

## Community Forests - Cambodia

### INTRODUCTION

In Cambodia, as of today, large-scale reliable and official supply chains of sustainable biomass fuels for industrial use do not exist. More than two decades of strong economic growth, driven mostly by the garment industry (which represents 11% of the country's GDP and 78% of merchandise export revenues), therefore comes at a high environmental cost: The widespread use of firewood in garment manufacturing (301,000 tonnes/year) has contributed to rapid deforestation and ecosystem degradation, making the garment sector the main contributor to climate change among the industrial sectors.

While the recent establishment of numerous large-scale rubber plantations is expected to provide a significant amount of firewood when they are replanted, this will not happen until 15 to 20 years from now, leaving a large gap of sustainable supply.

The Government of Cambodia aims to address this lack of supply, stating in the latest draft of the Environment and Natural Resources Code: *"In cooperation with local communities, indigenous peoples, and technical partners, the ministry or institution responsible for managing the forests shall develop a legal instrument on establishing mechanisms for certifying and financially and fiscally incentivizing all licensed producers of sustainable charcoal and firewood."*

### PROJECT OBJECTIVE

With support from UNEP DTU Partnership (UDP), the French NGO GERES has worked with the Government of Cambodia, major garment retailer H&M and Cambodia Climate Change Alliance to set up a financing model for community forestry. The aim is to fill the gap in sustainable fuel supply, partly by providing financing for plantation as well as additional briquetting of biomass residues, partly by designing a supply chain model with the textile industry to secure off-take.

### RESULTS & NEXT STEPS

GERES, together with central actors and UDP, have developed an implementation strategy of the project, called the Wood Fuel NAMA, for which implementation funding has been sought from the NAMA Facility. Cambodia's government through the ministries of Agriculture, Forestry and Fisheries (MAFF) and Environment (MoE), H&M together with the Garment Manufacturers Association of Cambodia (GMAC) representing the garment industry and the Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC) are committed to implementation. The French Agency for Development (AFD) is equally supporting the initiative.

The strategy is based on a revolving concept that will keep increasing the community plantation area (both numbers and coverage), thus gradually expanding to produce the entire garment industry demand and beyond. It requires no further funding than the initial seed funding of €10m. If initiated in 2019, by Year 2030 the project will have leveraged €77m of revenues from switch to sustainable biomass fuels and achieved more than 1.5 million tCO<sub>2</sub>e of emission reductions.

The investment model thus has a built-in replicability potential not only in to other industrial sectors, but also across borders to countries with similar conditions.

**IMPACT HIGHLIGHTS**

	GHG mitigation	Investment	Stakeholders
<b>Currently</b>	0	0	9 integral partners, 25 actors engaged in total
<b>Total potential if up-scaled and replicated</b>	1,500,000 tCO2e/year	USD 92 million +	



Improving the livelihoods for communities through providing a source of income.



Providing cleaner energy in the form of sustainable wood fuel.



Improving the situation for rural communities by providing employment.



Improving the production system of wood fuels significantly.



Limiting further deforestation, thus securing the habitat of many species.

**THE TECHNOLOGY**

Planting trees is one of the oldest technologies in the world. But this project has developed an innovative framework around tree. Community forestry is already a national priority as a means to reverse the current alarming rate of deforestation. The idea is to entrust communities with taking care of new forests while building an income on sustaining such forests. Linking this to a structured harvesting of wood fuel in collaboration with large textile companies with international clients facilitates a sustainable business model that competes favourably with informal, and in many cases illegal, tree felling. In addition, the tree-planting can assist in a gradual reforestation as a permanent carbon storage.

**THE BUSINESS CASE FOR CLIMATE ACTION**

Several stakeholders are involved in this concept consisting of at least three separate business cases. These are the community forests, the textile industry, and potential ESCOs. In addition there is the special purpose vehicle (SPV), which will not build capital, but accumulate a growing stock of biomass in trees.

Although the establishment of an increasing number of community forests is a national priority expressed in Cambodia's NDC, an implementation strategy has not been developed. The Wood Fuel NAMA provides such strategy by establishing an independent SPV. Its purpose is tree planting in community forests and liaising the community forests with private sector buyers. The SPV is non-profit and uses all surplus for additional planting. The communities, however, make a profit from selling wood through the SPV, while previously they were not selling wood fuel at all.

The SPV establishes wood fuel supply contracts with large buyers in the garment industry, supported by demand from international clients of these garment companies. The fuel is priced at fixed rates over up to 3 years, eliminating the current, rather significant, fluctuations in market prices. Unstable fuel wood prices are one of the prime obstacles for energy service companies (ESCOs) to offer their services in the

garment sector. The fluctuating prices pose a risk too significant for ESCOs to invest into energy efficiency measures on fixed short-term contracts. Stable fuel wood price, however, unlocks these potentially very profitable investments in new boilers in most of the textile companies, thus generally reducing cost of production. Security concerns also drive this: by exchanging the current inefficient boilers, the textile companies will improve the safety conditions markedly, as the current boilers are prone to explosions with many losses of life annually.

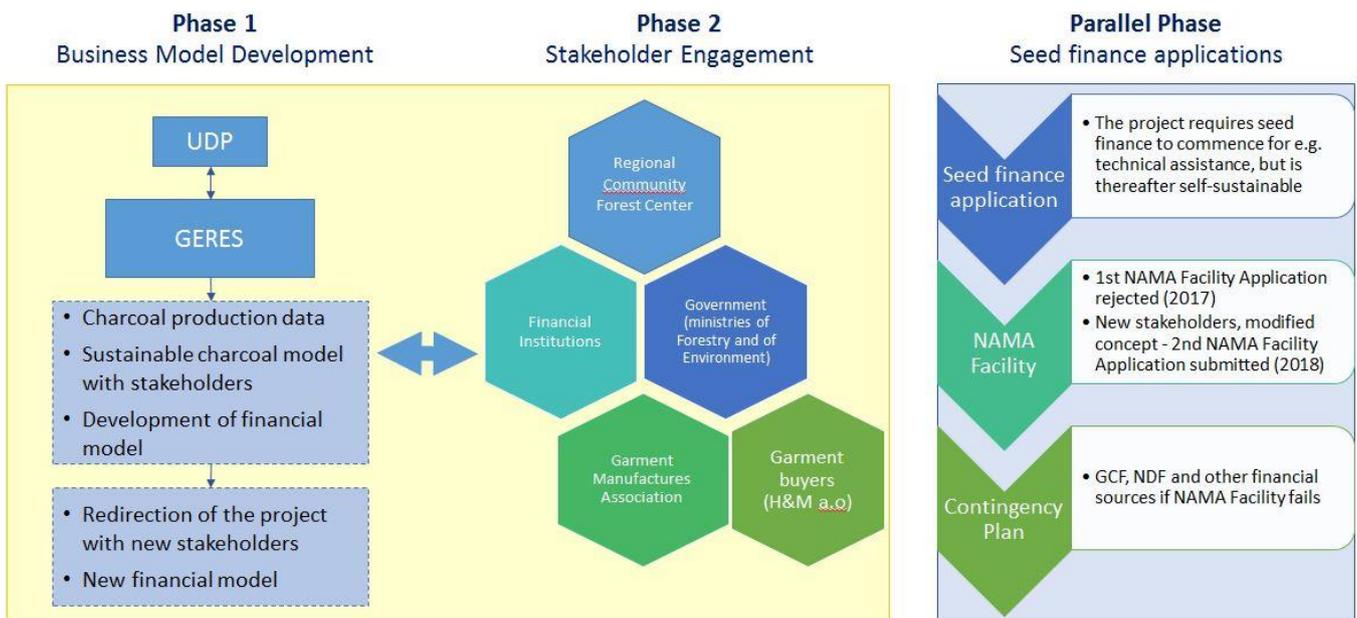
Thus, the NAMA helps Cambodia implement part of its NDC; it helps reduce illegal logging; it helps local communities generate extra income; it improves profits for the local textile industry, and it provides new business opportunities for ESCOs while reducing loss of life in the textile industry.

Step 1: A precondition for the positive effects throughout the value chain, is an equity investment into the SPV. The equity must be considered seed capital for growing trees that ultimately becomes the property of communities, although the SPV can remain a minority shareholder in the community forests that it helps establish. No dividends are paid on the capital, which thus must be considered an 'equity grant'.

Step 2: As no wood fuel will be available for the first 5 years of the activity - due to the growth period of the trees - step 2 is filling this gap by introducing a briquetting option for small scale rice millers, who are currently (indirectly) exporting their rice husk to Thailand. This activity may continue as an add-on to the SPV's activities also after the wood fuel is available from the community forests.

Step 3: This step starts once the first community forests are ready to supply wood fuel. After that, the process is a rotating one, meaning that new trees will be ripe for supply of fuel continuously. In parallel, but not directly included in the project, ESCOs may have prepared to contract garment factories, thus accelerating the sector coverage of the wood fuel supplied from the community forests. After this, the wood fuel supply can expand to other sectors such as e.g. cement.

**PROJECT INTERVENTION**



The initial objective was to replace the current unsustainable production of charcoal with a sustainable alternative, putting the illegal supply based on logging of pristine rain forest out of business. Due to the

donor community's reluctance to engage in charcoal, the objective was adjusted towards another significant source of demand for wood fuel, the garment industry, where wood is used directly without charring. The sustainability of the supply chains of wood fuel remains questionable.

ADMIRE has financed the project development work of GERES, an NGO which is very well established locally with almost 20 years of experience working in Cambodia. Through ADMIRE, UDP assisted GERES in concept development with advice on financing models and methods and structuring the components into a more coherent model. After the first experience with rejection by the NAMA Facility on the grounds that it did not wish to engage in charcoal, UDP has encouraged the more industrial approach supported by international textile brands like H&M, although the primary contacts have been established by GERES.

UDP proposed the SPV model for financing the intervention, which is the basis for the second attempt to mobilize financing from the NAMA Facility. The association of local communities is involved in the application together with the national authorities along with the international brands headed by H&M. Additionally, the first local ESCO has been engaged, although its involvement will be later in the project. Application for seed funding for the SPV through the NAMA Facility was the first attempt to raise funding for the initiative. As this application was rejected, UDP is working with GERES in raising financing from other sources. Once the seed capital is available, the planting process can start and remaining structures can be put in place while the trees grow.

#### RESOURCES

Financial model - An excel sheet with the calculations underpinning the framework developed in the project.  
NAMA Facility application - The documents for the NAMA Facility application in its entirety.

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