

COOPAC

Gisenyi, Rwanda

Consultation on development of climate change adaptation strategies for companies



Facing the impacts of climate change is a key challenge of this century - not only for governments and communities, but also for businesses. Rising prices for raw material, energy and water, damages of transport routes, or more frequent gaps in the supply of goods - businesses and in particular SMEs are now facing new climate-related risks. At the same time climate change offers them a range of business opportunities.

This case study was developed under the GIZ global programme "Private Sector Adaptation to Climate Change (PSACC)" which aims at building the capacities of SMEs and the private sector in the field of Climate Change Adaptation.

About the company

COOPAC is a coffee processing company founded in 2001 in Gisenyi, Rubavu district in the Western Province of Rwanda. The company started as a cooperative and became a private company in 2011. With 8,000 associated farmers, the company currently produces around 1,200 tons of green coffee per year. COOPAC produces Rainforest-Alliance-certified, fair-trade, and organic coffee.

Location	Gisenyi, Rubavu district in the Western Province of Rwanda
Sector	Coffee processing company
Products	Fair-trade, Rainforest-Alliance, and certified organic coffee, mainly Arabica coffee (Bourbon, Pope, Jackson)
Company size	Turnover per annum: n.a. / Employees: 800 employees during the harvesting season, 55 employees during off-season



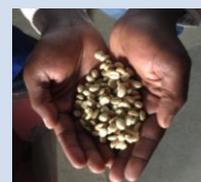
COOPAC roasting station (© adelphi, 2015)

How is the company affected by climate change?

The region where the company is located belongs to the Western Kivu-sea climate zone. Average annual rainfall in this area amounts to 1.100 mm. According to a vulnerability baseline report by REMA the Western province is especially exposed to climate impacts from a change in the amount of rainfall, a shift in seasons - especially the beginning of the rainy seasons - and wind and thunder events (REMA, 2015). The Western province is less exposed to a change in temperature, heat waves, flooding and drought (ibid.). The general exposure of climate change of the Western province ranks third among all five provinces in Rwanda (ibid).

Key climate phenomena

Shifting seasons resulting in decreasing yield from coffee trees; intense rainfall events affecting the drying process; floods affecting the washing process; droughts affecting the quality of the coffee, the availability of water for the washing process as well as the probability of pests; landslides affecting transportation of the product; and heat waves affecting the moisture content (quality) of the coffee beans.



Green coffee from COOPAC
(© adelphi, 2015)

Climate risks and adaptation measures

Climate Phenomenon / Impacts	Climate Risks	Identified adaptation measures
Heavy and more frequent rains 	<ul style="list-style-type: none"> • Flooding of coffee washing stations and damage of roofs • Affect the drying process of the coffee. Usually, it takes 20 days to dry the coffee cherries. In case of heavy rain and high humidity, the drying process may last up to 50 days. • Affects the quality of water that is used for washing the cherries • Disruption of road connections • Workers not attending their shift • Higher labour costs due to longer drying process 	<ul style="list-style-type: none"> • Develop flood management system, install drainage system and dams • Installation of a fuel-powered dryer which would make it partly independent of sun-drying. • Installation of larger water storage tanks to become more independent from dirty water or a lack of water. In addition, a water filter or sedimentation tanks could be installed to remove sediments from the water. • Develop emergency plans for the most frequented and/or most vulnerable routes. • Set up a financial incentive scheme for workers to show up to work during heavy rains • Organise the transport of workers to the company premises during heavy rains
Increase temperatures and more frequent heat waves 	<ul style="list-style-type: none"> • Coffee is extremely sensitive to changes in temperature, water supply and humidity level • Lower coffee quality due to lower moisture content. Usually, the moisture content is 12.5 %. With high temperatures the moisture content can drop to 10 % thereby negatively affecting product quality • Increased likelihood of pests occurring. 	<ul style="list-style-type: none"> • Install building insulation • Install air humidifier • Apply organic pesticides • Plant new pest-resistant coffee plant varieties • Plant shade trees to reduce air temperature
Changes in season	<ul style="list-style-type: none"> • Lower yields of coffee trees. Before, a coffee tree produced 5-6 kilograms per season, now it produces only 3-4 kilograms - this leads to a general loss of production. 	<ul style="list-style-type: none"> • Plant shade trees in the coffee plantations • Liaise with coffee buyers and convince them to become more flexible regarding the time when to sign (pre-)contracts for the purchase of coffee
Other related risks related to climate change		Identified adaptation measures
	<ul style="list-style-type: none"> • More frequent and strong price fluctuation 	<ul style="list-style-type: none"> • Hedge against coffee price fluctuations or obtain insurance.

Business opportunities

COOPAC could benefit from a potential increase in demand for coffee with the label “climate-proof” or “climate resilient”.

Adaptation strategy

Climate risk management tools provide information for SMEs to build adaptation capacity and to develop individual adaptation strategies. PSACC developed the climate risk management tool “Climate Expert” (www.climate-expert.org). In addition to assessing vulnerabilities, the tool includes guidance on assessing the costs and benefits of the different climate risk management options. PSACC identified a range of climate risk management interventions to support the company. The Climate Expert Assessment enabled the identification of the following key issues for COOPAC:

- Secure loose building parts
- Develop flood management system
- Plant shade trees
- Apply organic pesticides
- Plant new pest-resistant coffee plant varieties
- Organise the transport of workers to the company premises during heavy rains
- Develop an emergency plan with alternative routes, off-road vehicles
- Closely monitor regulatory developments and other government initiatives
- Hedge or insure against price fluctuations

For more information on this case study and PSACC, contact us

Angelika Frei-Oldenburg
GIZ, Germany
+ 49 (0) 6196 79 1545
angelika.frei-oldenburg@giz.de

Janina Wohlgemuth
GIZ, Germany
+ 49 6196 79 1378
Janina.wohlgemuth@giz.de

Livingstone Mugisha
GIZ, Rwanda
+250 0783 628 676
livingstone.mugisha@giz.de

In cooperation with adelphi

www.climate-expert.org