NGENANI

THE ZIMBABWE EZEKIEL GUTI UNIVERSITY JOURNAL
OF COMMUNITY ENGAGEMENT AND SOCIETAL TRANSFORMATION

ISSN 2957-8558 (Print)
ISSN 3007-2212 (Online)

Vol. 3 Issues (1&2), 2024

Published by the Zimbabwe Ezekiel Guti University Press
Stand No. 1901 Barrassie Rd,
Off Shamva Road
Box 350, Bindura, Zimbabwe

Typeset by Divine Graphics
Printed by Divine Graphics

SUBSCRIPTION AND RATES
Zimbabwe Ezekiel Guti University Press Office
Stand No. 1901 Barrassie Rd,
Off Shamva Road
Box 350, Bindura, Zimbabwe
Telephone: ++263 8 677 006 136 | +263 779 279 912
E-mail: zegupress@admin.uz.ac.zw
http://www.zegu.ac.zw/press

About the Journal

JOURNAL PURPOSE

The purpose of the *Ngenani - Zimbabwe Ezekiel Guti University Journal of Community Engagement and Societal Transformation Review and Advancement,* is to provide a forum for community engagement and outreach.

CONTRIBUTION AND READERSHIP

Sociologists, demographers, psychologists, development experts, planners, social workers, social engineers and economists, among others whose focus is on community development.

JOURNAL SPECIFICATIONS

Ngenani - Zimbabwe Ezekiel Guti University Journal of Community Engagement and Societal Transformation Review and Advancement

ISSN 2957-8558(Print)
ISSN 3007-2212 (Online)

SCOPE AND FOCUS

The journal is a forum for the discussion of ideas, scholarly opinions and case studies of community outreach and engagement. Communities are both defined in terms of people found in a given locale and defined cohorts, like the children, the youth, the elderly and those living with a disability. The strongest view is that getting to know each community or sub-community is a function of their deliberate participation in matters affecting them by the community itself. The journal is produced bi-annually.

Guidelines for Scholars for the Journal

Articles must be original contributions, not previously published and should not be under consideration for publishing elsewhere.

Manuscript Submission: Articles submitted to the *Ngenani - Zimbabwe Ezekiel Guti University Journal of Community Engagement and Societal Transformation* are reviewed using the double-blind peer review system. The author's name(s) must not be included in the main text or running heads and footers.

A total number of words: 5000-7000 words and set in 12-point font size width with 1.5 line spacing.
Language: British/UK English
Title: must capture the gist and scope of the article
Names of scholars: beginning with the first name and ending with the surname
Affiliation of scholars: must be footnoted, showing the department and institution or organisation.
Abstract: must be 200 words
Keywords: must be five or six containing words that are not in the title
Body: Where the scholars are more than three, use *et al.,*
Italicise *et al., ibid.,* words that are not English, not names of people or organisations, etc. When you use several scholars confirming the same point, state the point and bracket them in one bracket and ascending order of dates and alphabetically separated by semi-colon e.g. (Falkenmark, 1989, 1990; Reddy, 2002; Dagdeviren and Robertson, 2011; Jacobsen *et al.,* 2012).

Referencing Style: Please follow the Harvard referencing style in that:
— In-text, citations should state the author, date and sometimes the page numbers.
— The reference list entered alphabetically, must include all the works cited in the article.

In the reference list, use the following guidelines, religiously:

Source from a Journal

Anim, D.O and Ofori-Asenso, R (2020). Water Scarcity and COVID-19 in Sub-Saharan Africa. *The Journal of Infection*, *81*(2), 108-09.

Banana, E, Chitekwe-Biti, B and Walnycki, A (2015). Co-Producing Inclusive City-Wide Sanitation Strategies: Lessons from Chinhoyi, Zimbabwe. *Environment and Urbanisation*, *27*(1), 35-54.

Neal, M.J. (2020). COVID-19 and Water Resources Management: Reframing Our Priorities as a Water Sector. *Water International*, *45*(5), 435-440.

Source from an Online Link

Armitage, N, Fisher-Jeffes L, Carden K, Winter K *et al. (*2014). Water Research Commission: Water-sensitive Urban Design (WSUD) for South Africa: Framework and Guidelines. Available online: https://www.greencape.co.za/assets/Water-Sector-Desk-Content/WRC-Water-sensitive-urban-design-WSUD-for-South-Africa-framework-and-guidelines-2014.pdf. Accessed on 23 July 2020.

Source from a Published Book

Max-Neef, M. (1991). *Human Scale Development: Concepts, Applications and Further Reflections,* London: Apex Press.

Source from a Government Department (Reports or Plans)

National Water Commission (2004). Intergovernmental Agreement on a National Water Initiative. Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory. Available online: https://www.pc.gov.au/inquiries/completed/water-reform/national-water-initiative-agreement-2004.pdf. Accessed on 27 June 2020.

The source being an online Newspaper article

The Herald (2020). Harare City Could Have Used Lockdown to Clean Mbare Market. *The Herald*, 14 April 2020. Available online: https://www.herald.co.zw/harare-city-could-have-used-lockdown-to-clean-mbare-market/. Accessed on 24 June 2020.

A RE-THINK OF CLIMATE RESILIENCE AN SDG ISSUE FOR SUSTAINABILITY IN THE GLOBAL SOUTH

ROSELIN NCUBE-KATSANDE[1] AND MOREBLESSING MSUNDIRE[2]

Abstract

The adverse impacts of climate change are not only entirely an environmental or economic issue; they also impact the substantive enjoyment of fundamental human rights. Population groups in vulnerable positions are among the disproportionately affected by climate change. The populations extremely affected often do not contribute in decision-making processes on actions that address climate change. This research utilises a qualitative method, case study approach that highlight sustainability issues relating to climate resilience in the Global South. Secondary data analysis was the data gathering tool through reviewing existing literature on climate resilience issues and SDGs. The research concludes and recommends that, policies must pave way towards attaining the kind of transformations necessary to build inclusive and climate-resilient communities. Disaster risk reduction and disaster management are evidently playing an important role in reinforcing the preparedness and early warning capacities required to confront and mitigate climate hazards. Social protection policies are essential to protect lower-income groups against the threats of climate hazards. Adaptation policies, such as those requiring the adoption of new crops or enhanced irrigation systems, are critical to preventing a worsening of livelihoods as a consequence of climate hazards. To be successful,

[1] Faculty of Social and Gender Transformation Sciences, Women's University of Africa, Harare, Zimbabwe., https://orcid.org/0009-0005-4726-8535, roselin.ncube@gmail.com

[2] Department of Development Programming and Management, Zimbabwe Ezekiel Guti University, Bindura, Zimbabwe https://orcid.org/0000-0002-0052-4379, moreblessingmsundire@gmail.com

these policy responses must be part of a comprehensive development framework that leads the way to the empowerment of underprivileged groups.

Keywords: *hazard, impact, inequality, mitigation, adaptation.*

INTRODUCTION

Climate change is increasing the occurrence and intensity of the climate events and extreme weather that are affecting all nations. However, because of their geographical location, dependence on climate sensitive natural resources and development gaps in general, low income and developing countries in particular, are at the highest risk of climate hazards. Left unattended, climate dangers are likely to increase poverty, exacerbate food insecurity, worsen existing systematic inequalities and cause health problems, among other hardships, that may reverse years of development growth in some countries.

Climate hazards also have different impacts on people and communities within countries. These impacts are generally determined by deep rooted socio-economic imbalances (World Economic and Social Survey, 2016). Recent data propose that the world has already warmed 0.85° Celsius from pre-industrial levels and will continue to experience warming even if greenhouse gas emissions were instantly brought to a complete stop (Intergovernmental Panel on Climate Change, 2013). Building climate resilience presents a unique opportunity to reduce inequalities. The continuing inequalities in numerous dimensions have led to recognition that climate hazards have a different impact on people and communities. There is universal accord on the need to address the complex links between the human development and environmental agendas. Building climate resilience brings about a unique opportunity to reduce inequalities through

extensive transformative strategies supported by effective global partnerships (World Economic and Social Survey, 2016).

Nations with a high dependence on farming, the majority being least developed countries, are particularly predisposed to the adverse effects of climate change. Present-day farming practices are a major contributor to environmental degradation through greenhouse gas emissions and poor conservation of land and water resources. At the same time, agriculture is highly sensitive to climate change. As temperature rises, crop yield is anticipated to decline at lower latitudes although it is also anticipated to increase at mid-high latitudes. Warming, together with changes in rainfall patterns and unforeseen climate unpredictability, affects the scheduling and length of growing seasons and produces, with strong impacts on farmers' livelihoods and on food security in general (United Nations, 2011). Not only are the effects of climate hazards uneven across countries, they are also felt in a different way across population groups in countries. Recent years have seen a numerous global commitments intended at putting human development on a more sustainable path (Bradley and Hammill, 2017).

There is general agreement that climate change signifies a threat to sustainable development (Denton et al., 2014); therefore, development efforts must be resilient to the impacts of climate change and related disaster threats to be sustainable. This has been acknowledged in international agendas, including the 2030 Agenda for Sustainable Development, that established the Sustainable Development Goal, the Paris Agreement under the United Nations Framework Convention on Climate Change and the Sendai Framework for Disaster Risk Reduction, all of that have drawn relations between climate change adaptation, DRR and efforts to achieve sustainable development. The aim of the study was to assess how climate resilience in relation to realising SDGs is an issue in the Global South. Motivated by the need

to contribute knowledge in comprehensively addressing issues associated with the Global South to attain the desired SDGs.

In line with the nature of the study, a multi-pronged approach was implemented to identify relevant literature. A web-based search for documentation and a desktop review of printed and online writings were used to permit analysis of secondary data on climate resilience issues in the Global South and sustainable development progress in Zimbabwe and Bangladesh. Case study research design was used in reviewing the two countries in the Global South (Zimbabwe and Bangladesh) to answer the research questions and formulate recommendations. Sources referred included international and government reports, non-state and state agency development and climate change response strategies, public research organisations reports and academic and scientific literature.

A case study is a research approach that is used to generate thorough, multi-faceted understanding of intricate issue in its reel life context. The general approach for the case studies was to highlight the results available in literature on climate resilience as a sustainable development issue in Bangladesh and Zimbabwe and present these results in summary form. Hence it was the most suitable approach to use in this research as it helps gain greater understanding of climate resilience issues and SDGs in the Global South, making inference to other regions like the Global North countries, a case study of Sweden reviewed during literature.

THE ANALYTICAL FRAMEWORK

The SDGs were developed and introduced to continue the universal treaty on sustainable development, titled as the 2030 Agenda for Sustainable Development. Likened to the former global strategy, the approach adopted towards sustainability was reinforced, in that environmental sustainability was also complemented by social and

economic sustainability. Indeed, the tagline people, planet, prosperity embraces economic growth, environmental sustainability and social inclusion (United Nations, 2015). Adopted in 2015, the SDGs are a holistic concept and benchmarking tool that have spread to many strategic arenas to promote development and growth. They include 17 goals aimed at transforming our world. In Sustainable Development Goal 13, Member States dedicated to embark on urgent action to combat climate change and its impacts.

THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC)

The United Nations Framework Convention on Climate Change (UNFCCC) is grounded in the need for fairness between the Global North and South. Article 3 calls on parties to address climate change on the foundation of fairness and in accord with their common but differentiated responsibilities and respective competences. Accordingly, the developed country Parties should take the lead in fighting climate change and the adverse effects thereof. Article 4 offers for technology transfer from developed to developing countries. Article 4.7 recognises that economic and social development and poverty reduction are the first and overruling priorities of the developing country Parties and that such primacies are to be taken into account in the context of both developed and developing countries implementation of their respective obligations under the Convention

THE PARIS AGREEMENT

The Paris Agreement provides emphasis to the essential relationship that climate change actions, responses and impacts have with equitable access to sustainable development and eradication of poverty. It offers a framework for technical, financial and capacity building backing from more developed countries to developing countries, both to mitigate greenhouse gases (GHGs) and adapt to the impacts of climate change. Remarkably, to accomplish such results, in its foreword the

Agreement plainly argue that its Parties must, when taking action to address climate change, respect, support and consider their particular obligations on human rights, including explicitly the right to development, empowerment of women, gender equality and intergenerational equity.

The Agreement identifies that climate change impacts human rights and requests for Parties to consider human rights requirements (that comprise the right to development) when taking actions to address climate change. The Paris Agreement precisely identifies the procedural rights and obligation pertinent to climate change and calls for states to cooperate to improve public awareness, public access to information and public participation. Article 13 of the Paris Agreement provides for a transparency framework regarding countries compliance with commitments under the Agreement. Further, article 7 of the Paris Agreement accepts that adaptation action should follow a country motivated, participatory, gender responsive and fully transparent approach, taking into account ecosystems, vulnerable groups and communities (UNFCC, 2012 and IPCC, 2013).

LITERATURE REVIEW

The literature review achieves several purposes. It shares results of other studies that are closely related to the one being undertaken with the reader. It relates a study to the larger, current dialogue in the literature, filling in gaps and covering previous studies (Marshall and Rossman, 2006). It offers a framework for instituting the importance of the study and a yardstick for comparing the results with other findings. This section of the article offers literature, sharing on the research that has been done in relation to the research aim, highlighting the gap in literature it will offer.

The UN Framework Convention on Climate Change defines climate change as a change in the climate attributed directly or indirectly to

human activity that modifies the composition of the global atmosphere and that is, in addition to natural climate variability, observe over comparable time periods. Climate change takes place over a period of decades or centuries; what people experience in their daily life is climate variability and climate extremes. Climate change adaptation and mitigation processes constitute two pillars of the determined goal of sustainable development (IPCC, 2014).

Adaptation undertakes a prominent role in developing countries where most of climate risks are intense and where the effects of economic development and climate change are increasingly intertwined due to unequal distribution of resources, high birth rates and institutional hurdles (McSweeny and Denton *et al.,* 2014). Given that climate change is an increasing threat to development, sustainability will be more challenging to achieve for many places, systems and populations unless development pathways are followed that are resilient to effects of climate change (Denton *et al.*, 2014). Subsequently, incremental responses are becoming very urgent to decrease both development deficits and the risk of poverty traps due to resource reliant economies (Jerneck and Olsson, 2008).

As observed by the UNFCCC (2011), the combination of mitigation and adaptation methods with effective institutes able to reduce vulnerability is key for generating climate-resilient pathways in the developing countries, where the effects of climate stressors impend the livelihoods of the most unprotected communities. Climate resilient pathways bring together (i) sustainable development as the larger framework for communities, constituencies, nations and the international community with (ii) climate change effects as threats to (and probably opportunities for) sustainable development and (iii) responses to reduce any effects that would undermine future development and even offset already accomplished advances (O'Brien *et al*,2010). Resilience is defined as the capacity of a social, ecological, or

socio ecological system and its constituents to anticipate, decrease, accommodate, or recover from the effects of a hazardous occurrence or trend in a timely and efficient manner (National Research Council, 2010).

Climate resilience refers to the results of evolutionary procedures of managing change to reduce disruptions and improve opportunities. Considering alternative climate-resilient pathways cannot be disconnected from levels of climate change, a climate-resilient pathway for development is an ongoing process for managing changes in the climate and other driving forces disturbing development, merging flexibility, innovativeness and participative problem solving with effectiveness in mitigating and adapting to climate change. If effects of climate change are quite severe, this process is likely to call for considerations of transformational changes in endangered systems if development is to be sustained without major interferences (Bulkeley and Schroeder, 2012)

The adoption of the 2030 Agenda for Sustainable Development, with its vision of transforming our world, affords a unique chance to strengthen policymaking systems in such a way as to permit them to effectively take the lead in the transformation process essential for sustainable development, including the building of climate resilience. While broad international consensus has supported this view, the challenge going forward is nonetheless centred on the adoption of national policies that will, within each country's context and limitations, drive efforts (IPCC, 2014).

Sustainable Development Goal 13 asserts the urgency of taking action to combat climate change and its effects by calling for actions to reinforce resilience and adaptive capability with respect to climate hazards; to incorporate climate change measures into national policies; and to advance education, awareness-raising and institutional and

human capacity on climate change adaptation, mitigation, impact reduction and early warning. The interlinkage between climate change and other dimensions of development are also well echoed in other Goals. If the occurrence and intensity of climate hazards intensify, it will be harder for countries to end poverty and hunger, improve nutrition, achieve food security, ensure healthy lives and promote sustainable agriculture (Goals 1-3).

Additionally, the sustainability of water and energy systems (Goals 6 and 7) and the safety and resilience of infrastructure, cities and human settlements (Goals 9 and 11) will be confronted by climate hazards. Likewise, if climate hazards continue to undermine the capacity of countries to attain sustained growth and development, full employment and decent work will be harder to achieve (Goal 8) IPCC 2014). Climate hazards are understood as being the potential occurrence of a climate-induced physical event that may cause loss of life, injury or other health impacts and damage to and loss of property, infrastructure, livelihoods, service provision and environmental resources (UN, 2019)

This idea of climate resilience is to be attained through three inter-dependent outcomes: resilient people and livelihoods, resilient business and economics and resilient environmental systems

When we live in a world where people most susceptible to climate risks, particularly those living in least developed countries and small island developing States, are resilient, succeed and thrive. Actions are taken so all profit from early warning systems; decent, safe and green jobs; resilient value chains; social protection; and receiving finance to where it matters (local communities). This helps achieve climate justice and a fair transition for all with no one left behind.

Where all climate risks are fully understood by all businesses, investors and the general public. Actions are taken to manage these risks across and within sectors, with main focus on cities, infrastructure, agriculture and food, services (including energy, transport and industry), ocean and coastal systems, water and natural ecosystems. This includes providing access to climate risk insurance for small, medium and large enterprises and helping ensure trillions of US dollars in future investments are climate risk conscious and deliver social, environmental and economic impacts.

Where nature, with its variety of terrestrial and marine ecosystems, is the first line of defence against climate risks of dangerous events and disasters and long-term alterations in climate. This means biodiversity and the natural ecosystems are protected to ensure the world has fresh water, nutritious food, fertile soils, clean air and pollination services. This is vital if we are to secure resilient and sustainable development for human and environmental health and wealth and learn lessons from the COVID-19 pandemic. This vision recognises that building climate resilience requires mitigation and adaptation actions that must be joined to confront the current and future effects of climate change.

It is reassuring that many states are embracing the principle of leaving no one behind and explicitly integrating Sustainable Development Goals (SDGs) into their policies. But progress is slow or delayed in many areas, including efforts to combat rising disparities within and among countries and fighting climate change, that, in turn, obstructs achievement of SDGs. Already in 2019, UN High-Level Political Forum on Sustainable Development concluded that the world is not on trajectory to achieve many targets by 2030. The COVID-19 pandemic has further constrained the funding required to achieve SDGs. The following case study on climate change resilience in the Global North (case of Barcelona city in Spain) will highlight the differences in reliance building mechanisms that have been employed. These will

also serve as guide to the Global South in terms of coping with the effects of climate change, towards building resilience to attain sustainability.

Barcelona main climate change challenges include temperature rise, decline in rainfall and an increase rise in extreme events such as heatwaves and drought. The high urban density of Barcelona can worsen the heat island effect.

In its effort to adapt to climate change effects the Barcelona City devoted to becoming an international model of a sustainable city in response to the urban development challenges linked to climate change. For many years, Barcelona has had a focus on planting and managing trees. Barcelona's Green Infrastructure and Biodiversity Plan 2020 (BGIBP) seeks to join different areas of the city with green infrastructure. In line with the BGIBP aims, Barcelona's Tree Master Plan for 2017-37 recognises many actions to enlarge tree coverage and improve the climate resilience of the urban trees. The tree planting and managing will help promote resilience by, moderating the urban climate by cooling it, controlling local flooding by helping to reduce the volume of storm water runoff. Trees would also offer co-benefits by reducing noise pollution, eliminating air pollutants, storing carbon, modifying humidity and balancing the water cycle, building ecological connectivity, providing habitation for urban biodiversity and creating a pleasing urban scenery. While Barcelona has a relatively small amount of green space per resident, it has more street trees than most European cities (Barcelona City Council).

FINDINGS

This component will reveal, analysed and interpreted findings from the study carried out. The presentations are in accordance with the research objective of reviewing reasons why climate resilience is regarded as an SDG issue in the Global South. Case studies will

contribute knowledge due to an in-depth analysis of individual countries, with different climate change related challenges and approaches to resilience building. Results will also highlight the reasons impeding sustainable development goals attainment in relation to climate resilience in the Global South, proposing solutions on how best these impacts could be dressed.

ZIMBABWE

Zimbabwe is situated in a semi-arid region with limited and variable rainfall patterns and temperature variants. Rainfall shows considerable spatial and temporal erraticism, characterised by changes in the onset of rains, escalations in the proportion of low rainfall years, increases in the occurrence and intensity of mid-season dry spells, reductions in low intensity rainfall events and surges in the frequency and intensity of heavy rainfall events. Extreme weather events, such as tropical cyclones and drought have also increased in regularity and intensity. Variations in climate have caused more arid environs for agricultural production that has changed Zimbabwe's five main agro ecological regions. Rainfall patterns and crop production gradually decline from Region I to V. Generally, the climate in Zimbabwe is regionally distinguished, but is mostly becoming warmer with more inconsistent rainfall patterns.

Zimbabwe is a land-locked country in Southern Africa that is mainly vulnerable to climate change. Its climate is primarily semi-arid and is very variable, being strongly influenced by the Inter-Tropical Convergence Zone. As a result, the country is prone to shifting rainfall patterns, droughts and sporadic floods that have severe consequences for climate-sensitive economic divisions and food security. Climate change is aggravating these problems by increasing the occurrence and intensity of such extreme weather events. In addition, the impacts of climate change are foreseen to disproportionately affect women. 70% of the population of Zimbabwe are smallholder farmers, whose key

livelihood activity is rain fed farming and women characterize the largest group of people involved in farming activities (86%). Inequality between men and women is already severe, women occupy an underprivileged position in society and are more dependent on nature resources for food and earnings than men. Women are, thus, most vulnerable to climate change induced stresses that affect natural resources.

Zimbabwe's system for climate governance is rooted in its National Climate Policy of 2017 that forms the backbone of the nation's climate change response. It provides an all-encompassing framework to give the country basic values and regulation under that the National Climate Change Response Strategy (NCCRS, 2014), has preceded. The policy guides climate change management through improved national adaptive capability and improved mitigation actions, facilitating domestication of international policies, ensuring compliance to the universal mechanisms. The National Climate Policy targets to assist the country in meeting its Nationally Determined Contribution (NDC) to the UNFCCC by building resilient societies and directing the country towards an economy that is mainly decoupled from climatic variations. It demands climate proofing of other policies and socio-economic infrastructure, strengthening of climate change control, increased education and awareness; enhanced early warning and climate services, increase research to inform planning and future policy direction; and a comprehensive sustainable climate finance outline. The policy lays the foundation for increased coordination and participation of all stakeholders in response to the climate challenge.

BANGLADESH

As observed by the Third Assessment Report of IPCC, South Asia is the utmost vulnerable state of the world to climate change effects. The international community also recognises that Bangladesh ranks high in the list of most vulnerable countries on the planet. Bangladesh's

high susceptibility to climate change is due to many socio-economic and hydro-geological influences that comprise: (i) its geographical location in South Asia; (ii) its life-threatening climate variability that is governed by monsoon and that results in acute water distribution over space and time; (iii) its high population concentration and poverty incidence; (iv) its flat deltaic landscape with very low elevation; and (v) its bulk of population being dependent on crop farming that is highly influenced by climate variability and alteration. In spite of the recent advances towards achieving sustainable development, Bangladesh's potential to sustain its development is confronted with substantial challenges posed by climate.

Bangladesh is situated between $20^{o}34^{/}$ to $26^{o}38^{/}$ North latitude and $88^{o}01^{/}$ to $92^{o}42^{/}$ East longitude. It is enclosed on the west, north and east by India, on the south-east by Myanmar and on the south by the Bay of Bengal. The nation inhabits an area of 147,570 sq. km. Geologically it is a part of the Bengal Basin that has been filled by sediments eroded down from the highlands on three sides of it, particularly from the Himalayas. The nation enjoys a warm, humid, tropical climate. Its climate is influenced mainly by monsoon and partially by pre-monsoon and post-monsoon circulations.

Bangladesh is classified among the most vulnerable nations to climate change. About two-thirds of its land area is susceptible to river and rainwater flooding and its coastlines are open to storm surges and tidal flooding. These factors make the country mainly vulnerable to sea level rise, greater precipitation during the monsoon season and glacial retreats. At present-day, roughly 3 to 7 cyclones affect its coastline each decade. These events have the potential to cause substantial loss of life, population displacement and damage to assets. Tropical cyclones in 1970 and 1991 are estimated to have killed 500,000 and 140,000 people separately. Furthermore, between 1984 and 2007, severe floods killed over 6,500 people, rendered more than 80 million people homeless and

caused damage of about US$8.4 billion. Moreover, in 2007, Cyclone Sidr killed over 3,000 people and caused an economic loss of US$1.7 billion. Given the regularity and size of these events, it is not astonishing that Bangladesh was ranked sixth on German Watch's 2015 Global Climate Risk Index. Bangladesh also spends more of its budget on disaster aid than all other South Asian countries.

In its efforts to adapt to climate change effects. The government of Bangladesh proposed to implement policies that promoted adaptation to coastal crop agriculture to combat salinization. This was to be done through maize production under Wet Bed No-tillage Technique and Sorjan methods of farming in tidally flooded agro ecosystem. To combat enhanced salinity caused by sea level rise, the government pledged to provide drinking water to coastal populations. Increasing resilience of urban infrastructure and industries to effects of climate change including floods and cyclone. Adaptation to fisheries in regions predisposed to enhanced flooding in North East and Central Region was to be supported through adaptive and varied fish culture methods in coastal areas, coastal afforestation with communal concentration was to be implemented to prevent climate related hazards and adaptation to coastline fisheries through culture of salt tolerant fish particularly in coastal areas of the country. Lastly, building of flood shelter, information and support centre to cope with heightened recurring floods in major floodplains. Bangladesh has adopted a synchronized method in its development planning process to achieve high growth in the medium and long term. In light of the results generated from the two case studies of countries in the Global South, despite being situated in different continents the effects of climate change have been felt and they continue to bring along devastating impacts.

DISCUSSION AND LESSONS LEARNT

The following discussion will inform reasons why climate resilience is an issue in the Global South, having discussed the impacts of climate

change and what some countries have implemented to foster resilience but are still lagging behind in the sustainable development agenda. Reasons are as follows:

The 4th Assessment Report of the IPCC reports that Africa is one of the most vulnerable continents to climate change, a condition worsened by the relations of multiple stresses, including inadequate infrastructure such as energy, transport, water, sanitation and ICT. The African Development Bank estimates that Zimbabwe needs roughly $14.2 billion to rehabilitate existing infrastructure. Zimbabwe's roads, to be exact, were once considered to be among the finest in southern Africa, but are now in a state of disrepair owing to years of abandonment. Climate linked hazards, including extreme localised floods are worsening this state. The socio-economic expenditures of climate change to infrastructure will likely be high if no action is taken. Non adaptations possibly will lead to the damage and ruin of infrastructure, that will affect all divisions of the economy. As a result, the right policy adoptions are critical in guaranteeing that future infrastructure is climate resilient. Zimbabwe is gifted with plentiful human and natural resources and these resources are inter-reliant. For example, since the economy is greatly dependent on agriculture and electricity, its forte and stability are connected to the climate and particularly the state of the country's water resources.

Climate change brings about a major threat to human security, particularly for women who represent 70% of the world's poor. It is generally recognised that climate change will intensify the gender dimensions of vulnerability that rise from prevailing social inequalities and gendered divisions of labour. In addition to the unequal impacts of disasters on women's mortality and illness, climate change is anticipated to jeopardise women's livelihoods by decreasing economic opportunities, particularly for female led households. Women's unequal contribution in decision making processes and labour markets

compound inequalities and frequently prevent women from wholly contributing to climate related planning, policymaking and implementation.

Examination of women's inclusion in Nationally Determined Contributions (NDC being the national plans emphasizing climate actions, including climate linked targets for GHG emissions reductions, policies and measures governments intend to implement in response to climate change to reach the targets set out in the Paris Agreement). The research emphasises that to ensuring that no one is left behind it requires a devoted focus on the equal rights of women and on guaranteeing their participation in decision making, including in relation to climate action. Women need genuine opportunities to meaningfully participate in nationwide development planning, policy design, implementation and budgeting, including for climate action. Future planning needs to incorporate a gender sensitive viewpoint, that requires an understanding of the ways in that climate change can intensify pre-existing disparities between men and women

Marginalised parts of the population in some countries such as indigenous communities are evicted from their land in the name of natural conservation without any compensation, leaving them displaced. Property laws do not allow indigenous societies to question the implementation of projects that disturb them, nor to share in the profits from the exploitation of resources. These societies are not provided with necessary information, oftentimes media outlets do not reach them and, even when they do, people may not be able to make use of the press as they communicate in different languages or may not be able to read. Lack of property rights ushers in particular challenges during the carrying out of projects targeted at reducing carbon emissions, as such projects may deprive residents who lack alternative to seek compensation for their loss. Indigenous peoples' rights are poorly protected as their communities are not knowledgeable about

mechanisms through that they can assert their rights. In addition, access to legal services is usually costly, such services are often situated far from indigenous reserves and may use languages that the indigenous peoples do not comprehend.

If less economically developed states try to develop the same manner as rich countries, their industries will emit more GHGs into the atmosphere, leading to more climate change. In global climate change dialogues, rich countries maintain that less developed nations reduce their GHGs, but they are not proposing to help them continue to develop in a way that adds less to climate change. The option for developing countries is either to stop developing or to carry on to develop and add to climate change, paying fines for the extra emissions under the global climate change agreements. Consequently, poor countries are expected to pay for a problem that they did not create. This dispute is causing paralysis of the dialogues to mitigate climate change and a failure for countries to agree on emission reduction levels.

Climate change is also essentially discriminatory at international level. The effects of climate change are predominantly detrimental and uneven for many small islands and developing States. Uneven impacts stem from the historical circumstances that have led to inequality, including colonization that exhausted the resources of indigenous peoples and created global wealth inequalities and trade systems put in place after the Second World War. Main economic models fail to support the transformation of production and consumption patterns to sustainable and reasonable levels, hinder States from implementing their own development objectives and fail to ensure human rights within the constrictions of our global borders. In addition, more developed countries tend to have diversified economies that are more resilient to economic shocks and harm triggered by climate change.

Regrettably, current information systems are not sufficient to the challenge of following trends at the juncture between climate related events and socioeconomic vulnerabilities. People living in low lying coastline areas, drylands and mountainous and remote areas and population groups whose livelihoods depend on forest products are particularly at risk. Nevertheless, basic information on population size, socioeconomic features and risk causes that could help ascertain those groups remains in the form of very rough estimates. Some of those groups are challenging to reach due to their geographical location, but the lack of basic information is also connected with an insufficiency in the resources for generating statistics at the level of disaggregation necessary to identify particular population groups. Comprehensive development policies are the kind of policies, all, desirable to build climate resilience through building people's resilience to socioeconomic and climate associated shocks. Tackling the root causes of vulnerability needs a variety of policy interventions leading to the structural transformations that reinforce people's opportunities and agency.

Under Article 6 of the Paris Agreement, Governments contracted to achieve part of their mitigation obligations through voluntary cooperation. The agreement institutes mechanisms to meet their separate climate commitments through shared implementation, including a sustainable development mechanism. This mechanism is intended to function as a central United Nations tool to trade credits from emissions reductions produced through specific projects building on the experience of previous market mechanisms, such as the clean development mechanism, that had been recognised under the Kyoto Protocol. The mechanism was put in place with no environmental or social requirements for stakeholder contribution and consultation, or access to any remedy for local societies that might be affected by projects sustained through the mechanism.

As a result, some projects under the mechanism resulted in extensive harm to local groups and indigenous peoples. Regardless of the expression of concerns linked to such harm by United Nations human rights mechanisms, no solution was provided communities affected and these projects continued to be registered under the mechanism. Even where there are no specific human rights violations, investment in a project may not make economic sense in terms of the quantity of carbon reduction and profits or damage to local communities. Hence such policy shortcoming hinders climate resilience advancements that can be supported by local communities. This in turn slows down the realisation of SDGs in the Global South, as conflict between indigenous people and investing institutions rise. There is urgent need to review such policy shortcoming of internationally binding agreements such as the Paris agreement and Kyoto protocol.

CONCLUSION AND RECOMMENDATIONS

The worldwide agreement attested by the adoption of the 2030 Agenda for Sustainable Development offers a unique opportunity to build climate change resilience for sustainable development by addressing the fundamental inequalities that perpetuate poverty, marginalisation and social segregation and thus increase vulnerability to climate vulnerabilities. It has also been acknowledged that the relationship between climate hazards and inequalities has not been adequately researched. The article therefore, argues that, in the absence of well evaluated, far reaching transformative policies at the local level, buttressed by effective global partnerships, building climate resilience will remain elusive and inequalities and poverty will likely be worsened. This will pose a fundamental challenge to the implementation of the 2030 Agenda for Sustainable Development. The EU and other international organisations could further support urban resilience in cities in the Southern Neighbourhood by encouraging incorporation of the water, food and energy sectors that will call for enhanced synchronization between different stakeholders. Such

determinations would benefit from an approach that spreads beyond technical aspects and builds the necessary enabling conditions for more integrated policy creation. A key factor here is assistance for enhanced decentralization that supports local organisation building by supporting a governance system in that local authorities do not only attend administrative functions but are also contracted political decision-making powers. Crucially, this desires to come with better access to monetary resources, capacity building and mechanisms for reinforcing local democracy and citizen partaking.

Building climate resilience encompasses all actors (businesses, governments and communities and businesses) having the ability to anticipate climate hazards and risks, absorb shocks and stresses and restructure and change development pathways in the longer term. The research therefore proposes steps that sectors and actors must take in promoting climate resilience. These are organising research and foster advancements for building more climate-resilient urban areas in the Southern Neighbourhood. Empower civil society through awareness raising and advocacy while ensuring that no one is left behind through addressing gender inequality and discrimination by involving the vulnerable groups of society. Increase EU, UN and other international organisations climate funding for water, energy and food in cities, mainly funding for climate resilience. Monitor and track progress on climate resilience measures being implemented. Share knowledge and experiences at local, national, regional and international level to help foster sustainable practical solutions.

REFERENCES

Barcelona City Council Ecology. (2020), Urban Planning and Mobility Strategy. *Department Barcelona, Spain. Available online: https://www.barcelona.cat/infobarcelona/es/medidas-urgentes-para-hacer-frente-a-la-emergencia-climatica-2_836826.html* Accessed on 20 January 2020.

Bradley, R. and Hammill, A. (2017). Shared Learning can Align NDCs, NAPs, and SDGs to Expand Climate Resiliency. NDC Partnership.

Bulkeley, H. and Schroeder, H. (2012). Beyond State/non-state Divides: Global Cities and the Governing of Climate Change. *European Journal of International Relations*, *18*(4), 743-766.

Denton, F., Wilbanks, T.J., Abeysinghe, A.C., Burton, I., Gao, Q., Lemos, M.C., Masui, T., O'Brien, K.L. and Warner, K. (2014). Climate-resilient pathways: adaptation, mitigation, and sustainable development. *Climate Change*, pp.1101-1131.

Intergovernmental Panel on Climate Change (IPCC). (2014). *Climate Change 2014: Synthesis Report*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the IPCC. Core Writing Team, Pachauri R.K., Meyer L.A., eds.

Intergovernmental Panel on Climate Change (IPCC). (2014). *Cambridge: Cambridge University Press*. 1101–1131.

Intergovernmental Panel on Climate Change. (2013). Impacts, Adaptation, and Vulnerability. Part A: Global and sectoral aspects. Contribution of Working Group II to the Fifth Assessment Report Climate change 2013 synthesis report: Summary for policymakers.

Intergovernmental Panel on Climate Change. (2014). Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of WG II to the Fifth Assessment Report of the IPCC. *Cambridge University Press: UK*.

Jerneck, A. and Olsson, L. (2008). Adaptation and the Poor: Development, Resilience and Transition. Climate Policy, 8: 170–182.

Marshall, C and Rossman, G. B. (2006). Designing qualitative research (4th ed.). *Thousand Oaks, CA: Sage.*

National Research Council. (2010). *National Academies Press, Washington, DC, USA*, Climate Stabilisation Targets: Emissions, Concentrations, and Impacts over Decades to Millennia. Committee on Stabilisation Targets for Atmospheric Greenhouse Gas Concentrations.

O'Brien, K. L., St. Clair, A. L. and Kristoffersen, B. (2010). Toward a New Science on Climate Change. *Cambridge University Press, Cambridge, UK*, 215-227.

UNFCCC. (2012). National Adaptation Plans.

World Economic and Social Survey. (2016). Climate Change Resilience - An Opportunity for Reducing Inequalities.