JESUIT CENTRE FOR THEOLOGICAL REFLECTION
3813 Martin Mwamba Road, Olympia Park
P.O Box 37774, 10101 Lusaka, Zambia
Email: admin@jctr.org.zm
www.jctr.org.zm
Tel: +260 211 290410| **Fax:** +260 211 290759

Article: **April 3rd 2024**

UNDERSTANDING THE IMPACT OF EL NIÑO ON ZAMBIA: NAVIGATING THROUGH THE DRY SPELL

Introduction

As Zambia grapples with the adversities brought about by El Niño, a formidable weather-related phenomenon characterized by unusually warm ocean temperatures in the Equatorial Pacific, the country finds itself entrenched within the grip of a challenging dry spell. The effects of El Niño on Zambia are profound and far-reaching, permeating through various sectors crucial to the nation's well-being, including agriculture, water resources, health, and socio-economic stability. In this article, we embark on a comprehensive exploration of the intricate complexities of this phenomenon and its reverberating repercussions on Zambia. Through our analysis, we aim to illuminate the urgent need for proactive measures geared towards both mitigation and adaptation, in order to navigate the daunting challenges imposed by El Niño and safeguard the resilience and prosperity of the Zambian populace.

Agricultural Implications

One of the primary concerns during an El Niño-induced dry spell in Zambia is its detrimental impact on agriculture, the backbone of the nation's economy. Reduced rainfall leads to diminished crop yields, posing significant threats to food security and livelihoods. Smallholder farmers, who constitute a substantial portion of Zambia's population, face heightened vulnerabilities, requiring interventions such as drought-resistant crop varieties, water conservation techniques, and access to alternative livelihood options.

Water Resources Management

El Niño exacerbates water scarcity issues in Zambia, affecting both surface water and groundwater reservoirs. Reduced river flows and depleted water tables intensify competition for water resources among various sectors, including agriculture, industry, and domestic use. Sustainable water management practices, coupled with investments in irrigation infrastructure and rainwater harvesting techniques, become imperative to alleviate the strain on water supplies and ensure equitable access for all stakeholders.

Health and Social Impacts

The dry spell resulting from El Niño can have profound implications for public health and social well-being in Zambia. Dwindling water sources heighten the risk of waterborne diseases, such as cholera and dysentery, necessitating enhanced sanitation measures and access to clean drinking water. Furthermore, the economic hardships stemming from agricultural losses may exacerbate poverty rates and contribute to social unrest, underscoring the importance of targeted social safety nets and community resilience-building initiatives.

A lesson that Zambia has been slow to learn is the need for rainwater harvesting in areas prone to flooding and eventual outbreak of cholera. At the onset of the year, the country was already facing an upsurge with the disease which claimed many lives and left most wondering just how long they would have to deal with the calamities.

According to a report by the Zambia National Public Health Institute (ZNPHI), the country witnessed a significant increase in cholera cases in the early months of 2024, exacerbated by both the El Niño-induced water scarcity and inadequate infrastructure for rainwater harvesting. The lack of proactive measures to address this issue has prolonged the cycle of cholera outbreaks, underscoring the urgent need for investment in sustainable water management solutions (ZNPHI Report, 2024).

In JCTR's March 2024 Basic Needs and Nutrition Basket (BNNB) Report for a family of five living in Lusaka, the cost of food items alone stood at K4, 414.85, with essential non-food items such as housing, accommodation, and other utility costs collectively raking in K6, 188.71 to bring the basket to a record total K10, 603.56. Rising inflation in Zambia only adds to these challenges, putting additional strain on already vulnerable households and heightening the urgency for proactive planning and intervention to address the socio-health issues that may emanate from inadequate resources and support, especially where agriculture and holistic social protection is concerned.

Implications for Energy Generation

Hydropower accounts for 85% of Zambia's electricity generation. This means that Zambia is predominately reliant on water for energy, making the country's energy generation vulnerable to climate change shocks and extreme weather conditions. The current dry spell that Zambia is experiencing, and the resultant low water levels, has severally impacted our ability to provide electricity to those who need it. The extensive load shedding that is the result of these effects of climate change may become more common, as the population of Zambia is projected to continue to grow and only 32% of households have access to electricity. Apart from the negative direct impact on households and the domestic energy supply, the load shedding is likely to have far-reaching implications for economic growth.[1]

[1] See the joint report on the economic impact of climate change in Zambia, issued by African Climate Foundation and the International Food Policy Research Institute, "From Climate Risk to Resilience: unpacking the Economic Impacts of Climate Change in Zambia," (November, 2023), p13 – 14.

Economic Ramifications

The El Niño-induced dry spell exerts significant economic pressures on Zambia, affecting various sectors, including agriculture, energy, and tourism. Declining agricultural productivity not only disrupts domestic food supplies but also hampers export revenues, exacerbating balance of trade deficits. Moreover, the reduced hydropower generation capacity mentioned above will severally impair Zambia's copper production. The process to produce copper is highly energy-intensive. With reduced power coming from hydro-electric sources, Zambia's economy will suffer. It is estimated that global demand for copper will double by 2035, taking into account that copper is a core component of renewable energy sources and green technologies. Moreover, Zambia is the biggest exporter of raw copper in the world, and copper production forms a key component of the 8th National Development Plan. With the dry spell causing a significant decrease in Zambia's hydropower production, the country will not be able to capitalise on the projected global increase in demand for copper and this will have a dire economic cost.[2]

Climate Change Adaptation Strategies

In light of the recurrent nature of El Niño events and the looming spectre of climate change, Zambia must prioritize long-term adaptation strategies to build resilience against future dry spells. This entails investment in climate-smart agricultural practices, enhancement of early warning systems, promotion of sustainable water resource management, and integration of climate change considerations into national development policies. In particular, the promotion of agroecology will greatly assist in Zambia's ability to be resilient in the face of climate change impacts and extreme weather conditions. Finally, the fostering of regional and international partnerships can facilitate knowledge exchange and resource mobilization for comprehensive climate resilience initiatives.

Conclusion and Recommendations

The El Niño-induced dry spell presents formidable challenges for Zambia, necessitating a concerted effort across government, civil society, and private sector stakeholders to mitigate its adverse impacts and build climate resilience. By addressing the interconnected issues of agriculture, water resources, health, and socio-economic development, Zambia can navigate through the dry spell and emerge stronger, better equipped to confront future climatic uncertainties.

In the light of these considerations, JCTR would like to propose the following recommendations:

- It is clear that the effects of climate change have been felt by all Zambians. Concerted efforts are needed in order to build resilience and adapt to the current changes. Rising temperatures and reduced rainfall have had a major impact on the country's agriculture

[2] Ibid.

compromising its food security. The reduced rainfall pattern has led to a shortened farming season, negatively impacting on the economic survival of communities.

- Reduced rainfall has affected the ability of the country's power utility to produce sufficient hydro-powered electricity. Most people in urban areas have resorted to using charcoal as a source of energy for cooking. It must be emphasised that rural communities are indeed the worst hit by the effects of climate change, hence the need to involve them in climate change mitigation efforts. In the light of these challenges, alternative power sources should be explored. In particular, sources of green energy should be prioritised by both government and citizens alike. For instance, the government should plan to invest in diverse sources of energy such as molasses from sugar cane, wind, thermal and bio gas that are environmentally friendly.
- Moving forward, the government (through the Ministry of Agriculture) should explore avenues to invest in partnerships that will help improve agricultural resilience and productivity methods that are pro-poor. This is crucial, especially noting that agriculture has great potential for sustainable development and that agriculture is the main source of livelihood for communities. In particular, partnerships should be explored that will give greater capacity of farmers to practice agroecology, which is the method proposed by the Food and Agriculture Organisation as the most climate-change adaptive method of agricultural production.
- Farmers need the support of research communities to unlock the potential of rain fed agriculture. This can be done in numerous ways, namely: by the use of intensive water harvesting and storage techniques; by building the capacity of water and soil conservation technologies and practices; by providing tools to manage water resources for multiple uses; and by developing more efficient irrigation systems for use for all farmers.
- The government can partner with Civil Society Organizations (CSOs), churches and Faith-Based Organisations (FBOs) in educating communities on adaptation methods and climate financing. Special focus should be given to rural communities. The government and its partners need to monitor the climate adaptation and mitigation funds. This is to ensure that there is transparency in the process of accessing and disbursement of these climate change funds.

For further clarifications contact the Communications and Digital Engagement Office at the Jesuit Centre for Theological Reflection (JCTR) on 0954755319. Email: jctr.cdosup1@gmail.com and jctr.info@gmail.com. Martin Mwamba Road, Plot 3813 Martin Mwamba Road, Olympia Park – Lusaka. P. O. Box 37774 Lusaka – Zambia.