UKaid
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Anukulan

Driving small farmer investment in climate-smart technologies

Project lead: iDE

BRACED

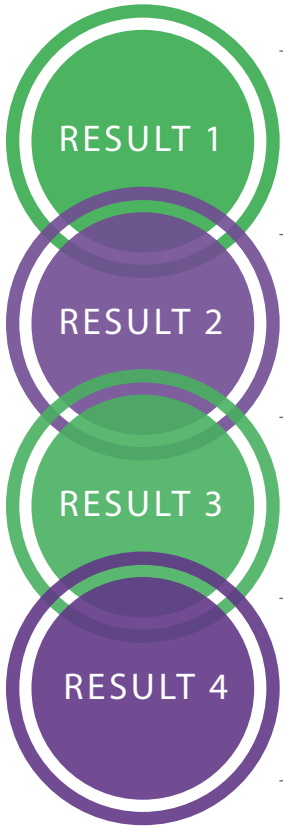
The challenge

The Climate Change Risk Atlas 2010 ranks Nepal as the fourth most vulnerable country in the world. Every year more than one million people are directly impacted by climate-induced disasters such as drought, landslides, and floods in the mid-west and far-west regions of Nepal. Disasters such as these are devastating vulnerable rural communities that rely on agriculture to grow food to survive and sell at market. Floods, landslides and drought prevent progress towards better lives and health and exacerbates the cycle of extreme poverty and vulnerability for some of the Nepal's poorest people. The most vulnerable are women, children, marginalised social and ethnic groups and the very poor as they often have limited livelihood options, are more dependent on natural resources and are therefore least able to adapt to climate shocks and stresses. In addition research shows that severe extreme climate events like floods and drought are occurring with increasing frequency in Nepal with climate change projections indicating this trend is set to continue.

The Goal

Anukulan was developed specifically to overcome this challenge by helping half a million poor and vulnerable people in rural Nepal build their resilience to climate change impacts like floods and drought.

The specific results that we are working towards are:



Poor people reduce vulnerability to climate related shocks and stresses.

Local government, civil society and private sector are better able to respond to climate related shocks and stresses.

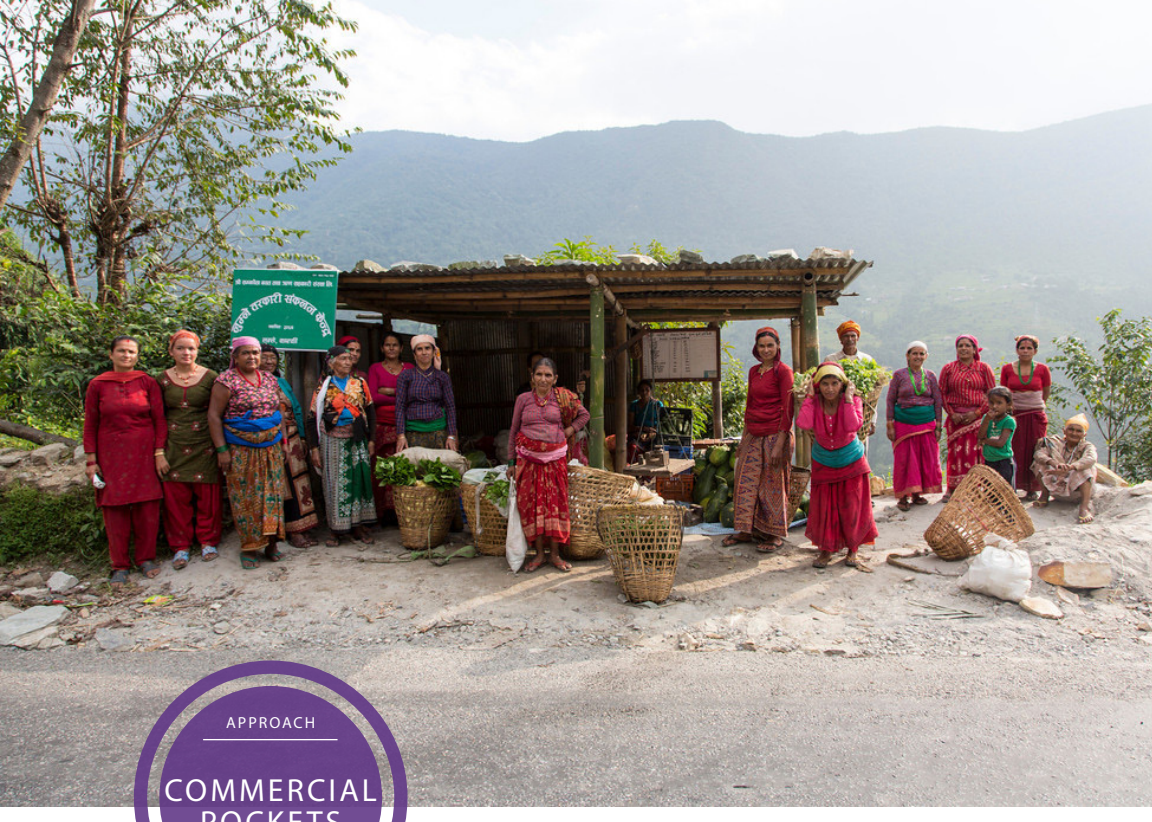
Better understanding of what works in building resilience to climate related shocks and stresses and integration into disaster risk reduction approaches.

Improved policies integrating disaster risk reduction and climate change adaptation are in place at local and national levels.

OUR SOLUTION

Anukulan's solution is to develop public-private partnerships to scale up proven, sustainable climate adaptive approaches and support the development of existing and sustainable rural organisations to manage these approaches in the long term. In practice this means supporting smallholder farmers to earn an extra £140 per year by taking advantage of small farm economic opportunities and investments in climate-smart technologies such as drip irrigation, conservation agriculture, essential oil production, multiple-use water systems and community-based renewable energy. To ensure sustainability it will also build the capacity of local communities and local institutions to manage floods, drought and new crop diseases and become stronger and more self-reliant. Key to success is the integration and inclusion of women, girls and other disadvantaged groups into approaches and local institutions.

iDE is leading a consortium of international, national and research partners: ADRA, CIMMYT, IWMI, Middlesex University Flood Hazard Research Centre (FHRC), NTAG, Netafim, Renewable World, RIMS Nepal, Rupantaran and SAPPROS.



APPROACH

COMMERCIAL POCKETS

A key approach that is being scaled to help half a million poor people in Western Nepal articulate their needs and successfully turn the impacts of climate change into profitable and commercial opportunities. Commercial pockets bring together all the market actors in a local area at a rural collection centre, including smallholder farmers; private sector input retailers and traders that sell seeds, fertiliser and irrigation equipment; government agencies; and the buyers of the produce. Collaboration and synergy between these actors stimulates the creation of a 'commercial pocket' that enables all actors to become profitable businesses and take advantage of market opportunities. Anukulan will develop 50 commercial pockets around collection centres, serving over 30,000 farming households.

"ESTABLISHING COMMERCIAL POCKETS PROVIDES A KEY MECHANISM TO ENABLE CLIMATE CHANGE ADAPTIVE TECHNOLOGIES TO REACH REMOTE, DIFFICULT-TO-ACCESS RURAL AREAS. THESE TECHNOLOGIES SUPPORT FARMERS TO EARN AN EXTRA £140 PER YEAR"

LUKE COLAVITO - ANUKULAN TEAM LEADER

TECHNOLOGY

INTEGRATED PEST MANAGEMENT PACKAGES

iDE has created holistic Integrated Pest Management 'packages' for major vegetable crops using environmentally safe bio products such as seeds and seed bed treatment using Trichoderma/Pseudomonas, soil solarisation, treating virus infected plants, nets to prevent aphids and whiteflies, insect monitoring using pheromone traps, vegetable grafting against diseases, plastic trays, neem-based pesticides and coco-peat to grow disease free seedlings, bio-fertilisers and bio-control agents. By scaling these packages through the private sector the benefit-cost ratios range between 1: 5 -22 with additional health and environment benefits.

TECHNOLOGY

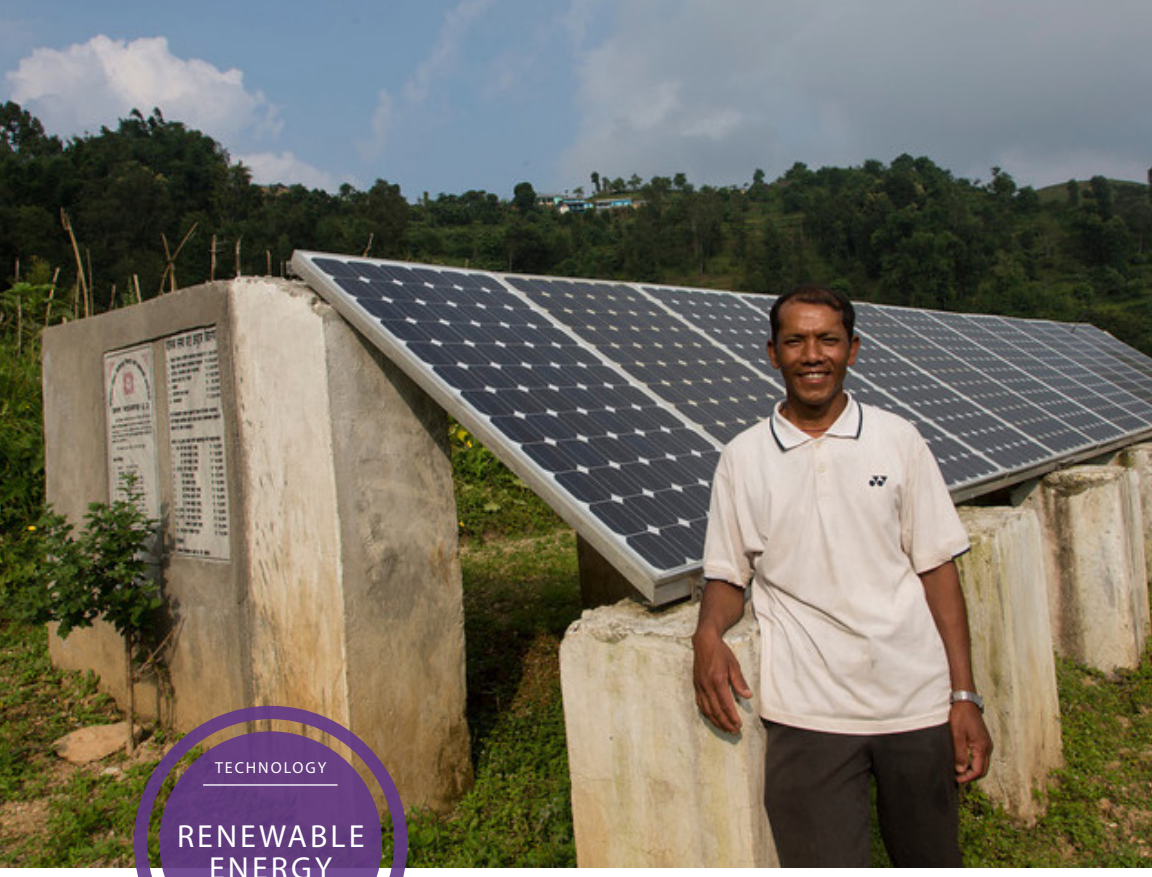
MICRO IRRIGATION TECHNOLOGIES

Micro irrigation technologies significantly increase farmer income and water use efficiency. There is also evidence that this reduces women and girls' water collection burden, and associated income increases improve women's decision making within the household. Anukulan will stimulate markets for locally manufactured drip systems, imported larger systems, micro sprinklers, treadle pumps, and water storage technologies. The main focus will be the promotion of drip systems - a climate-smart, low-water irrigation technology that enables farmers to get 'more crop per drop'. iDE has facilitated sales of over 200,000 micro irrigation technologies in Nepal. The cost/benefit for a drip system is 1:30.

TECHNOLOGY

MULTIPLE USE WATER SYSTEMS

Multiple Use Water Systems (MUS) are piped systems that provide sufficient water for domestic use and high-value agriculture. Gravity MUS costs approximately £70 per household. iDE impact surveys demonstrate MUS increase annual incomes by over £130 per household. MUS provide multiple benefits including health and sanitation and dramatically decreasing the workload of women and girls for carrying water. MUS also enable communities to improve their decisions on the allocation of water resources. iDE has developed over 250 MUS serving 50,000 people with recognition and support from the government. The cost-benefit for MUS is about 1:18. A 2007 survey also showed: 76% more girls in school; 94% reduced health costs; and 62% built latrines.



TECHNOLOGY

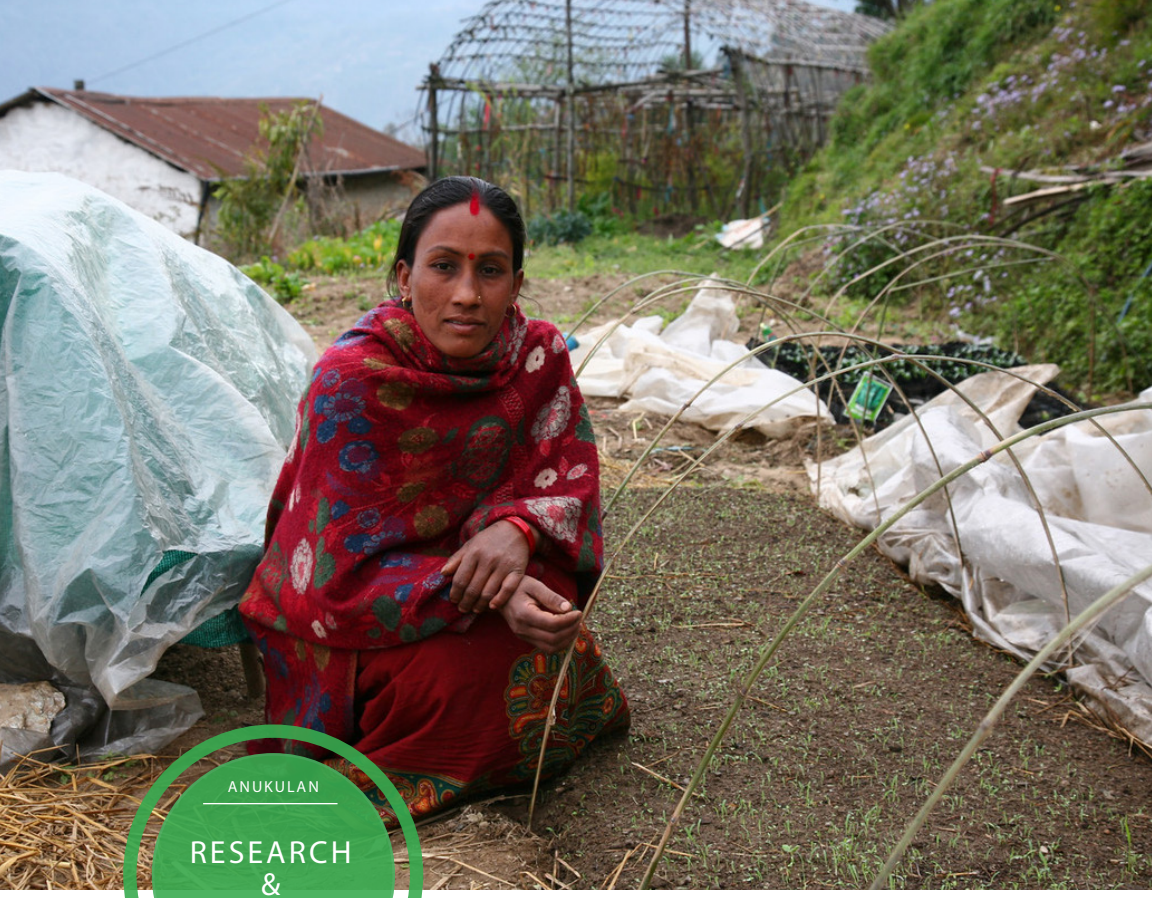
RENEWABLE ENERGY

Consortium partner Renewable World will support renewable energy technologies including the hydraulic ram pump (hydram), solar PV for lifting water for MUS, and household/community biogas. iDE and Renewable World have successfully demonstrated these technologies. Renewable World supported the installation of 5 Solar MUS. The systems include no batteries; solar panels are linked to the pump through an efficient controller. Solar MUS cost about £12,000, serve 20-50 households, lifting about 25,000 litres of water/day. Cost benefit is approximately 1:10

APPROACH

HARMONISATION

As well as commercial pockets, Anukulan will also scale up a unique approach to harmonise two co-existing planning strategies associated with climate change and disaster risk reduction. The 'Harmonisation Approach' will help 100 vulnerable local communities improve resilience to extreme weather events and build the capacity of local communities to manage floods, drought and new crop diseases and climate shocks and stresses in the long term. In addition research and learning from this process will help improve national policies on climate change and disaster risk reduction planning and institutionalise climate change and disaster management best practice, indirectly resulting in helping many millions more. Women's representation in this process will ensure their needs are heard and addressed.



ANUKULAN

RESEARCH & EVIDENCE

Research and evidence is prioritised in Anukulan in order to increase the impact and wellbeing of the local communities we are working with. Specifically, iDE and the Anukulan consortium aims at:

1. Promoting a more inclusive design and implementation of evidence-based, pro-poor, gender sensitive, financially and environmentally sustainable agricultural and rural development strategies
2. Conducting research that builds the knowledge base on resilience enhancement of rural people in Nepal
3. Informing public and private sector engagement strategies

CONSORTIUM PARTNERS

iDE is leading a consortium of 11 partners with specific and relevant expertise, including international research institutes, international and local NGOs. The partners are ADRA, CIMMYT, IWMI, Middlesex University Flood Hazard Research Centre (FHRC), NTAG, Netafim, Renewable World, RIMS Nepal, Rupantaran and SAPPROS.

BRACED Building Resilience and Adaptation to Climate Extremes and Disasters

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