

## **CLIMATE CHANGE ON THE WESTERN PROVINCE OF ZAMBIA**

The Western Province is a province located in the western Zambia whose capital is Mongu. It that borders Angola and Namibia. This province has an area of about 126,836 square kilometers (49,000 square miles) with an estimated population of 991,500 people (according reports of 2020).

Having a tropical savanna climate with a temperature that ranges from fifteen to thirty degrees Celsius (15-30°C) or (59°F to 86°F) and rainfall of 800mm – 1,200mm (3in – 47in) per annum. Agriculture mainly maize, cotton, and cassava, livestock, fishing and tourism coupled with mining are the backbone of the economy of this province.

### Causes of Climate Change in Western.

Below are some of the major factors that contribute to climate change especially on the western province of Zambia.

Deforestation and land degradation. The western province of Zambia is a developing province which means that a large fraction of people living there do not have enough knowledge and/or resources to acquire climate smart gadgets such as gas stoves. Therefore, they resort to cutting down trees in order to make charcoal so as for them to do all errands that require fire and heat.

Agricultural practices. Due to the use to the use of pesticides and artificial in excess, climate change takes its course not forgetting burning the forests as a way of clearing the land in readiness to start farming.

Transport. Inasmuch as western province is developing, vehicles and motor cycles are rapidly increasing in the area some of which are overused whereas some are poorly maintained these therefore release fumes which are also a major contributor to the increase in climate change.

### Effects of Climate Change on the Western Province.

The Western province is also a victim of the effects of climate change. People in the Western province experience seasonal flooding caused by heavy rainfall thereby displacing communities. (Mwitwa, 2019)Droughts and water scarcity in certain periods are the other major challenges that this province experience year in year out.

Due to floods, people and animals that dwell on the Western part of Zambia are prone to experience negative health impacts such as water borne diseases and malaria among others as the breeding of harmful organisms and mosquitoes in water rise (WHO, 2019). In addition, floods damage infrastructure and shelter for most inhabitants of the land.

Water scarcity and drought has brought about heat stress which contributes to the loss of life especially that of animals as there is little and limited sources of clean and safe water.

Floods, droughts and water scarcity hugely affect the food security not only of this province but the whole nation at large due to the damage caused on crops. As a result, citizens find it a challenge to contribute to the national food basket as they have little to no crop yield that can sustain their respective families to survive for a reasonable period or perhaps to the following farming season.

There has been a temperature increase since 1960, the Western province together with other provinces of Zambia have experienced a drastic increase in temperature to an addition of 1.5°C (IPCC, 2014).

### Practices that can aid curb the negative impacts of Climate Change on the Western Province.

It is imperative to realize and group solutions into two namely, short-term and long-term solutions.

#### 1. Short-Term solutions (2025-2030)

People have to develop, implement and migrate to climate resilient agricultural practices. This involves conservation farming and putting up good and lasting irrigation systems (FAO, 2017) especially during the drought period or when there is little rainfall.

Secondly, there is need to invest in renewable energy and climate smart infrastructure such as Solar and wind power development (REEEP, 2020). Currently, Zambia largely depends on hydroelectricity of which it is never enough due to the sharply increasing population and dry spells that the country experiences time and again.

Moving on, excess rainwater has to be collected and stored. This also requires the development of reservoirs for water harvesting (WaterAid, 2019).

The other solution is getting prepared to face any emergencies and ensuring that early warning systems are implemented. This requires to work in collaboration with the Disaster Management and Mitigations Unit (DMMU) and the relevant Meteorological authorities respectively.

#### 2. Long-Term Solutions (2030-2050)

There is need to implement sustainable land-use planning this includes agroforestry and permaculture (Chidumayo, 2018)

Secondly, all relevant authorities must ensure to construct and build climate-smart infrastructure which involves green buildings and climate resilient roads among other structures (World Bank, 2020).

People perish when they lack knowledge and are filled with ignorance. Therefore, climate education and awareness has to reach even the remote areas of the community. To do so, it is suggested to reach people via the school curricula starting from primary school just as the saying goes, "catch them young" so as to fully impart and cement this concept inside them not only in English but, in

local languages too. Also, preaching the climate change education messages in cooperative gatherings, markets, door-to-door and public campaigns every now and then.

In addition, because this involves each and every member of the society, the community has to be included and engaged. Also, sustainable tourism practices have to be marketed more on a global scale. This is done in improving eco-tourism (WWF, 2020).

In a nutshell, there is need to develop and implement climate resilient agricultural practices, investing in renewable energy and climate smart infrastructure, promotion of sustainable land-use planning and eco-tourism, and integration of climate change education in the community both in and out of schools.

### Conclusion.

Climate change on the Western Province of Zambia requires immediate attention and collective action. Implementing short-term and long-term solutions backed by research, policy support and community participation, can mitigate its impact and ensure a sustainable future.

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