Terminal Evaluation Review form, GEF Independent Evaluation Office, APR 2018

1. Project Data

Summary project data			
GEF project ID		3922	
GEF Agency project ID		103023	
GEF Replenishment Phase		GEF-4	
Lead GEF Agency (include all for joint projects)		UNIDO	
Project name		Promoting renewable energy based mini grids for productive uses in rural areas of the Gambia	
Country/Countries		The Republic of The Gambia	
Region		AFR	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		SP-3 - Promoting market approaches to renewable energy	
Executing agencies involved		Gambia Renewable Energy Centre (GREC), Ministry of Energy, National Environment Agency (NEA), National Water and Electricity Company (NAWEC)	
NGOs/CBOs involvement		M-Bolo, GAMSOLAR	
Private sector involvement		GAMWIND, Q-Cell	
CEO Endorsement (FSP) /Approval date (MSP)		July 27, 2011	
Effectiveness date / project start		September 5, 2011	
Expected date of project completion (at start)		June 26, 2014	
Actual date of project completion		December 31, 2017	
Project Financing			
		At Endorsement (Million US$)	**At Completion (Millions US$)**
Project Preparation Grant	GEF funding	0.06	0.06
	Co-financing	0.09	0.09
GEF Project Grant		1.76	1.77
Co-financing	IA own	0.2	
	Government	0.18	
	Other multi- /bi-laterals	0.23	
	Private sector	2.98	
	NGOs/CSOs	0.39	
Total GEF funding		1.82	
Total Co-financing		3.98	UA
Total project funding (GEF grant(s) + co-financing)		5.80	5.80
Terminal evaluation/review information			
TE completion date		May 2018	
Author of TE		Tequam Tesfamariam, International Consultant, Suwareh Jabai, National Consultant	
TER completion date		02/02/2019	
TER prepared by		Yuliya Gosnell	
TER peer review by (if GEF IEO review)		Cody Parker	

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	S	S	NR	S
Sustainability of Outcomes	ML	ML	NR	ML
M&E Design	NR	HS	NR	S
M&E Implementation	NR	S	NR	S
Quality of Implementation	NR	HS	NR	S
Quality of Execution	NR	HS	NR	HS
Quality of the Terminal Evaluation Report	NR	NR	NR	S

3. Project Objectives

3.1 Global Environmental Objectives of the project:

> To reduce greenhouse gas emissions by developing and promoting a market environment that will stimulate investments in renewable energy mini-grids for productive uses in rural areas of The Gambia in support of national rural electrification efforts (Project Document, p. 15).

3.2 Development Objectives of the project:

> To improve and expand generating, transmission and distribution capacity to improve the reliability and quality of electricity services and cater for load growth, reduce cost of electricity, encourage investment in rural energy supply and the use of alternative and efficient technologies and fuels for domestic production of electricity. (Project Document, p. 12).

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

> During implementation, two of the six project's demonstration sites did not secure required co-financing, and the project developers had to be replaced. The replacement took time as private sector participants were hesitant to invest in the pilot. As a result, project implementation took three years longer than anticipated.

4. GEF IEO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

4.1 **Relevance**	Rating: Satisfactory

The project is relevant to both national priorities and to GEF strategies and strategic programs.

With regards to the national priorities, the project is aligned with national and regional policies as the Government of Gambia prioritizes improvement of access to and promotion of renewable energy. Specifically, the national government developed six strategic plans and policies to which the project was relevant:

- ***Energy action Plan, 2010***, with its strategic objectives for the years 2010-2014, such as increase in electricity generation, transmission and distribution capacities, improved access to electricity and its affordability, enhanced street lighting, and promotion of renewable energy and energy efficiency.
- ***Energy Policy, 2005*** which laid out goals for the electricity sub-sector: i) to ensure adequate, efficient and affordable electricity supply, including renewable forms of energy, such as solar, wind, and bio-mass, to support socio-economic development in an environmentally-sustainable way, ii) improve the reliability and security of power supply through increased domestic production, and to enhance power sector efficiency, and iii) promote long-term sustainability and competitive pricing of power sector operations by encouraging private sector participation in the energy markets.
- ***Electricity Act, 2005***, with similar goals of encouragement of private sector participation in generation and distribution of energy, promotion of competition, and additionally, setting responsibilities for policy development and regulation of electricity service providers. The Act set a regulatory framework for licensing of providers, setting of tariffs and accounting standards for the electricity sub-sector.
- ***First National Communication, 2003***, (to the United Nations Framework Convention on Climate Change (UNFCCC)), which identified options for reduction of GHG emissions. The options included replacement of diesel generators and reduction in fuel wood consumption, the use of solar energy, improved cook stoves and composting.
- ***Poverty Reduction Strategy Paper (PRSP),*** a 2007-2011 action plan to reduce poverty through interventions in all sectors including energy. The Paper identified an increase in the use of renewable energy in both urban and rural areas as a poverty reduction measure.
- ***Economic Community of West African States (ECOWAS)/West African Economic and Monetary Union (UEMOA) White Paper for a Regional Policy,*** which recognized that access to energy services was central to the attainment of the Millennium Development Goals in the region, and that access to decentralized renewable energy system effectively contributed towards increased access.

(CEO Endorsement, p. 26).

The project intended to assist the Government of The Gambia in accomplishment of the goals it outlined in its strategic documents through provision of relevant international expertise and financing, and subsequent development of the human, institutional and industry capacity, and improvement of the necessary infrastructure.

With regards to GEF strategic objectives, the project is relevant to the GEF Climate Change focal area's Strategic Program 3 – Promoting market approaches to renewable energy – as the project is designed to promote dissemination of renewable energy technologies, particularly minigrids, in rural areas to support rural electrification efforts of the country (CEO Endorsement, p. 26).

4.2 **Effectiveness**	Rating: Satisfactory

The TE rated overall effectiveness as Satisfactory, with the effectiveness of the first two components rated as Moderately Satisfactory, and effectiveness of the third and fourth component as Highly Satisfactory. The TER supports the TE ratings given the effectiveness of project activities under each component as stated below:

Component 1: *Demonstration of the techno-economic viability of renewable energy projects in rural areas of The Gambia*.

Under the first component, the project intended to a) install six renewable projects to demonstrate the technical feasibility and commercial viability of such projects, and b) complete an independent evaluation of the six projects, identify lessons learned, and disseminate them to national, regional and international stakeholders.

In order to identify the six renewable projects, project designers held a consultation workshop with relevant to renewable energy stakeholders in The Gambia prior to submission of the project document for CEO Endorsement. After completion of the workshop, project designers prepared feasibility studies for twenty projects. Out of twenty project concepts, six were selected based on project viability, replicability, ability to reduce GHG, and technological and financial viability. One of the requirements in participation was the ability of the identified projects to secure co-financing post selection. As the project activities commenced, however, two of the identified projects failed to secure co-financing and were subsequently replaced.

As the project activities began after the unexpected hurdle, each of the six projects led to:

- Installation of 10 wind and solar power generation stations in 10 rural communities across the country, which provided residents of the communities with necessary electricity and directed excess power to 10 health centers located within the respective communities. The 23 solar modules installed per each site had a total 10-site generation capacity of 97.5 kW; each site was equipped with 6.0 kVA backup generator (*QCell Solar-Wind Repeater Stations project*).

- Generation of additional 8.3 kW with a solar and wind turbine hybrid system. The system powered a training center for women, which teaches sewing, gardening, and, after the project completion, the installation, operation and maintenance of standalone PV hybrids. The center conducted two training on renewable energy attended by the total of 30 Gambian women,

served as a case study for an ECOWAS organized gender and energy forum in Sierra Leone, received additional GEF Small Grant funding for further training of women, received attention of the joint UNIDO-UN Women mission, and most importantly, provided income-generating opportunities for women who acquired new skills and became able to utilize existing skills: the sewing machines received power they did not have prior to the project. Additionally, The Gambia's Ministry of Petroleum and Energy noticed the success of the project and determined to recruit women for at least 50 percent of projects financed by its RE Fund. However, the center, while generating more power than it needs for its own consumption, did not succeed in directing access power to the grid as it did not secure an approval from the National Water and Electricity Company (NAWEC). (*Mbolo Women Association Solar PV-Wind Turbine Hybrid System*).

- Installation of two reconditioned 450 kVA turbines at Solifor in Tanji and setting the case for the first refurbished turbine wind farm in West Africa, and for developing the first in the country Power Purchase Agreement documents used for selling energy directed into the grid. In the first year of operations, the turbines generated 731,737 kW of electricity, with 90 percent reliability, but in the following year, the turbines had to be removed due to a land permit dispute. As the Gambian government changed a year later, the project received a permission to reinstall and rehabilitate the turbines, but the project management did not have the intention to resume generation until it received compensation for the time the turbines were forced to idle. At project completion, the case was not yet settled (*Gamwind project*).

- Installation of a hydronic pump for provision of water for a sustainable agriculture project. The original project developer failed to secure 70 percent of required co-financing, and implementation was transferred to a new developer in 2014, who completed the project but with a smaller than agreed on battery bank. At project evaluation stage, the provider was working on purchasing and installation of an additional battery bank (*Bijilo Medical Center Grid Tie PV System*).

- Generation of 33kV to Kaur community. The community already had a 60kV plant, which is not synchronized with the new line, and synchronization was not completed at the time of final project evaluation. (*NAWEC/Kaur Solar PV Hybrid System*)

- Cancelled installation of a 600kW wind turbine for Banjul. The cancellation occurred due to inability of two subsequent project developers to secure co-financing. In December 2017, the project was awarded to a third developer, EMPAS, who began planning for project implementation at the time of final evaluation. (*NAWEC 600 kW Wind Turbine for Banjul*).

(TE, pp. 9-13)

Overall, the project increased energy generation by 1,066 kW, 434kW short of the 1,500kW target, and reduced CO2 emissions by 1,092,5 tons per year, 457.5 tons short of the 1,550 tons target (TE, p. 13-14).

The TE does not provide specific information if the second output under component 1 - *complete an independent evaluation of the six projects, identify lessons learned, and disseminate them to national, regional and international stakeholders* – was achieved. The TE, however, states that GHG reduction calculation performed by the Project Office "will have to checked and verified by independent consultant

specialized in the field", which indicates that independent evaluation and dissemination of lessons learned was not completed (TE, p. 14).

Component 2: *Strategy for scaling up of renewable energy investments in The Gambia.*

Under the second component, the project planned to a) raise awareness through meetings for key market players such as project developers, financial service providers, and equipment installers/importers to enable the operation of the renewable energy, and b) create detailed investment plans/strategy for the dissemination of renewable energy projects in rural areas.

The project document set the target to conduct 10-12 awareness meetings, reach 100 organizations through them, and identify 20 renewable energy projects to be handed over to private investors. At project completion, 7 meetings took place, and neither the TE nor PIRs state the total number of organizations that attended them (the TE has information on attendees of one of the meetings: 40 SMEs, and number of participants, rather than organizations, in two other meeting: over 70 and 40 respectively). In the course of these meetings, 20 renewable projects to be handed over were not identified (TE, p. 15).

The preparation of an investment into renewable energy strategy was delayed as UNIDO was unable to recruit a specialist. Yet ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE) stepped in to lead the task and produced a plan in July of 2017. The TE lists six private investors interested in investing in renewable energy in Gambia as they consider renewable energy projects more profitable than other opportunities in the country (TE, p. 15).

The overall effectiveness rating of the component is Moderately Satisfactory.

Component 3: *Development of a renewable energy law, policy and action plan with the objective of strengthening and operationalizing legal and regulatory frameworks that promote and support renewable energy.*

Under the third component, the project planned to a) develop a renewable energy law and supporting policy and action plan, and b) develop standard Power Purchase Agreements for renewable energy projects.

As the result of project activities, the Ministry of Petroleum and Energy, the Public Utilities Regulatory Authority, and NAWEC drafted the Renewable Energy Law and the Standard Power Purchase Agreement for Renewable Energy with a defined feed-in tariff. The National Assembly subsequently enacted the Renewable Energy Law as the Renewable Energy Bill in 2013. Also in 2013, the national government approved the Power Purchasing Agreement and the Feed-in-Tariff and the methodology of its calculation for renewable energy.

The overall effectiveness rating of the component is Highly Satisfactory.

Component 4: *Strengthening of institutional capacity of Gambia Renewable Energy Centre (GREC) and other institutions to support the market of renewable energy.*

Under the fourth component, the project intended to a) strengthen national institutions to enable support for the renewable energy market, and b) develop and conduct training programs for all stakeholders.

The project succeeded in building technical capacity at key institutions such as the Ministry of Petroleum and Energy and other relevant stakeholders. In addition, The Gambia Technical Training Institute, Chamen

Electrical Training Institute, NAWEC Training Center University of Gambia and National Training Authority offered training in renewable energy.

The overall effectiveness rating of the component is Highly Satisfactory.

4.3 **Efficiency**	Rating: Satisfactory

The TE rated efficiency as Satisfactory. The TER supports the rating. The project relied on UNIDO rules and procedures to ensure cost-effectiveness. The selection of the six demonstration projects (under project component 1) was conducted as an open and competitive process, and projects were selected based on their ability to be efficient while delivering the most impactful outcomes for their communities and the country. However, the project implementation phase was three years longer than originally anticipated due to delays at demonstration sites. The delays, caused by the inability of two out of six selected project developers to secure co-financing, were necessary to find replacement developers, but one of the replacements, again, failed in securing co-financing. By the time the third developer for the project was selected, GEF funds were completely exhausted, but the activities were anticipated to continue. The TE stated that information on disbursement of co-financing was not available. Information on disbursement by component (either for GEF funs or co-financing) was not available either, which made evaluation of efficiency of the rest of project components challenging, but given the fact that funds were depleted by the time the last pilot site was ready for construction, implementation of other components and sub-components of the project likely was less efficient than planned.

4.4 **Sustainability**	Rating: Moderately Likely

The results of the project are Moderately Likely to be sustainable after the completion of the project's implementation stage. A number of institutional, financial, socio-economic, and environmental risks can affect the sustainability of this project.

Institutional risks, low (moderately likely sustainability): The project contributed to the development of supporting renewable energy regulatory framework through assistance in the drafting of the Renewable Energy Law and outlining principles for setting the Feed-in-Tariff. However, it is not yet clear if the national government will enforce the law. One of the demonstration projects, Mbolo Women Association, did not secure an approval from NAWEC to direct access energy into the grid.

Sociopolitical risks, low (moderately likely sustainability): Increase in access to electricity, specifically through renewable energy sources, is one of the main priorities of the national government. The project provided expertise and resources to direct activities in a sociopolitical environment already receptive to renewable energy generation. During the implementation of the project, awareness of the benefits of RE among government officials, private sector participants and the general public was further raised through

training and media coverage. However, the risk of a change in the sociopolitical environment with a change in the government remains. For example, one of the project demonstration sites, Gamwind, had to dismantle its fully operational turbines due to a land permit conflict, which had not been an issue when construction activities at the site began.

Financial risks, substantial (moderately unlikely sustainability): As the main objective of the project was to "promoting a market environment that will stimulate investments in renewable energy mini-grids", sustainability of the project's results (i.e. the market environment) depends considerable on market participants – the private sector. Specifically for the purpose of mobilizing the private sector, the project required 70 percent private co-financing for all pilot sites selected to participate in the project. Two of the six sites (33 percent) experienced challenges in meeting the requirement, and one of the two challenged sites secured co-financing only at the time when GEF funds were already exhausted. The government of The Gambia did not commit to allocating further funds to complete the project, and the TE or PIRs do not discuss commitment of the government to allocate budget for further promotion of renewable energy after the completion of the project. One the private sector side, at project completion, six potential private investors showed interest in investing in similar to the pilot projects. No analysis, however, been made by either project implementors or evaluation on whether that would be enough to take off private sector participation in the country. And finally, the project did not focus on debt financing for renewable energy projects. Such projects are highly financeable, and their number could have been increased if along with training on installation and maintenance of wind turbines and solar panels, participants received training on their financing.

Environmental, low (moderately likely sustainability): The majority of the project's demonstration sites will not be exposed to environmental hazards, except two located on the coast line. The two sites, both wind farms, have relatively small turbines, which can be relocated in the event of rising ocean level (a risk identified during the project design stage). An environmental risk neither project implementors or evaluators consider is the unreliability of renewable energy due to weather conditions: the wind does not always blow and the sun does not always shine, which creates disruptions in energy supply. Disruptions may differ from year to year, and their extent may influence i) private sector investment and ii) reliance of consumers of renewable energy.

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

Co-financing played a significant role in the project. Co-financing, sourced from the national government, multilaterals, NGOs and the private sector, amounted to 68 percent of the total project costs as anticipated at project endorsement, although information on actually disbursed co-financing is not available. Participation of the private sector (with 51 percent of the total project costs) was particularly important as it signaled the interest of private companies in the project and in renewable energy in The Gambia. Private sector participation served as demonstration to additional private investors and showed that investment in the sector could be successful (it is technologically feasible, there is sufficient demand for generated power, the supporting regulatory framework allowing repurchase of access power by the national utility existed, and that investment generated a reasonable return). The design of the project required private sector participation from the start as it requested pilot sites to secure 70 percent of co-financing from private participants. In the demonstration phase, 33 percent of the pilot sites (2 out of 6)

struggled to secure financing, but as the project took off and demonstrated successful outcomes, interest of the private sector in similar investments increased; before the project completed, project implementors identified additional six companies willing to invest.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The implementation phase of the project was three years longer than originally anticipated. The delay was due to the challenges encountered by two project sites in securing co-financing.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

The project was relevant to the country's strategic priorities; it delivered expertise and resources to complement and augment actions of the national government. The national government supported the project activities through provision of co-financing, in-kind contributions of staff time, and through collaboration with the project on developing a supporting renewable energy regulatory framework. Such country ownership contributed to successful accomplishment of project components directly dependent on collaboration with the government - components 3, 4 and 5 – and improved the likelihood of sustainability of the project outcomes. The project's sustainability was particularly improved with the development of the Renewable Energy Law and the definition of guidelines for setting the Feed-in-Tariff. The national government, however, did not allocate budget for further support of project accomplishments, which may hinder the growth of the renewable energy sector in the future.

6. Assessment of project's Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 **M&E Design at entry**	Rating: Satisfactory

The TE rated M&E design as Highly Satisfactory. This TER downgrades that rating to Satisfactory, due to the M&E budget being insufficient to adequately implement all M&E activities.

The Project Document contained a developed M&E plan, which specified M&E activities and their respective responsible parties, budgets, and timeframes. The M&E design included annual work plans and scheduled progress and activity reports, and the project document specified reporting and evaluation requirements. The M&E framework included outcomes, outputs and indicators to measure progress. Indicators included baselines, and served as realistic tools to assess the project's progress towards its goals and to evaluate the project's outcomes at completion (TE, p. 22).

However, the TE also states that the $48,000 M&E budget was not sufficient to implement M&E activities for a project of such size (TE, p. 23). This negatively affected M&E implementation, for example precluding the hiring of an independent M&E consultant at critical project junctures (TE, p. 23). Furthermore, the project's M&E system did not create a procedure for collecting co-financing information from pilot project developers, which made it impossible to gather accurate co-financing information and to evaluate the degree of private sector participation in the project and the project's efficiency.

6.2 **M&E Implementation**	Rating: Satisfactory

The TE rated M&E implementation as Satisfactory. M&E procedures were followed by the Project Manager and the Project Management Office, who provided regular oversight of the project's activities, wrote detailed reports on periodical achievements, and in-depth reports on technical evaluation and validation of the demonstration projects, and on the training curricula. Evaluations, however, particularly technical evaluations of GHG emissions reductions results, were not evaluated by an independent specialist (as there was no budget for one), and the TE voiced concerns on the methodology of such technical evaluations (TE, pp. 22, 14).

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 **Quality of Project Implementation**	Rating: Satisfactory

The TE rated project implementation as a Highly Satisfactory. The TER downgrades the rating to Satisfactory. The TE stated that UNIDO approach of organizing and managing project implementation was "practical and workable" and identified no concerns regarding UNIDO performance (TE, p. 22). Among the accomplishments of UNIDO, the TE mentioned successful oversight of the project implementation, management of the GEF budget and procurement for all project services, timely preparation of financial and progress reports for the GEF and the Project Steering Committee, and organization of mandatory and nonmandatory evaluations. Additionally, UNIDO supported the Project Steering Committee and the Project Management Office in coordination and networking with other related undertakings and institutions in the country. UNIDO recruited staff for the project, ensured the continuity and frequency of field visits, and identified concerns in a timely manner (TE, p. 21). Given that implementation phase took

three years longer than originally anticipated, however, this TER downgrades the Quality of Implementation rating to Satisfactory.

7.2 **Quality of Project Execution**	Rating: Highly Satisfactory

The TE rated Quality of Project Execution as Highly Satisfactory (as a part of project coordination and management rating). The four execution agencies - Gambia Renewable Energy Centre (GREC), Ministry of Energy, National Environment Agency (NEA), National Water and Electricity Company (NAWEC), and the Ministry of Petroleum and Energy – worked in close coordination with UNIDO (the TE intertwines rating of their performance with that of UNIDO) . The four executing agencies participated in the Project Steering Committee and successfully directed the project activities to accomplish the overall positive results. Given the level of cooperation of the national government and the degree of its ownership of the project, this TER also rates project execution as Highly Satisfactory.

8. Assessment of Project Impacts

Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.

8.1 Environmental Change. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

As a result of the project implementation activities, specifically, the installation of five renewable energy generation stations, CO2 emissions were reduced by 1,092.5 tons per year, 457.5 tons short of the 1,550 tons target. The TE, however, questions the methodology of the reduction calculation and recommends reevaluation by an independent expert (TE, p. 13-14).

8.2 Socioeconomic change. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

Education and Awareness:

The project piloted five renewable energy generation stations, partially financed by the private sector, to demonstrate feasibility of such stations and the viability of renewable energy to potential market participants. In addition, one of the piloted sites - the Mbolo Women Association project – raised

awareness on feasibility of renewable energy minigrids and their potential to generate income through a series of events and visits to the station. Furthermore, the Mbolo Women Association – one of the most successful sites of the project – conducted training of 30 Gambian women in installation and maintenance of renewable energy generators. The success of the case became a case study for ECOWAS (which spread awareness further throughout the region), and it motivated the Gambia's Ministry of Petroleum and Energy to recruit women for at least 50 percent of projects financed by its RE Fund in the future, and therefore, raised employment opportunities for women (TE, p. 10).

Furthermore, in the course of project activities, project implementors conducted seven meetings for private and public sector participants with a goal of igniting further interest in the sector. The exact number of attendees is not known, but three of the seven meetings were attended by over 100 interested stakeholders and approximately 40 SMEs. By project completion, six private companies showed interest in investing in similar to piloted projects (TE, p. 15).

Income:

While the TE does not estimate increased income of project beneficiaries, it states that the project provided 1,066 kW of additional power capacity for the country. Some of this power will be used in residences and some for income generating activities. Excess power from one of the project sites, for example, powered 10 health centers located in communities, and power from another site provided electricity for sewing machines used by women to sew products for sale. Furthermore, the latter project trained women in installation and maintenance of renewable power generators, which gave them skills they use to generate income. And finally, demonstration of viability of renewable energy minigrids attracted interest of private sector investors, who considered such projects, with an approximately 10 percent IRR and a less than four-year payback period, as more profitable than alternatives in the country (TE, pp. 9-15).

8.3 Capacity and governance changes. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. "Capacities" include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. "Governance" refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities

As stated in Section 8.2, the project activities contributed to strengthening of local power infrastructure, raised awareness on the benefits and viability of renewable energy, and developed new skills on installation and maintenance of renewable energy generators within communities the project served (TE, pp. 9-15).

b) Governance

The project contributed to the development of the Renewable Energy Law, the Power Purchasing Agreement form and the Feed-in-Tariff, which began the foundation of the supporting renewable energy

framework in the country, and the guiding principles of purchasing power from independent providers, and ultimately, the basis for market operations in the renewable energy sector.

1.4 Unintended impacts. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

The Terminal Evaluation report does not describe unintended impacts, either positive or negative.

1.5 Adoption of GEF initiatives at scale. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

The technology installed at the project demonstration sites may be replicated; six private sector investors, including an existing project participant, Qcell, showed interest in doing so. The new five out of six private sector investors which showed interest in directing their funds into the renewable energy sector became interested during a series of awareness raising meetings described in Section 8.2 on page 12 of this TER. Private sector investment interest, and with it, subsequent gradual scaling up of renewable technology nationwide, will be further encouraged and protected by the Renewable Energy Law established during the project and the supporting infrastructure (scaled throughout the country).

9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

- This project with its a specific Project management arrangement consisting of a fully functional Project Management Office (PMO) at a national level under the lead of UNIDO Project Manager, directed by the Project Steering Committee (PSC) and Project Management Committee (PMC). This type of arrangement in project management can be considered as the best practice that can be replicated to implement similar projects.

- In the project document it was initially planned to complete the pilot demonstration projects in four years. This plan was prepared without taking into consideration the scope and volume of work and was later realized to be very short to implement a project of this

size. In the future when planning similar projects, it is important to understand the scope and volume of work at the project formulation phase and prepare a reasonable and workable plan.

- Most of the delay in the implementation of the pilot demonstration projects occurred due to lack of co-financing. When counterpart funds cannot be secured in a reasonable time frame, the project should be floated and transferred to a new investor without losing additional time to implement the pilot project.

- There is no information on the actual expenditure of the co-finance by the pilot project partners. This is due to lack of regular reporting to the Project Office from the part of the project developers. When implementing similar project in the future it is important to establish reporting mechanism that will provide information on the actual expenditure of co-finance to the project office on a regular basis.
- The project plan has been revised three times. This is partly due to lack of understanding of the scope of work at the project formulation phase. This has not only delayed project implementation but also made UNIDO and the other implementing partners allocate an underestimated and misleading budget. From this experience, lessons can be drawn on the need to analyze in advance the scope of work and prepare a realistic plan with a realistic timeframe so that time will not be wasted in revising the plan.

- Global and development objectives are not precisely assessed in the TE because key activities to quantify their attainment were not carried out to assess the validity of real emission reductions the project has delivered. It is therefore imperative to carry out surveys of suppliers and end-users to assess the actual impacts of the project before project closure. In this regard hiring an independent consultant specialized in this field is of paramount importance.

- Mbolo Solar PV and Wind Turbine Hybrid System and Q-cell have achieved their objectives in a highly satisfactory manner and become major strengths of the project, from which best practices should be captured to disseminate and replicate these practices at the national and regional level.

- Government should duly implement the Power Purchasing Agreement that has been prepared during the project so that private investors could be encouraged to invest on renewable energy and supply additional power to the grid to minimize the power shortage in the country.

- When implementing similar projects in the future it is important to make it a precondition for the project developer to either submit performance bond or deposit part of the co-finance prior to project commencement.

9.2 Briefly describe the recommendations given in the terminal evaluation.

Recommendation to Donors:

Donors could increase sustainability of the project results post its completion if they assisted the Government of Gambia to secure additional financing for continuation of the development of the renewable energy sector. Financing is the most substantial risk to sustainability of this project; it was financed in part by external donors, and the Government has not yet identified a source of financing to continue the initiative.

Recommendation to UNIDO:

- UNIDO should improve its lengthy procurement process at its HQ to make it more user-friendly for counterparts, project partners and the private sector. Specifically, negotiations and preparation of grant contracts should be conducted in closer collaboration between UNIDO Project Manager, Project Management Office and UNIDO Procurement.

- Project implementation time could be shortened if UNIDO floated or transferred an investment opportunity to another project developer immediately, in the event an originally selected developer failed to secure co-financing.

- Since one of the project activities was not completed at the time of final evaluation, the Ministry of Petroleum and Energy should allocate adequate budget and monitor the project's activities closely in order to ensure their completion.

- UNIDO should organize a regional workshop in West Africa to share success stories and best practices of the project within the region.

Recommendation to the Government:

Since wind turbines of the Gamwind pilot are not currently functioning, NAWEC should start a discussion with Gamwind to resolve the conflict and rehabilitate the wind turbines.

10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	**GEF IEO comments**	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The assessment of relevant outcomes was satisfactory. The TE provided a detailed description of the project's achievements and substantiates conclusions with facts.	**HS**
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report was mostly consistent, with a well thought-through and followed outline. Data, however, was not always provided to substantiate conclusions, such as data on attendees of awareness raising meetings. The numbers on the project generation capacity and reduction of GHG emission were very slightly inconsistent throughout the report.	**S**
To what extent does the report properly assess project sustainability and/or project exit strategy?	The report underestimates risks to sustainability, specifically socio-political and institutional risks as it does not draw conclusions from the project's implementation experience. Additionally, the report does not correctly utilize GEF risk ratings.	**MS**
To what extent are the lessons learned supported by the evidence	Lessons learned are comprehensive and are supported by presented evidence.	**HS**

presented and are they comprehensive?		
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The report includes actual project costs to GEF by expense and by disbursement year. Costs are not categorized by activity, and no co-financing disbursement information is presented. Since no co-financing information was available, the project does not include total co-financing expenses (only anticipated at project approval co-financing numbers are available).	**MS**
Assess the quality of the report's evaluation of project M&E systems:	The report's evaluation of project M&E is rather detailed, but only briefly touches on indicators and their contribution to evaluation of the project.	**S**
Overall TE Rating		**S**

11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).

No additional sources were used in the preparation of this TER.