

Renewable Energy Empowering Women Farmers, in Zimbabwe

Year 1 report to the Isle of Man Government

August 2018 - July 2019



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Project Activity Summary form

Project Goal	Economic empowerment of women smallholder farmers in Zimbabwe through access to clean energy		
Project Objective	Improved agricultural productivity and livelihoods through increased access to renewable energy, the improved agro-ecological farming and increased access to finance and markets.		
Reporting Period	August 2018 to July 2019	Submission date	15/11/2019
Project Start Date	01/08/2018	End Date	31/07/2020
Report Submitted by	Cathy Smith, Senior Trust and Foundations Officer		

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Executive Summary

The Renewable Energy Empowering Women Farmers (REEWF) project, in Zimbabwe, is being delivered under very challenging circumstances. Zimbabwe is suffering from an economic crisis and nationwide there is a severe shortage of physical cash. This presents massive issues for our beneficiaries, our partners, and Practical Action staff as smaller local transactions, crucial for the project's daily activities, require cash payment. As of June 2019, the only legal tender in Zimbabwe is the "Zimbabwe Dollar", the use of US Dollar for transactions has been banned. The country is suffering from acute fuel and electricity shortages, there are soaring fuel prices and extended periods without power affecting both project implementation and the daily lives of the staff and beneficiaries.

Zimbabwe also experienced severe climatic events during 2018/19. The destruction caused by Cyclone Idai in March 2019 is still causing disruption to the country, as roads and communication networks are yet to be repaired. Whilst the two districts that the project is targeting were not directly effected by the cyclone, the knock on effect on businesses ordering supplies and on business and farmer confidence is still being felt.

Compounding the situation, Zimbabwe has been experiencing a severe and prolonged El Nino induced drought, which is causing nationwide food shortages, especially in the project's focal areas, which are semi-arid regions. Farmers have experienced crop failures and livestock dying.

The REEWF project is being delivered by Practical Action and our local partner, Fambidzanai Permaculture Centre (FPC) and focuses on two neighbouring districts in the Matabeleland South Province of Zimbabwe, Gwanda and Matobo. Gwanda is the largest district in Matabeleland South Province ("Gwanda Rural") and 42% of households are female-headed. This is one of the highest levels nationally, partly due to the cross-border migration of men seeking work in Botswana and South Africa. In Gwanda, 47.6% of the population depend on agriculture for their livelihoods and in Matobo district, the statistics reflect a similar situation.

Practical Action are implementing activities in the district of Gwanda and FPC are responsible for implementing in the district of Matobo. Very sadly, the project faced an additional set back when, Kuda Mudokwani, Programme Manager of FPC, unexpectedly died last year. Kuda was an important member of the project (as detailed in our application) and his passing has consequently resulted in a significant capacity gap in FPC and delays for some of the key activities in Matobo district. We have worked intensively with FPC to strengthen their capacity.

However, despite the issues, the project has made progress. The project's inception activities were delivered successfully in both districts. 74% of participants are female farmers, which is 4% above the project's original target. The communities, who we are working with, fully accepted the project's aims and activities and understood the 10 % community contribution model (where communities pay 10% of the solar irrigation equipment costs in an initial down payment) with stakeholders saying the contribution adds to long-term sustainability and buy in from the farmers. Many view the project as a "life source" for their communities.

During Year 1, 18 solar powered irrigation sites were selected with the communities but the irrigation equipment was not installed due to two problems: firstly, the economic crisis and fuel shortages, which made finding service providers very difficult and secondly, once we had secured providers, they found it very difficult to find water in suitable locations. Consequently, the installation of the solar-powered irrigation has been delayed until Year 2. Establishing the solar powered irrigation gardens, represented 64% of the Year 1 budget and therefore funds allocated for this purpose were not spent during the Year 1 reporting period. The delay of this activity has had a knock on effect on other related activities such as farmer training and the solar fair. In the meantime, the farmers have

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been clearing the gardens in preparation for installation of the solar irrigation systems. Please see the Update on Current Situation on page 15.

During Year 1, farming as a business training has helped subsistence farmers, who lack business skills such as financial literacy, record keeping and marketing. Farming groups were supported to identify local value chains and potential products are leafy vegetables, tomatoes, onions and small grains as well as indigenous chickens for the dryland farmers. Ongoing capacity building throughout the year has empowered farmers to manage their farms more profitably and sustainably (see case study 2, page 12).

Building the capacity of the farming communities has been a key activity throughout the first year. The project provided 18 lead farmers, from both districts, with training in podcasting and content recording. This will enable them to share their farming knowledge and skills learnt from the project, to other farmers, which is crucial to generating bigger and wider change.

Please see the Update on Current Situation section, page 15, which details the project's progress from August to November 2019.

Due to the challenging working environment detailed above and the consequent delays to key project activities, Practical Action would like to request a 5 month no-cost extension to the project. We have also included a request to re-allocate certain budget lines.

Project Inception

Project inception was launched at two district meetings, in Gwanda and Matobo, and the project's objectives, plans, activities, roles, responsibilities and obligations were explained and discussed with key stakeholders including district officials and local officers from Department of Agriculture. These were critical forums for raising awareness on gender issues and ensuring that a gender-sensitive approach was embedded through the project's activities. Overall the project was well received, with stakeholders applauding its sustainability, timeliness and relevance for addressing the current lack of access to water sources and the direct negative impacts on livelihoods and food security at household and community levels.



The project was also introduced at ward level in Gwanda and Matobo. Six meetings were held and participants were drawn from councillors, village heads, Ward Development and Village Development Committees, the farming community, as well as the project teams from Practical Action and FPC. These ward meetings preselected potential garden sites for further assessment by the project's technical team. This participatory approach enhances community ownership and project accountability.

Project inception resulted in the selection of the 18 garden sites and 18 Internal Savings and Lending (ISAL) groups. The participating communities appreciated the model of 10% contribution (where communities pay 10% of the equipment costs in an initial down payment) and gave feedback that it ensures that only serious farmers will get engaged, ensuring ownership and sustainability beyond the project life. In the long term it also enhances ownership of the equipment as well as investment leading to safekeeping of the assets beyond the life of the project.

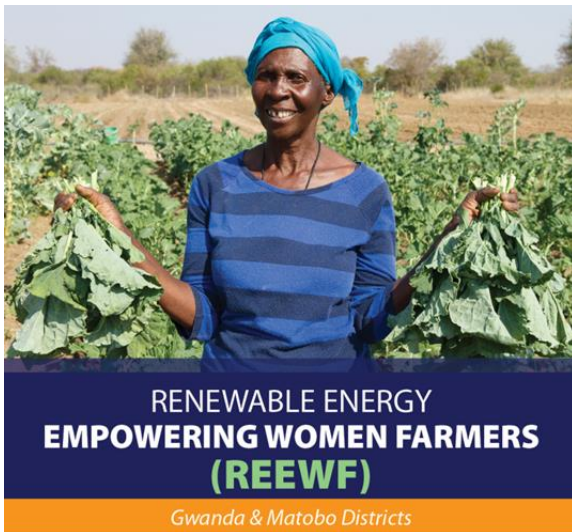
The project is also targeting farmers who rely on rainfed agriculture and who live close to where the solar irrigation gardens are being established, but who won't benefit from the irrigation. Instead these 'dryland' farmers will receive training in agro-ecology. Agro-ecology is an approach which builds farming systems that connect nature (climate, land, water, plants and animals) with people (culture, economics and society). It enables smallholder farmers to achieve a decent standard of living, whilst protecting the environment and building the natural resources they already have. In total, the project aimed to reach 450 farmers, 25 per irrigation site. Due to the prolonged drought, up take of the agro-ecology training has been slower than hoped as farmers are hesitant about the risk of trying new approaches when they are struggling to feed their families.

The project's overall target was to have 990 farmers participating, with at least 70% women. During the inception, 896 farmers were registered and 660 (74%) were female. The project will aim to increase farmer numbers through demonstrating success of other participants.

The baseline survey was successfully carried out and the report is attached.

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Flyer produced for project inception



Overall Goal

To contribute to economic empowerment of women smallholder farmers in Zimbabwe through access to clean renewable energy.

Objectives

- Increased access to affordable, reliable and modern energy services for agricultural production
- Improved agricultural (crop) productivity Promoting agroecology
- Increased access to finance and markets
- Improved Natural Resource Management

Activities

- Facilitation of farmer exchange visits
- Equip 18 gardens with solar and drip irrigation systems
- Awareness raising on solar technology through solar fairs
- Capacity development through training on agroecology techniques, seed production and storage, farming as a business, post-harvest management, procurement and distribution of grain storage bags.
- Introduce ISAL methodology and facilitate for Participatory market systems development, Training for transformation
- Train farmers and local leadership, including government on watershed and wetland management, environmental management laws, catchment area management practices, natural resource management and gully reclamation

Reach

- Direct beneficiaries: 4 950 smallholder farmers

Project Funded by:



Project Implemented by:



Supported by:



Practical Action, 4 Ludlow Road, Newlands, P.O. Box 1744, Harare, Zimbabwe
Tel: +263 24 2776631-3

Three project banners produced.



News article about the project: <https://www.newsday.co.zw/2018/10/11m-project-to-empower-matabeleland-female-farmers>

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Objective 1: Increased access to affordable, reliable and modern energy services for agricultural productivity

Summary: Activities under this objective are currently behind schedule due to a delay in sourcing water for the solar powered irrigation and difficulty in contracting service providers.

Through a community consultation process, the project selected 18 garden sites (9 in Gwanda and 9 in Matobo) for the solar irrigation installations. The next required step was hydrological surveys to identify potentially water-rich boreholes to feed the irrigation. Surveys are a critical precursor to drilling and subsequent irrigation installation.

Unfortunately, the hydrological surveys were delayed until the last quarter of Year 1 and some sites required re-surveying, which will take place in the first quarter of Year 2. Surveys were delayed due to the difficulties in finding appropriate service providers partly due to the challenging economic environment and fuel shortages. The project uses a wet-hole procurement policy, which ensures that the risk for guaranteeing water availability is with the contractor. This reduces the risk of unredeemable expenses on the implementing partners but also resulted in poor responses by the service providers (e.g. potential drillers).

For some of the garden sites alternative options, such as sand extraction systems (detailed below) have been used for sourcing water. The delay with the borehole drilling and subsequent postponement of installation of solar powered irrigation gardens has been the major contributor to the project's low spend rate. Please see page 15 for an update on the current situation.

Site Selection: 18 garden sites (9 in Gwanda and 9 in Matobo) were selected through a participatory multi-stakeholder forum with the communities, village heads and councillors. The forum came up with a selection criterion that took into consideration whether farmers had pre-existing gardens, whether farmers showed a passion for farming but face challenges with conveyance of water, as well as indicators for the presence of water at the garden sites.

Establish 18 solar powered 1.5 – 2 ha irrigated gardens: No irrigation systems were installed in Year 1 as water had not been successfully sourced.

In Gwanda, six new boreholes have been successfully drilled and have sufficient water. There are three existing boreholes, two have sufficient water but one needs to be re-surveyed and re-drilled to bring the total to nine. The contractor concerned had problems accessing spare parts for the rig, which caused further delays.

In Matobo, eight new boreholes were drilled, two boreholes had sufficient water. Six of the sites had insufficient yields (approximately 0.3litre/sec), well below the recommended 1 litre/sec. These six sites need to be re-surveyed and drilled.

In Matobo, one of the gardens was near a river suitable for sand abstraction system as a water



Borehole drilling

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source rather than from a borehole. During the dry season, most of the rivers in the area run dry, but the water still flows under the surface of the river bed. The abstraction system draws water from the sandy river bed. The abstraction system was not completed in Year 1.

Intra district exchange visit to functioning solar gardens: This activity played a catalytic role in inspiring the farmers and in winning their total commitment to the establishment of gardens under this project. More than 40 farmers visited solar powered irrigated gardens in other wards within Gwanda and Matobo. The visit enhanced appreciation of solar powered irrigation and pumping. They were inspired by the potential to improve their livelihoods. Before these exchange visits, the majority of farmers across the project sites had indicated scepticism about the potential accruing from alternative agriculture livelihood activities and the extent or scale of production that could be supported and powered by solar energy.

Solar Fair to raise district awareness of technologies: This activity was not carried out in Year 1 but was rescheduled to October to coincide with district seed and food fairs that are held in preparation for the production season.

Training of local technicians: This activity was not carried out in Year 1 because it is dependent on the irrigation. Once solar irrigation installations have been completed, training can begin.



Farmers during an Intra district exchange visit at Pelele garden, in Gwanda

Objective 2: Improved Agricultural Productivity

Summary: To improve agricultural productivity the project has focused on enhancing farmers' skills and natural resource management. The importance and vital role of agro-ecology in achieving sustainable, resilient and viable agricultural food production systems through improving soil condition and water resource management cannot be overstated. The training helped farmers to have confidence in their knowledge and recognise that their traditional farming systems have the potential to achieve sustainable agricultural productivity, if properly implemented. Lead farmers received equipment and training in podcasting so they can train other farmers across their communities.

Update, translate and print training materials: Training manuals have been reviewed, updated and developed for all the agro-ecology modules. The manuals were still undergoing translation into two local vernacular languages, Ndebele and Sotho at the end of Year 1. These training manuals should be printed and ready for dissemination across the project sites by end of October in the English and local language versions. These manuals will provide support for farmers as they continue with their training and agro-ecology farming in Year 2. Importantly, they will continue to provide farmers with guidance after the project has finished.

Training Lead farmers in content recording and podcasting: 18 lead farmers have been successfully trained on podcasting and content recording for the two districts. It is very encouraging to note that the use of podcasting has also been cascaded to other members of the community, who are not directly targeted by the project.

The lead farmers received podcast equipment which had been preloaded with technical lessons on agro-ecology, financial literacy, sand dam and irrigation equipment maintenance. Other topics that were loaded onto the podcast MP3 players ranged from business management issues, crop production, environmental and natural resource management issues to topics addressing social issues such as gender (e.g. gender based violence) and group governance. Local languages i.e. Ndebele and Sotho are used for recording information and this empowers the Lead Farmers to communicate correct information. The materials were developed together with the relevant technical stakeholders, after a consultative process among the farmer groups.

The lead farmers are currently training other farmers in the community using the podcasting equipment and spreading this skill sets within the community. The "training of trainers" approach is helping to reach a wider and larger audience.

Lead farmers make use of community platforms and events mainly facilitated through project and government extension technical teams, working with local leadership. Any technical questions arising from the preloaded technical messages are discussed with the local agricultural extension officers and project field officers in the succeeding visits.

The majority of the beneficiary farmers have reported that these lessons were very useful. Dryland farmers are currently using them when they plan and implement project activities at their various garden sites. The solar irrigation farmers will also have a readily available resource for when the irrigation has been installed.

Training of farmers on agro-ecology: Training of trainers on introductory aspects of agro-ecology principles and approaches was successfully completed in Gwanda. The 24 participants included Agritex (government extension) Officers, Veterinary Services Officers, Environmental Management Agency Officers, officers from the Forestry Commission and other relevant

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government departments. The trainees are then responsible for the roll out of the training to all of the farmer groups who are registered on the project. Training roll out was completed in Gwanda reaching 328 farmers (65 M, 263 F). Training roll out in Matobo was postponed to Year 2.

Training of farmers in farming as a business: A total 753 farmers (556 F, 197 M) have gone through the first round of the farming as a business training. 328 farmers were reach in Gwanda and 425 farmers in Matobo. This training, which was the first part of a two phase training series, targeted the dryland farmers as well as the farmers, who will eventually have the solar-irrigation gardens. The farmers were equipped with farming business skills that will help them improve their financial intelligence as well as farm planning. Participants unanimously agreed that having limited agribusiness skills will continue to be a major driver of underdevelopment unless it is urgently addressed at both a farmer and agricultural association level.

Grain storage and processing: Due to the prolonged drought and 2018/19 poor growing season this activity had to be postponed to Year 2.

Construct 2 sand dams: Sites for two sand dams have been identified where seasonal water availability is a challenge. A sand dam is a reinforced rubble cement wall built across a seasonal sandy river. Sand dam construction committees were selected as were roles and responsibilities. The Dam wall designs and bill of quantities were completed and procurement of materials was in progress but construction of the dams did not start in Year 1.



Members of Retsweletsi Garden (Gwanda) gathered for land preparation in agro-ecology training.

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Case study 1: Shamba Garden Group, Gwanda



Shamba Garden, in Gwanda district, is one of the groups benefiting from the REEWF Project. The 2.9 hectare garden has 25 members mostly women.

They're experiencing low agricultural productivity and activity due to limited water supply with some members even giving up.

Since, the REEWF inception there has been an increase in enthusiasm and farming activity.

"We are currently growing vegetables, sweet potatoes, tomatoes and maize. We have renewed energy and motivation to grow now that we will have a project connecting our garden with solar irrigation. Currently, we have been getting water from a community dam but during the dry season we are refused access as the water levels will be low. Chairperson Mengezi.

Objective 3: Increasing farmer access to finance and markets

Summary: Training delivered and skills learnt from activities delivered under this objective are crucial to shifting the farmers' mind-set from subsistence-focused farming to viewing farming as a potential business.

In order for farmers to receive a fair price and grow what is in demand they need to understand the markets and have sound negotiation skills. Training received by the farmers improved their access to finance and during Year 1, farmers have formed a total of 36 (18 irrigation and 18 dryland groups) Internal Savings and Lending (ISAL) groups across the two districts. Following market mapping activities, these 36 groups have started saving towards their planned agricultural activities and projects.

Training for transformation: A total of 86 farmers (M 40, F46) were trained in Training for Transformation, which reached out to farmers, ward councillors, traditional leaders, and extension staff.

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The participants explored real life issues that impact their communities negatively, for example: environmentally damaging legal or illegal mining and associated social misdemeanours; local leadership that condones unacceptable traditional practices promoting violation of women and children's rights; corrupt tendencies by some local governance structures; and a general lack of concern for local development initiatives by communities and local authorities.

The trained farmers have become community facilitators or “change agents” who are now training other farmers in the project. The impact of this training has been evidenced by farmers now resolving conflicts amicably and there has been an improvement to the attitude of local leaders.



Training in marketing skills

Raise awareness, train and establish Internal Savings and Lending (ISAL) groups:

The ISAL methodology is not a new concept to the targeted areas but the project's emphasis is to encourage the ISAL groups to become income generating projects. A total of 36 ISAL groups are now actively saving their funds and some poultry and small livestock projects have been funded by these ISALs - see case study 2.

Once established the ISAL groups received training on; group formation and leadership; constitution; group fund and development; loans appraisal; and record keeping. Participants were encouraged to align themselves with like-minded characters to minimise conflict. Issues of behaviour, patience, honesty, ability to work with others were emphasized as key to group formation. A total of 479 farmers (344 F and 135 M) participated. Evaluations of the 36 ISAL groups will be conducted in Year 2, when the groups are well established.

Participatory analysis and selection of value chains (existing and new) to ensure food, nutrition and income security: The value chains that were selected in Gwanda were tomato, onion and leafy vegetables for the irrigation gardens and small grains and indigenous chickens for the dryland gardens. These selected products will help households to improve nutrition whilst also contribute to income streams and food security.

The selection of the value chains has primarily been informed by the Participatory Market Systems Development (PMSD) process. This involved a multi-stakeholder value chain analysis where the most strategic crops/indigenous livestock were identified and then potential markets or gaps were identified in a market mapping exercise. For each garden, marketing representatives were selected and trained on basic marketing skills including product quality, need for consistent and reliable supply, and price negotiations with potential markets. Their previous skills acquired in training on farming as a business assisted with the selection of the value chains.

Value chain analysis and selection has been delayed to Year 2 for Matobo.

Facilitate formation of marketing committees where they do not exist and provide market analysis & negotiation skill training: Training of Trainers (TOT) enables lead farmers to train other farmers in their communities. The TOT training reached out to 72 participants (44F, 28M) and this complemented the PMSD approach above. The training enhanced farmers' understanding on the market system and the various roles of the different actors. The training ensured farmers understood how they would be involved in engaging with market actors.

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Once the solar irrigation gardens have been installed and farmers start to produce increased yields and surplus harvest to sell, business and marketing skills developed during these training sessions will help farmers to maximise their income.

Each of the 36 farmer groups (18 irrigation, 18 dryland) has a marketing representative, whose has received targeted training. The marketing representative will be responsible for gathering market intelligence e.g. current pricing trends and will be tasked with all the marketing issues for their group. To help ensure sustainability and viability of the groups, the project's technical teams facilitated the establishment of marketing management committees for each farmer group. The main function and mandate of these committees is to fulfil the administrative role and facilitate activities e.g. coordination of activities between farmer groups, engaging with the value chain stakeholders, price negotiations with potential markets or organise delivery of inputs or transportation logistics to ferry produce to the markets.

Training on crop budgeting was an eye opener for the farmers as it helped them appreciate the potential margins that can be realised for the different enterprises. It became evident from meeting buyers that the supply of produce from Gwanda and Matobo districts was very low compared to imports from other regions, including imports from South Africa. Therefore there is huge potential for farmers to supply and meet buyers' demands.

Case study 2: Thenjiwe Masuku, Mzamomuhle ISAL group



From right to left; Thenjiwe Masuku , Senzeni Ncube, Susan Sibanda, Edson and Donald Sibanda (village head)

Thenjiwe Masuku is a 50-year-old, female lead farmer from Tapela village. Securing enough food to feed her family is a constant challenge every farming season. Limited job opportunities mean women like Thenjiwe mostly depend on casual work to earn a living.

Thenjiwe is now a member of Mzamomuhle ISAL group with 33 members (21 female and 12 male).

“When the Renewable Energy Empowering Women project (REEWF) was introduced in our area in October 2018, we were given an opportunity to form an Internal Savings and Lending (ISAL) group. We wrote our group constitution and decided borrowings by group members would attract 15% interest. Because money kept losing value, we decided to start making our contributions in form of live chickens per person per month, while using the monetary contribution to buy construction materials for the fowl run and chicken feed (pearl millet). We currently have 38 free range chickens and growing our stocks every month. We are now in constant touch with a few buyers and are expecting them to buy some chickens this August.

Thenjiwe Masuku, Lead Farmer.

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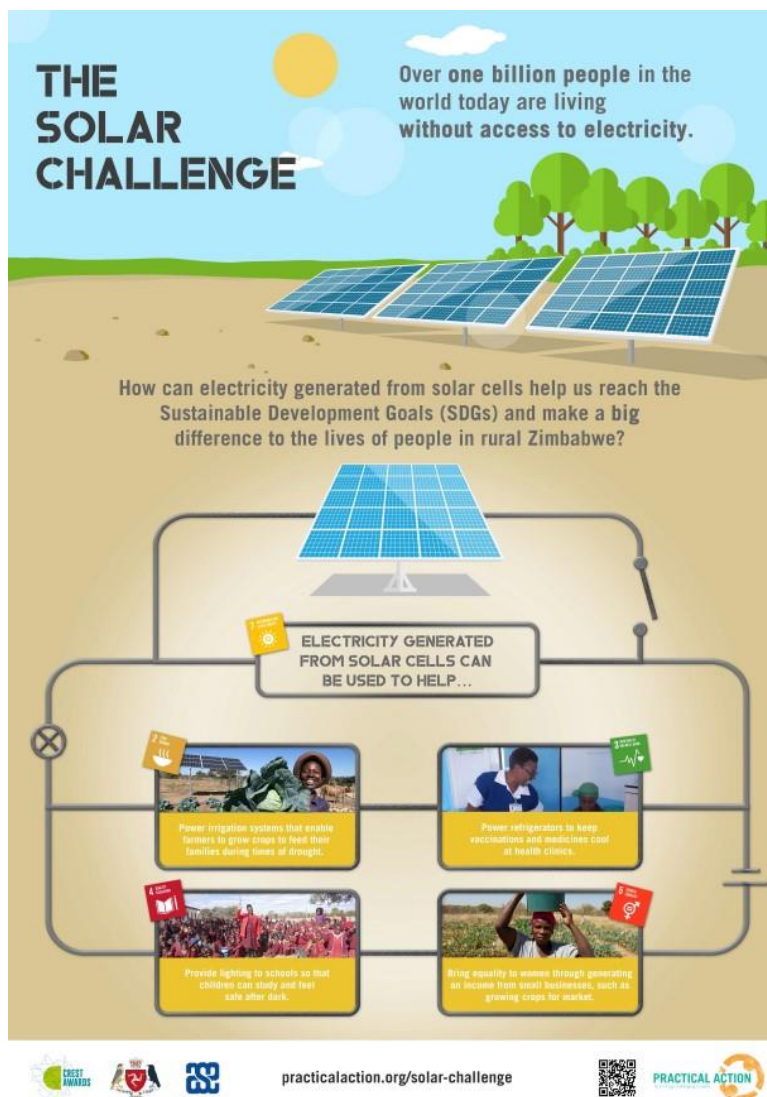
Development Education on the Isle of Man and the UK

Launch of the Solar Challenge

Practical Action's Education Team launched the Science, Technology, Engineering and Maths (STEM) Solar challenge at the Association of Science Education's annual conference at Birmingham University on the 8th January 2019. Through the exhibition stand and workshops for teachers the new online Solar Challenge was promoted face to face to over 350 teachers and educators.

The STEM challenge is based on Practical Action's work with communities in Gwanda, Zimbabwe. It supports teachers of pupils aged 8-14 years to integrate a real life context into STEM subjects. Pupils are introduced to the Sustainable Development Goals and the role of electricity to help reach the 2030 targets. The challenge includes specific science activities such as the use of solar cells to generate electricity. The pupils then apply their learning to develop solutions on how to provide electricity for a community living 'Off Grid' in Gwanda. To meet the different curriculum requirements for STEM subjects on the Isle of Man and the UK, two slightly different versions of the challenge were developed. In both versions, the materials comprise of a set of teacher's guidance notes, pupils activity sheets (for primary and secondary levels), PowerPoint slides and a poster. The resources can be found here:

<https://practicalaction.org/knowledge-centre/resources/solar-challenge-poster-2/>



Promoting the Solar Challenge on the Isle of Man and the UK

On the Isle of Man, we have established a good relationship with the One World Centre (OWC), to support the development of the Isle of Man version and with the subsequent marketing and support to schools. The OWC sent an information pack to each primary and secondary school on the Isle of Man. This included a letter, the challenge posters and marketing flyers informing schools about the Solar Challenge and the linked 'Off-Grid' Design competition.

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We also promoted the challenge extensively through Practical Action School social media channels, to 6,500 STEM teachers through our e-newsletter, at face to face teaching training meetings and through emailing our ‘warm list’ of 200+ education influencers. The challenge was also featured on Women Today, Manx Radio, on 27th February at 2.20pm (<https://www.manxradio.com/on-air/blogs/women-today/>).

The Solar Challenge in Schools

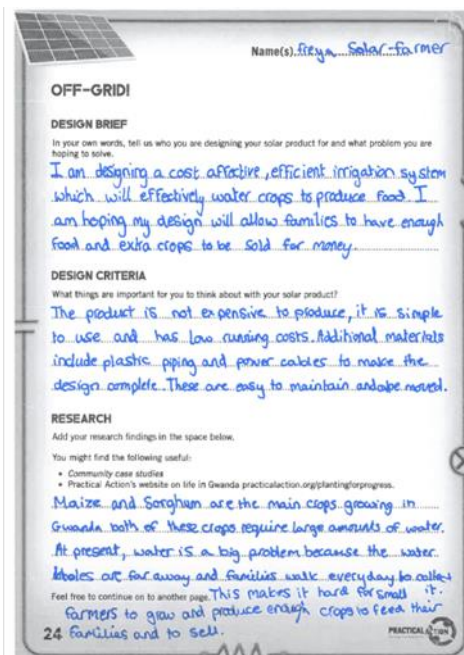
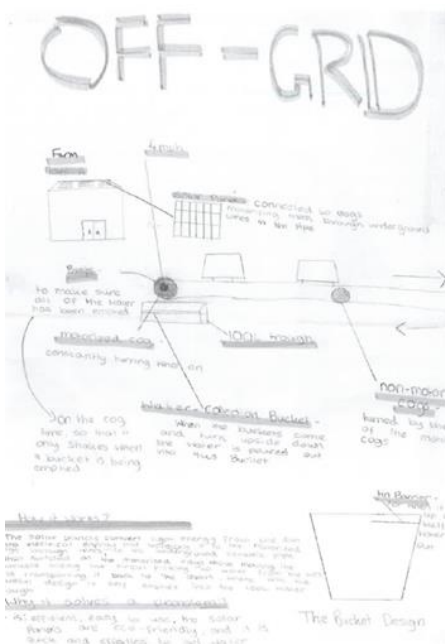
The successful marketing of the challenge has culminated in high number of downloads of the materials – which has exceeded our expectation and anticipated reach. To date there have been 2,300 downloads of the materials, with an estimate of 1,000+ teachers accessing the material leading to approximately 25,000 students using the challenge.

On the Isle of Man alone, there has been close to 200 downloads of the material, with 25% more downloads of the secondary aged pupil sheets than primary.

As part of the Solar Challenge, we ran an ‘Off-Grid’ design competition which challenged the pupils to develop a design of a solar based solution for one of four scenarios for a community in Gwanda. Of the 25 entries, the winning entry addressed the need to prioritise the application of electricity to access water to grow crops for food security. The winning design, from the Isle of Man, was displayed by the OWC at their Global Village event on 5th July 2019 (Manx National Day).



STEM: Making mini solar panels



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Financial Narrative

Zimbabwe's economic crisis has resulted in very high inflation which has affected pricing by service providers. In June 2019 a Statutory Instrument introduced overnight banned the use of USD dollar for domestic transactions and since then service providers have only been allowed to quote in local currency which loses value almost daily. This makes it difficult for them to offer us services. Consequently, this has had a knock on effect on our project's expenditure which in turn has been impacted by delays because there are no takers for contracts denominated in the Zimbabwe dollars. This makes it difficult for contractors to quote for services. Nationwide, businesses are struggling to import new or replacement parts or goods from outside of Zimbabwe.

Practical Action is still able to hold a foreign currency US dollar account in Zimbabwe which helps protect the overall project budget against high inflation.

Fuel shortages have limited and delayed activities and this made travelling to and from garden sites an additional challenge.

The spend rate for Year 1 is at 32 % and the major contributor to this is the delayed progress with installation of solar powered gardens, which constitutes 64% of the year 1 budget.

In Matobo district, there was also a delay in disbursement of funds to the project partner, FCP, owing to reduced partner capacity (in part due to the death of their Programme Manager, Kuda Mudokwani). Slow work uptake has also contributed to the reduced spend and there remains a number of training activities, that were planned for Year 1, which will now be carried out in Year 2.

Training activities such as farming as a business and agro-ecology, are modular and some of the modules were postponed to the first and second quarter of Year 2 to coincide with key production cycles for the various enterprises.

Practical Action has included a revised Year 2 and 5 month no-cost extension budget and a Year 2 deliver y plan. We are proposing a 5 month extension to enable us support farmers through at least 2 crop cycles as had been planned originally. During this period we will conduct regular field visits for on-site coaching and provide additional training in managing the irrigation systems, farming as a business and strengthen our approach to gender. This will reallocate the savings from Year 1 and include recommendations mentioned in the Lessons Learnt section.

Update on Current situation

Establish 18 solar powered irrigated gardens

Gwanda: For all 9 solar powered irrigation gardens in Gwanda district, water has now been successfully sourced and the project is awaiting the invoice from the contractors. Installation for the solar powered irrigation infrastructure was put out for tender (20th October to 8th November) and contracts will be awarded by the end of November. Installations will begin in December through to January and this should still allow for farmer trials of at least one and a half growing seasons.

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Most of the land preparation has been completed on the garden sites and once the irrigation systems have been installed farmers will be able to completed preparations and quickly start planting.

Matobo: In Matobo, 3 boreholes have now been successfully drilled with sufficient water. A further 2 boreholes are still being tested for sufficient water. Tenders will be put out for the installation of irrigation for the 3 completed boreholes, with the option for including the 2 additional systems.

Three sand abstraction systems are being put out to contract in places where boreholes were not suitable. The completion of these is dependent on when the rainy season begins but they are likely to be completed in March at the earliest, but hopefully by May 2020 at the latest. Once completed, installation of the solar powered irrigation can begin.

If the 2 boreholes currently being tested don't provide a sufficient flow rate there will be 3 sites without a current solution for sourcing water. Site visits to Matobo, for the week beginning 11th November, were scheduled to agree solutions with the farming communities about different options available, such as deep wells or moving the garden sites further from the communities. If this occurs we will provide Isle of Man government will a full update.

Construction of 2 sand dams

In Gwanda, excavation of the dam wall's foundations is now complete and the construction of the walls is currently underway and nearing completion.

In Matobo, excavation of the dam wall's foundation has been completed. The communities have gathered locally available materials, such as sand and stones, to be used for the masonry wall. The initial 423 bags of cement are now ready for delivery. It was procured while the bill of quantities were still being finalised and was a way to ensure the building process would not be delayed. An additional 627 more bags are being procured.



Excavation work at Mayide – Manyange sand dam in Gwanda

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Challenges and Lessons learned

Drought: Zimbabwe and especially both districts where we work have experienced a severe and prolonged El Nino induced drought in 2018/19. Gwanda and Matobo are semi-arid regions and the dryland farmers suffered from crop failure and consequently, poor harvests. This impacted on the number of project participants as farmers were unwilling to try new approaches to farming during a high risk time.

The drought also affected underground water recharges thereby impacting yields of boreholes that are being drilled to support the gardens. Alternative to drilling boreholes, such as sand abstraction systems have been installed in at some sites.

Economic crisis: This has resulted in very high inflation thus affecting pricing by service providers, who are only allowed to quote and be paid in local currency which loses value every day. This has had a knock on effect on our spend rate. The high inflation means that farming groups face highly priced production inputs which negatively impacts their production plans.

Accessing water sources: The current delay in borehole drilling has contributed to the delayed installation of solar pumping irrigation systems. Many of the reasons for the delay have been unavoidable however, during project planning, we could have anticipated and allocated more time for hydrological surveys and drilling.

Partner performance in Matobo district : Practical Action have worked successfully with our partner FCP for many years. Following the unexpected death of FCP's Programme Manager, Kuda Mudokwani, there have been a number of delays and problems in the implementation of activities. FCP failed to follow their own procurement practices so there have been delays in disbursement of funds to them. To overcome these challenges, Practical Action have introduced closer partner monitoring through weekly online support meetings with the Project Manager. Disbursements of funds are bi-monthly to minimise the risk associated with poor procurement practices. The partner is being supported through frequent site visits by Practical Action to the Matobo district. Support from senior management staff in Practical Action's Harare office will further aid FCP to deliver on their contractual obligations.

Dryland farmer Internal Savings and Lending (ISAL) groups: The challenge with this activity was dryland farmers' expectation of tangible material benefits, as was the case with the solar irrigation gardens groups acquiring boreholes and solar irrigation equipment. This led to a slow take up by the dryland farming ISAL groups. To reduce the disparities between the irrigation and dryland groups and to increase team work amongst them, it has been recommended that the project procure fodder crops for livestock across both the farmer types which would incentivise more farmers to participate.

Gender: Drawing on lessons from other projects, we have found that while targeting women beneficiaries is critical, purposeful action to strengthen gender relations within the household helps ensure the benefits are more equitable and sustainable. We have found the Gender Action and Learning Systems (GALS) methodology particularly effective in supporting gender relations in our projects and propose including this as part of the requested extension

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PRACTICAL ACTION PUTS INGENUOUS IDEAS TO WORK SO PEOPLE IN POVERTY CAN CHANGE THEIR WORLD

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