p>
<p>Process innovation <i>Delivering ethical chocolate through the cocoa supply chain</i></p>	<p>Driven by UK demand for ethical chocolate, Royston-based company Hotel Chocolat promotes sustainable cocoa farming methods in cocoa-producing communities in Ghana and Saint Lucia. It then buys the cocoa they produce at premium prices.</p>
<p>Position innovation <i>Taking ideas from other countries to conserve water in Pakistan</i></p>	<p>To allow poor communities to retain more rainwater for the dry season, Cambridge consultancy Ian Tod Associates worked with local organisations in Pakistan to improve techniques for building ‘mini-dams’ across small valleys. The DFID-supported project took ‘new’ ideas from India and Nepal and adapted them to the local terrain using indigenous materials. People can now conserve water closer to their villages while women and children walk less far to fetch water and grow vegetables.</p>
<p>Paradigm innovation <i>Making articles on diseases available for free via the internet</i></p>	<p>The medical journal PLoS Medicine challenges the idea that people should pay for academic articles. It publishes academic work online for free use and distribution. Its articles prioritise common diseases. It funds itself mainly by charging authors fees, though it waives this for authors who cannot afford to pay. In this way it makes knowledge easily accessible – and free – to academics and practitioners in developing countries.</p>

ended. In the case of the SCWC, the intention is to repeat the Durban success at the London Olympics in 2012 and the 2014 football World Cup in Brazil. Over time, it is hoped these events will grow and have a bigger impact on the lives of street children than one single event, however successful.

As with many of the examples in this report, the SCWC was an innovation – something new or different that holds out the promise of greater change in the future.

Cambridge-based organisations and individuals have developed a range of innovations used in international

development. The table above gives examples of new products (things), processes (how to do things better), positioning (bringing in new ideas from other places) and paradigms (new ways of thinking), which originated in and around Cambridge.

These initiatives illustrate the broad nature of innovation and the many different ways in which Cambridge people engage in international development.

So far we have focused on examples of innovation by people living in Cambridge. In the following section we explore some of the drivers of innovation within international development generally. <

Need drives innovation. Billions of people constantly struggle to survive. Their lives may be suddenly turned upside down by natural disaster, conflict, climate change, or sudden illness or disability. For people living in abject poverty and the agencies trying to support them, 'business as usual' will not work in the face of growing and changing needs

We all get used to the ways things are in our families, communities and organisations. If fortunate, such ways of life may support us happily over time. However, this is not how most people on the planet live. For these people – vulnerable and living 'on the edge' – innovation may be the only way towards a better future.

Agencies working in development are driven to innovate by the scale of the problems the poorest people face and the constant pressure to achieve more with limited or reduced resources.

A clear focus on results is central to this innovation process – identifying the issues that really matter and making sure that they are addressed. The following examples illustrate how innovative approaches can be developed to tackle seemingly deep-rooted and intractable problems.



>> Innovation in international development is about the conjunction of creativity, need and the ambition to make a difference in an unequal world

Richard Carter
Humanitarian Centre Trustee

Sheltering the Haiti homeless

The Haiti earthquake made 1.5 million people homeless overnight. In previous disasters in other countries, coordination difficulties among relief agencies had made the international response slower and less effective than it should have been. In Haiti, training and systems developed by Cambridge academic Tom Corsellis and his organisation, **Shelter Centre**, led to improved planning and a more rapid and effective response by agencies offering shelter. Tom, together with Antonella Vitale, set up Shelter Centre in 2004 having completed his doctorate in Architecture at the University of Cambridge. Shelter Centre provides training, resources, and runs regular coordination meetings for relief agencies that provide transitional structures and shelter after disasters.

Innovative radio education reaches over Nepali mountains

The Mountain Trust, a charity based in Great Shelford, started its work by building schools in Nepal. Although school buildings were needed in many villages, it realised that buildings alone would not improve children's education because many teachers had no training. Equally problematic was that



> Madagascar has fewer surfaced roads than Devon. This means that many communities do not have easy access to medical care. Harston charity **HoverAid** uses hovercraft to provide services to these communities. Here, Dr Fernand Ramahalison treats a Malagasy man with a fungal infection sitting on a River Rover hovercraft



> In a Cambridge lab, an experiment by Engineering for Sustainable Development MPhil student **Ian Ball** models the behaviour of water pipes in landslides

many children were absent because they were having to earn vital money for their families, or were unable to attend school due to the long and arduous journey to get there. The Mountain Trust responded by developing Radio Guru, a radio education programme that children could access wherever they lived. By choosing skilled teachers to deliver the radio programmes, it was also able to demonstrate good practice to other teachers.

Innovative training builds confidence
Aptivate is an Information Technology (IT) consultancy with a difference. It sees traditional IT training as didactic and stifling innovation. By encouraging trainees to engage creatively with

IT tools and ideas, training is not only more fun, but also more effective. Working with Cambridge charity **Camfed** to deliver IT skills to 150 Zambian women who had never touched a computer before, Aptivate started by asking them to assemble the computers from the box. The approach encouraged participants to learn new skills, rather than being taught them, and in the process built up the women's confidence in their own abilities.

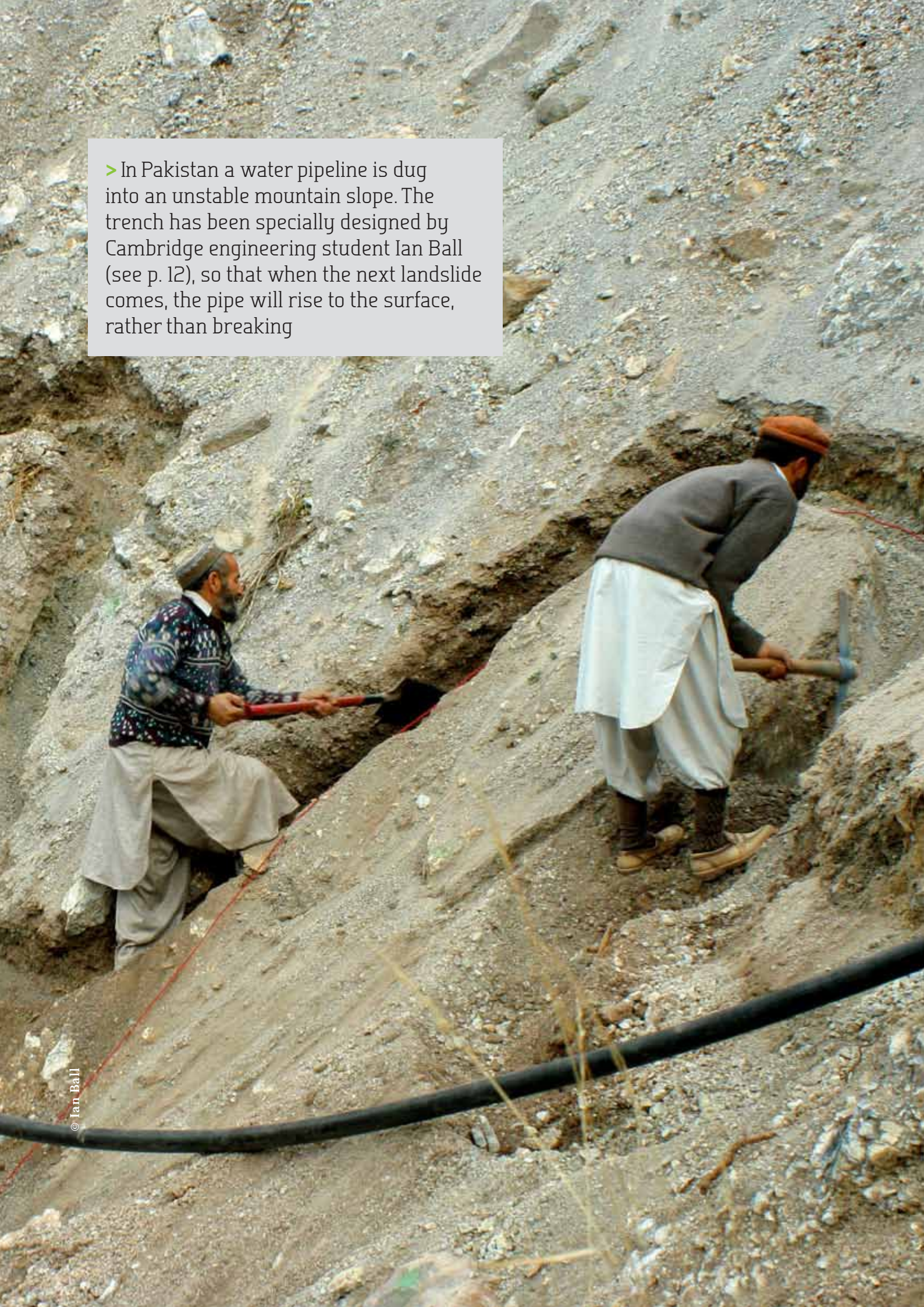
As well as innovating in response to external needs, innovative positioning can give organisations an advantage when fundraising. Competition for financial resources among smaller charities in the international development field is fierce, and those organisations able to show effective innovation in their work can benefit substantially.

New approach makes fundraising easier **Engineers Without Borders UK**

(EWB-UK) is a Cambridge-based charity that provides opportunities for young engineers in international development. These include training, placements overseas and development-related research projects in the UK. Young people fundraise, lead and manage the organisation and develop its programmes. Supporting EWB-UK therefore allows engineering companies to support future recruits in developing valuable skills and experience.

In the following section, the personal characteristics of innovators are described, and two of Cambridge's best known social entrepreneurs, Ann Cotton and Ken Banks, speak about their experiences as innovators. <

> In Pakistan a water pipeline is dug into an unstable mountain slope. The trench has been specially designed by Cambridge engineering student Ian Ball (see p. 12), so that when the next landslide comes, the pipe will rise to the surface, rather than breaking



Successful innovators share common characteristics – the ability to spot and react to opportunities, as well as the entrepreneurial skills to nurture and grow their ideas

Ideas come to us in different ways. They might be a flash of inspiration that shows an issue in a completely different light, or the next logical step in a series of changes. The idea may come to an individual, or may emerge from a group. In either case, the innovator(s) will have a vision of how the world could look, and of the changes needed to achieve their vision.

Innovators need a solid understanding of the issues, and what they can do to make a difference. They need to understand the context, culture and priorities of the people who will use the innovation, and adapt it to meet their needs. This is true of new consumer products such as mobile phones and redesigns of existing products, like water pumps.

Innovators need confidence that their idea is a good one, and the passion to overcome the inevitable obstacles. They

need to be willing to stick their neck out and accept the risk of failure. They also need to be in the right place at the right time.

Individual values and determination

Daniel Paterson had a successful job in UK manufacturing. He gave it up to concentrate on using his knowledge and contacts to support manufacturing-based social enterprise around the world: for example, employing blind people, or funding projects supporting people living with HIV/AIDS. Daniel's travels in Africa suggested that many such enterprises just need small pieces of advice to significantly improve their manufacturing ability and thus significantly grow the social benefit they provide too. He is currently working to realise an online micro-volunteering organisation **ManufacturingChange.org** to provide this advice.

Making that lucky connection

Jenny Grewcock of Cambridge charity **Cambridge to Africa** attended a talk by social innovator Ken Banks at the Humanitarian Centre. He spoke about the Frontline SMS application that he had developed to allow text messaging with large groups of people. Out of their discussions came a new application of SMS technology to benefit a school for deaf children in Kabale, Uganda. Text messages from children are collected and analysed to help improve teaching at the school. Using a mobile phone also boosts the social standing of the deaf children.

At first glance, there would seem to be little difference between innovators in the UK, and innovators in developing countries. In developing countries, however, investment of time or money in an innovation which fails could make a bad situation worse for vulnerable people and communities. In such countries, failed innovation can be worse than no innovation at all, meaning that innovators need to work to limit possible risk. <

> A Ugandan carpenter sets up one of many businesses in the country's growing private sector. The Cambridge-based **Donor Committee for Enterprise Development** works with donor governments to provide effective support to businesses in developing countries. As the private sector grows, higher tax revenues allow governments to spend money on health, education and infrastructure



Texting large groups of people: Interview with Ken Banks, founder, kiwanja.net



What inspired FrontlineSMS?

I saw that there was a big need in the developing world for grassroots organisations to be able to text large groups of people. This is useful for calling meetings, for sharing market prices, or for monitoring elections.

What is your proudest achievement?

Building something that people have managed to take and use on their own. FrontlineSMS empowers other people to create their own social change. I don't feel comfortable taking credit for anything. It wasn't me doing the work; I was just enabling other people to do it.

Why do you think FrontlineSMS has scaled up so successfully?

The software is free to download for anyone, anywhere. And I am proud that despite the technological challenges we have stuck to our values. It is still free.

What has been your biggest obstacle/challenge?

We have a fairly good idea who uses Frontline and for what, but follow-up is extremely difficult. Understanding how the software is being used is crucial to us and our donors. We need to know what people are doing with it, and what we can do to improve the software. The problem is understanding the impact when we have no control over projects. But that comes with giving the tool away and letting people get on with it. Trust comes at a price.

Educating African girls: Interview with Ann Cotton, Executive Director, Camfed

Why is Camfed innovative?

Camfed breaks the mould in girls' education by mobilising a social infrastructure around girls to support their development, beginning with primary and secondary education, and progressing into young adulthood and working life. This approach builds a new social norm where there are real opportunities for girls and young women to make healthy life choices.

Why focus on girls' education?

Educating girls is widely accepted as the most effective investment for eradicating poverty. Educated women earn 25 percent more income, have smaller, healthier families, and are three times less likely to be HIV positive. They are also more likely to send their own daughters to school.

How does Camfed work with other partners?

Camfed brings together influential community actors in a girl's life - teachers, health workers, traditional and faith-based leaders, police, parents and female role models. All of them are in a position to bring about improvements to girls' and young women's futures. At a national level, Camfed signs agreements with Education Ministries and works to develop mutually beneficial partnerships.





> Professor Simon Monoja of the University of Juba, Sudan, introduces his ideas to a peacebuilding workshop in the Abyei area of Sudan. Cambridge charity **Concordis International** works to facilitate such dialogue at all levels to prevent new conflict along the border between South and North Sudan

Nine out of ten business innovations in the West fail. While there are no comparable figures for the development sector, there is plenty of anecdotal evidence that many good ideas do not get off the ground

Innovation involves moving from idea to implementation. Typically, an idea or invention with potential is tested, and possible users targeted as it is developed, adapted and widely disseminated. During this progression, the process of testing, learning and adapting the idea or invention to the needs of potential users will determine whether it develops into an innovation, or remains a ‘good idea’.

We can model the innovation process as having four broad stages:

- **Inventing:** the idea stage
- **Piloting:** carrying out initial testing of the idea as a prototype
- **Disseminating:** the piloted idea spreading, whether deliberately or spontaneously
- **Adopting:** the idea becoming widely accepted.

An estimated 90% of commercial innovation ends in failure with the odds stacked against successful completion of the process.

Ideas and inventions can be taken to scale in one of two ways: they can be actively disseminated by an innovator or spontaneously adapted by people, in totally unexpected ways. In organisational settings, innovation is often quite formal. Cambridge organisations provide many successful examples of such a process.

Learning from mistakes is a crucial part of the innovation process described above. Learning is the process of examining the disparity between an idea and reality, understanding why there is this gap, and making changes to narrow it. The innovation process involves constantly testing, learning and adjusting the innovation so that it can be taken to scale.

The following case studies describe some of the ways in which Cambridge innovations have gone to scale. They also illustrate some of the barriers facing innovators, as well as the role of failure and learning in developing successful innovations.

Spreading the word of female literacy

Histon charity **Afrinspire** has designed its women’s literacy programme to grow at low cost. Afrinspire founder Ian Sanderson was approached by a Ugandan woman, Rose Ekitwi, who was anxious to spread literacy and education to other women. Afrinspire supported Rose to train an initial group of twenty women to read, and also how to pass on this skill to other women. This initial body then went on to form further groups, some of whom, in turn, went on to form additional groups. The programme reached out beyond just reading and numeracy, encompassing important practical homestead, farming and financial skills as well.

> Kerri ole Sane, a 7-month-old Maasai boy, is given a vitamin A capsule by nurse Patrick Kibe to protect him against a deficiency that could make him blind. Cambridge-based charity **CBM-UK** works with community partners to make sure that medical innovations are distributed around the world to reach people who need them





> A Ugandan women's literacy group meets with Histon charity **Afrinspire**. Such meetings keep the charity informed of local needs and priorities

© Afrinspire

The result was that many men also wanted to get involved, and the programme has been able to make an impact across society. In this case, the initial idea was tested and found to be effective. It was then scaled up to reach many more people in a cost-effective way. Afrinspire has since taken this

proven model for spreading women's literacy to three other areas of Uganda.

Spreading innovation through partnership

University of Cambridge ESOL

(English for Speakers of Other Languages) offers the world's leading range of certificates for learners and teachers of English. A non-profit department in the University of Cambridge, it works with governments worldwide to train teachers in English language teaching skills. By working with governments, innovations introduced by Cambridge ESOL have the potential to reach whole education systems.

For example, the Thai Ministry of Education used the Cambridge ESOL Teaching Knowledge Test with 50 senior teachers in 2008. As these teachers passed on their skills, the ripple effect of the training has been to reach 20,000 Thai teachers.

Standing on the shoulders of giants

Cambridge consultant Rick Davies used a process of constant learning and feedback in developing his Most Significant Change (MSC) methodology – a new way of assessing the impact of development projects. He believes that "by building on the expertise and knowledge that has gone before us, we can achieve more than by starting from scratch." His web-based news service **MandE News** (Monitoring and Evaluation News) provides articles, think pieces and updates to practitioners engaged in monitoring and evaluating development projects worldwide. This example shows the potential for information and communications technologies (ICTs) to disseminate and provide a forum for exchange of ideas and experience.

> *Mobile phones: one innovation leads to another*

<p>An ARM chip in (nearly) every phone</p>	<p>Of the estimated 5 billion mobile phones in the world in 2010, nearly 4 billion are in developing countries. 90% of these phones use a semiconductor or 'chip' designed by Cambridge-based company ARM.</p>
<p>Payments by mobile phone</p>	<p>M-PESA (a partnership between Cambridge company Sagentia, Vodafone and the UK Department for International Development) pioneered a mechanism in Kenya for people to make payments by using their mobile phones. The system allows customers to transfer money via text messages, and redeem the cash at agencies throughout the country. Agencies are often small shops or convenience stores in market places. Within eight months of its commercial launch in March 2007, M-PESA had 900,000 subscribers and 1,200 agents operating in the east African country with £40 million being transferred between the users of the system.</p>
<p>Cheap and quick communication</p>	<p>kiwanja.net provides open source software for mobile phones to grassroots organisations. Their product, FrontlineSMS, targets organisations in developing countries needing to text large groups of people. In Malawi, use of FrontlineSMS:Medic has doubled the number of patients treated by a tuberculosis programme in six months, saving money by streamlining operations and avoiding unnecessary journeys. FrontlineSMS is also regularly used to monitor elections, including the recent Presidential elections in Afghanistan.</p>
<p>Building on innovation</p>	<p>Children with disabilities face social and educational exclusion in developing countries. Charity Cambridge to Africa uses Frontline SMS to promote social inclusion of deaf children at a school in Kabale, Uganda. The technology allows analysis of the language that deaf children use compared to their non-deaf counterparts. This will help teachers improve the curriculum. At the same time, giving mobile phones to deaf children has raised their social status.</p>

Escaped innovations in Bangladesh

Cambridge firm **Mott MacDonald and Partners** was in the vanguard of organisations introducing small irrigation pump-sets and wells into Bangladesh in the 1970s and 1980s. These were known as 'shallow' tubewells and underpinned the rapid rise in rice production popularly referred to as the 'green revolution'. However within a few years Bangladeshi farmers had innovated and adapted the pump-sets to power river boats, rickshaws and agricultural machinery.

Learning goes both ways

Dr Jane MacDougall, consultant in Reproductive Medicine at Addenbrooke's Hospital was funded by the World Health Organisation to train Kenyan midwives and doctors in emergency obstetrics. Initial results of the training suggest an impressive 50% reduction in maternal mortality. However the learning is not one-sided. Jane has brought back to Cambridge new ideas from her Kenyan colleagues on how to educate and supervise trainee doctors in the East of England.

Poorer people in developing countries often find it difficult to get their voices heard and share their ideas. This can mean that 'good ideas' brought by outside organisations are not well adapted to resident conditions and are often rejected by local people.

Try, try and try again

It has taken forty years for Harston charity **HoverAid** to find their niche. HoverAid started using hovercraft to deliver services in inaccessible regions of developing countries in 1967. Although they were convinced that hovercraft could play an important role in developing countries, they experienced a series of technical, environmental and human failures. But it was 2005, when they started working in Madagascar, a country with 13,000 km of rivers but only 6,000 km of paved roads, that the hovercraft really came into its own.

Refusing to accept that failure is a necessary part of the innovation process can be a barrier to effective innovation. Often innovators find it difficult to discuss failure with their funders in case they will not be funded again. This means that important learning may not be recognised and shared, and the same mistakes may be repeated.

Understanding the value of innovation

Institutional resistance and lack of understanding are barriers to innova-

tion. **The Darwin Nimba project**, based on the ecosystems in the west African rainforest that runs from Togo to Sierra Leone, illustrates that innovation is both a technical and political process. This Fauna and Flora International project brings together communities, governments and corporations from Liberia, Guinea and Côte D'Ivoire in aiming to conserve the environmentally sensitive Nimba border region. The success of the project depends on local and international communities developing a shared vision for the region's future.

Recognising an innovation's potential

Innovations developed in one place may be even more significant in other countries. Cambridge charity the **PHG Foundation** has been assessing a cheaper test for Down's Syndrome. While it will help some families in the UK it will not transform prenatal care here. In South Africa however, the test will make it possible for thousands of families, who would otherwise not be able to afford testing, to do so. It took a visit to Cambridge by a South African specialist for the test's potential impact in other contexts to be appreciated.

A final barrier in taking innovations to scale lies in the structure of the development sector itself. In private business, firms constantly search for ideas and inventions that can be scaled up. If an idea has profit potential, either the innovating organisation will expand, or it will be bought by a larger organisation which will exploit the idea.

Most international development funding however is project-based and not focused on replication. Projects are often highly subsidised and, while they may be a great success in one place, are too expensive to replicate elsewhere. Even if a project has great potential to improve the lives of poorer people, money may not be available to scale

Making sure that ideas are heard

Dominique Chadwick has used participatory film with poor people from urban Peru to rural Ghana. Participants are trained in how to make films, before creating a work about an important aspect of their lives. The films are then shown to and discussed by a community audience or government officials. The aim is for poorer, often illiterate people to be able to tell their stories to a much wider audience, and highlight the changes that could revolutionise their lives. Themes that are often raised involve taboo subjects such as sexual violence, and HIV / AIDS which do not get openly discussed otherwise.



> "This is my life, this is what happens to me and what I want to tell people about."

Here, Peruvian women make a film about machismo, supported by Cambridge filmmaker **Dominique Chadwick**

© Dominique Chadwick

it up. Equally, the management skills needed to roll out an innovation may be quite different to those required to set up a successful project in the first place.

Small organisations working in development may not be able to take innovative ideas to scale or may not want to because they only want to work in one area. For others, the hope is that their work will be taken over by larger agencies or governments. For large development agencies funded by governments, there is perhaps less incentive to scan the horizon for innovative practice in the same way as their commercial counterparts. <

>> *If you talk to potential funders in the United States, they often ask about failure, and what you have learned and are doing differently. In the UK, people are much less open about failure*

Ken Banks

Founder
kiwanja.net



Cambridge is recognised globally as a city that produces more than its fair share of innovative new ideas, and these in turn feed into a sense of expectation that 'Cambridge ideas change the world'

New ideas are often generated at the boundaries of organisations and cultures. Much of the innovation discussed in this report is based on people travelling from the UK to developing countries and reflecting on how to adapt their experience and knowledge to another context. However new technologies mean that it is increasingly possible for ideas to flow between organisations and cultures without face to face contact.

In a city with two universities, dynamic private sector and bright international population there are plenty of opportunities for crossover and exchange. Networks are one way through which individuals communicate across organisational boundaries. Cambridge networks bring together business, academia and the non-profit world not just physically in this city, but globally. Such networks are not only a powerful source of new contacts and ideas, but also provide innovators with access to know-how and experience.



>> *The risk with a focus on innovation is that you can lose track of the good stuff that's been done in the past, and not make use of it*

Rick Davies,
M&E News

Academic research in Cambridge is a particular source of innovation. Not only does it lead to practical spin-outs, such as the knowledge of emergency shelter developed by Shelter Centre and the flexible water pipelines developed by Ian Ball, discussed above, but it also provides a long term source of understanding of what works, and why.

Research with long-term impacts on poverty

Cambridge University scientist **Dr Julian Hibberd** leads a team working on the mechanics of effective photosynthesis in plant leaves. A potential early application of this work is in improving rice yields, with potential impact on food security in many developing countries. This work takes place as part of a consortium of labs and research institutes worldwide.

Networking saves lives

Two Addenbrooke's Hospital consultants visited Manipal Teaching hospital in Nepal. Their advice on operating procedures and hygiene led to a significant drop in patient deaths. The visit resulted from a chance encounter between two Cambridge charities - **Addenbrooke's Abroad** and the **Mountain Trust** - at a regular Humanitarian Centre networking event.



> Bikes are a familiar part of Cambridge life. In another part of the world, a Ugandan entrepreneur cycles around with a car-battery powered "mobile" phone, charging for phone calls. As new technologies take off in developing countries, new business opportunities open up for entrepreneurs to make technologies available to everyone

Rwandan students – innovators of the future

The **African Innovation Prize** is a new initiative designed to promote innovation and enterprise amongst Rwandan engineering students. In partnership with Kigali Institute of Science and Technology, the group runs a business planning competition inspired by the competitions run by Cambridge University Entrepreneurs. The goal is to encourage and inspire young people to think through new ideas, while passing on relevant skills and prize money to help such proposals to become reality.

Cambridge's academic reputation ensures that there is an ongoing flow of students from around the world, creating further opportunities for dialogue and development of new ideas.

Innovative mind-sets can be taught

Academic teaching brings young people into contact with these ideas and ways of thinking. The **Centre for Sustainable Development** in the Cambridge University Engineering Department seeks to break down the barriers between engineering and development teaching. In addressing both disciplines, the MPhil course aims to equip students with the means to ask good questions, rather than providing easy technical fixes.



>> *Aptivate is not just hosted by the Humanitarian Centre. Our strength is the network of organisations that we are linked to*

Mark Skipper
Aptivate

Innovation also requires practical support, whether in the UK or in developing countries. Funding is one key limiting factor to the spread of innovation. As many international development organisations do not aim to make a profit, they cannot attract investment funding. Instead, they rely on donations or grants. Both of these can be difficult to attract for individuals or small organisations without a track record or dedicated fundraisers.

Academic innovation in developing countries is key

Cambridge University academics were instrumental in setting up the **South-South Initiative for Infectious Diseases of Poverty (SSI-IDP)**, which networks developing country researchers working on disease. It provides training on how to write better funding applications for selected developing country researchers. Rather than depending on collaborations with others, SSI-IDP helps research institutions in the South to access their own research funds.

Innovators everywhere need support

At the global level, the Cambridge-based **Donor Committee for Enterprise Development (DCED)** brings together donor governments seeking to support poverty reduction in developing countries through the private sector. They share knowledge so that business support services in developing countries provide the best possible support to innovators and entrepreneurs. As enterprise takes off, jobs are created and tax revenues rise which then allow governments to pay for health and education services. <



> Students, academics and NGO workers network at the **Cambridge International Development Course**

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The Humanitarian Centre: a hub for innovation

The Humanitarian Centre is a unique hub that focuses Cambridge interest in international development. It grew out of the needs of small, innovative NGOs for space and facilities. It has evolved into a dynamic network of Cambridge academics, consultants, NGOs and private companies active in international development.

Housed by the University of Cambridge, the Humanitarian Centre draws inspiration from business and social enterprise incubation hubs, as well as from looser professional networks. It not only provides a catalyst for innovation, but supports and nurtures such innovations to help them get off the ground.

The Humanitarian Centre promotes innovation through:

- networking and learning events that bring together a range of views and perspectives
- educational events for young people – the innovators of tomorrow

- highlighting news stories on how Cambridge ideas are having an impact on global poverty.

It supports innovation by:

- offering training to small organisations
- putting people in touch with useful expertise
- hosting start-up organisations
- celebrating innovative practice.

Most of the innovative ideas and organisations mentioned in this report have a formal or informal link to the Humanitarian Centre. Many of the newer innovations discussed have made use of the Centre's support at some point. Although there is no way of telling whether these innovations would have been less successful without this enabling environment, there is strong anecdotal evidence for it playing an increasingly important role in such innovation.

As needs around the world grow and change, how can people and organisations working in international development keep up?

This report highlights examples of Cambridge ideas that have gone to scale. It also highlights several that have shown initial promise, but which may not progress to have a wider impact. Given the challenge of global poverty, it is important to understand how good ideas can grow to have real impact. This is not to say that every idea must grow, but good ideas with the scope to grow should not be held back.

How to scale up

As the stories in the report suggest, there is no magic formula for successful innovation. Key factors that emerge through the case studies include:

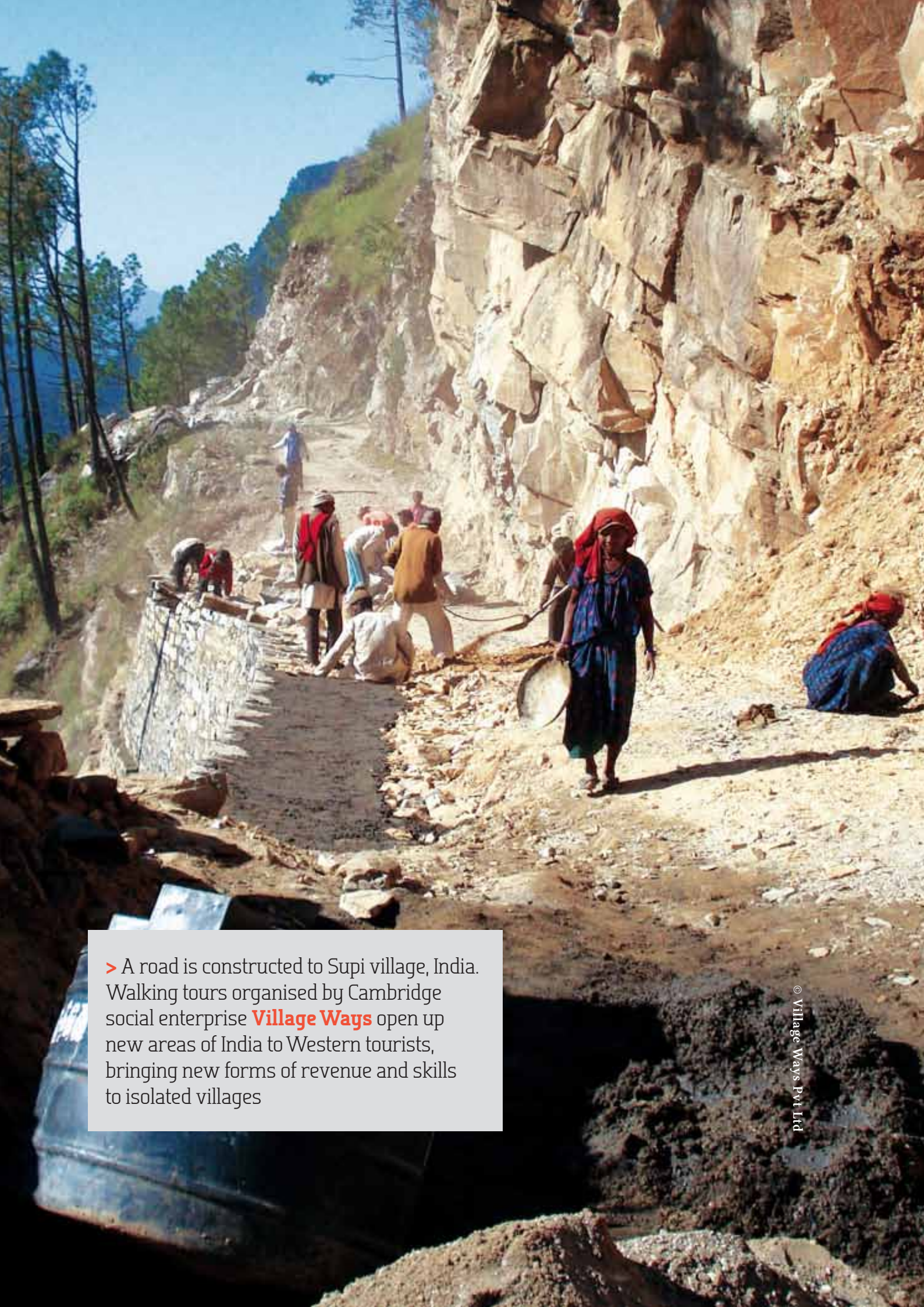
- drive and passion by individuals with the vision and ambition to have a big impact on the lives of poorer people
- genuinely flexible ways of working, and openness to failure, learning and adaptation
- financial models that generate income to cover the cost of expansion
- technologies that make an idea easy to disseminate
- strategies that encourage other people and organisations to take up, adapt and build on an initial idea or project.

How to nurture innovation in developing countries

As examples in the report show, supporting innovation by people in developing countries has the potential for wide-reaching impact. Such an approach challenges assumptions about the capabilities of poorer people, and that they should rely on support from other parts of the world.

The following ideas are drawn from the case studies and conversations that have gone into the report:

- an approach which sees people in developing countries as potential innovators rather than passive recipients of help
- processes which encourage participation and exchange between people from developing countries and people from the UK
- enabling technologies that can be easily adapted by people in developing countries to address their own needs
- activities which pass on useful skills and learning
- financial models that reduce risk for individual innovators. <



> A road is constructed to Supi village, India. Walking tours organised by Cambridge social enterprise **Village Ways** open up new areas of India to Western tourists, bringing new forms of revenue and skills to isolated villages

Final word

In researching and writing this report, we have been astounded by the range of innovative development practice on display in Cambridge. There are clearly further initiatives that could have been included here or in a future publication.

Cambridge seems to have an effective environment to support the range of bright and committed people interested in innovating to have a positive impact on the lives of people in developing countries. While this innovation crosses private, academic and NGO sectors, there is no doubt that academic research and teaching are key sources of inspiration and innovation.

As well as drawing on the points highlighted above, in the course of researching this report many interviewees have mentioned the important role of networking and sharing ideas and experience in developing innovative approaches.

The academic and marketing guru Theodore 'Ted' Levitt once commented, 'just as energy is the basis of life itself, and ideas the source of innovation, so is innovation the vital spark of all human change, improvement and progress.' Cambridge will hope to continue to provide an important 'spark' in seeking solutions to the difficulties millions worldwide still face in their daily lives.



Listings

Humanitarian Centre member organisations

There are currently thirty-four Humanitarian Centre member organisations, ranging from small volunteer run start-ups to large globally recognised charities. All are local to Cambridge.

Addenbrooke's Abroad

www.addenbrookesabroad.org.uk

Sharing skills and experiences with hospitals abroad

Afrinspire

www.afrinspire.org.uk

Supporting indigenous African initiatives that relieve poverty

Aptivate

www.aptivate.org

IT services for international development

Architecture Sans Frontières Cambridge

www.asf-uk.org

Regeneration of the built environment

Ashanti Development

www.ashanti-development.org

Supporting grassroots Ghanaian development

Bridges to Belarus

www.bridgestobelarus.org.uk

Supporting children and families affected by the Chernobyl disaster

Canon Collins Trust

www.canoncollins.org.uk

Education for Southern Africa

Cambridge to Africa

www.cambridgetoafrica.org

Educational and research expertise to school projects

Camvol

www.camvol.org

Volunteer opportunities in India for Cambridge students

CBM UK

www.cbmuk.org.uk

Supporting people with physical and mental disabilities

Cambridge University International Development

www.cuid.org

Raising awareness on international development issues

CUSAFE

www.cusafe.org.uk

Cambridge University society fundraising for educational projects in Sub-Saharan Africa

Development in Action

www.developmentinaction.org

Youth and volunteer led development education charity

English Language Studies for Tibetans

www.elsteam.org

Advancing education in the Tibetan communities living in exile in India

Engineers Without Borders

www.ewb-uk.org

Removing barriers to development through engineering

Global Poverty Project

www.globalpovertyproject.com

Catalysing the movement to end extreme poverty

HoverAid

www.hoveraid.co.uk

Reaching the unreachable: using hovercraft for disaster relief in inaccessible areas

Kenya Education Partnerships

www.kep.org.uk

Investing in opportunities for young people

kiwanja.netwww.kiwanja.net

Mobile-enabled social change

**Latin American Foundation
for the Future**www.laffcharity.org.ukSupporting street children in Latin
America**MedSIN**www.srcf.ucam.org/~medsinStudent society campaigning for
political change towards equality
in global health**MenelikEducation**www.menelikeducation.orgSupporting schools in Democratic
Republic of Congo**The Mountain Trust**www.mountain-trust.orgSupporting Nepali education and
development**Nakuru Environmental and
Conservation Trust**www.nectuk.orgEngaging UK and Kenyan youth
with their environment**Oxfam Cambridge**www.flourish.org/~oxfamFighting poverty and creating a
better and fairer world**RedR Cambridge**www.redr.org.ukTraining courses for working in
development and disaster relief**SEED Project**www.seed-project.orgFacilitating holistic community
development in Southern Africa**Shelter Centre**www.sheltercentre.orgSupporting the humanitarian
community in post-conflict and
disaster shelter and housing**SOS Children's Villages**www.soschildrensvillages.org.ukOrphan and abandoned children's
charity, providing new families and
homes**Students Supporting Street Kids**www.sssk.org.ukRaising money and awareness to
help fund projects that support
street kids**UNIFEM Cambridge**[www.unifemuk.org/branches.
php#cambridge](http://www.unifemuk.org/branches.php#cambridge)Working for women's
empowerment and gender equality**VSO Cambridge**[http://www.vso.org.uk/act/
supporter-groups/cambridge.asp](http://www.vso.org.uk/act/supporter-groups/cambridge.asp)Working through volunteers
to fight poverty in developing
countries**World Development Movement**www.cambridgewdm.org.ukCampaigns and lobbying against
the underlying causes of poverty

Other individuals, projects and organisations mentioned in the report

African Innovation Prize

juliafanli@gmail.com

Facilitating grassroots entrepreneurship

Amos Trust

www.amostrust.org

Promoting justice and hope for forgotten communities

ARM

www.arm.com

The Architecture for the Digital World

Ian Ball

Ian.Ball@mottmac.com

Landslide-resistant pipes

Camfed

<http://uk.camfed.org>

Supporting girls' education in Africa

Centre for Sustainable Development

www-g.eng.cam.ac.uk

Research and teaching on sustainable development

Dominique Chadwick

www.filmafrica.net

Film for social change and development

Concordis International

www.concordis-international.org

Building relationships for sustainable peace

The Darwin Nimba Project

www.nimbadarwin.org

Reducing threats to biodiversity in the Nimba Mountains

Donor Committee for Enterprise Development

www.enterprise-development.org

Promoting private sector development

Grameen Bank

www.grameen-info.org

Banking for the poor

Dr. Julian Hibberd

www.plantsci.cam.ac.uk/research/julianhibberd.html

Understanding photosynthesis to improve rice varieties

Hotel Chocolat

www.hotelchocolat.co.uk

Engaged ethics improving the lives of cocoa farmers

Ian Tod Associates

iantod@mac.com

Consultancy for water engineering in developing countries

International Development Course

www.camidc.org.uk

A day of talks and workshops organised by Cambridge students with the Humanitarian Centre

ManufacturingChange.org

www.manufacturingchange.org

Online micro-volunteers supporting organisations using manufacturing to create social change

Meta-Development LLP

<http://www.meta-dev.co.uk/>

Working with organisations that seek to combat poverty and social exclusion in developing countries and the UK

Momentum Arts

www.momentumarts.org.uk

Working with socially engaged artists and diverse communities to deliver innovative art projects

Monitoring and Evaluation News

www.mande.co.uk

A news service focusing on developments in social monitoring and evaluation methods

PHG Foundation

www.phgfoundation.org

Making science work for health

Street Child World Cup

www.streetchildworldcup.org

Giving forgotten children a voice and campaigning for their rights

Mott MacDonald

www.mottmac.com

A management, engineering and development consultancy serving the public and private sector around the world

PLoS Medicine

www.plosmedicine.org

International Open Access medical journal

Village Ways

www.villageways.com

Holidays that provide economic benefit to the host communities

M-PESA

www.safaricom.co.ke/index.php?id=745

Financial transfer system through mobile phones

South-South Initiative for Tropical Diseases Research

www.ssi-tdr.net

Fostering scientific leadership in disease-endemic countries

University of Cambridge ESOL

www.cambridgeesol.org

World's leading range of certificates for learners and teachers of English



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"Development happens around people"

Ian Sanderson
Afrinspire

Get involved!

We hope that this report will inspire you to find out more about Cambridge's role in international development, and consider how you can contribute to some of the global issues highlighted.

Many of the organisations in this report are keen for your help, whether as a volunteer or as a donor. And there may be other ways in which you can help. You can find their contact details on the listing pages inside. For general enquiries, or to find out more about ongoing Cambridge action in international development, please visit www.humanitariancentre.org

You can find the full case studies that have gone into the report at www.humanitariancentre.org/publications

If you have comments about this report, please send feedback to developmentreport@humanitariancentre.org

Next year's report will focus on the use of Information and Communication Technologies for Development (ICT4D).

The Humanitarian Centre

c/o Fenner's
Gresham Road
Cambridge CB1 2ES
United Kingdom

info@humanitariancentre.org

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