

5.14.6505.GLA.R.021

B1

Scottish Government

Powering Development in Mulanje

End of Year 3 Report

31 May 2018

Report Details

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	Name	Job Title	Signature
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Reviewed by:	[REDACTED]	Civil Engineering Team Leader	[REDACTED]
Authorised by:	[REDACTED]	Director of Engineering	[REDACTED]
Date of issue:	31 May 2018		

Amendment Record

Revision Number	Date	Summary of Amendments	Purpose of Revision
A1	28/04//2018	n/a	First draft
A2	02/05/2018	Minor amendments following review	Internal authorisation
B1	31/05/2018	Minor amendments following authorisation	Client issue

NOTICE

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Scottish Government

Malawi Development Programme 2015-2018

End of Year Report

1 Basic Project Information

Complete the information below for management purposes. Please indicate in the relevant section whether any changes to your basic project information (e.g. partners, geography, project dates or budget) have occurred during this reporting year. Explanations should be provided in section 3.

1.1	Project Number	Reference	M/15/R/019
1.2	Reporting Year		From: 01/04/2017 To: 31/03/2018
1.3	Project Year		Year 3
1.4	Name of Lead Organisation (Grant Holder)*	Wood	
1.5	Name of Partner(s)*		Mulanje Electricity Generating Agency (MEGA) Mulanje Renewable Energy Agency (MuREA) Practical Action Consulting (PAC)
1.6	Name of Project*		PDM – Powering Development in Mulanje
1.7	Project Description*		<p>PDM (the Project) increases access to sustainable electricity to catalyse social and economic development for people living in poverty. The Project is implementing a micro-hydro mini-grid to supply electricity to off-grid villages.</p> <p>Access to electricity changes lives:</p> <p>Households access pollution-free lighting and communications, enriching the family unit, whilst the schools are able to offer night classes, engage the wider community, and the local clinic is able to provide improved services. Enterprises gain an innovative spark and offer new and improved products and services leading to increased sustainable incomes. The Project provides business and skills training and facilitate access to finance for local entrepreneurs.</p> <p>MEGA social enterprise brings the professional and technical expertise to operate the system as part of its</p>

		growing mini-grid portfolio. MEGA is Malawi's first community-based mini-grid enterprise and a pioneer for future Project developers and government stakeholders working to achieve universal access to sustainable energy. The Project is inspiring and leading the development of a new mini-grid market in Malawi and beyond.
1.8	Project Region*	Country/ Mulanje, Malawi
1.9	Project Start & End Date*	Start: 08/05/2015 End: 30/09/2018
1.10	Total Project Budget*	£910,205
1.11	Total Funding from IDF*	£598,374
1.12	IDF Development Priorities Please tick the box next to the development priority/priorities that your block grant aims to address	<input checked="" type="checkbox"/> Health <input checked="" type="checkbox"/> Education <input type="checkbox"/> Civic Governance <input checked="" type="checkbox"/> Sustainable Economic Development <input checked="" type="checkbox"/> Renewable Energy
1.13	Supporting Documentation Check box to confirm key documents have been submitted with this report	Up-to-Date Logical Framework (LF) summarising progress against relevant milestones for project activities, outputs, outcomes and impact. <input checked="" type="checkbox"/> Please indicate (check box) if you have proposed amendments to your LF since your last report. If so, please detail any changes in Q3.2 <input type="checkbox"/> Please indicate (check box) if the LF submitted has been approved by the Scottish Government. <input type="checkbox"/> End of Year Financial Report Proposed Revised Budget (if applicable) <input checked="" type="checkbox"/>
	Please list any further supporting documentation that has been submitted	<input checked="" type="checkbox"/>
1.14	Response to Previous Progress Reviews	Scottish Government's Action taken since comments on previous reports (State which): N/A received: N/A
1.15	Date report produced	31 May 2018

1.16	Name and position of person(s) who compiled this report	[REDACTED]
1.17	Main contact details for project, if changed	No change

Signed by [REDACTED] Date 31 May 2018

2 Project Relevance

2.1	<p>Project Beneficiaries Does the project remain relevant to the context and the beneficiaries with whom you are working? Please justify this in a short paragraph below.</p> <p>Access to electricity remains vitally important for the social and economic development of the target beneficiaries. The community has re-affirmed its commitment in the recent past by signing MEGA's "social contract", which sets out the responsibilities of the parties involved.</p> <p>There is growing excitement within the local community, as the Project nears completion. The Project will include the installation of a new electrical generation facility and continuation of the grid expansion works which will result in electricity reaching other local communities.</p>
2.2	<p>Gender and social inclusion Please describe how your project has worked to ensure that women and girls, and other vulnerable groups (as appropriate) benefit from the project. Describe any challenges experienced in reaching vulnerable people and how these have been overcome.</p> <p>The Project is committed to ensuring gender and social inclusion. Some of the Project's key benefits are outlined below:</p> <p>To date, the Project has connected 417 new households which is providing improved electricity access to men, women and children. In particular, woman's lives have been positively impacted as they predominantly manage the household.</p> <p>The Project has recruited workers from the Project area, including, and often, women.</p> <p>MEGA's grid was expanded to Nessa, where 60% of the customers are women.</p> <p>The social institutions in the Project area can now provide improved services due to the availability of electricity. These institutions include churches, schools and a clinic and they provide their services to all community members, but the socially vulnerable typically depend on these services to a larger degree.</p> <p>Childbirth facilities have been improved which benefits women, children and</p>

	<p>the wider family unit. 886 farmers (357 men & 529 women) have received training in conservation, water management and climate issues. 56 enterprises have since emerged with 13 of these being run by women.</p>
2.3	<p>Accountability to stakeholders How does the project ensure that beneficiaries and wider stakeholders are engaged with and can provide feedback to the project? What influence has this had on the project? What challenges have been experienced in collecting and acting on beneficiary feedback?</p> <p>The Project conducts regular meetings with key stakeholders from the community which include: The Village Electricity Committee (VEC), traditional leaders, district representatives, politicians, head teachers, medical officers, business people and customers.</p> <p>The VEC acts as mediator between the community and the Project, and is the forum for consultation on key issues, including: electricity tariffs, household connection policy, system operation, labour issues and land rights. Challenges are first handled by the VEC before escalating them to the Project’s office.</p> <p>The Project has supported the VEC to enhance its performance and accountability.</p>

3 Progress and Results

<p>This narrative report on project performance and results will be reviewed together with your revised and updated Logical Framework (or if not yet approved your original Logical Framework). See Guidelines (Annex 1) for details.</p>	
3.1	<p>Changes to Project Status Has the focus or delivery of your project changed significantly over the last financial year? If so, please explain how and why, and attach copies of all relevant correspondence with the Scottish Government.</p> <p>No significant changes have been made to the Project delivery over the past year.</p>

3.2	<p>Changes to the Logical Framework If changes have been made to the log frame since the previous financial year please describe these below. Please also provide evidence (e.g. copies of correspondence) that these changes have been agreed with the Scottish Government. If you would like to make changes to your log frame, but these have not yet been approved by the Scottish Government, please describe and justify in detail the requested changes below – and highlight the proposed changes in the revised log frame.</p>	
	<p>Result Area/ Indicator</p>	<p>Proposed Change (please clarify and evidence below) Reason for Change</p>
3.3	<p>Gaps in Monitoring Data If baseline or monitoring information is <u>not</u> available, please provide an explanation below. Where monitoring data has been delayed (since previous report), please provide an indication of when and how it will be made available to the Scottish Government.</p>	
	<p>Baseline and monitoring information is up to date.</p>	
3.4	<p>Project Outputs In the table below, please list each of your project outputs, and provide further detail on your progress and results over this reporting period. Describe any delays or other challenges that you have experienced and how these have been addressed, and provide information about any unexpected results. Progress should be supported with evidence (such as links to monitoring data in line with logical framework, case studies, web-based information, reports etc) where possible.</p>	
	<p>Output 1: Operational micro-hydro system and mini-grid network distributing electricity to community.</p>	
	<p>Output Indicator</p>	<p>Progress against Planned Milestone/ Target</p>
	<p>1.1. Regulatory approvals obtained.</p>	<p>MEGA is the only fully licensed independent Power Producer in Malawi. All regulatory approvals are in place except for the rural electrification licence. The application for the rural electrification licence has been submitted to the Energy Regulator, MERA.</p>
	<p>1.2. 80 kW of renewable power being produced.</p>	<p>The final iterations of the designs have now been made, these were to increase the potential generating capacity and optimize the design. A summary of the construction works to date: The site access roads are complete. The penstock excavation works are complete and the pipe installation works are underway. The power house works are expected to be completed by August. The procurement process for the turbine and generator has been completed and the equipment</p>

	has been delivered to Blantyre, Malawi.
1.3. Provision of power to two primary schools, up to 400 households and 15 businesses, benefitting 1,600 people directly, and 12,700 indirectly through improved services.	<p>Over 400 new households (over 2,400 people) are now connected to the mini-grid, receiving electricity and directly benefitting from the Project. This includes two schools, two churches, 56 businesses and the clinic.</p> <p>The final grid expansion phase is now underway which will allow an additional 100 households to be connected in the coming months (within the granted extension period).</p>
Output 2: Communities are helped to use electricity in productive ways.	
2.1. Mechanisms in place to finance community businesses.	<p>Surveys, meetings and support has been continuing throughout the Project and it is understood that 56 small scale enterprises have emerged due to the coming of electricity. These businesses are providing a range of services and products such as welding, carpentry, irrigation, bakery, winery, fruit processing, maize milling and studio (video shooting and editing).</p> <p>Financing agreements with banks and other institutions have been slow to finalise and there has been limited demand from business owners for finance.</p>
2.2. Business and technical training conducted.	Entrepreneurship and business skills training has been conducted with 32 local business owners.
2.3. Health clinic and school are using electrical equipment to improve their services.	<p>Equipment has been provided to the health clinic including a warm water geyser, sterilizing equipment, a mobile examination light and a vaccine fridge (provided through co-finance).</p> <p>Additional medical staff houses have been connected to the mini-grid.</p> <p>Electrical wiring at two of the connected schools has been extended and lighting improved. Additional teacher's houses have been connected to the mini-grid. A further school is to be connected to the network during the extension period.</p> <p>As a result of the electrical supply, which is providing longer hours of light, the local schools are able to accept more pupils which is expected to benefit education rates in the area.</p> <p>The pupils are able to study longer due to ability to</p>

	power lights and anecdotal evidence points to improved school grades.
Output 3: Trees, bamboos and grasses planted to improve watershed catchment and minimize flash flood impact, and provide fuel wood and food for households. District extension workers and communities trained on conservation, water management and climate issues.	
3.1. At least 200,000 trees planted that will reduce vulnerability to flash floods and offer resilient crops and fuel.	<p>A total of 200,756 tree seedlings have been reared and planted in the watershed to date. These include indigenous, agroforestry and fruit trees.</p> <p>3.98 ha of bamboos and grasses has also been planted in the area.</p>
3.2. Extension workers and community members trained in conservation, water management and climate issues.	<p>18 extension workers (2 women and 16 men) were trained in May 2016. The extension workers were from forestry, agriculture and smallholder tea sectors. The overachievement is due willingness of more extension workers from agriculture sector hence the 20% overachievement.</p> <p>To-date, 886 farmers (357 men & 529 women) have been trained (59.7% women).</p>
Output 4: One case study and one national workshop and broad dissemination for promoting mini grids and their productive use.	
4.1. Case study on productive use published.	<p>A short case study was published in the <i>Malawi Renewable Energy Strategy</i> document.</p> <p>Another Project case study has been largely completed and the team is currently refining the dataset. It will be published in the near future and it is anticipated that an abridged version will be published in a local newspaper.</p> <p>The University of Strathclyde and Community Energy Malawi (CEM) are also working on a separate study, featuring MEGA, which is expected to be completed in the coming weeks.</p> <p>The national broadcaster produced a program on MEGA as a model for rural energy for both productive and social use. This was aired during the business digest.</p>
4.2. National workshop conducted.	<p>With a number of organizations (Practical Action, CEM, University of Strathclyde, UNDP) are working on similar studies. It is planned that a workshop shall be national workshop shall held during July 2018.</p> <p>Further, the Project has received a large number of visitors during the year, including representatives from</p>

		Department of Energy, MERA, UNDP, private sector & NGOs.
	4.3. Articles distributed in local and international media.	<p>The following articles have been distributed in the media:</p> <p>Article focused on off-grid electricity featuring MEGA published in Malawi News, 17th July 2016. <i>"Harnessing mini-grids in energy sector"</i> Sunday Times, 18th March 2018 <i>"Promoting Mini-Grid Systems"</i> Weekend Nation, 10th March 2018 MEGA Mini-Grid in Business Digest MBC TV 17th April 2018</p> <p>There has been an increased media interest in MEGA and the Project of late. We expect this to lead to further publicity for the Project in the coming months.</p>
3.5	<p>Project Outcomes</p> <p>In the table below, please list your project outcome, and provide further detail on your progress and results over this reporting period. Please describe any delays or other challenges that you have experienced and how these have been addressed, and provide information about any unexpected results. Progress should be supported with evidence (such as links to monitoring data, case studies, web-based information, reports etc) where possible.</p>	
	<p>Communities have access to electricity and use it productively. The use of the power from the micro-hydro system provides an example of good practice in the use of sustainable renewable energy.</p>	
	Outcome Indicator	Progress against Planned Milestone/ Target
	1. Communities welcome availability of power, are receptive to ideas for productive use and implement small businesses.	The communities have confirmed that they continue to welcome the availability of power and are receptive to ideas for productive use and implementing small businesses. This is partly demonstrated by the 56 businesses that are now operating in the Project area. There are active investments being made by the community members to electrify homes and businesses.
	2. Replication of the mini grid enterprise model in other communities.	<p>There is increased activity developing in the mini-grid sector.</p> <p>Two solar mini-grids have been developed in the lower shire valley (near Nsanje and Bangula) and a further projects are being planned at the Nkhata Bay and Mchinji.</p>

3.6	<p>Project Impact In the table below, please list each of your project outcomes, and provide further detail on your progress and results over this reporting period. Please describe any delays or other challenges that you have experienced and how these have been addressed, and provide information about any unexpected results. Progress should be supported with evidence (such as links to monitoring data, case studies, web-based information, reports etc) where possible.</p>		
	Communities benefit from social and economic development.		
	Impact Indicator	Progress against Planned Milestone/ Target	
	1. Improved incomes and livelihoods for village residents.	<p>Increased business activities have contributed to improved incomes of the community members.</p> <p>Project employment has played a part in improving the livelihoods of residents.</p> <p>Average household incomes have increased by 23.5% during the course of the Project.</p> <p>Impacts of the re-forestation program will take a number of years to manifest and are currently not yet measurable.</p>	
	2. Improved well-being, better health and education opportunities for communities benefiting from Renewable Energy resources.	<p>The customer base receiving electricity has more than tripled since the start of the Project. This has spurred a number of economic developments.</p> <p>The provision of electricity appears to have brought about positive changes to households and the community. This includes a betterment of the standard of living for individuals through appliances and lighting, better social services (churches, schools and clinic) and an increase in economic activities through entrepreneurship.</p>	
3.7	<p>Risk Management If progress towards delivering activities and outcomes is slower than planned or there have been delays in the delivery of the project, please explain: a) What the issues have been and whether they were highlighted on your risk register? b) What actions have been taken in response to these issues?</p>		
	Issue/ Risk	On risk register?	Action Taken
	Project delays caused by delay to commencement, change in strategy to construction phase procurement, construction	No	<p>Float is available in the programme to absorb this delay.</p> <p>Project is expected to be delivered before end of September 2018.</p>

	team not progressing at agreed rate.			
	Hydrology patterns not as expected causing delay Project progression whilst the micro-hydro scheme location is selected.	Yes	Detailed flow measurements have been taken at the proposed micro-hydro scheme locations. Other water courses have been assessed to search for improved locations.	Location of MHS has been changed to an alternative watercourse. The changes are expected to result in increased power generation capacity beyond the target 80kW
	Output 2 loan facility delayed, limited interest from businesses	No	Alternate partners sought out to manage the loan facility.	It is not yet possible to measure the outcome of this item however the loan facility may not be required given the growth in business activity despite absence of the loan facility.

4 Sustainability

4.1	<p>Partnerships Provide a brief description of the roles and responsibilities of all partners, including in M&E. Have roles and responsibilities changed or evolved? Please provide a brief assessment of your partnership, including its strengths, areas for improvement and how this will be addressed. This section should be completed by lead partners based in Scotland and Malawi.</p>
	<p>The assignment is led by Wood. Wood is a global leader in the delivery of project, engineering and technical services to energy and industrial markets. We deliver comprehensive services to support its customers across the complete lifecycle of their assets, from concept to decommissioning.</p> <p>MEGA is the lead partner in Malawi. MEGA is responsible for local project management which includes coordinating tasks, ordering materials, undertaking the management of local contractors and supervising M&E activities. MEGA's particular strength on the Project is the experience and knowledge that it brings following the development of a previous micro-hydro system in Mulanje.</p> <p>The Mulanje Renewable Energy Agency (MuREA) is a local partner in Malawi, responsible for delivering Outputs 2 & 3 as well as the M&E activities.</p>

	<p>Practical Action Consulting (PAC) is a local partner in Malawi. PAC is assisting MEGA with the management and coordination of the Project and is responsible for delivering Output 4.</p> <p>We consider that the partnerships are working well. We find that the in-depth knowledge of the partners in their respective fields of expertise brings a breadth and depth of experience to the team that enables the implementation of the Project according to the overall design.</p> <p>Further we have cooperated with local tea estates (Lujeri and EPM), Sukambizi Smallholder Tea Growers Association, Ethical Tea Partnership (ETP) and the Darwin Initiative Project to coordinate our tree and grass planting activities. A number of these partners have also been a reliable supplier of seeds and seedlings to the Project.</p>
4.2	<p>Exit Strategy Describe the key components of your exit strategy and outline progress towards achieving it. Provide any other achievements or progress towards ensuring that your project remains sustainable in the longer term (including in relation to local ownership and capacity, and resourcing). Describe any challenges and how these will be addressed.</p> <p>Wood recommends that the plant ownership and operation is taken over by MEGA at the end of the Project.</p> <p>MEGA is a registered company and Malawi's first licensed Independent Power Producer; it will be responsible for the operation and maintenance of the micro-hydro mini-grid. The social enterprise is predicated on a model of operational sustainability - income from electricity sales will cover overheads and maintenance expenses.</p> <p>Achieving operational sustainability is a challenge that will require further investment in generation and distribution systems. The Project is contributing to improved viability but more systems are still needed to achieve the required size. MEGA applied for Scottish Government grant round commencing in October 2018, but this was not successful. They are currently considering available options.</p> <p>Good local natural resources management governance system and establishment of the by-laws to govern management and protection of the planted trees shall play an important role in the long term sustainability of the Project. To this end a Payment for Ecosystems (PES) system has been established – the first of its kind in Malawi – between MEGA and MMCT.</p> <p>The planted grass and bamboos will become sources of planting materials in future. Trees will shed seed and local seed collection will be encouraged to make the seed available. The trained farmers are a knowledge bank for the transfer of information to the future generation.</p> <p>MMCT and the tea estates will continue to supervise planting and management of trees and provide back-up, further training and facilitation in future knowledge requirements.</p>

5 Learning and Dissemination	
5.1	<p>Lessons Learned Describe briefly any lessons learned during this reporting period, and how it will influence the project and your work moving forward.</p> <p>Timing: It is important to ensure that adequate float is available in construction programmes to account for delays in procurement or completion of construction tasks. The timing of tasks should also be planned carefully. It was intended that our Project would be constructed outside of the wet seasons to avoid the potential delays caused by heavy rainfall. However due to earlier delays in the Project it became necessary to undertake construction tasks during the wet season. Whilst tasks progressed we did not that they progressed at a slower pace than typical. This experience has reinforced the preference to undertake construction outside of the wet season.</p> <p>Community natural resource management: The community is naturally more inclined to participate in natural resource management if motivations are put in place. Provision of fruit trees and Guatemala grass (animal fodder) as well as the introduction of Payment for Ecosystem Services (PES) approach have been major motivators.</p>
5.2	<p>Innovation and Best Practice Summarise briefly any examples of innovations/ innovative approaches or best practice demonstrated by your project during this reporting period. Please explain why these are innovative or best practice, and detail any plans to share these with others.</p> <ol style="list-style-type: none"> 1. Contributions to Openstreetmap by mapping Project areas, especially buildings. 2. Introduction of a Payment for Ecosystems scheme (PES) – the first of its kind in Malawi – to help bridge the livelihood gaps created by vulnerable people participating in natural resources management.
5.3	<p>Dissemination Summarise briefly your efforts to communicate project lessons and approaches to others (e.g. local and national stakeholders in Scotland and Malawi, academic peers etc). Please provide links to any learning outputs.</p> <p>Wood is using the lessons learnt on the Project to advise others interested in similar projects in other regions of Africa. Wood have also attended workshop sessions with the Scottish Government and used our experience to provide input to the development of the Malawi National Renewable Energy Strategy document.</p> <p>Project feedback and information has been channelled into The University of Strathclyde and UNDP's most recent studies.</p> <p>The pretesting of the Renewable Energy Toolkit for the Sub Saharan Africa developed by University of Strathclyde and Community Energy Malawi was conducted at the Project site.</p> <p>We have welcomed visits to the Project from national and international consultants, NGOs, lecturers and students. Information is shared in an effort to better the energy supply situation and regulatory framework in Malawi and the wider region.</p>

	<p>A large number of visitors are keen to hear about the strategies, approach and solutions being adopted by the Project.</p> <p>Various government and para-statal entities have also visited the Project, including the Department of Energy and the energy regulator. MEGA has been invited to national workshops and conferences to train its staff, contribute and share its experiences.</p> <p>MEGA's website has provided the Project with a platform for sharing information and knowledge to a wider audience.</p>
5.4	<p>Wider Influence Briefly describe any intended or unintended influence on development outcomes beyond your project. For example, influence on local and national policy, contribution to debate on key development issues, uptake by other projects etc.</p> <p>MEGA has collaborated with the University of Strathclyde to contribute to the revision of the National Energy Policy. From MEGA's unique perspective, recommendations were made for improving the policy and regulatory environment. The product was a document called 'Mini-Grid Policy Recommendations'.</p>

6 Financial Report

The narrative report below should be provided in conjunction with the Budget Spreadsheet report (see Annex 2). Please fill in the Budget Spreadsheet to: (a) confirm actual spend for the year and justify any significant disparities between programmed expenditure and actual expenditure within the financial year, (b) detail programmed spend for next year.

Please note that any carry-over of funds to the next financial year should have been agreed with the Scottish Government by January 31st of the current financial year.

6.1	<p>Project Underspend Please note whether the project has reported a significant underspend, and whether the Scottish Government has agreed to this being carried forward. If this has been agreed, please provide copies of or links to relevant correspondence. Please indicate whether the underspend is the result of currency fluctuations or other issues with project delivery.</p> <p>The Project has had a Year 3 underspend of £8,622 against the budget. This represents an underspend equivalent to 3.5%.</p> <p>As agreed with the Scottish Government Project Manager and set out in our Year 3 Underspend Report (ref. 5.14.6505.GLA.R.019), underspend shall be carried forward to Year 4 so that the planned works can be completed. This will be crucial to completion of the Project.</p>
6.2	<p>Cost Effectiveness and Efficiency</p>

	<p>Please detail any efforts by the project to reduce project costs, whilst maintaining the quality of the project – for example through managing projects costs, efficient resourcing, working with and learning from others etc.</p> <p>The Project continues to take all opportunities to be cost effective and the following provides a summary of some of the key measures taken:</p> <ol style="list-style-type: none"> 1. Sharing office costs with MuREA. 2. Close management of expenses. 3. Lean staffing. 4. International materials procurement when possible and sensible. 5. Combining trips for different activities to save on travel / transport costs.
6.2	<p>Co-finance and Leverage</p> <p>Please provide details of any co-finance or leverage that has been obtained for the project during the reporting period, including how the funds/ resources will contribute to delivering more and/or better development outcomes.</p> <p>A further \$200,000 in co-finance was leveraged to complete the Upper Bondo generation site (damaged after the 2015 floods). These funds have also contributed to MEGA running costs.</p>

7 IDF Programme Monitoring

The list of IDF programme indicators are listed below. With reference to Q46 on your application form, please report on progress for the IDF programme indicators that you have committed to tracking in your original proposal, including the 'Poverty and Vulnerability Indicators', which are obligatory for all Scottish Government funded projects.

1. IDF Programme – Poverty and Vulnerability (compulsory)

1.	Indicator 1.1 Total number of people <u>directly</u> benefitting from the project				
	Baseline	Female	Male	Total	Brief description (e.g. small-holders)
	1134	1796	1658	3454	People living in grid connected households only.
	State the evidence that supports the progress described				
	Customer database, baseline survey, NSO, MDHS				
1.2	Indicator 1.2 Total number of people <u>indirectly</u> benefitting from the project				
	Baseline	Female	Male	Total	Brief description (e.g. small-holders)
	0	9426	8700	18126	3180 Households in the new mini-grid project target areas (5 villages Nkundi, Nessa, Kaponda, Naminja, Nandolo with average 5.7 people per household.
	State the evidence that supports the progress described				

	Field Survey(s), NSO, Recent Net Distribution Exercise						
2. IDF Programme – Civic Governance and Society (optional) – N/A							
3. IDF Programme – Education (optional)							
3.1	Indicator 3.1 Number of schools with improved management and resourcing for provision of quality education						
	Baseline	Total			Brief description (e.g. primary school)		
	2 schools connected to the mini-grid.	3			2 primary schools and 1 secondary school connected, 16 additional classrooms wired, 1 additional staff house connected.		
State the evidence that supports the progress described							
PDM Baseline Report. Project work reports.							
3.2	Indicator 3.2 Number of children/ learners benefitting from improved management and resourcing of schools						
	Baseline	Female	Male	Total	Brief description (e.g. girls, visually-impaired)		
	1907	983	972	1955	Pupils in the two schools. No data available for the 3 rd School yet.		
State the evidence that supports the progress described							
School Registers 2017/18.							
4. IDF Programme – Health (optional)							
4.5	Indicator 4.5 Number of people who have access to improved essential health services						
	Baseline	Adult Female	Adult Male	Child Female (< 18 yrs)	Child Male (< 18 yrs)	Total	Brief description (e.g. maternal health)
	0					23,647	This is the total population of the 7 villages in the sphere of influence of the clinic.
State the evidence that supports the progress described							
NSO. Gender and age bias data not available.							
5. IDF Programme – Sustainable Economic Development (optional)							
5.1	Indicator 5.1 Number of people supported to establish or improve business/ economic activities						
	Baseline	Female	Male	Total	Brief description (e.g. agriculture marketing)		
	-	13	43	56	There are a total of 56 businesses operating.		
State the evidence that supports the progress described							
Business Survey.							

5.2	Indicator 5.2 Number of people accessing credit				
	Baseline	Female	Male	Total	Brief description (e.g. widows)
	14	6	8	14	Our credit facility is not yet live.
	State the evidence that supports the progress described Business Survey, Recurring Monitoring Visits				
5.3	Indicator 5.3 % increase in household income				
	Baseline	Female	Male	Total	Brief description (e.g. vegetable farming)
	K39,998.62			K49,387.53	This represents an overall average 23.5% increase in household income. Gender bias data is not available.
	State the evidence that supports the progress described Baseline Survey and Recent Field evaluation				
6. IDF Programme – Renewable Energy (optional)					
6.1	Indicator 6.1 Number of public institutions e.g. clinics, schools accessing renewable energy				
	Baseline		Total		Brief description (e.g. district clinics, schools)
	2 Schools 1 Medical Clinic		3 Schools 1 Medical Clinic 2 Churches		2 Primary, 1 Secondary School connected.
	State the evidence that supports the progress described Customer Database & Field Visits				
6.2	Indicator 6.2 Number of people in households accessing renewable energy				
	Baseline	Female	Male	Total	Brief description (e.g. solar)
	1077	1796	1658	3454	606 connections to the grid @ 5.7 persons per household.
	State the evidence that supports the progress described Customer Database & district socio economic data. Sales Invoices - gender bias not directly available for solar lights.				
6.4	Indicator 6.4 Number of community based 'mini-grids' that have been established				
	Baseline		Total		Brief description
	3		7		There is only one grid and this is being expanded. We are counting each distribution substation as a "mini-grid" in this context
	State the evidence that supports the progress described Mini-grid grid design documents, licensing documents				

