



**UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
ORGANISATION DES NATIONS UNIES POUR LE DEVELOPPEMENT INDUSTRIEL**

Progress Report
(01 July 2018 – 30 June 2019)

Name of country Madagascar

Title¹	Increased energy access for productive use through small hydropower development in rural areas
GEF ID:	5317
UNIDO SAP ID:	120094
GEF Replenishment Cycle:	GEF-5
GEF Focal Area:	Climate Change Mitigation (CCM)
Integrated Approach Pilot (IAP) Programs²:	(select)
GEF Project Size:	Full-Sized Project (FSP)
UNIDO PTC Department:	Department of Energy (ENE)
UNIDO Project Manager:	Heng LIU

I. Brief description of the project

I.1 Objective:

The project will contribute to the GEF Climate Change Strategic Objective 3: Promote investment in renewable energy technologies. The project aims to transform the small hydropower (SHP) market for productive use in Madagascar to provide sustainable income generation for women and men in the target areas. It aims to do this through triggering private sector investment in combination with public funds, through market demonstration, development of appropriate financial instruments, establishment of technical specifications, capacity building (for SMEs, academic institutions, policy makers & financial sector) and by strengthening the policy and regulatory environment. Setting up a stimulating market environment that enables the realization and replication of SHP projects will lead to significant GHG emission reductions through replacement of diesel-based generation and help Madagascar in activating its significant small hydropower potential in support of its poverty reduction strategy and transformation towards low carbon development.

To summarize the main project objective is to stimulate the use of small hydropower to reduce Greenhouse Gas emissions and trigger productive use for income generation, in alignment with strategic and policy priorities of the Government of Madagascar

¹ As per approved CEO Endorsement document

² Only for **GEF-6 projects**, if applicable

I.2 Baseline:

Given that many parts of the country are suitable for the development of SHP, there has been some modest government and private sector activity in the SHP sector, yet despite this significant potential, the country's performance has not been as strong as it could be. This is evidenced by the comparatively larger amount of hydrocarbon based small energy systems operating nationwide on about 100 isolated rural grids, with the vast majority (about 80%) using diesel. It has been estimated by the World Small Hydropower Development Report (2013) that a near-term 48.19 MW capacity of SHP could potentially be available in Madagascar, although the total economically feasible capacity of all hydro, including all large projects, is at least 2,600 MW. Despite this significant potential - which is the fifth largest hydro potential in Africa - only 6% is presently exploited.

Although there could be a few SHP projects developed by government and private operators in areas judged technically feasible and financially viable, it is clear that without the GEF intervention, mostly further diesel-based grids will be installed, increasing GHG emissions and the country's vulnerability to changes in world oil prices. The vast majority of potential stakeholders will continue to suffer from lack of information, and a limited understanding and technical capacity to take forward SHP opportunities. Without GEF support only a limited amount of supporting policy work to improve the RE/SHP sector can be prepared due to the lack of public resources to enable this.

This UNIDO-GEF project therefore aims to support the GoM in fine tuning the regulatory framework which can provide the confidence for investors and project developers, and demonstrate the use of SHP to support inclusive economic advancement. Based on the observation that political willingness, initial private sector interest and demand for electricity are all present, the project aims to play a triggering and facilitating role to reduce the risks for private sector. The project will especially focus on the capacity range of 500 to 10000 kW, as a range which has received relatively limited attention but has specific replication potential to help the government in its ambition to address the currently low access rates to modern energy services.

II. Targeted results and progress to-date

II.1 Describe in tabular form the project's progress made in achieving its outputs against key performance indicator's targets in the project's **M&E Plan/Log-Frame at the time of CEO Endorsement/Approval**. Please expand the table as needed.

Project Strategy*	KPIs/Indicators*	Target level*	Progress to-date
COMPONENT 1 POLICY AND REGULATORY FRAMEWORK STRENGTHENED			
Outcome 1: National Low-Carbon Energy Development Plan developed and tailored initiatives to support SHP in place			
Output 1.1: Policy framework on RE for productive use reviewed and recommendations to streamline policies/incentive schemes towards a greater use of rural-based SHP proposed	Policy framework on RE for productive uses reviewed and recommendations to streamline policies/incentive schemes towards a greater use of rural-based SHP proposed	Better management of regulation of RE and rural electrification programmes Productive uses from RE made a key indicator within reporting mechanisms Marked change in problematic aspects of current legislation, e.g. on licencing use of water from rivers and incentives for SHP (i.e. tax and customs)	<ul style="list-style-type: none"> • New Energy Policy designed (between August 2014 and March 2015) promote renewable energy and particularly SHP had been officially settled by the Government of Madagascar in April 2015. • The Revision of the electricity code is currently ongoing with financial support from GLZ. • As decided during 4th steering committee the project in line with New Energy Policy and revision of Electricity Code will support: <ul style="list-style-type: none"> ○ The realization of strategic and methodological note to determine in stream flows for SHP projects with regards to the environmental context of Madagascar; ○ Follow up IWA 33 Technical Guidelines for SHP; ○ Set up a Climate/Energy platform between Ministry in charge of Environment, Ministry in charge of Energy and Ministry in charge of

Project Strategy*	KPIs/Indicators*	Target level*	Progress to-date
			Meteorology. o Elaboration of incentive legal framework for SHP.
Output 1.2: Standardised reference emission levels established	Standardized reference emission levels established	System in place for standardisation of CO ₂ emission levels and M&E in place (in line with Output 5.2)	<ul style="list-style-type: none"> Measurable Reportable Verification (MRV) tool had been designed and put in place in 2018 together with Ministry of Energy and Ministry of Environment. The tool strengthens ability for the government of Madagascar to monitor improvement regarding the NDC for Energy sector.
COMPONENT 2: PRIVATE LED SHP TECHNOLOGY DEMONSTRATION			
Outcome 2: Construction of SHP based mini-grids for productive use and income generation.			
Output 2.1: Target SHP projects fully prepared for development and co-financing secured	Limited number of technical documents / project assessments made of potential SHP projects leading to co-finance	At least 2 specification documents assessed as appropriate for presentation for co-financing	<ul style="list-style-type: none"> GEF/UNIDO project follows and backstop the national process of Call for Project launched by the Rural Electrification Agency (ADER) in April 2015 for the identification of SHP sites and operators. To date 3 projects and 3 operators had been identified for demonstration among which 2 projects are located in SAVA region and 1 project is located in Bongolava Region. The three projects had been selected with regards to productive use electricity potential consumption. Hydrological measures (in partnership with Meteorology and Rural Electrification Agency) on 4 rivers for one full year had been realized to confirm hydrological potential sites. Collaboration with GIZ / KfW – Cofinancing of 14.000.000 EUR grant secured for the 2 SHP projects of cumulated 10 MW in SAVA region. Final detailed feasibility studies expected for Q1 2020. UNIEO/GEF is supporting: <ul style="list-style-type: none"> Detailed feasibility study for the Mandalobe project in Bongolava Region Detailed feasibility studies and environmental impact assessment for the 2 SHP projects in SAVA region.
Output 2.2: SHP capacity of 2 MW on preselected sites realized	Number of SHP projects implemented with support from GEF Number of projects with link to productive use activities by women and men	Project reports and copies of Case Studies GEF project tracking tool Independent monitoring & evaluation reports	<ul style="list-style-type: none"> Still waiting for the finale version of the Detailed Technical feasibility studies (scheduled for Q4 2019) before starting the construction. Expected for 2020.
COMPONENT 3 REPLICATION IN PLACE TARGETED CAPACITY STRENGTHENING CARRIED OUT AND KNOWLEDGE MANAGEMENT IN PLACE			
Outcome 3 – Appropriate financial measures to create conditions for SHP project replication developed and operational. Capacity of project developers on technical, productive use aspects and financial viability of SHP enhanced and local capacity to manufacture SHP equipment strengthened			
Output 3.1: A mechanism to facilitate sustained securing of finance set up through development of appropriate business models between public entities and private & financial sectors developed	Matrix of appropriate financial tools based on business models Financial due diligence guidelines for SHP projects Standardised financial and technical parameters for reporting against	Matrix developed. Due diligence guidelines for the various aspects of SHP developed. Standardised financial and technical parameters for reporting developed.	<ul style="list-style-type: none"> 5 Business Plan realized during PPG phase which has led to call for project launched by ADER in 2015. . Continuous backstopping to the Management Unit of Project with ADER for the sites and operator selection. Atlas of potential SHP in the Vatovavy Fitovinany Region is under construction. More than 60 sites had been identified and 20 visited. The atlas will be shared by ADER to future operators during the next call for project scheduled for 2020.
Output 3.2: Capacities of major actors from private, government, and finance and target SME	Training materials developed around productive uses from electrification projects (and	Training material developed for different target audiences – i) vocational training for utilisation of	<ul style="list-style-type: none"> Three technical Conferences at Polytechnic University of Antananarivo and at Superior Institute of Technology about innovation technology within Hydroelectricity projects (Gender approach had been

Project Strategy*	KPIs/Indicators*	Target level*	Progress to-date
sectors strengthened in the specifics of SHP through tailored training(s) and knowledge management	<p>are gender responsive)</p> <p>Number of training sessions for SMEs; sex-disaggregated reporting on participants</p> <p>Number of trained entities (SMEs, academia etc)</p> <p>Number of female participants in training sessions</p> <p>No. of best practice reports and project flyers developed</p> <p>Tailored course in place at university or polytechnic institute</p> <p>Awareness raising and marketing material available (and is gender responsive)</p> <p>Evidence of fostering of south-south LDC co-operation</p> <p>Link to technology suppliers for training on local turbine and concrete pole manufacturing</p>	<p>SHP for productive uses, ii) for financiers</p> <p>2 productive use training workshops conducted including on social aspects</p> <p>20 trained SMEs and academic institutions</p> <p>At least 30% of participants women</p> <p>Reports and flyers published for each project</p> <p>Tailored university course in at least 1 university or polytechnic institute in Madagascar</p> <p>Public awareness raising, marketing and training material developed and made available</p> <p>South-south SHP co-operation visit conducted</p> <p>Trainings held on turbine and concrete pole manufacturing</p> <p>All communication and training materials will be gender responsive</p> <p>20% female trainers/facilitators (where appropriate and feasible)</p>	<p>considered. More than 30% of women students had been represented.)</p> <ul style="list-style-type: none"> • Draft of curricula for the creation of a master branch about “Hydroelectricity” within Polytechnic University is ongoing. • Market study for potential manufacture of Banki turbine for power range of 50-300 kW is available. • Quality tests for Circular pre-Stressed Concrete Electrical Pole is available. The National Laboratory for Civil Work had been responsible for technical quality tests and provided one day training to 5 local operators and 8 ministry technicians. • Technical Guidelines for reception of SHP plants had been designed with Ministry of Energy and is at finalization stage. • Madagascar participated for the last two edition of the Vienna Energy Forum (May 2017 and 2018). • Two participants from Madagascar participated to the Sustainable Energy Leadership Program (SELP) in India in 2016. • A Technical training had been organized at International Centre on Small Hydropower (ICSHP) for a delegation of 16 participants from Madagascar in November 2018. South-south collaboration strengthened.
Output 3.3: A Nationally Appropriate Mitigation Action (NAMA) for the SHP sector developed	A Nationally Appropriate Mitigation Action (NAMA) for the SHP sector developed	Tailored NAMA ready in line with international climate change rules and procedures	<ul style="list-style-type: none"> • NAMA about “Promotion of Hydropower and Watershed Protection” is available and had been submitted the 6th Call NAMA Facility in November 2017 by the Government of Madagascar but not selected. • Resubmission scheduled for 2020. • National counterparts trained to NAMA methodology.

III. Project Risk Management

III.1 Please indicate the overall risk management: (i) as identified in the CEO Endorsement document, and (ii) progress to-date.

	(i) Risks	(i) Risk level	(i) Mitigation measures	(ii) Progress to-date	New defined risk ³
1	Political : Stability of the country and the mechanisms of GoM to underpin the project in terms of the co-financing	Modest Risk (M)	After the military coup in Madagascar in 2009 condemned by the international community, democratic elections took place in December 2013 allowing all sanctions to be removed. Despite the normalization of the situation, the history of Madagascar, with recurrent political crisis (2001-2002, 2009-2013), shows that the democratic process remains volatile. Therefore, the political situation and its potential impact on the project will constantly be monitored. Presidential elections are scheduled for November/December 2018.	The situation has been closely monitored and sound communication platforms put in place with the counterpart ministries of energy and environment. Despite frequent changes in counterparts and elections, this interaction has continued and ensures smooth relations with the government. Presidential elections held in November/December 2018 had led to smooth political transition but implied delays in implementing activities.	<input type="checkbox"/>
2	Technology: Risk of the chosen technology not being applicable or developable in the chosen areas.	Modest risk (M)	Small hydro-power is based on well -established technology that is centuries old and now well practiced in many developing countries for electrification. The particular technology risk as applied to Madagascar will be mitigated through involvement of technical experts and UNIDO's expertise and by South-to-South partnerships facilitated in Component 3.	The feasibility work is of utmost importance in this regard and numerous studies have been carried out in order to determine the appropriate technology options and choices.	<input type="checkbox"/>
3	Investment: Risk that the financial sector and investment requirements of the project are not realised	Modest risk (M)	The investment risk will be mitigated through bringing in international and local private finance. The GEF project is expected to provide an incremental 20-25%, with the other 75-80% coming from the private sector project developers, through equity and/or loans. Bank of Africa is one of the commercial banks having expressed its willingness to provide loans for the type of SHP investments targeted under the GEF project.	The feasibility studies are involving private sector partners in order to consolidate the appropriate business models and assess the economic viability of operating the project sites. A cofinancing letter had been signed with KfW for 14,000,000 EUR (grant) to cofinance the 2 sites in SAVA region.	<input type="checkbox"/>
4	Social: Risk of social resistance against project activities, especially with regards to women inclusion	Low risk (L)	There will be thorough communication and stakeholder involvement at all levels of decision-making to ensure that there is consensus around project objectives.	Awareness raising activities are taking place at the potential project sites to communicate effectively the project's objectives and ensure local ownership. Especially when it comes to developing productive activities, emphasises placed on involving women and women associations to take leadership roles	<input type="checkbox"/>
5	Environmental : Climate Change and Water Supply risks	Modest risk (M)	The pre-feasibility studies suggest that water supplies are sufficient to justify investments. Other studies show uncertainty as Malagasy hydrology has not been studied sufficiently (rainfall during wet season supposed to increase by 5-20%; rainfall during dry season to decrease by 10-30% though unclear whether referring to Madagascar or areas affected by ENSO in general (WWF n.d.). Rainfall in the north is expected to increase but to occur as more sporadic and intense periods (USAID 2008). This will be assessed in further	Environmental impact assessments are part of the feasibility studies that are being conducted by UNIDO/GEF project and related questions will be closely monitored during the operationalization of project sites as well.	<input type="checkbox"/>

³ New risk added in reporting period. Check only if applicable.

			detail for the target sites to be developed under the project, in cooperation with the private partner.		
6		(select)			<input type="checkbox"/>
7		(select)			<input type="checkbox"/>
8		(select)			<input type="checkbox"/>

III.2 If the project received a sub-optimal risk rating (H, S) in the previous reporting period, please state the actions taken since then to mitigate the relevant risks.

IV Environmental and Social Safeguards (ESS) & Stakeholder Engagement

IV.1 As part of the requirements for **projects from GEF-6 onwards**, and based on the screening as per the UNIDO Environmental and Social Safeguards Policies and Procedures (ESSPP), which category is the project?

- Category A project
- Category B project
- Category C project

(By selecting Category C, I confirm that the E&S risks of the project have not been escalated to Category A or B).

IV.2 Please provide any feedback submitted by co-financiers, and other Partners/Stakeholders of the project (e.g. private sector, CSOs, NGOs, etc.).

Since 2017, KfW is one of the main financial partner of the project specifically for the realization of SHP plants in SAVA region. Indeed KfW signed a cofinancing letter of 14.000.000 EUR in-kind grant in 2018. KfW does not have an office in Madagascar but organized several mission to Madagascar. In addition GIZ is one of main partners especially on legal framework improvement and capacity buildings. A co-financing letter of 20,300,000 EUR in-kind had been provided in 2019.

Please find the related documents separately.

IV.3 Please provide any **relevant stakeholder consultation documents**:

Below attached the minutes of the 4th project steering committee:



5317_4thPSCminutes

V Knowledge Management

V.1 Please provide any **relevant knowledge management mechanisms / tools** that the project has generated:

Please find the GEF TRACKING TOOL separately.

VI Financial report

VI.1 Financial implementation of the project:

 PROJECT DELIVERY REPORT		Project:	120094 - INCREASED ENERGY ACCESS FOR PRODUCTIVE USE THROUGH SMALL HYDROPOWER DEVELOPMENT IN RURAL AREAS MADAGASCAR (MAIN PHASE)			Project Manager:	Heng Liu	Project Validity Status:	24.07.2015 - 24.07.2020 Implement											
Reporting Period:	24.01.2015 - 30.06.2019	Project Theme:	Energy and Environment			Country:	Madagascar	Region:	Africa											
Sponsor Nr.	400150	Sponsor	Global Environment Facility			Grant	2000003144	Grant Description	MAG - ENERGY ACCESS			Fund	GF	Currency	USD	Grant Status	Authority to implement	Grant Validity	24.07.2015 - 24.07.2020	
Description	Released Budget Current Year (a)	Obligations Current Year (b)	Disbursements Current Year (c)	Expenditures Current Year (d=b+c)	Total Agreement Budget (e)	Released Budget (f)	Obligations + Disbursements (g)	Funds Available* (h=f-g)	Support Cost (i)	Total Expenditures (j=g+i)										
200003144																				
120094-1-01-01	Policy and Regulatory Framework	USD	USD	USD	USD	USD	USD	USD	USD	USD										
1100	Staff & Intern Consultants	20,000.00	0.00	0.00	0.00	30,000.00	30,000.00	0.00	30,000.00	0.00										
1500	Local travel	0.00	2,524.84	4,284.78	6,809.62	384.89	384.89	7,188.73	(6,803.84)	0.00										
1600	Staff Travel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
1700	Nat.Consult./Staff	10,000.00	0.00	0.00	0.00	25,025.40	25,025.40	5,025.40	20,000.00	0.00										
2100	Contractual Services	0.00	0.00	0.00	0.00	114,625.00	114,625.00	104,625.00	10,000.00	0.00										
3000	Train/Fellowship/Study	0.00	0.00	0.00	0.00	1,978.92	1,978.92	1,978.92	0.00	0.00										
5100	Other Direct Costs	5,000.00	0.00	0.00	0.00	5,050.54	5,050.54	50.54	5,000.00	0.00										
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,292.53										
120094-1-01-01	Total	35,000.00	2,524.84	4,284.78	6,809.62	177,064.75	177,064.75	118,868.59	58,196.16	11,292.53										
120094-1-01-02	Technology Demonstration	USD	USD	USD	USD	USD	USD	USD	USD	USD										
1100	Staff & Intern Consultants	60,119.01	21,929.44	31,615.88	53,545.32	213,769.70	213,769.70	207,196.01	6,573.69	0.00										
1500	Local travel	(54.60)	0.00	3,058.64	3,058.64	17,621.13	17,621.13	20,734.37	(3,113.24)	0.00										
1700	Nat.Consult./Staff	10,017.05	2,934.64	2,645.01	5,579.65	49,613.42	49,613.42	45,176.02	4,437.40	0.00										
2100	Contractual Services	1,004,188.19	4,661.32	75,115.90	79,777.22	1,559,933.64	1,559,933.64	339,560.91	1,220,372.73	0.00										
3500	International Meetings	0.00	0.00	0.00	0.00	9,531.95	9,531.95	9,531.95	0.00	0.00										
5100	Other Direct Costs	(291.44)	0.00	(28.43)	(28.43)	129.36	129.36	392.37	(263.01)	0.00										
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59,146.08										
120094-1-01-02	Total	1,073,978.21	29,525.40	112,407.00	141,932.40	1,850,599.20	1,850,599.20	622,591.63	1,228,007.57	59,146.08										
120094-1-01-03	Replication and Capacity Strengthened	USD	USD	USD	USD	USD	USD	USD	USD	USD										
1100	Staff & Intern Consultants	24,963.91	10,048.50	21,491.23	31,539.73	91,934.48	91,934.48	98,490.30	(6,555.82)	0.00										
1500	Local travel	0.02	(1,388.46)	1,384.81	(3.65)	20,861.62	20,861.62	20,857.95	3.67	0.00										
1700	Nat.Consult./Staff	20,000.00	0.00	2,450.65	2,450.65	32,770.64	32,770.64	5,221.29	27,549.35	0.00										
2100	Contractual Services	152,001.38	6,211.00	0.00	6,211.00	367,734.31	367,734.31	221,943.93	145,790.38	0.00										
3000	Train/Fellowship/Study	15,066.06	0.00	0.00	0.00	29,273.32	29,273.32	2,574.68	26,698.64	0.00										
3500	International Meetings	0.00	0.00	0.00	0.00	29,579.97	29,579.97	29,579.97	0.00	0.00										
5100	Other Direct Costs	25,007.99	1,303.98	846.24	2,150.22	40,552.03	40,552.03	4,710.81	35,841.22	0.00										
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36,420.95										
120094-1-01-03	Total	237,059.36	16,175.02	26,172.93	42,347.95	612,706.37	612,706.37	383,378.93	229,327.44	36,420.95										
120094-1-51-01	Management and Monitoring	USD	USD	USD	USD	USD	USD	USD	USD	USD										
1100	Staff & Intern Consultants	0.00	0.00	0.00	0.00	99,107.83	99,107.83	99,107.83	0.00	0.00										
1500	Local travel	0.00	0.00	0.00	0.00	11,451.96	11,451.96	11,451.96	0.00	0.00										
1700	Nat.Consult./Staff	13,606.83	4,343.54	5,971.78	10,315.32	30,190.16	30,190.16	26,898.65	3,291.51	0.00										
2100	Contractual Services	0.00	0.00	0.00	0.00	539.26	539.26	539.26	0.00	0.00										
4500	Equipment	0.00	0.00	0.00	0.00	4,763.00	4,763.00	4,763.00	0.00	0.00										
5100	Other Direct Costs	(283.00)	(490.26)	465.21	(25.05)	18,577.47	18,577.47	18,835.42	(257.95)	0.00										
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15,351.73										
120094-1-51-01	Total	13,323.83	3,853.28	6,436.99	10,290.27	164,629.68	164,629.68	161,596.12	3,033.56	15,351.73										
120094-1-53-01	Mid-Term and Final Evaluations	USD	USD	USD	USD	USD	USD	USD	USD	USD										
1100	Staff & Intern Consultants	20,000.00	2,356.00	7,144.74	9,500.74	40,000.00	40,000.00	9,500.74	30,499.26	0.00										
1500	Local travel	5,000.00	0.00	0.00	0.00	10,000.00	10,000.00	0.00	10,000.00	0.00										
1700	Nat.Consult./Staff	0.00	339.61	1,097.69	1,437.30	0.00	0.00	1,437.30	(1,437.30)	0.00										
5100	Other Direct Costs	0.00	0.00	1.15	1.15	0.00	0.00	1.15	(1.15)	0.00										
9300	Support Cost IDC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1,039.21										
120094-1-53-01	Total	25,000.00	2,695.61	8,243.58	10,939.19	50,000.00	50,000.00	10,939.19	39,060.81	1,039.21										
200003144	Total	1,384,361.40	54,774.15	157,545.28	212,319.43	2,855,000.00	2,855,000.00	1,297,374.46	1,557,625.54	123,250.50										

Below attached the Financial Document in Pdf:



5317_Financial2019

VII Work Plan and Budget

VII.1 Please provide **an updated project work plan and budget** for the remaining duration of the project, as per last approved project extension. Please expand/modify the table as needed.

Outputs by Project Component	Year 1				Year 2				Year 3				GEF Grant Budget Available (US\$)
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Component 1 – POLICY AND REGULATORY FRAMEWORK STRENGTHENED													
Outcome 1: National Low-Carbon Energy Development Plan developed and tailored initiatives to support SHP in place													
Output 1.1: Policy framework on RE for productive use reviewed and recommendations to streamline policies/incentive schemes towards a greater use of rural-based SHP proposed				X	X	X	X	X					\$ 53 000,00
Output 1.2: Standardised reference emission levels established													\$ -
Component 2 – PRIVATE LED SHP TECHNOLOGY DEMONSTRATION													
Outcome 2: Construction of SHP based mini-grids for productive use and income generation													
Output 2.1: Target SHP projects fully prepared for development and co-financing secured			X	X									\$ 38 000,00
Output 2.2: SHP capacity of 2 MW on preselected sites realized				X	X	X	X	X	X	X	X	X	\$ 1 195 715,00
Component 3 – REPLICATION IN PLACE TARGETED CAPACITY STRENGTHENING CARRIED OUT AND KNOWLEDGE MANAGEMENT IN PLACE													
Outcome 3: Appropriate financial measures to create conditions for SHP project replication developed and operational. Capacity of project developers on technical, productive use aspects and financial viability of SHP enhanced and local capacity to manufacture SHP equipment strengthened													
Output 3.1: A mechanism to facilitate sustained securing of finance set up through development of appropriate business models between public entities and private & financial sectors developed			X	X	X	X							\$ 134 705,00
Output 3.2: Capacities of major actors from private, government, and finance and target SME sectors strengthened in the specifics of SHP through tailored training(s) and knowledge management				X	X	X	X	X	X	X			\$ 136 236,00
Output 3.3: A Nationally Appropriate Mitigation Action (NAMA) for the SHP sector developed													\$ -

VIII Synergies

VIII.1 **Synergies** achieved:

The UNIDO/GEF project had been strongly working to rise synergies with other energy/rural electrification projects in Madagascar.

First with the **German Cooperation (GIZ and KfW)**. UNIDO GEF has secured 14.000.000 EUR of cofinancing from KfW for the realization of 2 SHPs in SAVA region for a cumulated capacity installed of 10 MW. Strong and efficient collaboration had been settled.

In addition, collaboration with GIZ and more especially PERER project with regards to technical assistance to national counterparts to support rural electrification and renewable energy in general. A in-kind cofinancing letter of 20.000.000 EUR had been provided by PERER project from GIZ to UNIDO/GEF project to witness this effective collaboration. Among many activities GIZ and UNIDO/GEF project had been working closely on:

- Settled a Public/private platform about rural electrification and renewable energy together with European Union and led by Ministry of Energy;
- Participated to the revision of national electricity code in favor of renewable energy and particularly SHP;
- Revised the National Electricity Fund (National Financial mechanism for financing rural electrification);
- Backstop the ADER (Rural Electrification Agency under Ministry in charge of Energy) to improve planning and strategy;

Secondly with the **European Union** through European Development Fund available for Madagascar and Infrastructure branch. Synergies with regards to quality test for pre stressed electrical concrete poles. The poles analysed by UNIDO/GEF had been installed through a UE SHP project.

Finally with **USAID, GIZ, European Union** with regards to university technical trainings for students. UNIOD/GEF took the lead to initiate trainings and partners followed.

Regular cooperation meetings with all financial and technical partners are organized to discuss about synergies between different ongoing projects which aim at promoting renewable energy in Madagascar.