

Excellent Development

Transforming lives through sand dams: Our Strategy to 2025

November 2017

 Excellent

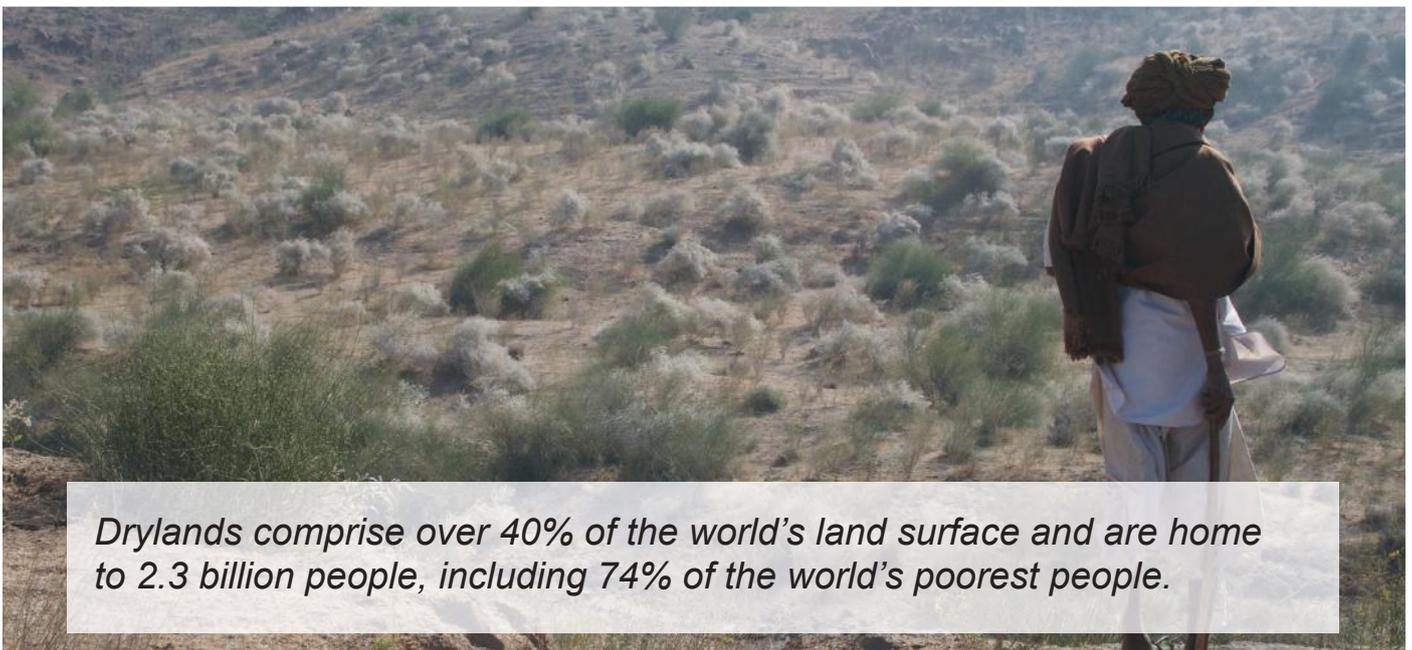
© Polly Braden

Water scarcity affects the lives of millions of people every year.

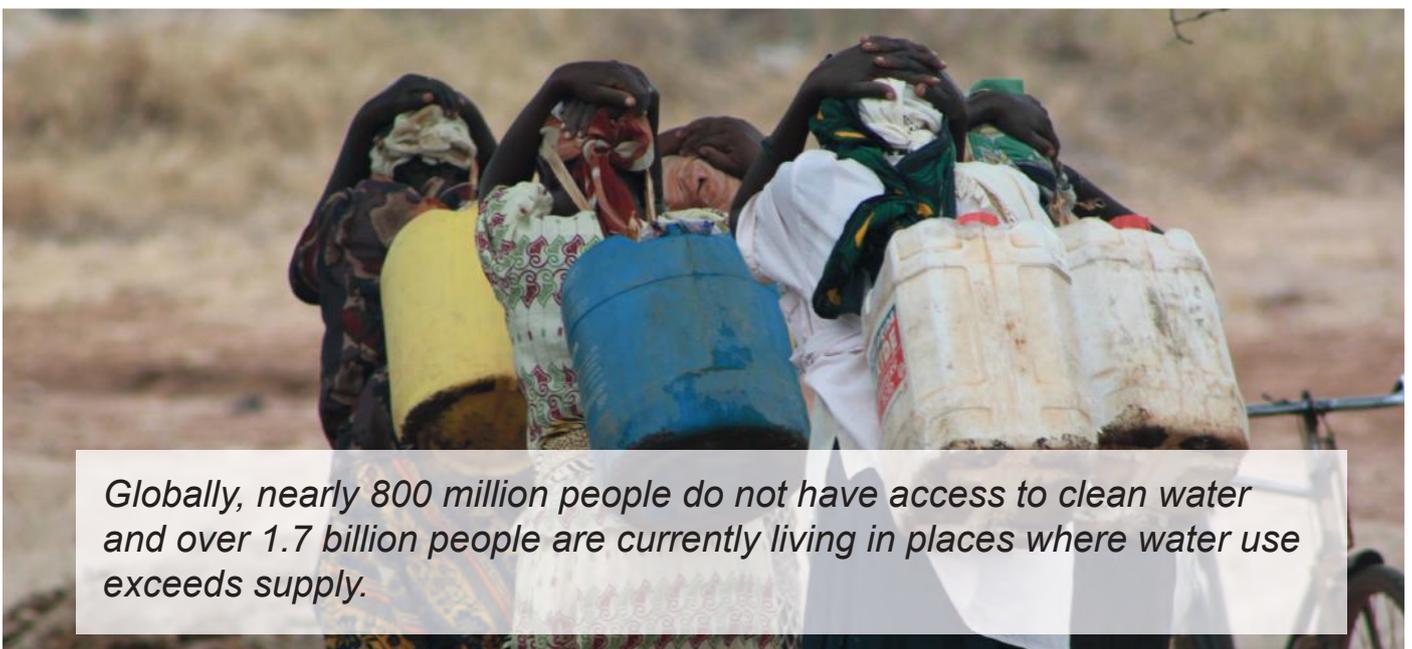
Water is essential for life. Although there is enough fresh water for everyone on Earth, 40% of the global population don't have an adequate supply of water. As weather patterns change, this figure is expected to rise.

The constant search for water traps millions of people living in drylands in a vicious cycle of subsistence. Women and children bear the heaviest burden, typically spending hours each day collecting water, often from unsafe sources.

Reliable and convenient access to safe drinking water is vital to human health, wellbeing, dignity and safety.



Drylands comprise over 40% of the world's land surface and are home to 2.3 billion people, including 74% of the world's poorest people.



Globally, nearly 800 million people do not have access to clean water and over 1.7 billion people are currently living in places where water use exceeds supply.

Sand dams transform people's lives by providing a local and reliable supply of water.

In dryland regions, rainfall is often erratic. When it does rain, downpours can be heavy. Water runs off the dry land and much of it is eventually lost to the oceans, taking valuable fertile soil with it. In many areas, a changing climate is causing desertification, leading to water and food insecurity, conflict, displacement and loss of biodiversity.

Capturing precious water where it falls is essential for improving environments and livelihoods. Sand dams are an effective and inexpensive way of doing this.



A sand dam is a reinforced concrete wall built across a seasonal riverbed. During the rainy seasons, it captures water and sand behind the sand dam wall. The water trickles through the trapped sand and provides a reservoir from which water can be taken through pipes and pumps.

A sand dam can store up to 40 million litres of water, protecting it from evaporation and contamination by holding it safely within sand, yet each sand dam captures only a small proportion of the overall flow, enabling downstream communities to have their share too.



This reservoir not only provides a vital source of water for drinking and domestic uses - it can also transform local environments. It allows communities to establish more sustainable forms of agriculture, through planting of trees, establishing seed banks, terracing of the land and diversifying crops. This produces better crop yields, improving diets and increasing household incomes.

It helps to improve the prospects for children and their education, by reducing the amount of time they spend collecting water and being away from the classroom. Increased family incomes allow more children to attend secondary schools. In this way, sand dams support several of the United Nations Sustainable Development Goals.



Being stored within the sand, the water is not a harbour for waterborne diseases, and losses to evaporation are much lower than from open water sources. Through raising the local water table over a period of years, sand dams also support biodiversity and local vegetation growth.

Improved water and soil conservation can also help to avoid the conflicts that can arise between water users and between the needs of people and wildlife where resources are scarce. Sand dams provide a cost-effective means of achieving a sustainable supply of water for all.



We have already helped to improve the lives of some of the world's poorest people by directly funding and supporting the building of sand dams

Excellent Development is a not-for-profit organisation that works with local partners to support communities to build sand dams, providing clean water for life and the opportunity to develop their livelihoods.

Since 2002, we have helped nearly 900,000 people to have year-round safe water close to home at an average cost of £13 per person.

The building of sand dams will enable millions of the world's poorest people to transform their own lives. Excellent Development has already built or enabled nearly 1,000 sand dams in 8 countries.

We want many more communities to benefit from the construction of sand dams. This means that we will need to work differently in the future with more emphasis on influencing other organisations to invest in sand dams for water and soil conservation

Extending our impact means that we need to change our ways of working. So far, our main activity has been to enable the funding and building of sand dams by raising funds and working with local partners in target countries. This will continue to be an important part of our work in the future.

We will also continue and expand our work to pioneer sand dams as a solution to achieving water security in drylands by drawing on the extensive body of existing evidence and knowledge; commissioning new research to provide rigorous, peer-reviewed evidence; piloting of new programmes; and producing practical guidance.

To achieve a step-change in the scale of our impact we will place much more emphasis on working to influence organisations that are capable of bringing about wide-scale construction of sand dams, for example, major international development donors, large NGOs, and local and national governments.

Our vision

To support millions of the world's poorest people by helping them to transform their own lives through water and soil conservation in drylands.

Our goals

To directly support other organisations to build 100 sand dams every year by 2020, increasing to 200 every year by 2025.

To influence the implementation of 10,000 dams for 5 million people by 2025 and 1 million sand dams for 0.5 billion people by 2040.

We will continue to pioneer sand dams to achieve water and soil conservation by developing the necessary evidence and knowledge, and producing practical manuals and guidance for others to use.

We will:

- Demonstrate the impacts and benefits of sand dams, using work done by others and commissioned by ourselves. We need this to show that sand dams can deliver significant benefits at low cost on a long-term basis.
- Carry out a review of available evidence. We will evaluate work already published, and analyse historic data from our in-country partners, Africa Sand Dam Foundation and others. The main priorities are:
 - Water quality and water yield
 - Travel time to collect water
 - The impact on vegetation
 - Local economic impacts
 - The benefits and impacts on biodiversity and wildlife
 - Empowerment, emancipation, and education
 - Groundwater recharge and salinity reduction
 - Human health
 - Soil conservation
 - The effects on local microclimate, the mitigation of natural climatic fluctuations and the adaptation to climate change
- Carry out further research and development where there are gaps in knowledge, both as part of our operational programmes and by developing partnerships with universities and other research institutions.
- Produce evidence-based manuals, guidance and training programmes to support communities and partners in the construction, management and maintenance of sand dams.
- Promote the use of sand dam technology as an alternative method of road crossings for seasonal rivers, both for public works and in wildlife reserves.
- Promote sand dams as a means of combating desertification, mitigating and adapting to the impacts of climate change, conserving biodiversity and enabling sustainable economic growth.

We will further enable the widespread building of sand dams directly through funding and indirectly through the sharing of knowledge with regional partners.

We will:

- Directly support other organisations to build 100 sand dams every year by 2020, increasing to 200 every year by 2025.
- Expand our programmes in countries where we have already made an impact including Kenya, Mozambique, Zimbabwe and India.
- Identify new countries that would benefit from sand dam construction programmes.
- Implement training programmes for communities and partners based on our manuals and other guidance.

We will influence and partner with organisations that can bring about much wider application of sand dams in water and soil conservation.

We will:

- Further our understanding of organisations at local, national and international levels that have the potential to contribute to widespread adoption of sand dam technology and develop a global network of competent and technically sound partners.
- Provide the support required to develop knowledge and capacity for our partners.
- Develop at least two more centres of expertise across the world in addition to those we are already developing in Kenya, Mozambique, Zimbabwe and India.
- Establish a means of accreditation and develop a network of accredited sand dam experts.

We will develop our organisation and the funding needed to achieve our vision and goals.

We will:

- Develop a funding strategy that addresses immediate funding challenges and develops sustainable sources of funding to support our Strategy objectives for the future.
- Increase the unrestricted income needed to cover the costs of running the organisation.
- Secure key multi-year funding partners, initially to fund pilot projects, then partners to be self-funding after successful completion of pilot projects: 50% after 3 years; 80% after 5 years; and 100% after 7 years.
- Develop and retain the necessary technical expertise through our own people and through access to experts across the world.
- Invest in digital technology to support our programmes, communications and operations.

Who we will work with.

To achieve our ambitious goals we will work with and seek the support of others.

In developing the evidence and knowledge to pioneer the use of sand dams we will work with academic institutions, including universities and research organisations.

In enabling the building of new sand dams we will continue to work with in-country partners, including local government organisations and NGOs that specialise in sand dam construction, such as Africa Sand Dam Foundation in Kenya.

In our work to influence others to invest in the large-scale building of sand dams we will seek the support of international institutions, including the World Bank, United Nations organisations (UNDP, UNEP, FAO and UNICEF) and international development donors. We will work with national governments responsible for policy and planning in areas such as water resources, road construction, nature conservation, and agriculture. We will also work with other international charities where we share related goals, for example, Oxfam, WaterAid and Rotary.

The funding we need to achieve our Strategy objectives.

As a not-for-profit organisation, we rely on funding from grants, donations and other charitable sources to carry out our work. We will need to increase the level of funding we receive to achieve our Strategy goals.

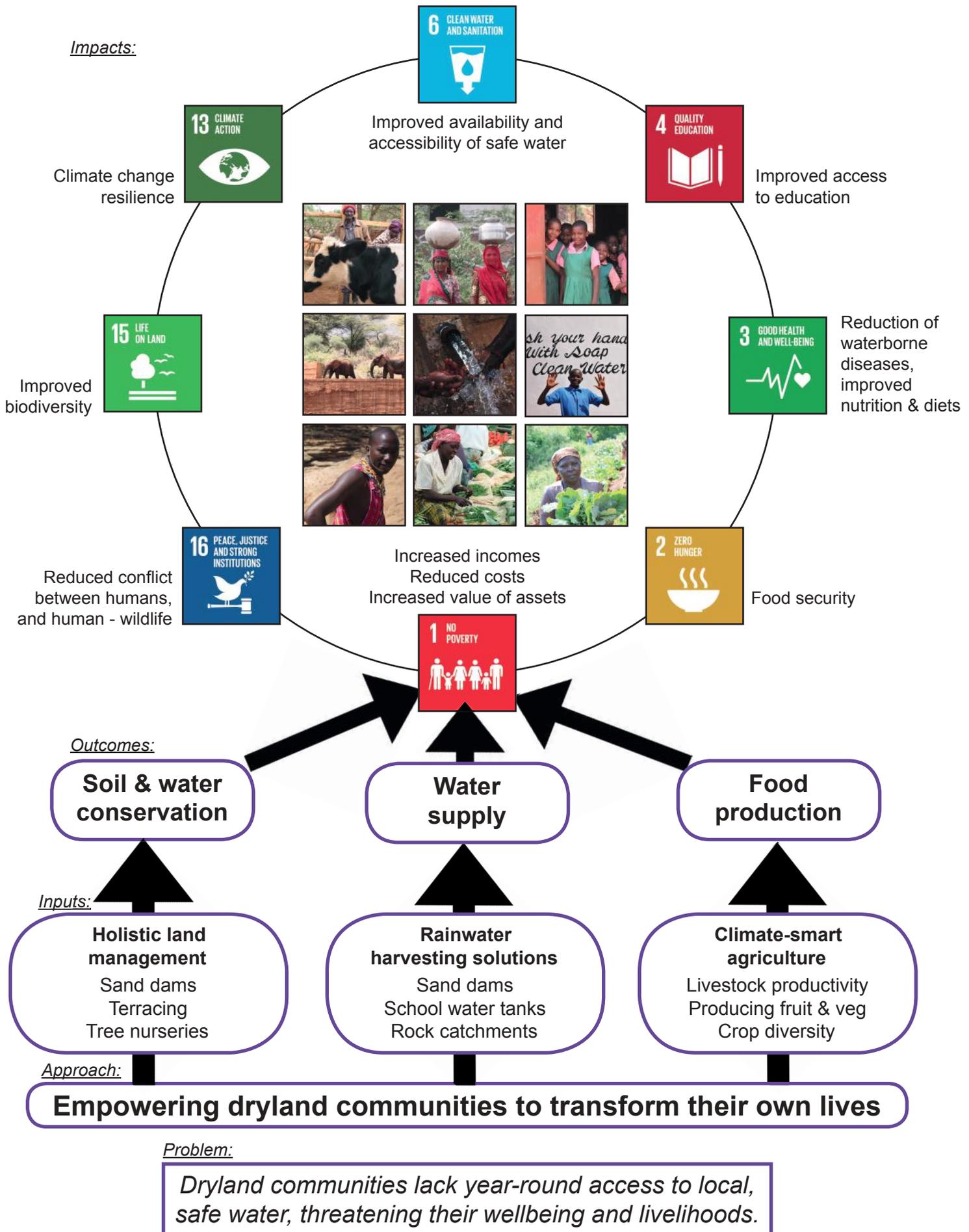
We will need to grow our annual income to £2.5 million to directly fund the construction of 100 sand dams every year to 2020, and to £5 million for 200 dams every year by 2025.

We will also need up to £100,000 every year to fund important research projects that will give us the vital evidence and information we need to support our work.

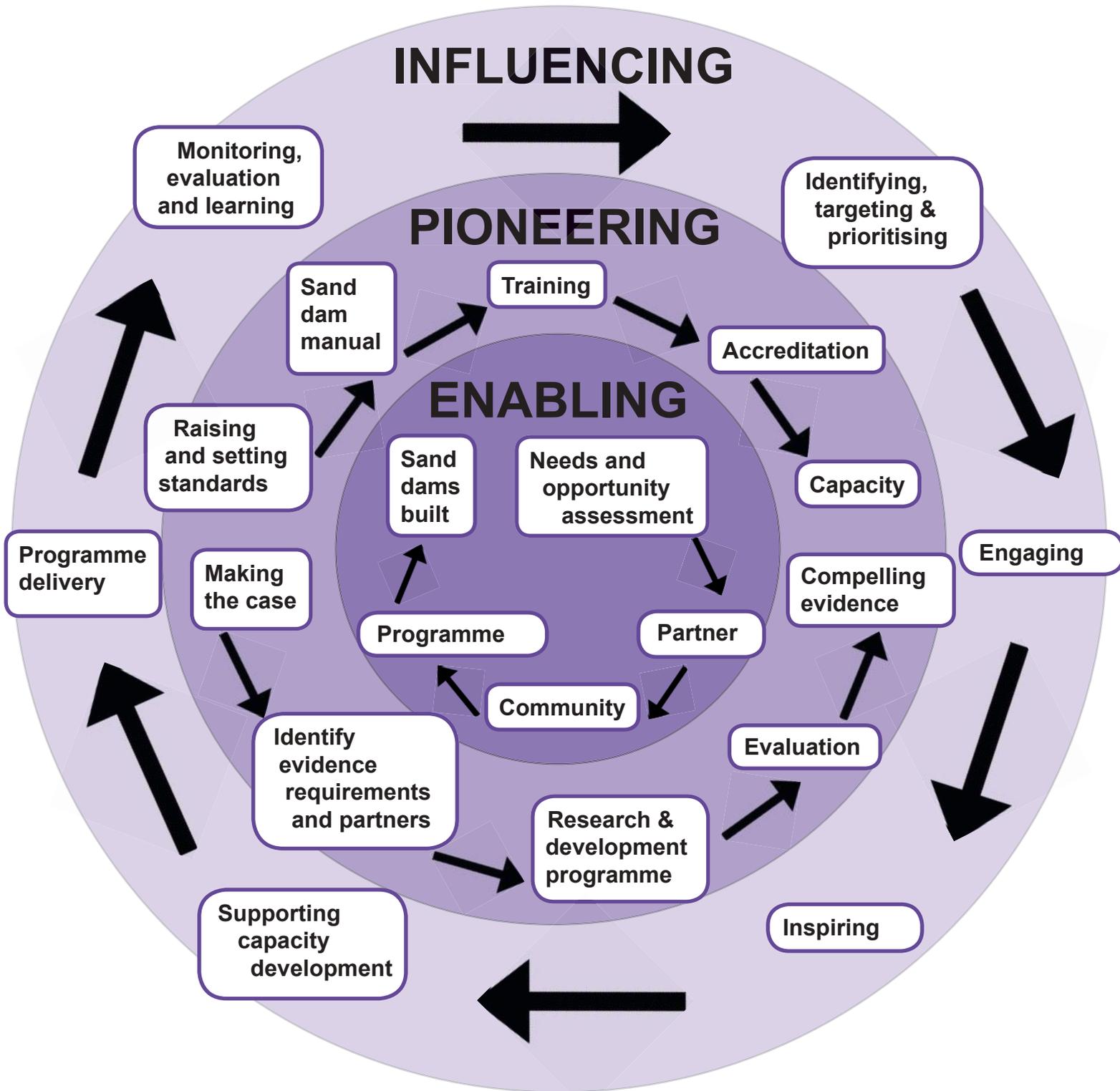
We will know we are succeeding when...

- We have achieved our goals of directly funding the building of 200 sand dams every year and influencing the implementation of 10,000 dams by 2025.
- We have acquired the necessary evidence from our research to demonstrate the value and effectiveness of sand dams that will convince others to invest in their construction.
- Sand dams are recognised by the United Nations as an important contribution to water and soil conservation in drylands across the world.
- 90% of sand dams are supervised by accredited practitioners.
- We have established at least two new centres of expertise to support our global leadership on sand dams.

Our Theory of Change: Model of development



Our Theory of Change: Strategy

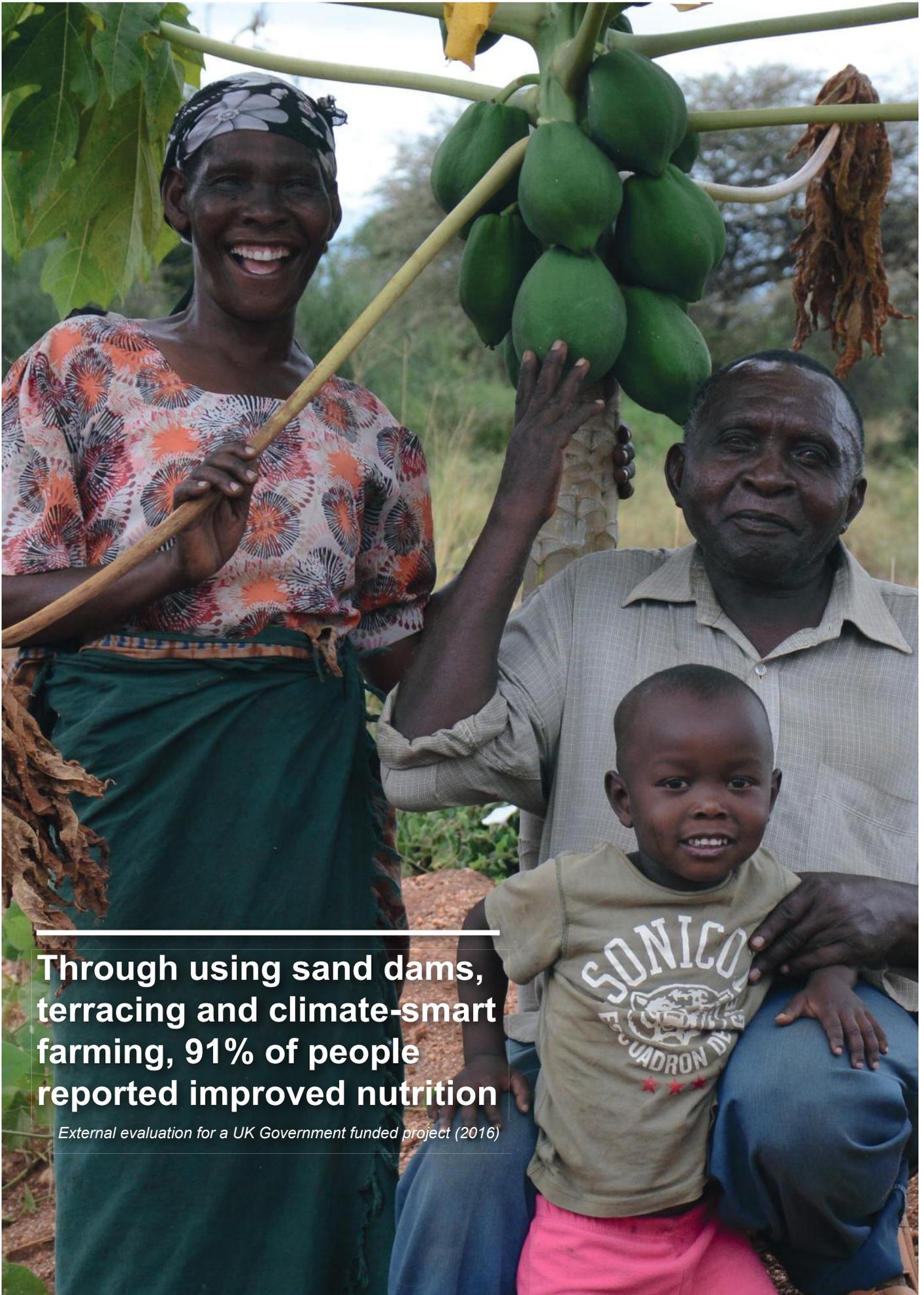


Our Vision: To support millions of the world's poorest people, by helping them to transform their own lives through water and soil conservation in drylands.

Thanks to nearby sand dams, Pauline was freed from the burden of having to spend up to 11 hours a day collecting water, with income from her father's farming used to pay for her education. Pauline has since graduated from Nairobi University with a first-class degree in Geography and Kiswahili, and now has a job teaching girls at a local school.



Photo: Pauline Nthenya Muendo, whose father was a member of Mukika self-help group, southeast Kenya.



**Through using sand dams,
terracing and climate-smart
farming, 91% of people
reported improved nutrition**

External evaluation for a UK Government funded project (2016)

Photo: A farming family from the Mutethya self-help group, southeast Kenya.

Excellent Development

Water from sand.

1 million sand dams for

0.5 billion people by 2040

Address

Unit G13
The Foundry
17 Oval Way
London
SE11 5RR

Contacts

www.excellent.org.uk
+44 (0)20 3752 5780
team@excellent.org.uk

Social

Facebook: [Facebook.com/excellentdevelopment](https://www.facebook.com/excellentdevelopment)
Twitter: [@ThisIsExcellent](https://twitter.com/ThisIsExcellent)
YouTube: [Youtube.com/user/thisisexcellent](https://www.youtube.com/user/thisisexcellent)
LinkedIn: [Linkedin.com/company/excellent-development](https://www.linkedin.com/company/excellent-development)

Charity registration number (England & Wales)

1094478

Registered company number: 4432166

Excellent Development Limited is a charitable company limited by guarantee.

Photo credits

All images used in this report are copyright of Excellent Development Limited unless otherwise stated.