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### ANNUAL PROJECT REPORT "CHARCOAL PROJECT" (YEAR 2020)

**Project ID and Title:** 00092469 – Promotion of Sustainable Charcoal in Angola through a Value Chain Approach

Award ID: 00084488

Period: 2016-2022

Total Project Budget: USD 4,620,000

2020 Annual Work Plan Budget: USD 961,500 (GEF)

Implementation Modality: NIM

**Implementing Partner:** Ministério de Cultura, Turismo e Ambiente (MCTA); Direcção Nacional de Ambiente e Acção Climática (DNAAC), (IP: 001354), former MINAMB

**National Priority or Goal:** Government of Angola PDN 2018-2022: AXIS-2) Sustainable, Diversified and Inclusive Economic Development. Policy 11) Environmental Sustainability. Climate Change Program; Objective-1 Promote the adoption of a low carbon economic growth model; Goal 1.1: of nine (9) projects are covered by the National Strategy for Climate Change 2020-2035; Goal 1.2: of two (2) sectors covered by the National GHG Emissions Plan; Goal 1.3: of at least 25,850 trees are planted; and Goal 1.4: 200 thousand citizens of renewable energy are benefited

**UNPAF Outcome involving UNDP:** Outcome-3) By 2022, the vulnerable population is resilient to climate change and disaster risk, with sustainable and inclusive production, planning and management of the territory, cities, natural resources and the environment.. **Expected UNDP Country Programme 2020-2022 Output:** 

<u>Output 2.1</u>. Government institutions and local communities have enhanced technical capacity to implement low-carbon development pathways and promote renewable energy access. <u>Indicator 2.1.1</u>. Existence of targets for low emission and/or climate-resilient development in development plans and strategies. (Baseline: No; Target: Yes)

<u>Output 2.2.</u> Solutions scaled up for sustainable management of natural resources, including sustainable commodities and green and inclusive value chains. <u>Indicator 2.2.2</u>. Number of renewable energy supply chains improved, with involvement of national institutions. (Baseline: 0; Target: 2)

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#### I. Executive summary

The charcoal project was on track in 2019, however in 2020 has suffered some delay in implementation of activities mainly due to the Covid pandemic and the government restructuration process that is ongoing since the end of Q1. However, beside that extraordinary circumstances, some progress has been done by the project partners during this reporting year. The national prototype of IKO efficient cooking stoves was developed and it is now being produced by the Don Bosco and ADPP in their professional's schools around Luanda and Huambo. UCO has also designed a device adjusted to local conditions to produce Briquettes in rural areas with charcoal waste and other organic waste. 125 youth were trained in the production of the IKO stove. The join work of the project team and the IDF technicians from Luanda has resulted in the completion of the TOR for the White Book and Sustainable Charcoal Policy/Strategy. In addition the baseline study of GHG emission from forestry, land use change and charcoal production was completed and the revision of the NDC 2020-2030 has made also some progress.

Training of rural forest communities and IDF officers has been done with support of the consortium of universities UCO-UJES, ADPP and COSPE, in several fields: for instance, sustainable forest management practices, forest fires control and surveillance, reforestation and community-based sustainable forest management plans, promotion of NTFP such as mushroom, fruits trees and the promotion of alternatives ways of income generated activities.

Initial contacts were also done with INAMPEN and INEFOP to establish strategic partnership that support the development of Incubators around the value chain of sustainable charcoal production. Partnerships between the project management unit (UNDP/DNACC) and the field implementing partners (Consortium of universities of Cordoba and Huambo, Don Bosco, ADPP and COSPE) are strong, through regular communication and update meetings. Another crucial partnership is the one between UNDP/DNAAC and IDF as the national charcoal strategy cannot be developed without the institution, part of the Ministry of Agriculture and Fisheries, leading it.

During this reporting year some staff changes has taken place at the UNDP GEF support unit, and only one virtual project steering committee was conducted in middle of December. Financial delivery has been only 42% of the annual budget initially planned therefore, in 2021 the project required acceleration of implementation to be able of completing the execution of the project activities in the remaining 2 years timeframe.

#### II. Background

The Project aims to introduce energy-efficient charcoal technologies in Angola and trigger market demand for certified, sustainable charcoal. Through selected responsible partners, energyefficient charcoal kilns, briquetting machines and efficient stoves will be transferred to rural and peri-urban beneficiaries, thereby adding value along the chain while creating opportunities for income and job creation. Environmental benefits are attained by mitigation of baseline greenhouse gas emissions, reduction of local pollution, and saving of forest-based biomass resources. The Project will deliver key elements for building and financing a sustainable charcoal sector, including a policy white paper and sustainability criteria and verification mechanisms. The Project will further build relevant human resources at all levels for implementing and sustaining low-emission development strategies in Angola, with a focus on charcoal and rural biomass utilization, including sustainable forest management.

### III. Progress Review

In October 2019, the mid-term review of the project was conducted in order to analyse whether the project is on-track, what problems or challenges it is encountering, and what corrective actions are required. The overall rating is Moderately Satisfactory. The project has been rated as relevant and moderately efficient and sustainable. At mid-term, effectiveness has been limited in terms of planned achievement, however it can be rated as moderately satisfactory if likelihood of achieving end-of-project targets by the end of the project is considered.

In regards to the Country Programme Document, the aspect of building resilience to shocks and crises focusing on the environment and the management of natural resources is specifically emphasized and specified when considering climate change mitigation which is the main focus of the charcoal project.

Gender balance plays a crucial role in the activities implemented in the project. Since the beginning of the project it has been an objective of the project to increase women's participation in the activities. Consequently, it is important to note that in 2019 the project's gender marker rating in ATLAS has been adjusted from being GEN1 to GEN2 "gender equality as significant objective".

Below is a brief description of the activities that took place in 2020 for each outcome of the project:

# Outcome 1: Information and strengthening of the policy framework for sustainable charcoal

<u>Output 1.1.</u> Baseline information updated and completed covering energy, forestry, economic, environmental, social, and gender aspects of the charcoal value chain

<u>Output 1.2.</u> Inter-institutional coordination enhanced to strengthen governance of charcoal sector <u>Output 1.3.</u> Preparation and endorsement of a national white paper on sustainable charcoal production <u>Output 1.4.</u> Design of a certification scheme for sustainable charcoal including a mechanism for monitoring, reporting and verification (MRV) of charcoal production, distribution and commercialization <u>Output 1.5.</u> Incorporation of certified, sustainable charcoal and fuel-efficient stoves into national poverty reduction and rural development programs under application of MRV mechanism

<u>Output 1.6.</u> National conference and field visits implemented for key stakeholders to discuss and disseminate results and prospects for sustainable charcoal in Angola and region

This component focuses on the policy framework to support a sustainable charcoal value chain in Angola. This year, the TOR for the White paper and the TOR for the National Policy/Strategy on Sustainable Charcoal were finalized with the great support and participation of the IDF, however the procurement process couldn't ne launched due to the government restructuring process. In addition, a GOG emission calculated training was supported at the beginning of 2020 to improve the GHG national inventory (in 2020 the 2° national GHG inventory has been completed). Furthermore, the government ratified the Paris Agreement in 2020 and the charcoal project has been supporting also the revision of the NDCs document to submit in 2021 to UNFCCC. Finally, the University of Cordoba completed in July the Base Line Study on GHG emissions related to forestry, land use change and charcoal production in Angola. The results of the study related to Co2 emissions by ecoregions in Ton of CO2 are the following:

Ecorregiões	Emissões de CO2 (t CO2)
Angolan montane forest-grassland	18.785.685,28
Angolan mopane woodlands	7.727.583,69
Angolan scarp savanna and woodlands	274.639.647,88
Angolan wet miombo woodlands	200.585.652,99
Central African mangroves	2.571.022,69
Central Zambezian wet miombo woodlands	1.926.525,45
Congolian coastal forests	22.475.618,58
Dry miombo woodlands	3.384.998,05
Kaokoveld desert	281,53
Namibian savanna woodlands	3.546.120,11
Southern Congolian forest-savanna	3.716.222,51
Western Congolian forest-savanna	200.901.282,86
Zambezian Baikiaea woodlands	14.256.987,07
Zambezian evergreen dry forests	206.664,01
Zambezian flooded grasslands	581.750,85
Emissions of CO <sub>2</sub> by Ecoregions from	TOTAL= 755.306.043,54 t CO2
reference period (2000-2015)	AVERAGE= 50.353.736,24 t CO2
The estimated future emissions for period	TOTAL= 694.120.000,00 t CO2
2020-2030 with BAU scenario	AVERAGE= 69.412.000,00 t CO2

## Outcome 2: Transfer of sustainable charcoal technology to agents along the charcoal value chain

<u>Output 2.1.</u> Demonstration and introduction of improved charcoal kilns among selected rural communities in the Huambo-Luanda corridor

<u>Output 2.2.</u> Demonstration and introduction of energy-efficient technologies (briquetting and efficient stoves) in selected peri-urban municipalities of Luanda

<u>Output 2.3.</u> Integration of improved charcoal production technology in sustainable forest management and rural development initiatives in communities in the Huambo-Luanda corridor

<u>Output 2.4.</u> Targeted technical assistance and equipment to support charcoal pilots and enhance facilities of project partners

<u>Output 2.5.</u> Detailed documentation and systematization of project experiences, and generation of recommendations for policy development, and design of financing production and business models

<u>Output 2.6.</u> Introduction of energy-efficient charcoal kilns in selected rural communities, and of briquetting technology in selected peri-urban areas, on a cost-sharing basis

<u>Output 2.7.</u> Dissemination of certified charcoal and energy-efficient charcoal stoves among low-income households through government poverty reduction and/or market development programs

The adoption of more efficient charcoal production technology by communities supported by the project is well advanced, though the capacity building of communities in sustainable forest management and efficient charcoal production. The NGO COSPE during this period have sensitized and empowered 2167 people from rural communities of São Cirilo (264), Ganda Oliveira (300) and Ndala Jamba (1603), Comuna da Sanga, Municipality of Cela (Cuanza Sul) in the use sustainable use of forest biomass and the use of more efficient technologies for charcoal production for long years without creating greater damage to the forest. 2 Community-based Forest management committees were created (1 in Ganda Oliveira & 1 in São Cirilo). Several community meetings were held during 2020 to define indicators of the community forest management plans, including their reforestation plans. From May to July, 192 forest tree plans of (species of sunflower, ngueia, umbi, nguagualunda) were planted and 50% of them managed to grow successfully. In May, fire guards were prepared to protect the areas where tree stakes were placed. In each of the three communities were constructed forest and fruit tree nurseries in order to produce 3000 plants that will benefit a total of 1000 families. Between August and October 2020, a total of 2,790 fruit tree plants were grown in the nurseries, and were distributed in the beneficiary villages as follows: for Ganda Oliveira: 400 avocado plants, 1600 lemon plants, 130 passion fruit plants and 150 papaya plants, a total of 2,280 plants; for 2. São Cirilo: 300 passion fruit plants and 1150 papaya plants, in total, 1450 plants; for Ndala Jamba: 300 lemon plants; 150 passion fruit plants and 60 papaya plants in total 510. In June a "training on participatory inspection of the forest and suppression of uncontrolled fire" was conducted by the local IDF technicians covering nine (9) villages. In august, with the support of IDF it was disclosed the forest monitoring plan and fires among 10 local leaders of neighbouring communities (Kitangueleca, Ganda Oliveira, São Cirilo, Vila Gaia e Lusitana). In the community of Ganda Oliveira 2 improved kilns were constructed and training related to them was given to charcoal producers in the community.

The consortium of universities UCO-UJES with the Professional School of Dom Bosco, and ADPP have been developing activities for the promotion of efficient charcoal stoves and utilization of charcoal waste through briquetting. During the month of February 2020 project staff of the consortium, conducted different tests at Don Bosco Installations with a traditional cook stove and the IKO prototype being designed to be more efficient. The results showed that the IKO model cooking stove got an improvement of 98% in high power thermal efficiency, 84% reduction of fuel consumption, and 97% reduction of indoor CO<sub>2</sub> emissions, making the new IKO prototype more healthy and environmentally friendly. To date, Don Bosco has produced170 IKO stoves (160 are the normal size and 10 are of the larger model). After earning the designation "IKO" The consortium also worked on its image and logo, so that each stove produced can bear this mark. They are proceeding to the acquisition of the inks indicated for this purpose, as they must withstand high temperatures. UCO University organised tailored capacity building trainings for Don Bosco Students and ADPP students in Luanda. In addition, they also worked in the development of briguetting from charcoal waste in combination with other organic waste. They were testing different composition of organic waste for the development of a more efficient briquette and they also were designing a compacting device adjusted to the local context (produced with wood and simplified design) that can be produced and used in rural communities around Huambo and city markets where many charcoal residues are accumulated.

Likewise, ADPP also work in in 18 main villages and 40 associated villages to empower them in the production of charcoal with improved and efficient techniques and plan how to use forest biomass in a sustainable manner. The NGO helped to create charcoal ovens or kilns related to model called "Cassamance" and "Terra Melhorada" that produce more and better quality charcoal. They support to each of the villages to produce their own community-based plan for the use of the forest biomass, identifying the tree cutting area, the area for agriculture, the area for grazing animals, and a reserved forest area for the future. They also work to support education to reduce forest fires and promote alternative income generating activities such as production of vegetables and fruits, that help to decrease charcoal production. The support the identification and training of persons within the community that are part of Environmental Activist Groups (GAA).

In 2020 ADPP with project funds began a new School Program that train students in rural areas about the importance of taking care of all kind of forests, particular native forest. During 2020 ADPP in Huambo informed 11,968 rural people on how to protect themselves against Covid-19 and built 3,109 Tippy-Tap systems for washing hands. 291 activists (47% women) remained in the 18 villages and their strong engagement has been the strength for project sustainability in harsh times of pandemic. 2/3 of charcoal production in 2020 has used sustainable techniques introduced by the project. In each villages the GAA groups promote participatory forest inventory activities. 35,000 trees were planted in the 18 project villages and some associated villages.

The component of raising awareness is crucial in the development of all the project activities in order for people to grasp the importance of switching to more sustainable charcoal production and consumption techniques. This is another aspect that will play an important role in the continuity of the project.

#### **Outcome 3: Strengthening of human capacities and institutions.**

<u>Output 3.1.</u> Technical assistance and capacity building activities for the Institute for Forestry Development (IDF) in Huambo Province

<u>Output 3.2.</u> Design and implementation of a training program and extension work on efficient charcoal production for student teachers and community workers

<u>Output 3.3.</u> Training activities conducted for relevant government staff on sustainable charcoal production, charcoal policy, financing and monitoring, verification and reporting systems

<u>Output 3.4.</u> Training activities targeting professional charcoal retailers in peri-urban markets on the establishment of sustainable charcoal supply chains, and technical assistance for briquetting micro-enterprise development.

Progress has been very substantive on capacities for sustainable charcoal production and utilization through partnerships for both community and governmental members. For instance, the <u>Consortium of Universities UCO-UJES</u> organized a training related to value chain of No-Timber Forest products (NTFP) that counted with the participation of 200 people (100 from Catchindongo & 100 from Bongo), out of which 50.5% were women. The universities also organised training program a) on biomass transformation processes and energy efficiency; b) on community-based forest surveillance, c) on creating business structures and business plans, d) applied forest management, and d) security & hygiene practices at work. In March the communities and universities started a community-based forest plantation activity. In 2020 the consortium also designed and constructed with local materials a device for conservation of wild mushrooms (dryers devices) and designed another device for the future realization of pilot charcoal production activities based on the sustainability criteria. They also created more efficient fruit dryers to conserve better forest fruits and add value. Finally, they also supported the creation of associations of non-timber forest producers and prepared an local mushroom guide document.

ADPP after participating in the training at don Bosco for the production of IKO efficient cooking stoves prototypes in Angola, has been teaching to 120 students and promoting the production of the IKO stove in the 4 Multipurpose and Professional Schools (EPP) that ADPP has in the country. In EPP Caxito, 33 students from 9<sup>th</sup> course of Energy Assistant Curse are learning and building their capacities in the artisanal production of the IKO cooking stove; in EPP Ramiros are 40 students studying the same course, in EPP Zango are 30 students of 9<sup>th</sup> course. In EPP Huambo 17 students from 8<sup>th</sup> and 9<sup>th</sup> grade of Environmental Promotor Course also build cooking stoves. In addition, the EPP Huambo also produce briquettes. Due to Covid-19 pandemic educational

activities were restricted and they faced some challenges to advance with the activity as it was initially planned. Even under pandemic circumstances ADPP students produced 192 IKO stoves, 156 IKO stoves were under preparation at the end of 2020. They trained 79 students in the artisanal production of IKO stoves and as a result count already with 47 local producers of IKO stoves. EPP trying to promote also the IKO stove, and ADPP Ramiros sold the first 10 devices. EPP Huambo collected materials to produce briquettes in the Germany Market of Huambo and initiated the first contacts with local vendors of charcoal.

In relation to strategic partnerships, initial contacts with INAPEM and INEFOP were done by the project coordinator. Some visit took place to INAPEM, Don Bosco, ADPP ramiros, etc and both, institutions show interest in collaboration and engage with the project to provide professional training in associations, cooperatives and small business incubators. A formal partnerships is expected to be established in 2021 with defined results and benefits.

#### **Outcome 4: Monitoring and evaluation**

<u>Output 4.1.</u> Design and implementation of a Monitoring and Evaluation plan, including reporting on progress indicators and targets <u>Output 4.2.</u> Implementation and reporting of Mid-term Review and Terminal Evaluation

Output 4.3. Execution of project audits

One Steering Committee meeting was held virtually in the middle of December (16/12/2020) where the three field implementers (ADPP, COSPE, and the UCO-UJES University Consortium) as well as INAPEM and INEFOP participated and provided information on the different activities they have been involved in within the project. There is the need of approving Adendas for no cost contract extensions, because of the pandemic crisis limited the implementation of some activities. At the PSC was encouraged to strengthen the partnership with similar project in Zambia implemented by FAO and was encouraged the preparation of communications materials to give more visibility to the project.

In April 2020 the UNV that was supporting the project implementation left the job and since then the project has been without a permanent international project officer. Furthermore, in the middle of December UNDP Program management specialist that was also providing support and overseen the implementation left the country. Since October, the project began to be supported free of financial charges by an international project management specialist.

Furthermore, the project team involving UNDP and MCTA/DNAAC (Former MINAMB/GABAC) has been meeting usually on a weekly basis (presential or virtual mood) and has also been meeting

several times during the year with the field implementers for the monitoring of activities, as well as exchanges between partners themselves.

During the year the project expenditure were 42% of the annual budget that was initially planned. Therefore in 2021 the project need to accelerate implementation to be able to achieve its outcomes at the end of 2022.

### IV. Project Risks and Issues

The main risks identified during the reporting period are: 1) related to the declaration of Covid-19 pandemic and associated state of emergency and travel, social gathering and academic restrictions declared in middle of March and continuing by the end of the year; 2) the new government restructuring that is still ongoing since 27 of March. With the fusion of MINAMB with Ministry of Culture and Ministry of Tourism, GABAC has been extinguished replaced by the National Directorate for Environment and Climate Action (DNAAC). During the year 3 different ministers were appointed (1 for Q1, 1 for Q2&Q3, 1 for Q4), this situation has created a lot of problems in NIM implementation modality. Therefore, paralyzing the movement of payments, signatures of contracts and advance of new activities, etc.

#### a. Updated project risks and actions

**Project Risk-1** (OPERATIONAL: Covid-19 pandemic): The covid-19 pandemic and global state of emergency with travel restrictions nationally and internationally has limited greatly progress under some project outcomes, particularly training activities for large size groups (MODERATE RISK).

<u>Actions taken</u>: on 19th March Angola closed its areal space and international borders and on 26 March declared the state of emergency until almost July, as of July we have been working under state of calamity with restrictions of movement particularly from Luanda. Since 19<sup>th</sup> March UNDP project staff has been working mainly from home, having weekly virtual meetings with government counterparts and UNEP colleagues. Once the Calamity state was declared, the team began having key presential meetings with government counterparts, following the biosecurity measures. During 2020 it was not possible to travel yet outside Luanda to the provinces, due to a sanitary belt established around the capital, therefore internal travel in Angola is not yet allowed and international borders continue closed. However, the university and NGO partners have staff located at the community level that helped to continue with activities in some degree, if incorporating biosecurity measures and build capacities of communities in preventing the pandemic spread. The project team in Luanda has taken this opportunity to advance work that

can be done from home and virtually, or among small groups of people suvh as working with IDF in the White Book TOR and the Sustainable Charcoal Strategy/Policy.

**Project Risk-2** (POLITICAL RISK: Government restructuration process): Government changes at the end of March 2020 has affected the approval of payments, approval of TOR related to new activities, etc during the second quarter of 2020 (HIGH RISK). On 27 of March the Angolan government announced a major restructuration and reduction in the number of ministries. As a result, the MINAMB has been merged with other 2 ministries (Min. of Culture and Min. of Tourism) to form the new Ministry of Culture, Tourism and Environment (MCTA) with a new Minister in charge and other changes in functional roles. During the year 3 different ministers were in place (1 for Q1, 1 for Q2&Q3, 1 for Q4), this situation has created huge problems in NIM implementation modality. This restructuration has also resulted in the extinction of the GABAC, the creation of the National Directorate for Environment and Climate Action (DNAAC) and in not having clear delegation of authority/power or responsibility within the new ministry for the approval of project activities from March to December, which is essential under a NIM implementation Modality.

<u>Actions taken</u>: The UNDP project team was and still is dealing with this situation by having close contact with the MCTA and DNAAC personnel that continue working in the Ministry, as well as, with the 2<sup>nd</sup> Minister and the Secretary of State for Environment, that during the transition period oversee the approving the most critical activities. Besides continues meeting with higher and lower-level government, there were not too much government improvements. UNDP has done all it could to try to advance implementation, however it was not successful under the NIM modality.

#### b. Updated project issues and actions

<u>Project Issue 1</u>: Not found Actions taken: <u>Project Issue 2:</u> Actions taken:

## V. Lessons Learned

During the reporting period, one good lesson learned is the importance of having adaptive capacity and flexibility to adjust to new conditions such as the pandemic, (for instance change modality of training programs and meeting to virtual modality or reduced groups to maintain some degree of project implementation). Another good lesson is the fact of creating good partnerships between international and national university to build capacities and create centers of excellence (like UCO-UJES is doing). Equally important is the fact that engaging with

with NGOS in the country to support implementation of activities in close coordination and with engagement of other government institutions. The third big lesson is the importance of working with local leader and motivated people in the community, that help to dynamize and create the enabling environment for a success execution of project activities.

Challenges include the lack of power of the project director to approve activities when government changes at higher level occur. Another challenge is the need to strengthen the relationship at national level between the project management unit (UNDP/MINAMB) and IDF.

#### VI. Conclusions and Way Forward

In year 2021 will be essential to complete the White Book and the National Policy/Strategy on sustainable charcoal production, as well as, continuing with the production of IKO cooking stoves, briquettes development and the dissemination and sensibilization of sustainable options of the charcoal production and consumption sector both in rural and urban areas. Equally important will be to build new partnerships with INAPEM and INAFOP to promote business incubators that will help build capacities of national production of IKO stoves and Briquettes and help to promote the development of the value chain of sustainable charcoal in the country and create new business opportunities and income generating activities. The project's actions in 2021 will be to continue raising awareness on sustainable options of the charcoal sector both in rural and urban areas, as well as focus on finding ways to enhance continuity of the project once the various activities end.

#### VII. Financial Status<sup>1</sup>

<sup>&</sup>lt;sup>1</sup> Disclaimer: Data contained in this financial report section is an extract of UNDP financial records. All financial provided above is provisional.

Disclaimer: UNDP adopted IPSAS (International Public Sector Accounting Standards) on 1 January 2012, cumulative totals that include data prior to that date are presented for illustration only.

#### **VIII. Photo Annex**

IKO Cooking Stove Designed for Angola at Don Bosco



Manufacture of IKO stoves at the Professional School Mabubas de Don Bosco



Logo IKO Stove

Compact Briquette device designed



Forest Tree Nurseries promoted by COSPE



Measurement and storage of wood from a Terra Melhorada oven and the third pucture Casamança for the production of sustainable charcoal in Ganda



IKO manufacture and EPS Ramiros from ADPP



#### Community-based Fruit trees and forest tree nurseries- ADPP Huambo



Participatory Forest Inventory- ADPP Huambo





Mushroom dryer device designed by UCO-UJES





## Training on Cumminity-based Forest Fiscalization by IDA-UJES

