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Annual Project Progress Report for FY 2022

AWP Programme/Project Progress Report

UNSDCF Pillar: Pillar 6 Building a Climate Resilient Economy

UNSDCF Outcome: Outcome 4 All people in Ethiopia live in a society resilient to environmental risks and adapted to climate change.

Expected Project Output(s):

Output 1.1: Key partners identified, and demonstration sties selected
Output 1.2: Capacity built through demonstration projects
Output 2.1: Tailored mentorship/traineeship program for exchange with China developed and participants trained
Output 2.2: Energy stakeholders in China and Ethiopia are exposed to best business practices in the RE industry
Output 3: Project management

Programme/Project:	Biogas, Biomass and Solar Trilateral Cooperation (Transitioning to Sustainable Energy Uses in the Agro-Industry Sri-Lanka-China-Ethiopia)
Reporting Period [EFY]:	January- December 2022
Implementing Partner:	Ministry of Water and Energy (MoWE)
Responsible Parties:	China Agriculture University (CAU), Ministry of Science and Technology of China- Administrative Centre for China's Agenda 21 (ACCA21)
UN Agency:	UNDP (Ethiopia and China Country Offices)

Expected Project Outputs	Planned Activities	Output Indicators and Annual Targets	Annually results achieved Per Target/Indicator	Target Met[4]	Expenditure reported[5]
Output 1.2 Capacity built through demonstration projects	**Activity 1.2.1** Site planning and construction				
	Action 1.2.1.3. Prepare specification of equipment	2 technical documents for addressing electricity needs, initial RET systems design, specifications, scope of works for bidders, and cost analysis and estimation	2 technical documents developed for addressing electricity needs, initial RET systems design, specifications, scope of works for bidders, and cost analysis and estimation	2	USD 18,750
	Action 1.2.1.4. Submission of procurement request and conduct procurement of different types and number of equipment required for the systems construction and installation	2 procurement notices for solar PV and biogas technologies prepared and submitted	2 procurement notices for solar PV and biogas technologies prepared and submitted	2	USD 277,248
		Procurement for solar and biogas equipment required for the systems construction and installation concluded	The procurement for biogas equipment concluded and the procurement for solar panels is in process and the evaluation result is waiting for approval	1	
	Activity 1.2.2: Develop the CN-ET Joint and Research and Extension Centre (JREC)				
	Action 1.2.2.1. This JREC will be established in one of the selected universities	1 public institution for JREC establishment selected	The Wolaita Sodo University (WSU) was selected and in the process of establishing the JREC.	**1**	**In-kind support**
		1 signed MOU between MoWE, CAU and University of Wolaita, facilitated by ET CO	The MOU is in process of signature between MoWE, CAU and University of Wolaita		
	Action 1.2.2.2. JREC management design: Charter; Director, Board of Trustees, Academic Board; Staff and researchers assigned to the Center by the university; Mission, goals, and objectives; etc.	1 JREC management design	Concept Note was finalized with management design	**1**	
	Action 1.2.2.3. Detail design of JREC: list of requirements and conditions; list of existing facilities; list of facilities for procurement	1 detail design of JREC	Detailed plan for JREC was developed with detail design of JREC and is under review	**1**	
Output 2.1. Tailored mentorship/traineeship program for exchange with China developed & participants trained	**Activity 2.1 Training of trainers in installation, operation & maintenance, and system design in Ethiopia**				
	Action 2.1.3. Conduct training of trainers on installation, operation & maintenance, and system design	1 training of trainers on installation, operation & maintenance, and system design organized	The training of trainers on installation, operation & maintenance, and system design organized	1	USD 25,538.4
		1 training modules of trainer on installation,	The training modules of trainer on installation, operation & maintenance, and system	**1**	

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		operation & maintenance, and system design developed and widely circulated	design developed and widely circulated at the country and region levels (Addis Ababa City and Amhara, Benishangul-Gumuz, Gambella, Harari, Oromia, Sidama, SNNP regions)		
Output 2.2 Energy stakeholders in China and Ethiopia are exposed to best business practices in the RE industry	**Action 2.2.2.1 Finalize three reports on**: 1. Technology assessment of RETs for productive uses; 2. ET medium and long-term renewable energy supply and demand development plan; 3. ET energy price and tariff modelling research.	1 report produced	1 assessment report delivered targeting at (1) Ethiopia energy price and tariff modeling research, (2) technology assessment of RETs for productive uses and (3) Ethiopia medium and long-term renewable energy supply and demand development plan	1	USD 30,000
	Activity 2.2.3: Coordinate business match-making platform for energy service providers				
	Action 2.2.3.2. Conduct private energy service providers mapping in China (biogas and solar)	1 Bilingual (Chinese and English) private energy service providers mapping in China (biogas, biomass and solar)	Bilingual (Chinese and English) private energy service providers mapping in China (biogas, biomass and solar) competed	1	USD 5,000
	Action 2.2.3.3. Online Catalogue of suppliers/appliances	1 Online catalogues of transferrable renewable energy technologies from China	The bilingual online RET catalogue was finalized, and the website is in process of proofreading and design accommodating UNDP's feedback.	1	USD 5,000
		1 Online training courses for capacity building of local stakeholders	A three-day online Capacity Building Workshop on South-South Cooperation in Renewable Energy Technology Transfer, Sustainable Development and Carbon Neutrality was held from November 23-25, 2022	1	
	Activity 2.2.4 Joint Research Projects				
	Action 2.2.4.1. Research Agenda on mainstreaming biogas and solar potential for a transition to sustainable energy and explore the research needs in ET and define research agenda on biogas and solar panel.	1 research agenda	The Research Agenda on mainstreaming biogas and solar potential for a transition to sustainable energy and explore the research needs in ET developed	1	USD 9,000
		Capacity workshops for enhancing the capacity on RETT and collect the data for research needs in Ethiopia	2 workshops organized in 2022 (1) The 2022 Forum on Renewable Energy Promotion in Developing Countries (2022 FREPDC) organized on September 22-25, 2022 (2) International Symposium on Agricultural and Rural	2	

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			Carbon Neutralization-Contribution of Biogas Project (2022 Great Cycle) organized on September 27-30, 2022		
Project Management	Establish coordination mechanisms and communication platform	Organize coordination and technical meeting through deferent communication channels	10 regular monthly meetings at working level formalized and consolidated	10	
			Communication channels, including emails, calls, face-to-face meetings, Zoom and Tencent Meetings formalized among parties with increased frequencies as to ensure effective and efficient communication		
	Communication equipment		The project demonstrated in a series of public speeches as well as communication products Special coverages posted on UNDP China and UNCT in China official WeChat accounts as well as MOST website, MOST-ACCA21 website and MOST official WeChat accounts	2	
	M&E and Audits		1 donor report reflecting the project progress developed and submitted	1	

PROJECT BACKGROUND

The Project establishes a mechanism for trilateral and South-South Cooperation to address sustainable development challenges related to international cooperation, access to energy for improved service delivery and sustainable integrated farming practices. The Project takes a point of departure in the need for renewable energy technology dissemination and scale-up for Ethiopia climate resilient growth and supports access to energy and sustainable resources consumption through trial and demonstration of biogas and solar energy for productive uses. The Project is implemented under a South-South Cooperation framework and as such presents itself as a learning platform for both China and Ethiopia to engage and cooperate at the international level in renewable energy technology and skills transfer.

The project's interventions include: (1) developing capacity of stakeholders in the energy sector to assess the potential of RET in meeting energy needs in productive sectors such as public service delivery and the agro-industry; (2) sharing Chinese knowledge and experience in biogas and solar energy for productive uses; (3) determining suitable business models through South-South knowledge and experience sharing platforms; (4) providing support to Chinese institutions on carrying relevant capacity development in South partner countries.

DESCRIPTION OF RESULTS

OUTCOME 1 Capacity for RET transfer built through demonstration of biogas and solar for productive uses

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In the reporting period, it has been planned to establish a hub of technical expertise on renewable energy technology transfer with an initial focus on solar and biogas energy technologies to assist MoWE and UNDP with technical aspects of the project. Based on the plan, a Joint Technical Committee (JTC) has been established, including a mixed team of Chinese and Ethiopian experts as JTC members from MoWIE, UNDP, CAU and ACCA21, who will jointly select demonstration sites, compile technical specifications for procurement, conduct feasibility studies, training, and knowledge sharing, etc.

The project has planned to identify the potential institutions/ demonstration sites of biogas and solar for productive use. After consultation with relevant stakeholders, the Expression of Interest (EOI) call document, with selection/ screening criteria, the outline of roles, responsibilities, and expectations from interested institutions, has been developed, and in support of MoWIE, the call for EOIs to the public institutions has been conducted in Ethiopia through sending out the official letter to regional energy bureaus. Following the call, 17 application documents or EOIs collected from 5 regions (Oromia, Benisnaguel-Gumuz, Harari, SNNP Gambella, and Amhara) for online evaluations. Following the collection of application documents, a long list of potential institutions/sites has been selected after EOI documents evaluation and fieldwork verification by Joint Technical Committee, in which 7 out of 17 seats were selected. Following that, a shortlist of applicants, including 6 demonstration sites with 7 renewable energy systems (3 biogas and 4 solar PV), have been endorsed by Project Steering Committee provided that the available project budget is sufficient to cover all the six sites. Based on the budget constraints, advised by the technical steering committee, the project will implement 5 pilot projects which include 1 biogas, and 4 solar demonstrations.

With the objective of determining when and where renewables are appropriate options, and how does one select between technologies to meet the project objectives, the project has planned to conduct energy needs assessment studies together with key partners, based on the short list of demonstration sites endorsed. The site visit of the feasibility study for selected demonstration sites was conducted in Amhara, Harari, Oromia, and SNNP regions. Two Feasibility Study Reports for Biogas and Solar PV Pilot Demonstration Projects were completed separately in addressing electricity needs, initial RET systems design, and cost analysis and estimation, etc.

The Invitation to Bid (ITB) documents (including the schedule of requirements and technical specifications/bill of quantities, etc.) for the design, supply, and installation of solar PV and biogas systems and appliances for selected demonstration sites in Ethiopia were produced separately. Two procurement notices for solar PV and biogas technologies were released. The procurement for 1 biogas project was completed following UNDP's corporate bidding process on qualification, technical and price evaluation, and the awarded bidder has been contracted and started the implementation of the project. The first-round procurement for solar demonstration projects failed. Based on the lessons learned and experience from the first round, project and procurement teams together with technical experts revisited the bidding documents and initiated the second invitation to bid. Now the bidding evaluation has been completed and submitted for RACP for approval.

1 Joint Research Extension Centre (JREC) is under preparation. The Wolaita Sodo University (WSU) was actively engaged in the process of establishing the JREC. In close collaboration of MOWE, CAU and WSU, the PMU identified RET demonstrations (one biogas and one solar PV demonstrations) to be installed at the selected JREC site for research, technology demonstration and application purposes. The MOU of the JREC to be established among MoWE, CAU, and Wolaita Sodo University finalized and is under signature. The concept note and detailed plan for the Joint Research was produced, and the joint research team comprising the experts from CAU, MOWE, and WSU was established to develop the research agenda document (incl. the research topics/areas identified, mapping of resources and opportunities, strategic plan/action plan to implement the long-term research agenda, etc.) during the project implementation. The Joint Research Plan will be implemented after the closure of the project under the JREC.

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OUTCOME 2 South-South Knowledge and Experience Exchanged

In the reporting period, it was planned to develop reports targeting technology assessment of RETs for productive uses; ET medium and long-term renewable energy supply and demand development plan; ET energy price, and tariff modeling research. The open tendering process has been completed to hire the consultancy to conduct business practices in the renewable energy industry for stakeholders in China and Ethiopia. Following that, the final assessment report was done for renewable energy transfer in terms of 1) technology assessment of RETs for productive uses; 2) business models for long-term viability; 3) investment plan in Ethiopia.

As per the local needs, bilingual (Chinese and English) private energy service providers mapping in China (biogas, biomass and solar), online catalogues of transferrable renewable energy technologies from China and online training courses for capacity building of local stakeholders developed which can be accessed through the link http://ttssc.ustb.edu.cn/ All the training modules, presentations, and workshop videos of the project will be uploaded on the website for wider dissemination, exchange and learning.

The four-day capacity building training on 'RET System Design, Installation, Operation, and Maintenance' was hosted by UNDP in partnership with MOWE, CAU, and ACCA21. Around 50 government officials and experts at the country and region levels (Addis Ababa City and Amhara, Benishangul-Gumuz, Gambella, Harari, Oromia, Sidama, SNNP regions) were provided practical knowledge and skills on renewable energy systems design, installation, operation, and maintenance. Capacities of local government officials and officers were enhanced, which is expected to facilitate the construction of the upcoming solar PV and biogas pilot demonstration projects. The training modules of RET System Design, Installation, Operation, and Maintenance for training has been developed for the project implementation and widely circulated to the central government and regional energy bureaus in Ethiopia.

Following that, 2022 Forum on Renewable Energy Promotion in Developing Countries and 2022 Great Cycle - International Symposium on Agricultural and Rural Carbon Neutralization-Contribution of Biogas Project were successfully organized in September, 2022. Around 50 government officials and experts at the country and region levels (Addis Ababa City and Amhara, Benishangul-Gumuz, Gambella, Harari, Oromia, Sidama, SNNP regions) were trained to build capacity for Carbon Neutralization and RETT. The presentations and videos have been uploaded on the above website for wider dissemination and learning.

In the reporting period, a three-day online Capacity Building Workshop on South-South Cooperation in Renewable Energy Technology Transfer, Sustainable Development and Carbon Neutrality was successfully held in November, 2022. More than 40 participants from UNDP, MoWE, SLSEA, MOST-ACCA21, Fudan University and CAU attended the workshop. The workshop provided participants with practical knowledge and experiences with a focus on circular economy for carbon neutrality, energy process integration towards carbon neutrality, low carbon development and sustainable transition in Africa, and green finance and enterprise ESG; as well as facilitated knowledge exchange on new trends and innovative approach of South-South Cooperation in renewable energy technology transfer. The presentations and videos have been uploaded on the above website for wider dissemination and learning.

Through the above SSTC Skill-Building capacity workshops and developed training modules, presentations and videos, there are around 3,111 people (including direct and indirect figure) (565 female/2,546 male) who benefited from services standardized methodologies and skills for Energy Needs Assessment, RET System Design, Installation, Operation, and Maintenance, as well as practical knowledge and experiences with a focus on circular economy for carbon neutrality, energy process integration towards carbon neutrality, low carbon development and sustainable transition in Africa, and green finance and enterprise ESG; as well as facilitated knowledge exchange on new trends and innovative approach of South-South Cooperation in renewable energy technology

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transfer.

In terms of communication and advocacy, the Project was selected as one of the feature solutions in the publication named “Good Practices in South-South and Triangular Cooperation: Scaling up Made-in-Africa Solutions” in commemoration of South-South Cooperation Day in 2021; the project was selected as one of the global good practices for the publication on “Good Practices in South-South and Triangular Cooperation in LDCs: From the Istanbul Programme of Action to Achieving Sustainable and Resilient Development” and was mentioned by the UNDP’s Administrator Mr. Achim Steiner at the high-level launching event in March 2022.

OUTPUT 3 Project Management

In order to facilitate a high degree of partnership and ownership among partners and ensure delivery, accountability, and sustainability of the project, High-level Strategic Steering Committee meetings (annually), National South-South Project Steering Committee (NSSPSC) meetings in Ethiopia (quarterly), Executive Office (ExO) meetings in China (quarterly), and ad hoc coordination/ monthly technical meetings have been agreed by all parties and organized as planned. Based on that, 1 NSSPSC meeting, 2 ExO meetings, and 10 monthly meetings have been convened in the reporting period. Besides, in Ethiopia PMU, a UNDP Junior Programme Officer and 2 local experts appointed by MOWIE are in place, and in UNDP China, a project assistant is in place. In addition, ACCA21 and CAU have also established respective technical teams in charge of project implementation and coordination.

BUDGET UTILIZATION

The project allocated a total of USD 638,949 (donor and trac source) for the fiscal year 2022 and a total of USD 306,528 has been utilized within the reporting period.

IMPLEMENTATION CHALLENGES AND REMEDIAL ACTIONS TAKEN AND LESSONS LEARNED

1. Challenges and Measures Taken

Key examined outstanding challenges and issues, and corrective approach and measures

- UNDP together with the implementing partner (MoWE) and other stakeholders have examined and identified the outstanding issues of the procurement under this Project. The global and national uncertainty due to the COVID-19 constraints, conflict in the Tigray, highly volatile exchange rates, discouraged suppliers from taking part in procurement; and dramatically increased the price of equipment and shipment, leading to the procurement taking beyond a reasonable time, which created a considerable delay in project implementation.
- Through the joint efforts made by the Project Team, Procurement Unit and other stakeholders, both procurement cases are on track, and is at full swing of implementation, after all preparation works, difficult communications and negotiations with donor, UNDP China, HQ and regional offices.
  - The biogas procurement has been completed, and the awarded bidder has contracted for project implementation.
  - The solar case has got a green light on the open bidding methodology and the advertisement has been completed, and the evaluation has been completed and submitted for RACP approval.
- Project duration has been postponed. The Project has got approval to extend for additional six months until June 30 2023 for both Ethiopia and Sri Lanka projects, due to the constrains of the COVID-19 pandemic, risks and uncertainties concerning procurements, international shipping, and on-site construction.

2. Issues that require consideration

Underway of exploring a new international development cooperation modality. Under the South-South and Trilateral Cooperation

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Framework, the project is piloting an innovative trilateral cooperation modality through co-financing, joint design and joint implementation on both management and technical level – involving both UNDP (an international organization/UN agency) and 3 southern countries (China, Ethiopia, and Sri Lanka). During the project design, project plans were thoroughly discussed with the focus placed on the clarification of roles and responsibilities of parties being involved. During the project implementation, with diverse communication tools deployed, a multi-layer coordination and management mechanism – involving UNDP, governments, experts, and local counterparts – was established, to ensure the party in charge is accountable for quality deliverables and to streamline efficient communications on both horizontal and vertical levels.

Strengthened South-South partnerships. Through strengthened cross-country management and communication mechanisms, the project aims to ensuring local ownership and buy-in and facilitating technology transfer and mutual learning between China and Southern countries under the 2030 Agenda for Sustainable Development. Serving as neutral platform and partnership convener and adhering to international best practices and development cooperation norms, UNDP together with counterparts from China, Ethiopia and Sri Lanka is exploring a new pathway to further optimize joint development results in a more demand-driven, predictable, and transparent manner.

3. Project sustainability strategy implementation

The project being implemented following a National Implementation Modality, the interventions which are executed will directly involve experts from the government institutions, and all relevant stakeholders from UNDP, Ethiopia and China are highly engaged in the process of implementation. This coupled with the selected beneficiaries of the project (public institutions) to demonstrate the multiple benefits of the interventions will potentially attract more private entities to get access to the system and install a PV and/or construct a biogas system (s) making the interventions acceptable and sustainable. Moreover, the knowledge and skill that will be acquired through the implementation of those interventions will create an additional personnel capacity to easily get timely maintenance services to the system (s), enable to further expand the use of those systems across the country, and will bring a positive social, environmental, and economic impacts. Taking this into consideration, the Joint Research and Extension Center has been planned in the next AWP, which will serve as a hub for bringing together relevant stakeholders to address whatever issues arising in the widespread dissemination of those technologies in the country.

Recommended Actions/ improvements/ revisions for FY 2021 AWP including justification	**Time Frame**	**Responsible body**
Put in place possible alternative ways to implement project activities considering the COVID19 situation in consultation with the counterparts	January – December 2022	PMU

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Date: January, 2022 Date: January, 2022