Presentation by the Cameroon Development Corporation (CDC) at the second National outlook forum Cameroon holding in Douala from 18/03/25 to 20/03/25.

INTRODUCTION

The Cameroon Development Corporation, the second employer in Cameroon after the state cultivates three main crops that is rubber, banana and palms. The CDC is not spared by extreme weather variations. This presentation centers on evaluation of physical loss caused by meteorological phenomenon and its financial incidence on Cameroon Development Corporation (CDC). After the last seminar in Yaounde, we have been paying close more attention than ever before to how extreme meteorological phenomenon affects our activities. Find below some of our analysis.

1) Identification Of Extreme Weather Phenomenon

Heavy Rains and Floods
Heavy rainfall and floods can significantly impact rubber and palm cultivation, leading to various detrimental effects. Here's a breakdown:

Impacts on Rubber Cultivation:

-Disruption of Tapping: Excessive rain prevents the tapping of rubber trees. Wet tapping panels also render tapping unsafe.

-Increased Disease Risk: High humidity and waterlogged soils promote the growth of fungal diseases, such as Phytophthora diseases, which can damage or kill rubber trees.

Soil Erosion and Nutrient Loss: Heavy rainfall can cause soil erosion, washing away topsoil and essential nutrients, which are vital for rubber tree growth. Water logging can cause root rot.

- Physical Damage: Floods can cause physical damage to rubber plantations, uprooting trees and damaging infrastructure.

Impacts on Palm Cultivation:

-Pollination Disruption: Heavy rain can interfere with the pollination process of oil palm trees, reducing fruit set and yield.

-Fruit Bunch Rot: Excessive moisture can lead to fruit bunch rot, causing significant losses in palm oil production.

-Soil Degradation: Similar to rubber cultivation, heavy rain and floods can cause soil erosion and nutrient leaching, affecting the health of palm trees.

-Waterlogging and Root Damage: Palm trees, while tolerant of some moisture, can suffer from root damage and oxygen deprivation in waterlogged conditions.

-Infrastructure Damage: Flooding can damage access roads and other infrastructure, hindering harvesting and transportation of palm oil

-Disease proliferation: Like rubber trees, palm trees are also susceptible to increased fungal diseases in high moisture environments.

In both rubber and palm cultivation, the effects of heavy rain and floods can have long-term consequences, impacting yield, quality, and the overall health of the plantations.

Effects of Prolonged Drought on Cultivation 0f Rubber and Palms

Prolonged drought presents significant challenges to both rubber and palm cultivation, impacting their health and productivity.
Here's a summary of the key effects:

-Effects on Rubber Cultivation:

-Reduced Latex Production: Drought stress significantly reduces latex production in rubber trees. This is because water is essential for latex synthesis and flow.

-Trees under drought conditions may cease latex production altogether as a survival mechanism.

-Leaf Shedding and Dieback: To conserve water, rubber trees may shed their leaves, leading to reduced photosynthetic capacity and overall weakened health.

-Prolonged drought can cause dieback of branches and even tree death.

-Increased Susceptibility to Diseases and Pests: Drought-stressed trees are more vulnerable to diseases and pest infestations due to their weakened immune systems.

-Soil Degradation: Drought can lead to soil compaction and reduced water infiltration, further exacerbating water stress.

Effects of Storm and Strong Winds on Rubber and Palms Plantation

Storms and strong winds pose significant threats to rubber and palm plantations, causing both immediate and long-term damage. Here's a breakdown of the key effects:

Effects on Rubber Plantations:

-Tree Damage: Strong winds can snap branches or uproot entire rubber trees, especially mature trees with large canopies. This damage can lead to significant yield losses and require extensive replanting.

-Tapping Panel Damage: Wind-blown debris, such as branches and leaves, can damage tapping panels, making them unusable. This disrupts latex collection and reduces productivity.

-Increased Disease Risk: Wounds caused by wind damage can create entry points for fungal and bacterial diseases.

Infrastructure Damage: Storms can damage infrastructure, such as roads and buildings, hindering access to plantations and disrupting operations.

Effects on Palm Plantations:

-Fronds and Fruit Bunch Damage: Strong winds can tear fronds and dislodge fruit bunches, leading to significant yield losses. Immature fruit bunches are particularly vulnerable.

-Tree Uprooting: Palm trees, especially younger ones, can be uprooted by strong winds, particularly in areas with shallow or waterlogged soils.

-Pollination Disruption: Strong winds can disrupt the pollination process, reducing fruit set and yield.

Climate Change Affecting Production

Climate change is significantly altering the conditions in which rubber and palm plantations operate, leading to various challenges that impact production. Here's a summary of the key effects:

Impacts on Rubber Plantations:
Temperature Changes: Increased temperatures can disrupt latex flow, potentially reducing yields. Rubber trees have optimal temperature ranges, and deviations can negatively affect their physiology.
-Higher night temperatures are particularly concerning, as they can interfere with the tree's internal turgor pressure, which is crucial for latex flow.

-Altered Rainfall Patterns: More frequent and intense droughts can lead to water stress, reducing latex production and increasing tree mortality.

-Conversely, increased heavy rainfall can disrupt tapping, promote disease outbreaks, and cause soil erosion.

-Increased Pest and Disease Pressure: Climate change can alter the distribution and intensity of pests and diseases, making rubber trees more vulnerable.

-Extreme Weather Events: More frequent and intense storms and strong winds can cause physical damage to trees, infrastructure, and tapping panels

Impacts on Palm Plantations:

-Changes in Rainfall: Variations in rainfall patterns, including prolonged droughts and intense rainfall, can affect fruit bunch development and oil content.

-Drought stress can lead to reduced fruit set and yield, while excessive rainfall can promote disease and hinder pollination.

-Temperature Fluctuations: Rising temperatures can affect the flowering and fruiting process of oil palm trees, potentially reducing yields.

- Changes in temperature can also increase the prevalence of pests.

- Sea Level Rise:

- In coastal areas, sea level rise can lead to saltwater intrusion, which can damage or kill palm trees.

These changes also increase the likeliness of increased pest and disease presence.

In essence, climate change is creating more unpredictable and challenging conditions for rubber and palm plantations, requiring adaptation strategies to ensure future productivity.

2 Physical Impacts on CDC

- Damage in rubber and palms plantations

Extreme weather conditions are inflicting significant physical damage on rubber and palm plantations, disrupting operations and causing substantial economic losses within the CDC. Here's a breakdown:

Rubber Plantations:

-Wind Damage: Strong winds can snap branches, uproot mature trees, and cause widespread destruction of rubber plantations. This led to the loss of thousands of rubber trees with yield losses and necessitates costly replanting efforts.

- Flooding: Heavy rainfall and floods inundated our plantations in Pendamboke area and Mbonge for several weeks, leading to root rot, loss of trees and soil erosion.

- Drought: Prolonged drought caused early wintering, significantly reducing the productive capacity of plantations. Prolonged drought exposed our fields to wild bush fires with very huge losses.

Palm Plantations:

- Flooding: Floods were experience in Boa and Illoani estates causing waterlogging, root damage and oxygen deprivation, which can killed palm trees. Floodwaters carrying debris destroyed roads and culverts blocking access to some fields for harvesting and evacuation causing us huge financial losses.
- Drought: Drought stress lead to stunted growth, reduced fruit bunch production, and decreased oil content.

General Impacts: Damage to infrastructure, including roads, bridges, culverts, and buildings, disrupted transportation and harvesting operations. Increased debris and sediment can clog drainage systems, exacerbating flooding and waterlogging. The physical damage caused by extreme weather events can lead to long-term reductions in productivity and profitability. Increased erosion of topsoil.

Climatic stress significantly impacted yield in both rubber and palm plantations, leading to substantial economic losses. Here's a summary:

Rubber Plantations:

- Drought:

* Reduces latex production due to water stress, as water is essential for latex synthesis and flow.

* Caused premature leaf shedding (wintering), hindering production and overall tree health.

* Prolonged droughts led to dieback and tree mortality in immature plantations, and increased fire risk.

- Excessive Rainfall/Flooding:

* Disrupted tapping operations, as latex collection becomes adulterated and diluted.

* Increases the risk of fungal diseases like Phytophthora, which can damage tapping panels and trees.

- **Extreme Temperatures:**
  * High temperatures affect latex flow and quality.
  * Fluctuations in temperature stress trees, making them more susceptible to diseases.
Affecting fruit set and availability of seed for expansion
  * Storms/Strong Winds:
  * Cause physical damage to trees, including broken branches and uprooting, reducing tapping capacity.

Palm Plantations:

- **Drought:** Caused a significant setback on flower formation due to abortion resulting from stress factors.
- **Excessive Rainfall/Flooding**: Disrupted pollination, reducing fruit set.
* Temperature Extremes:
* Affects flowering and fruiting processes, reducing yields.
* Increases pest and disease pressure.

General Impacts:

* Increased variability in weather patterns made it difficult to predict and manage yields.
* These losses in yield had significant economic consequences for our company.

Specific Impacts on Rubber Plantations:

* Fungal Diseases: Increased humidity and rainfall promoted diseases like Phytophthora leaf fall and powdery mildew.

Pests:

* Changes in temperature and rainfall affected populations of insect pests that feed on rubber trees. Increased incidents of leaf-eating caterpillars.

Specific Impacts on Palm Plantations:

* Fungal Diseases: Increased humidity and rainfall favored diseases like basal stem rot and Ganoderma.
* Pests: Warmer temperatures have led to an increase in the populations of pests like rhinoceros beetles and bagworms.
* Climatic changes have disrupted the natural predators of the palm pests.

Overall Effects:

* Increased pest and disease pressure can lead to significant yield losses and increased production costs.
* The use of pesticides and fungicides may need to increase, raising environmental concerns.
* Climate change is making it more difficult to predict and manage pests and disease outbreaks.
* The overall health of the plantations is greatly reduced.

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3) Economic and financial losses

- As far as losses in rubber production is concerned, the CDC losses a huge part of its income on lost tasks due to rainfall for 2024 for example, we lost over 129,690 tasks which is equivalent to 3,890 metric tons of rubber. When we consider an average selling price of 1000 frs CFA/kg this is worth over 3.89 billion francs. For palms, the negative impact on fruit formation has been estimated at approximately 25,500 metric tons of fresh fruit bunches which in monitory terms is worth over 2.8 billion francs CFA. These are very conservative figures.
- The losses due to the above cited extreme weather conditions is forcing us to carry out early replanting programs when the tree stand drops below economic levels when they become uneconomical for exploitation. We equally have to carry out yearly rehabilitation of roads and drains, in addition to replacement of destroyed culverts. These are areas of financial loss.
- It goes without saying that when the company suffers the above huge loss in production as a result of climate variations, losses in revenue also accompany it. When crop targets are not met, the CDC will not be able to meet up with its financial obligations and the workers too are also directly affected.

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Thanks for your kind attention

4) Adaptation and Resilience Strategy

- As a way out of these negative weather repercussions, we have a Framework agreement with the ministry of transport (National meteorology) to see how they could produce weather tools (Bulletins) that are specific for our needs that will enable us to make informed decisions.

- In line with this, the CDC is operating some 40 meteorological stations (24 complete and 16 incomplete) for collection of climatic data which are forwarded to the National meteorology department in Yaoundé for interpretation and integration in the national grid.

- We hope to benefit more guidance from this program. Our one appeal however, is that whatever tools or information that we have to upload on any platform should as much as possible be in our both official languages so as to make it available and useful to the most number of persons.