

# LEGAL AND HUMAN RIGHTS CENTRE



## IMPACTS OF CLIMATE CHANGE ON SOCIO-ECONOMIC & ENVIRONMENTAL RIGHTS IN TANZANIA



## **Publishers**

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## ABBREVIATIONS

Abbreviation	Description
AR5	The Fifth Assessment Report
CAN	Climate Action Network
CSOs	Civil Society Organizations
DLFO	District Livestock and
DoA	The Department of Agriculture
EALA	East Africa Legislative Assembly
EMA	Environmental Management Act
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
GBV	Gender Based Violence
GCF	Green Climate Fund
ICESCR	International Convention on Economic, Social and Cultural Rights
ICZM	Integrated Coastal Zone Management
IPCC	Intergovernmental Panel on Climate Change
LDEC	Least Develop Countries
LGA	Local Government Authority
LHRC	Legal Human Right Centre
LSRP	Legal Sector Reform Program
LVB	Lake Victoria Basin
NBS	National Bureau of Statistics
NDC	Nationally Determined Contribution
NEMC	National Environmental Management Council
NGOs	Non-governmental Organizations
NHRAP	National Human Rights Action Plan
ODK	Open Data Kit
PO-RALG	President's Office-Regional Administration and Local government
REDD	Reducing Emissions from Deforestation and Forest Degradation
TMA	Tanzania Meteorological Authority
ToR	Terms of Reference
UN	United Nations
UDHR,	the Universal Declaration of Human Rights



Abbreviation	Description
ICESCR,	International Covenant on Economic, Social and Cultural Rights
UNDRD,	UN Declaration on the Right to Development
ICCPR	International Covenant on Civil and Political Rights
UNFCCC	United Nations Framework Convention on Climate Change
URT	United Republic of Tanzania
VAC	Violence Against Children
VPO-DoE	Vice President's Office, Division of Environment



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## EXECUTIVE SUMMARY

Human rights are universal legal guarantees that protect individuals, groups and peoples against actions and omissions that interfere with their fundamental freedoms and entitlements. Human rights are universal and are based on the inherent dignity and equal worth of all human beings. They are equal, indivisible, interrelated and interdependent, and cannot be waived or taken away. Furthermore, human rights are legally protected, and impose obligations in relation to actions and omissions, particularly of States and State actors. Accordingly, human rights law obliges governments (principally) and other duty-bearers to respect, promote, protect and fulfil all human rights

Climate change is one of the global threats compromising realization and fulfillment of human rights. Evidence from recent studies show that climate change directly contributes to the violation of human rights in many different ways. This includes through increased risks from climate extremes ranging from droughts to floods that lead to loss of shelter, food shortages, breakdown of critical infrastructure including schools and health facilities, increased human and animal diseases and pests and disruption of habitats and critical ecosystems services that underpin survival, wellbeing and enjoyment of life. Various climate change studies including the most recent report by the authoritative Intergovernmental Panel on Climate Change (IPCC AR 6) reaffirms this. The report overwhelmingly asserts that humanity is headed down a dangerous path towards a warmer, more climate volatile, and less secure world.

Despite these apparent risks, the link between climate change and human rights is yet to be fully comprehended and worked up on both globally and locally. This is particularly the case in Tanzania where in spite of growing body of evidence on the impacts of climate change on all sectors, there hasn't been any comprehensive study conducted to assess how the changing climate is impacting enjoyment of human rights and what ma dated duty bearers are doing to protect relevant human rights.



In response to this, the LHRC through its Operational Plan 2021-2024 set forth an initiative to advocate for an improved socio economic and environmental justice in Tanzania. As part of this ambition, the LHRC commissioned the consultant (Climate Action Network (CAN Tanzania) to lead a mini study on the climate change and its impacts on human rights in Tanzania with a view of informing LHRC's focus on advocating for state's duty in protection of the established impacts of climate change on the social, economic and environmental justice of human beings. This study focused on agriculture, fisheries, livestock and settlement sectors.

Due to resource constraints, the study was conducted in 20 villages, 10 districts and six regions namely, Mwanza, Kagera, Manyara, Dodoma, Mbeya and Coast region, between July and November 2022.

This report therefore presents comprehensive findings from a study. Data was collected from 360 stakeholders comprised of community representatives (farmers, fisher-folks and pastoralists), village and ward governments as well as policy/decision-makers at district, regional and national levels.

## Findings

Based on to the findings, climate change has significantly affected human rights under the social, economic and environmental justice in Tanzania in a number of ways in all target sectors and regions as summarized below:

### i) Agriculture

Climate change's negative impacts on the agriculture sector are already being felt in all study regions namely Manyara, Dodoma, Mbeya and the Lake Zones (Mwanza and Kagera regions). A total of 77.6% of farmers in the study regions notably, Dodoma and Manyara reported decreasing trends in productivity as a result of recent and recurrent droughts happening in their areas. Changes in temperature and rainfall precipitation were reported to affect negatively some crops especially cereal crops and legume crops such as rice, maize and beans in the study areas in the form of increasing temperatures, weather variability, shifting agro ecosystem boundaries,





invasive crops and pests, and more frequent extreme weather events. On farms, climate change is reducing crop yields, the nutritional quality of major cereals, and lowering livestock productivity.

Due to the aforementioned impact, fundamental human rights related to agriculture have been severely affected. Notable rights revealed by respondents mentioned include those related to reduced food security (87.9%), compromised development (81.8%), reduced access to water (68.2%), increased health risks (66.4) and reduced life prosperity (40%), all of which threatening the very survival and prosperity of humanity.

## ii) Fishing

Fishermen in study areas particularly in the Coastal region (Mafia and Bagamoyo) and Mwanza (Ukerewe) reported to have experienced impacts of impacts of climate change in their fishing industry. Although most of them did not directly perceive the impacts of phenomena such as sea-level rise, changes in rainfall patterns, and changes in the salinity as climate change, they were aware and concerned with associated trends. They noted reduction in fisheries production over the years (84.5% of respondents), alteration of places with fish abundance (e.g., decrease of Coral reefs) (45.2%), disappearance and or vulnerability of fish species due to increased aquaculture diseases (34.5%), and unpredictable rainfall (35.7%). Fisherman further noted impacts of climate change including migration of fish to deep waters as well as increased incidences of bad weather conditions (i.e., frequent strong episodes of winds and storms) that have made fishing a very risky endeavor (88% of respondents). In turn, these trends have led to reduced fish catch, diets and income for hundreds of thousands of locals who depend on sea/lakes for food and earning.

Consequently, these trends have compromised a number of fundamental human rights attached to the fisheries sector. Respondents mentioned that rights related to inclusive and sustainable development (92.9%), food security (83.3%), access to reliable and affordable health services (78.5%), standard of living (47.6%) and quality life (40.5%). Climate change impacts are also affecting human rights related to work



and employment for both women<sup>1</sup> and man (69%).

### iii) Settlement

As with other sectors, climate change impacts on settlements were reported in all study areas in different contexts. According to the respondents, the most prominent climate change features threatening settlement in study areas included rising sea/lake water levels in Coast and Lake zone regions, impacts on water resources (i.e. sanitization of fresh water resources in Coast region), extreme weather events (e.g. droughts in *Manyara, Dodoma and Coast region*), *food insecurity security (especially in Manyara)*, *increased health risks from vector borne diseases* (in all study regions), and extreme heat/hot days (especially in Manyara region. For informants in the Coast and Kagera/Mwanza regions reported growing concerns of rising water levels from both the Indian Ocean and Lake Victoria whereby hundreds of people in such areas have been be affected by flooding leading to displacement of coastal residents. Informants also reported increased coastal erosion resulting from increased water levels which in turn has destroyed houses, infrastructure (houses and landing site), thereby forcing communities to including fisherman to abandon previously occupied coast areas (e.g., landing site) by moving further inland.

On the contrary, in Manyara and Dodoma, reported climate change impacts on settlements related mostly to decreased in inland drainage of water sources following decreased rains and drying up of wells, reservoirs and aquifers. This was reported to have resulted into water scarcity for both agriculture (irrigation) and households, with significant negative consequences on sanitation and food security.

Following the negative impacts of climate change on settlement as described above, fundamental human rights related to settlement sector have been hugely affected. Discussion with respondents rated the impacts in percentage as follows: food security

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<sup>1</sup>Women's rights for engagement in the sector is further constrained by their limited skills (e.g., swimming), time constraints due to family care responsibilities and limited access to credits for purchase of necessary equipment for effective engagement in fisheries industry, especially in Aquaculture subsector.



(i.e., reduced availability and self-sufficiency) (79%), education disruption (breaking of infrastructure-roads and building from flooding) (49.3%), and disruption of health services (i.e. due to destructed services and increased number of casualties (35.5%).

#### iv) Livestock

Consultations with pastoralists in study areas revealed that they are aware and increasingly concerned about the trends and its impacts on their livelihoods and pursuits for poverty reduction and sustainable development. They reported consistent declines in amounts of rainfall, delayed onset, erratic and cessation of rainfall, patterns which have lately become norm. Respondents from all study areas, particularly in Manyara, admitted that frequent droughts have led to severe economic impacts associated with poor livestock markets, noting that the price of cattle has continued to decline due to poor health conditions of animals. They further lamented that inadequate fodder, drinking water as well as heat stress has led to reductions in milk yield which is a staple food for pastoralists. Reduction milk poses risks to food and nutritional security of these communities, in particular for women and children especially since milk is traditionally and culturally an important meal of the pastoral communities.

Following the aforementioned challenges, pastoralists pointed a number human right related aspects that have been affected by climate change from their livelihoods, poverty reduction and sustainable development aspirations. These include rights to food security, economic growth, water security and sanitation, rights quality health and life assurance as well as rights to standard of living.

#### Conclusion

As discussed in the foregoing sections, climate change is posing significant challenges on the socio-economic and human rights aspects of smallholder farmers, fish folks, Pastoralists and settlement in all study regions, districts and villages. Findings of this study have demonstrated the overwhelming impacts on all sectors of the study human rights in all sectors study. Climate change impacts have also aggravated gender inequality especially through increased gender roles and family disintegration in



pursuit of solutions to address the impacts. These trends have affected development patterns and increased workloads for women tremendously and some communities are falling into deep poverty. The study notices that the government in collaboration with various non state actors are implementing a number of interventions at various levels to address climate change impacts in the study sectors and beyond. However, efforts need to double in order match the ever-growing impacts.

## Recommendations

### General recommendations for LHRC and other DPs

- ii. In collaboration with relevant stakeholders, conduct training and sensation of national level government authorities mandated with upholding human rights and those dealing with climate change management on relevant environment and climate change justice for their further actions.
- iii. In collaboration with relevant stakeholders including PO-RALG and others, conduct training and sensation of sub-national level government authorities (e.g., regional, district, Ward and village levels) mandated with implementation of various environmental and climate change programs and protection of welfare and human justice at that level with a view of enhancing their understanding of relevant human rights affected by climate change as well as required interventions to uphold such rights.
- iv. Promote and support effective monitoring of implementation of relevant environment and climate change justice provisions enshrined in various national and international instruments paying particular attention to key vulnerable groups recognized by the law including Persons with Disabilities, elderly persons, children, women and persons living with HIV
- v. Enlighten CSOs involved advocacy and monitoring of human rights on current status of environmental justice and human right issues in the country and encourage them to include key activities in their priority lists for advocacy and community training /sensitization include through building local capacity and empowering programs;



participating in monitoring and evaluation of human rights issues at national and community level; mobilizing and enhancing community participation in human rights and climate change initiatives; and mobilizing community resources towards achieving the objectives of environmental justice and human rights across sectors.

- vi. In collaboration with relevant government authorities, conduct orientation and sensitization session to members of parliament, particularly relevant committees on human rights and environment/natural resources in order to appraise on the current status, gaps and areas for action
- vii. Conduct in depth sectoral analysis covering the entire respective regions/districts by increasing the sample size in to capture detailed perspectives of human rights and environmental justice from a regional/district level
- viii. Facilitate and coordinate Climate change and Human Rights dialogue sessions at the national and regional/zonal level (i.e., national dialogues/conferences on Climate Change and Human Rights) in order to foster understanding, catalyze responsibility and accountability by duty bearers.
- ix. In collaboration with relevant authorities and other stakeholders launch a program for monitoring and reporting progress and status of programs aimed at addressing environmental/Climate Change and Human Rights (e.g., GBV, VAC- related to migration) issues
- x. Given vulnerability of Coastal areas to climate change especially sea level rise among others, conduct a detailed separate study for coastal areas including Zanzibar to understand climate change impacts on human rights and response by mandated duty bearers. Based on the findings, establish relevant recommendations for further action.
- xi. Conduct dialogues and advocacy to foster thorough consideration and integration of human rights obligations standards and principles in national climate policy, action and strategies.



- xii. Promote Mitigation and adaptation efforts that place people at the center, are gender sensitive, and ensure the rights of persons, groups and peoples in vulnerable situations, including women, children, indigenous peoples and the poor. These could be informed by the use of impact assessments to ensure that climate actions benefit those facing the greatest risks
- xiii. Consider formation of an informal committee/tasks force on human rights and climate change to identify good practices, strengthen accountability mechanisms, engage with CHRAGG and other relevant stakeholders on Climate Change and further explore the links between climate change and human rights in the country.

## Sectoral Recommendations

### a. Agriculture

- i. Advocate for effective implementation of key national climate change frameworks including national climate response strategy (NCCRS, 2021), National Determined Contributions (NDC,2021), the climate smart agriculture guidelines (2017) and other related policies and strategies with a view of addressing negative impacts of climate change on agriculture and human rights
- ii. Promote implementation of relevant climate change adaptation measures identified by the NCCRS and NDC with a view of addressing the various human rights challenges on agriculture including food and water security. These measures include availing drought resistant crops, micro-irrigation, rain water harnessing and micro-dams for improved water efficiency; leveraging renewable energy – solar, food/crop storage facilities/warehouses and scaling-up rural electrification.
- iii. Strengthening extension systems (including training, access to technology, equipment and localized/downscaled Climate Services) for improved in agriculture sector
- iv. Enhance Access to and effective use of digital agriculture solutions (M-Kilimo and dash-board) which offers early warning information which is critical to mitigate potential negative impacts of climate change and associated negative consequences on human rights.



- b. Fisheries:** In order to protect and secure human rights and environmental justice related to fisheries sector, the following recommendations are made based on findings and lessons from the current study
- i. Train fish folks on safety issues related to deep water fishing (e.g., swimming for women) and assist with access to relevant safety equipment (GPS, life jackets, VHF radio signals) and other fishing gears
  - ii. Promote Marine spatial planning to protect and secure rights of different coastal and marine users in light of the growing momentum of Blue Economy investments
  - iii. Support availability of refrigerated containers and other cold facilities at landing site to assist with storage as mitigation measure against losses of fish catches
  - iv. Promote aquaculture including cage fish farming to address shortage of fish due to changing weather patterns and or lack of appropriate gears for deep water fishing due to climate change
  - v. Support access to climate services (i.e., early warning information) among fishing community in order to minimize risks and reduce losses related to no catch/ decreased fish catch safety threats (disasters) caused by lack of information
  - vi. Strengthen enforcement of regulations governing fishing industry in order to protect the marine environment and its biodiversity as well as safeguard fish folks against related negative impacts on their human rights

### **C. Settlement**

- i. Promote Land use planning in order to protect relevant human rights related to settlement and facilitate appropriate use of land to address potential conflicts resulting from encroachment and unplanned uses of land. A good example is Manyara region where in 2020 a group of more that 15 pastoralists migrated into the area and occupied land reserved for public use.
- ii. Conduct risk assessment and hazard mapping for various settlement areas and establish zonation's for areas suitable for Settlement thereby safeguarding human rights related to settlements



- iii. Support implementation of Climate Smart Building codes/standards to enhance adaptation and resilience buildings and secure relevant justices against climate change risks
- iv. Promote availability of alternative sources of water, energy and farmland in order to ensure availability of adequate and reliable supply of basic requirements such water and food in authorized settlement areas
- v. Strengthen enforcement of settlement regulations especially in risky areas (e.g., along river banks, earth quakes and flood prone areas) to avoid preventable catastrophic events
- vi. Conduct public training on health and safety measures and rescue mechanisms in order to safeguard lives and welfare of communities residing in risky but authorized areas
- vii. Enhance monitoring of progress and reporting on achievements in the implementation of human rights related interventions in settlement.

#### **D. Pastoralism**

- i. Consider and promote availability of alternative sources of water and food for livestock (e.g., introduce hydroponic fodder, Chaco dams and other necessary infrastructure) in order to address deficit of basic food requirements for animals and reduce growing conflicts between pastoralists and farmers
- ii. Improve extension services including animal diseases and pests' surveillance and management including use of deep wash facilities
- iii. Promote climate responsive pastoralism coupled with public education on selection of breeds and associated practices such as destocking of livestock in order to reduce tensions and conflicts related lack of folder and water for livestock
- iv. Conduct training to both pastoralists and duty bearers on relevant human rights in the livestock sector that needs to be monitored and reported





## 1.0 BACKGROUND AND CONTEXT

### 1.1 Background

The history, facts and obligations for states and other stakeholders to uphold human rights are stipulated in a number of international frameworks including the Universal Declaration of Human Rights (UDHR, 1948), the International Covenant on Economic, Social and Cultural Rights (ICESCR, 1966), and the UN Declaration on the Right to Development (UNDRD, 1986), International Covenant on Civil and Political Rights (ICCPR, 1966) and the UN Guiding Principles on Business and Human Rights (UNPBRH, 2011).

According to the UDHR, Human rights are universal legal guarantees that protect individuals, groups and peoples against actions and omissions that interfere with their fundamental freedoms and entitlements. Human rights law obliges governments (principally) and other duty-bearers to respect, promote, protect and fulfil all human rights. Human rights are universal and are based on the inherent dignity and equal worth of all human beings. They are equal, indivisible, interrelated and interdependent, and cannot be waived or taken away. Furthermore, human rights are legally protected, and impose obligations in relation to actions and omissions, particularly of States and State actors (OHCHR, 2015).

The UDHR, the ICESCR, and the UNDRD all make clear that State human rights obligations require both individual action and international cooperation. According to the Universal Declaration

of Human Rights everyone is entitled to a social and international order in which the rights and freedoms therein can be fully realized and everyone has duties to the community. Similarly, the ICESCR declares that States should “take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of [their] available resources, with a view to achieving progressively the full realization of rights recognized in the present Covenant”. *Ibid*

The Declaration on the Right to Development further calls on States to establish through their individual and collective actions, national and international conditions favorable to the realization of right to development and all human rights including through international cooperation to provide developing countries “with appropriate means and facilities to foster their comprehensive development”. It also emphasizes that “all human beings have a responsibility for development, individually and collectively and they should therefore promote and protect an appropriate political, social and economic order for development”. The UNPBRH also have human rights responsibilities. They reaffirm that all responsible actors should be held accountable for the negative impacts of their activities and that all actors share responsibility for remedying these impacts<sup>2</sup>.

The basic human rights principles of equality and non-discrimination require action to address and remedy the disproportionate impacts of climate change on the most marginalized and vulnerable



groups. It calls for states to ensure climate actions have benefit to all persons, groups and peoples in vulnerable situations and should reduce inequalities. The disproportionate impacts of climate change on persons in Least Developed and vulnerable countries raise concerns of climate justice, fairness, equity and access to remedy. The Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights (ICCPR) and other human rights instruments make it clear that all persons who suffer human rights harms are entitled to access to effective remedy.

The Six Assessment Report (AR6) by the Intergovernmental Panel on Climate Change (IPCC) unequivocally stated with high confidence that “Widespread, pervasive impacts to ecosystems, people, settlements, and infrastructure have resulted from observed increases in the frequency and intensity of climate and weather extremes, including hot extremes on land and in the ocean, heavy precipitation events, drought and fire weather”. It reveals that climate change has caused substantial damages, and increasingly irreversible losses, in terrestrial, freshwater and coastal and open ocean marine ecosystems, noting that “the extent and magnitude of climate change impacts are larger than estimated in previous assessments. There are noted widespread deterioration of ecosystem structure and function, resilience and natural adaptive capacity, as well as shifts in seasonal timing, with adverse socioeconomic consequences”.

The report further reveals with high confidence that “Climate change including increases in frequency and intensity of extremes have reduced food and water security, hindering efforts to meet Sustainable Development Goals and countries growth plans. In this regard the AR6 assert with high degree of confidence that “increasing weather and climate extreme events have exposed millions of people to acute food insecurity and water stress, with the largest impacts observed in many locations and/or communities in Africa, Asia, Central and South America, Small Islands and the Arctic. Jointly, sudden losses of food production and access to food compounded by decreased diet diversity have increased malnutrition in many communities, especially for Indigenous Peoples, small-scale food producers and low-income households, with children, elderly people and pregnant women particularly impacted”. These observations reaffirm the United Nations Human Rights Council panel discussion (2015) which asserted that “those who have contributed the least to greenhouse gas emissions will be the ones who bear the greatest burden; the poorest people, in the poorest countries, and their children

“Mary Robinson, the former High Commissioner for Human Rights, now President of the- Climate Justice Foundation further reaffirmed this reality by describing climate change as “probably the greatest human rights challenge of the 21st century” (OHCHR, 2015).

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<sup>2</sup>The legal obligations of States and enterprises to address climate change are the subject of growing consensus and analysis. See e.g. the Oslo Principles on Global Obligations to Reduce Climate Change (1 March 2015) available at: <http://www.osloprinciples.org/principles/> (last accessed 7 October 2015)



As a signatory to the Paris Agreement and regional frameworks for combating climate change, Tanzania has enacted a legal and regulatory framework for addressing climate change impacts on human and ecosystems that underpins survival, livelihood and wellbeing and prosperity of most Tanzanians. These frameworks include the national climate change response strategy 2021-2026, the Nationally Determined Contribution (NDC, 2021) and the recently promulgated Nationally Environmental Policy 2022 which has expressed grave concerns over the impacts of climate change on economic growth, poverty reduction and ultimately realization of some of the key development targets and priorities including those under the 2030 UN sustainable Development Goals which underpins human rights.

In order to support national and global efforts to mitigate risks related to climate change on human rights and their supporting ecosystems in Tanzania, LHRC is implementing the operational plan 2021-2024 which advocates for an improved socio economic and environmental justice with climate change being a central focus of under this initiative.

In order to achieve the main strategic goal, LHRC commissioned the consultant (Climate Action Network (CAN) Tanzania to lead a mini study on the climate change and its impacts on human rights in Tanzania. The study aimed at informing LHRC's work and form informed base on advocating for state's and stakeholders' duty in addressing established impacts of climate change on the social, economic and environmental justice of human beings.

### **1.2.1. Purpose and main objective of the study**

**The study was conducted to highlight the impacts of climate change on the social, economic and environmental justice. This study will anchor LHRC's interventions on climate change issues and related human rights impacts. It also intends to be used for stakeholders' engagement towards promotion and protection of socio-economic rights and environmental justice in Tanzania. It intends to spearhead evidence-based advocacy that integrates climate change and human rights into one discussion.**

Therefore, the overarching objective of this study was to assess the impacts of climate change on the social, economic and environmental rights in Tanzania.

<sup>3</sup>IPCC, 2022: Summary for Policymakers [H.-O.Pörtner, D.C.Roberts, E.S.Poloczanska, K.Mintenbeck, M.Tignor, A. Alegría, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem (eds.)]. In: *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O.Pörtner, D.C.Roberts, M.Tignor, E.S.Poloczanska, K.Mintenbeck, A.Alegría, M.Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 3-33, doi:10.1017/9781009325844.001. p. 9

<sup>4</sup><https://www.ohchr.org/sites/default/files/Documents/Issues/ClimateChange/COP21.pdf>

<sup>5</sup><https://unfccc.int/process-and-meetings/the-paris-agreement>



## 1.2.2 Deliverable (s)

Based on the above-stated objective, this assignment had one main deliverable, the Human Rights study report (both draft and final) comprised of findings and recommendations.

## 1.2.3 Structure of the report

In line with the objectives of this study, this report has Executive summary presented above and is organized in six (6) chapters which are structured as follows:

- (i) Executive Summary
- (ii) Context and Background of the assignment,
- (iii) Methodology and approach
- (iv) Key findings
- (v) Conclusion and Recommendation
- (vi) Annexes.

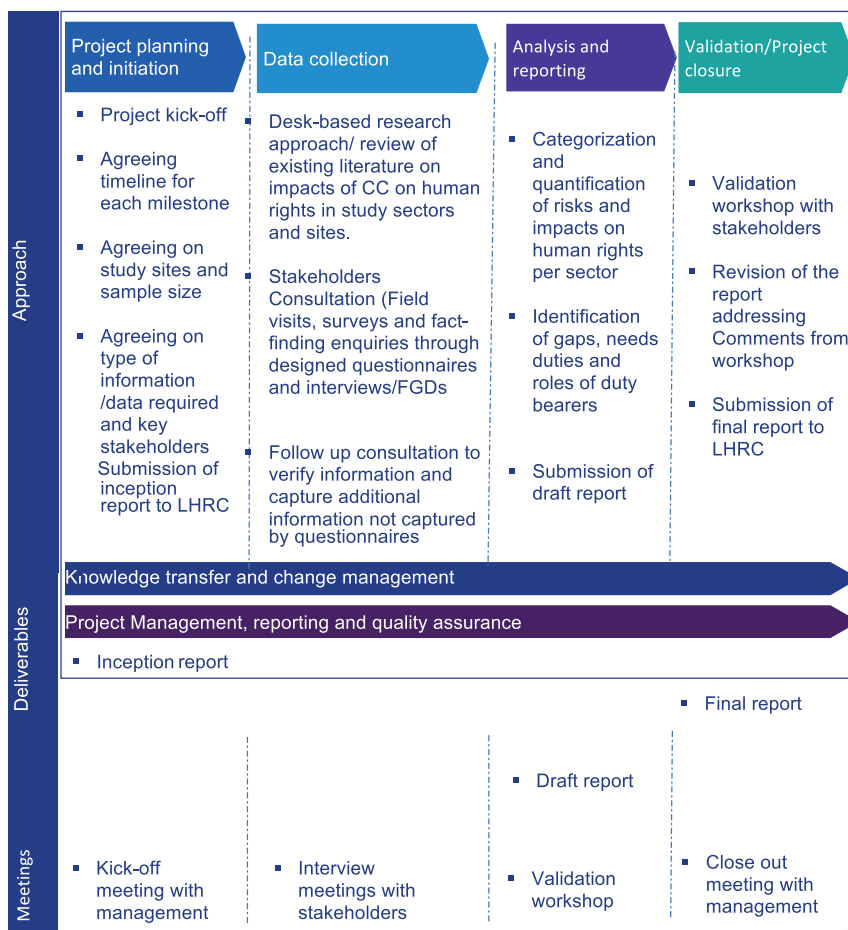


## 2.0 METHODOLOGY AND APPROACHES

### 2.1 The methodological Steps

In line with the provisions of the ToR the Consultant adopted a customized and tailored approach designed to deliver intended outcomes. During the study, attention was paid to understanding the current status in terms of threats/risks and impacts of climate change on human rights in study sectors as well as the role and obligation of duty bearers in protecting such rights. This was executed through four major phases i.e. (project planning, data collection, analysis and reporting and validation/project closure) as illustrated in figure 1 below:

**Figure 1. Methodological Steps for conducting the assignment**



As described below, the study was approached through various phases as follows:

### **2.1.1 Phase 1: Kick off meeting:**

The kickoff meeting was conducted on 1st August 2022 involving consultants and LHRC project team. The primary objective of this meeting was to create a common understanding between the consultant and client on the scope of the assignment and agree on the modality for executing this assignment. Based this discussion and the resource constraints both in terms of time and funds data collection was conducted in 11 districts from 6 regions of Mbeya, Kagera, Pwani, Dodoma, Mwanza and Manyara and 20 villages. The details of the sampling procedure are provided under section 3.14 below.

### **2.1.2 Phase 2: Document Review and development of tools**

A preliminary document review was conducted and key findings are highlighted under the findings sections of this report. A further review of relevant documents was undertaken to develop a better understanding of the existing and projected impacts of climate change on Human rights through the socio-economic dimension in Agriculture, fisheries, pastoralism and settlement in Tanzania. The review also appraised human rights instruments and relevant Laws, Strategies, Plans and Programmes related to Environment and Climate change sector. A list of documents reviewed is provided in **Table 2.1.2** below.



**Table: 2.1.2 List of key documents reviewed**

S/N	Name of Document	Nature of document
	<p>Human Rights instruments, including</p> <ul style="list-style-type: none"> <li>• International Covenant on Civil and Political Rights of 1966;</li> <li>• International Convention on the Elimination of All Forms of Racial Discrimination of 1965;</li> <li>• Convention on the Elimination of All Forms of Discrimination Against Women of 1979 and its Optional Protocol of 1999;</li> <li>• Convention on the Rights of Persons with Disabilities of 2008 and its Optional Protocol of 2008;</li> <li>• United Nation's Convention Against Transnational Organized Crime of 2003;</li> <li>• Protocol to Prevent, Suppress and Punish Trafficking in Persons, Especially Women and Children, Supplementing the United Nations Convention Against Transnational Organized Crime of 2000</li> <li>• Constitution of the United Republic of Tanzania 1977</li> <li>• National Human Rights Action Plan (NHRAP)</li> <li>• Human Rights Report for Tanzania, 2020/21</li> <li>• National Disaster Management Policy of 2004,</li> <li>• Disaster Management Act No. 7 of 2015</li> <li>• Disaster Management regulations of 2017</li> </ul>	Policy, acts and Plans
	Tanzania Environment and Climate Change instruments	



S/N	Name of Document	Nature of document
2.	National Environmental Policy, 2021	Policy
3.	National Land Acts, 1999	Acts
4.	Disaster management Policy,2011	Policy
5.	National Forest policy 1998	Policy
6.	National Climate Change Response Strategy (2021-26)	Strategy
7.	National Environment Management Act, 2004	Act
8.	Zanzibar Disaster Communication Strategy ,2011	Strategy
9.	Five Year Development Plan III 2021/22-2025/26	Strategy
10.	Sectoral Policies (Water, Energy, Wildlife, Coastal Management)	Policies
11.	Zanzibar local Government Authority Act 2014	Act
12.	National Human Rights Action Plan (NHRAP)	Act
13.	National REDD Strategies	Act
14.	National ICZM Strategies and Action Plan for Zanzibar 2009	Plan
15.	Nationally Determined Contribution	National Plan
16.	Key documents for the agriculture and fisheries Ministries in Zanzibar (e.g. Policy, strategies, budgets and action plans)	Reference documents
17.	UNFCCC, IPCC and other climate change reference documents including those related to climate financing funds such as GCF, Adaptation funds, LDC funds and others	

Apart from literature reviews, the study tools were also developed. The tools developed were mainly for conducting consultations with House hold respondents, key informants at various levels and Focus Group Discussions (FGD). The study enumerators (10) were trained and oriented on how to use the online tool, including pre testing conducted on the 5th September 2022 in Pwani region (Bagamoyo being the pilot area in this case), reached 46 House Holds out of 50 HH (96%).





## 2.2. Field Visit and Data Collection

### 2.2.1 Selection of study site, Sample design and Sample size

#### a) Selection of Study Sites

As specified in the TOR the geographical location of the study sites focused on five regions, namely Manyara, Dodoma, Mbeya, Coast and Lake Zone with particular attention agriculture, fisheries, pastoralism and settlement. In order to facilitate efficient and effective collection of both qualitative and quantitative, specific data collection tools was developed, covering the four key thematic areas of this assignment namely, Agriculture, Fisheries, Pastorals and Settlement. These tools contained key questions focusing on three categories of data sources for this assignment namely, households, key informants and Focus Groups.

Detailed information of this tool is presented in **Annex 1** of this report. In addition to site visits, consultants also met national level stakeholders in Dar es Salaam and Dodoma from the relevant government ministries and agencies, development partners and NGOs and conducted relevant interviews and focus groups discussions accordingly.

#### b) Sampling Procedure

The study employed multi-stage sampling technique due to the fact that, it is more flexible and you can draw a sample from a population using smaller and smaller groups (units) at each stage. This technique is often used to collect data from a large, geographically spread group of people in national surveys. Moreover, the study was also purposefully conducted in 6 study regions of Mbeya, Dodoma, Pwani, and Manyara, Lake Zone (represented by Mwanza and Kagera). Accordingly, a total of 360 stakeholders were reached and interviewed (Males 214 (59.4%) and Females 146 (40.6%)) during this assignment as outlined in this report. In executing the multistage sampling, the following stages were involved:



**Stage 1:** Purposive sampling was used to select two districts from each region based on firstly; the extent and nature of dependence on agriculture, livestock keeping or fishing for their livelihood. Secondly; the adverse effects of climate change on the specific areas, namely; Rungwe and Kyela (Mbeya), Bahi and Chemba (Dodoma), Bagamoyo and Mafia (Coasta), Kiteto and Simanjiro (Manyara), Ukerewe and Bukoba Rural (Mwanza and Kagera regions, respectively) as shown in **figure 1 below**. Purposive sampling also was used also to get 10 key informants including 2 extension officers from each sector, 4 farmers/fisheries/pastoralists from the target villages. In turn, this study a total of 10 Districts and 20 villages were reached as presented in tables 3.2.1 and 3.2.2 respectively.

**Table 2.2.1 Districts participated in the study**

District	Region						Total
	Dodoma	Mbeya	Manyara	Kagera	Mwanza	Pwani	
Rungwe	0	30	0	0	0	0	30
Kyela	0	30	0	0	0	0	30
Bahi	30	0	0	0	0	0	30
Chemba	30	0	0	0	0	0	30
Bagamoyo	0	0	0	0	0	60	60
Mafia	0	0	0	0	0	60	60
Kiteto	0	0	30	0	0	0	30
Simanjiro	0	0	30	0	0	0	30
Ukerewe	0	0	0	0	30	0	30
Bukoba	0	0	0	30	0	0	30
Total	60	60	60	30	30	120	360

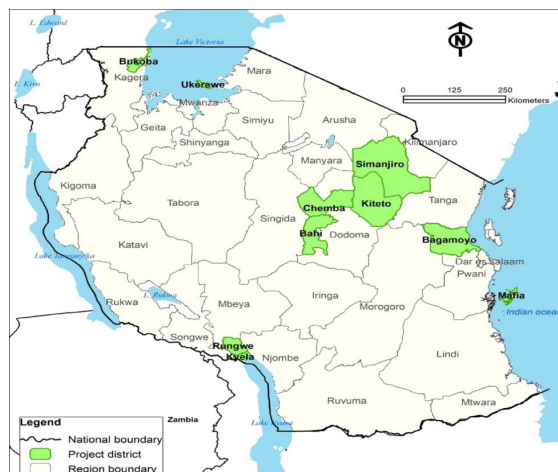


**Table 2.2.2 Villages participated in the study**

Name of the village	Frequency	Percent
Kilindoni	30	8.3
Chole	30	8.3
Kaole	30	8.3
Mtoni	30	8.3
Rwagati	15	4.2
Mulahya	15	4.2
Njoro	15	4.2
Partimbo	15	4.2
Bomani	15	4.2
Orkirung'urung	15	4.2
Nakatunguru	15	4.2
Murutima	15	4.2
Mpuguso	15	4.2
Kikota	15	4.2
Buloma	15	4.2
Ipinda	15	4.2
Bahi sokoni	15	4.2
Mpamatwa	15	4.2
Chemba	15	4.2
Gwandi	15	4.2
<b>Total</b>	<b>360</b>	<b>100.0</b>

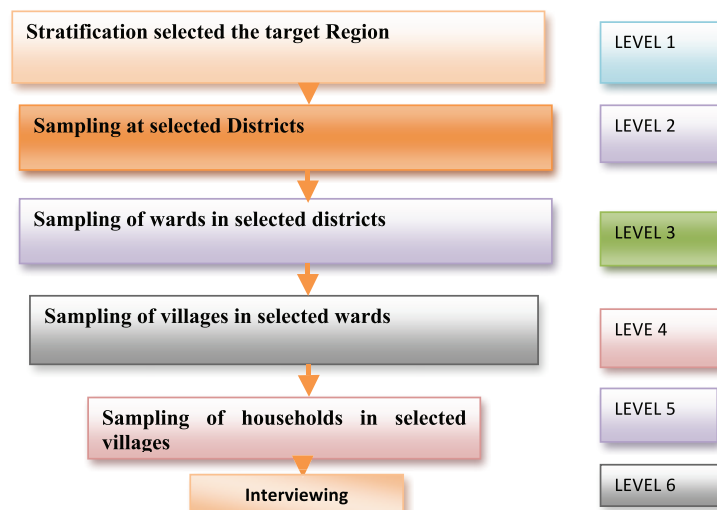


**Figure1. Map of Tanzania showing study districts**



**Stage 2:** Simple random sampling was used to select two wards and two villages from each district and from each village the list of all villagers was obtained, then random selection was used again to select the respondent. The reason for using simple random sampling is to make sure that every member in each village has an equal chance of being selected (Kothari, 2004). More information on sampling is presented in **figure 2 below**

**Figure 2 Sampling process**



## C) Sample Size

### ■ Household Sample Size

According to Bailey and Mouton, (1998) a sample size of 30 respondents is the bare minimum for studies in which statistical data analysis is to be done regardless of the population size. Therefore, the sample size for the study was 60 respondents from each region at the ratio of 15 respondents in each village. Based on the sampling above a total of 300 villagers representing fisher folks, farmers, pastoralist and dwellers were consulted and interviewed in addition to the 2 extension officers from each subsector. Of the 300 villagers, 34% were women and 66 men with 30% interviewees being fish folks, 60% farmers, 10% pastoralist. It is important however to note that, despite this categorization, interviewees typically engage in more than one occupation and therefore this categorization represents the activity which occupies over 60% of their time.

According to the National Bureau of Statistics of 2019, 65% of total population depends on agriculture and Livestock keeping and 21% in fisheries (NBS, 2019). The village registers/books were used as sampling frame during selection of individual household. A sample size per subsector considered stratified proportionality strategies which require 60%, 25% and 15% of total respondent that should be the lead subsector followed by the second and third lead subsectors respectively, considering the recommendation of Boyd et al. (1981).

### ■ Focus group discussion (FGDs)

Focus group discussion (FGDs) was used in the study as source of information, a group size of 6–12 participants was recommended to generate rich discussion, capture common themes and permit easier management of the data collection process (Guest et al. 2006; Howell 2016; Braun and Clarke 2013). Therefore, approximately 8–12 participants were purposely selected from each study village. The participants for the focus groups were village executive leaders including village elders, some of whom were pastoralists, farmers and fisherman(w) stratified proportional sampling technique was employed to

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<sup>9</sup>In the fisheries sector, women were found to be involved mostly in distribution (retailers) of fish to the end users as well as supply of food (restaurants and food vending). Men on the contrary were involved as main actors in the sectors through both direct fishing and operation of other activities related to fisheries such as construction of boats, fixing and repair of nets etc.



determine the number of participants for each group (farmers, livestock keeper and fish folks including women<sup>6</sup>). All participants were given information of invitation in advance of the group meetings. The discussions were conducted in Kiswahili language, and transcribed into English after every discussion. The following groups were involved in the process;

Women's Rights organizations and Youth groups, women development groups from agriculture, fisheries, pastoralism and settlement thematic areas

- **CSO and Private sector stakeholders**
- **Development Partners.**

### **Key Informant Interview**

This tool was used to collect in-depth information from people with understanding of the country and study area including aspects of livelihood activities, human rights and climate change. The key informants in this study involved National level stakeholders at Ministry level, District Livestock and Fisheries Development Officer (DLFO) from each district, Ward Livestock Field Officers and the Village Extension Officers from each village, Human rights organizations from each district, woman and youth group/association. According to Katani (1999), the interviews provided details on broad context for local circumstances and practices, through individuals who have more knowledge on the subject matter. However, such respondents apart as key informant are that they were recognized by others in the community as being particularly knowledgeable about the area (Lugazo S.C.2013). This was regarded as a tool that could provide well-informed and in-depth information after household surveys. These sessions were conducted using tool annexed with this report.

### **2.2.2 Transect walk and sites visits**

The transect walk is regarded as a participatory approach that facilitates gathering of data. Field visits to selected regions involved physical identification and verification of the issues including victims of climate change impacts and



environmental degradation. Visits were also provided opportunities for seeing and or learning about other threats of climate change people and the environment up on which they depend. The field visits involved consultations with key stakeholders including district teams and local level stakeholders. The sites visit was participatory to facilitate data gathering and the included members with local knowledge. This approach aimed at gaining hands-on experience at a community level on the impacts of climate change on human and ecosystems. This exercise was done by a gender sensitive team of 10 enumerators comprised of 5 females and 5 males. To ensure consistent responses, all enumerators were trained (through a one-day pilot-Tool Testing- session in Kidomole village, Bagamoyo) on how to administer the questionnaire to ensure that the required standards are achieved.

### 2.2.3 Data collection instruments

**Data collection instruments:** The main instrument used for data collection was an electronic questionnaire that was administered through a mobile device, a Smart Phone Android. The Enumerators administered the structured e-questionnaire to respondents using the Kobo Toolbox called ODK form. The consultants Team have had an extensive expertise in configuring and setting up of the ODK in android-based Tablets/Smart Phones. Quality control of data was an integral part of this study and took place at various stages including, during data collection. To ensure ODK quality control, therefore, the Consulting Team put in place the following procedures:

The questionnaires were configured into the tablets to allow Enumerators to progress through the survey questions and input prompts. The tables were configured in such a way that they incorporated internal logic, skip patterns, range, consistency checks and internal logic. The core experts (i.e., supervisors) checked each of the administered e-questionnaire (filled-in questionnaire) at the end of each day of interview. The supervisor was responsible for submitting the data to the server and daily data collection reports was submitted to the Team Leader via email. However, at the end of fieldwork, supervisors submitted summative field data collection report.



Also, as part of quality control during data collection, the consultant Team put in place the following procedures:

**a) Prepare a fieldwork operation manual for the research team as a whole, including:**

- (i) guidelines on sampling procedures and what to do if respondents are not available or refuse to cooperate
  - (ii) (b) a clear explanation of the purpose and procedures of the study, which were used to introduce each interview;
  - (iii) instruction sheets on how to ask certain questions and how to record the answers
- b) Making sure that Enumerator's name or code appears on each e-questionnaire so that it is possible to ask for clarification if certain information is not clear;(Taking care that Enumerators are not placed under too much stress (requiring too many interviews a day);
- c) Devise methods to assure the quality of data collected by all members of the Consulting Team, namely:
- (i) Requiring Enumerators to check whether the ODK form is filled in completely before finishing each interview;
  - (ii) Asking the supervisor to check every after three (3) hours as well as at the end of each day during data collection whether the ODK for misfiled in completely and whether the recorded information makes sense;
  - (iii) Ensuring ODK form has sufficient in-built control mechanisms by having built-in checks that constraint input and standardizes responses. These checks allowed for better data collection at the point of entry. This included setting up validation rules or input masks in ODK form, using controlled vocabularies, code lists and choice lists, and detailed labeling of variable and record names to avoid confusion;





- (iv) Formatting ODK form to accept numbers or nominal where appropriate. In this way, the data fields that accept only numbers and not nominal and vice versa;
- (v) Spot-checking of submissions by field supervisors. This entails reviewing a random sample of data and checking for outliers, illogical responses, and discrepancies or other anomalies;
- (d) In order to overcome sporadic network connectivity, the ODK application was configured in such a way that it was not relying on connectivity being available and was able to be cached from the server as well as new data or edits. Paper-based copies of the questionnaire and consent forms were prepared in case of tablet failure. Therefore, Enumerators carried the hardcopies in their folders;
- (e) In addition to the above strategies, the consultant applied three types of Data Quality Control Tools: *Back-Checking Research Tool*, *Spot-Checking Research Tool* and *Instrument Review Results Tool*. As part of quality assurance, Enumerators maintained telephone and/or email contact with the Team Leader of the study and the research coordinator throughout fieldwork to enable prompt problem solving. A preliminary list of stakeholders that were interviewed/consulted is presented in Annex 3.

### 2.3 Limitations of the Study

The limitations of this study included constraints of financial resources; sample size and research permit as described hereunder

- **Resource constraints:** Because of resource constraints a small sample size (i.e., 2 villages per district, 4 villages per region) were selected and engaged. This is considered a limitation given a large number of villages in a typical district/region and the slight scientific variation that exist between different villages (in terms of vulnerability/adaptive capacity) within a district/region.
- **Research Permit:** Although the study team followed all legal procedures for conducting research including getting official research permits from respective national authorities (NBS and PO-RALG) it turned out that most of the LGAs in



study areas were not well informed about the study, as a result our team spent significant amount of time trying to get clearance to be able to conduct interviews and consultation to government officials as well as respective local communities. In some places study team had to travel to the regional headquarters in order to meet the Regional Administrative Secretaries for identification and confirmation of possession of research permits from NBS and PO-RALG. In the end this compromised the amount of time that was allocated for consultation in the field.

- **Language:** Local dialects in some cases are particularly challenging to understand, and so the team may have lost some of details expressed in some of the community meetings. Although Swahili which is the national language was the main medium of communication some participants at the local level (e.g., pastoralists, fish folks and farmers) had their professional languages (e.g., words, slang) most related to their dialects which they preferred to use especially when describing the impacts and human rights issues. It is possible that the true meanings of some of those languages may have been missed during translation to Swahili and eventually English.

Despite these limitations, the information gathered was still sufficient to understand the status of the impacts of climate change on human rights on four thematic areas in study areas and draw up relevant recommendations as presented in this report.



## 3.0 FINDINGS

Data gathered throughout the study was analyzed, summarized and consolidated to conclude results for each of the study questions. This section outlines the key findings of this study on the impacts of climate change in Human Rights in Tanzania focusing on key four sectors namely Agriculture, Pastoralism, Fisheries and Settlement. To contextualize and validate information, findings from the literature are first presented followed by discussion of the findings and recommendations from field assessments.

### 3.1 *Literature Review*

#### 3.1.1 **Legal and Regulatory frameworks for Human Rights and Environment and Climate Change in Tanzania.**

As articulated in the Tanzania's National Human Rights Action Plan (NHRAP, 2013-2027), the Government of the United Republic of Tanzania is committed to the protection and promotion of human rights as defined by the Constitution of the United Republic of Tanzania of 1977, the Universal Declaration of Human Rights of 1948, and other regional and international instruments. To this end, the country has since 1964 undertaken significant initiatives in the area of protection and promotion of human rights by ratifying and domesticating various international and regional human rights instruments, repealing unconstitutional laws, establishing national institutions, such as the Commission for Human Rights and Good Governance (CHRAGG) and implementing the Legal Sector Reform Programme (LSRP) through the Ministry of Constitutional and Legal Affairs, the objectives being inter alia to speedy dispense justice and ensure affordability and access to justice for all social groups. In this regard, Tanzania has signed and ratified or acceded a number of international and regional human rights instruments, and has taken concerted steps toward domesticating them (see annex 4).

Moreover, strengthening the respect, protection, promotion and fulfillment of inalienable human rights provided by the Constitution of the United Republic of Tanzania and the Constitution of Zanzibar, and to guarantee human rights according to international agreements entered into by the state, Tanzania developed the first National Human Rights Action Plan (NHRAP, 2013-2027) which among other things, recognizes the needs to



promote human rights related to clean water , health and safe environment. In this context, the ultimate objective of the NHRAP is to strengthen human rights through the promotion of a Human Rights Based Approach (HRBA) to development and poverty reduction whereby human rights are mainstreamed in the development agenda. In so doing, the NHRAP strengthens duty-bearers' acknowledgement and accountability with regard to human rights through various capacity-building initiatives.

The NHRAP recognizes that the protection and promotion of human rights is not limited to a single topic, sector, or government ministries, departments or agency. Hence, it identifies twenty-three human rights issues, grouped into four clusters, as priorities for improving coordination and protection. Human rights related to environment, climate change and development are duly addressed under clusters 1, 2 and 3 with specific focus on the right to life; the right to property and access to land; the right to education; the right to an adequate standard of living, including the right to food; the right to clean and safe water; the right to work; the right to live in a safe and clean environment; and the right to social security. Other rights promoted include protections for groups with special needs, including women, children, persons with disabilities and the elderly. To coordinate and monitor efforts for implementation of human rights provisions, the NHRAP vests responsibility to the Commission for Human Rights and Good Governance (CHRAGG). Furthermore, the Plan establishes a comprehensive system for implementation, monitoring and evaluation for reporting obligations to Human Rights Treaty Bodies, the Universal Periodic Review, and other international and regional systems.

In the same context, Tanzania in addition to the NHRAP and other human right specific frameworks, has enacted a number of important national legal frameworks and subscribed to global and regional frameworks for addressing environmental degradation and impacts of climate change on human and ecosystems that underpins survival, wellbeing and prosperity of most Tanzanians. Specific to Environment and climate change among others are the Environmental Management Act (EMA) No. 20 of 2004 which establishes the National Environment Management Council. EMA 2004 provides that “every person has the right to a clean, safe, and healthy environment,” which includes “the right of access by citizens to various public elements or segments of the environment for recreational, educational, health, spiritual, and economic purposes.” EMA 2004 also provides for a legal and institutional framework for sustainable management of the environment, prevention



and control of pollution, waste management, environmental quality standards, and public participation in decision-making processes, environmental compliance, and enforcement. Furthermore, it gives NEMC powers to review, monitor and enforce environmental impact assessments; conduct research; facilitate public participation in environmental decision-making; raise environmental awareness; and collect and disseminate environmental information.

In addition, environmental protection has been a focus of several other laws, including the Fisheries Act 2015, Cap. 279; the Forest Act, Cap.323, the Tourism Act, 2008; the Water Resources Management Act, 2009; the Water Supply and Sanitation Act, 2009; the Water Utilization (Control and Regulation) Act,1974; the Waterworks Act, Cap.272; and the Wildlife Conservation Act, 2009. Despite this consistency and early acknowledgement by the government at the international level, most the national previous environmental legal framework including Environmental Policy of 1997 and its EMA 2004 did not address fully and or directly the issues of climate change and associated negative impacts on human rights. For instance, no climate change specific law had been enacted to deal with the matter and associated human rights impacts in a broadest and holistic manner. Instead, the government prepared the national climate change strategy which advocated for mainstreaming of climate change considerations in sectoral policies, plans and budgets.

Because of this less comprehensive approach, key sectors, with the exception of the agriculture sector, did not elaborate any comprehensive strategy for addressing climate change. However, cognizant of this gap and in compliance with its international obligation, the government has recently developed high level National Climate Change framework (the Nationally Determined Contribution-NDC 2021) which presents government commitments to implement the Paris climate Agreement through both adaptation and mitigation. Additionally, the government has updated both the National Environmental Policy (2021) and the Climate Change Response Strategy (2021/22-2025/26). All these frameworks have expressed grave concerns over the impacts of climate change on economic growth and poverty reduction endeavors in Tanzania. These frameworks have great chance to reinforce the objectives of the NHRAP for addressing environment and climate change crisis thereby promoting, protecting and fulfillment of full enjoyment of related human rights by all.



Further to the key national frameworks, Tanzania has also subscribed to international legal instruments and frameworks aimed at environmental protection through sustainable management and use of natural resources in order to promote, protect and fulfil enjoyment of related human rights. These include several international conventions and treaties governing environmental protection, including the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972); Convention on International Trade in Endangered Species of Wild Fauna and Flora (1963); Vienna Convention for the Protection of the Ozone Layer (1985); Montreal Protocol on Substances that Deplete the Ozone Layer (1987); Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their Disposal (1992); Convention on Biological Diversity (1993); and the Kyoto Protocol to the United Nations Framework Convention on Climate Change (1997) and the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of Eastern African Region and its related Protocols (1996), etc..

At the regional level (i.e., Southern Africa Development Cooperation-SADC and East Africa Community- EAC), Tanzania has subscribed to a number of key policy instruments developed to strengthen regional efforts in addressing climate change challenges while fostering sustainable development objectives. At SADC level, they include SADC (2014) Protocol on Environmental Management for Sustainable Development (which calls for harmonized strategies to address climate change and other environmental issues); while at the EAC level, they include EAC Climate Change Master Plan (2011-2031), Disaster Risk Reduction and Management Strategy, the EAC Fifth Development Strategy (2016/17-2020/21), EAC 2050 Vision and East African Legislative Assembly (EALA) Resolutions on Climate Change, establishment of EAC Climate Change Fund and Lake Victoria Basin (LVB) Climate Change Adaptation Strategy and Action Plan, 2018, and the EAC Protocol on Environment and Natural Resources Management (2020).

Despite these the extensive national and international legal framework described above, realization and full enjoyment of environmental-related human rights remains a significant challenge. This due to the continued environmental challenges including, Loss of wildlife habitats and biodiversity, deforestation and land degradation, Environmental pollution, poor sanitation facilities and management, weak or ineffective enforcement of laws and unsystematic urbanization and industrialization. Other factors include budgetary constraints



hindering implementation of environmental protection plans, weak coordination between environmental monitoring agencies and government institutions, shortage of financial, human and technical resources including equipment for environmental protection and preservation programmes, lack of public awareness of laws concerning the environment and sustainable development and reliance on penal sanctions rather than environmental preservation sanctions.

The above frameworks set clearly international, regional and national provisions for human rights including the ones related environment and climate change that should be observed. They also define respective duty bears and their respective roles and responsibilities for effective implementation and reporting.

### **3.2. Status of Climate change and its impacts on human rights in Agriculture, Fisheries, Settlement and Pastoralism**

#### **3.2.1 Agriculture**

The right to access food and a reasonable price is enshrined both in the Universal Declaration of Human Rights and the ICESCR. Even article 11 of the ICESCR calls for consolidated efforts to ensure every individual becomes free from food insecurities and hunger. It is an obligation of all states to ensure that all people are granted to rights to food. To achieve this, states have to first ensure have mobilized required resources, technologies and put in place infrastructures needed for realization of the right to food and all other rights contained in the ICESCR.

Above all, agriculture in Tanzania is dominated by smallholder farmers cultivating farms of less than three hectares and practicing rain-fed agriculture. About 70% of Tanzania's crop area is cultivated by hand hoes, 20% by ox ploughs and 10% by tractors. Food crop production dominates the agricultural economy. In some areas, irrigated farms help to stabilize agricultural production, improve food security, increase farm productivity and income, and produce higher- value crops such as vegetables and flowers.

According to the IPCC AR5, climate change undermines food security<sup>7</sup> therefore, it threatens realization of the right to food. Similar to AR 5, IPCC AR6 reports increased impacts of climate change on food security noting that "increasing weather and climate



extreme events have exposed millions of people to acute food insecurity and reduced water security, with the largest impacts observed in many locations and/or communities in Africa, Asia, Central and South America, Small Islands and the Arctic”<sup>8</sup>. The World Bank has estimated that a 2°C increase in average global temperature (the proposed target for international climate mitigation efforts) would put “between 100 million and 400 million more people at risk of hunger and could result in over 3 million additional deaths from malnutrition each year”<sup>9</sup>.

Moreover, studies warn that persons, groups and peoples in vulnerable situations are at a greater risk. For instance, with about two-thirds of the female labour force in developing countries, and more than 90 percent in African countries, engaged in agricultural work, the threats to loss of harvests, often the sole source of food and income, have severe implications for many women in rural areas. According to various studies and observations by climate and human rights experts, climate change negatively impacts livelihoods, food security and the human right to food through climate change- induced “extreme events, including droughts and floods, the salinization of water used for irrigation, desertification, [and] water shortages,

As established by various studies in Tanzania, smallholder farmers are already experiencing the effects of climate change, as seen in decreased rainfall days and heat increase. (URT, 2021) shows that many regions in Tanzania are affected by changes in rainfall amounts and distribution and increased heat waves and droughts, leading to decreased rangeland productivity. As established by the fore-cited literature in other parts of the world, in Tanzania, Climate change’s negative impacts are being felt, in the form of increasing temperatures, weather variability, shifting agro-ecosystem boundaries, invasive crops and pests, and more frequent extreme weather events. On farms, climate change is reducing crop yields, the nutritional quality of major cereals, and lowering livestock productivity thereby confirming observations and experience from the international.

Above all, in Tanzania agriculture is dominated by smallholder farmers and especially women who heavily depend on rainfall performance with limited access to timely weather

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<sup>7</sup>IPCC, AR5, p. 13

<sup>8</sup>IPCC, AR 6, p.9

<sup>9</sup>The World Bank, World Development Report 2010: Development and Climate Change (2010)





and climate services. Given that, there has been ever increasing weather extreme events that affect food production and access, food prices have been hiking. In such situation women, children, rural and poor marginalized groups are the most affected.

### 3.2.2 Fishing

According to FAO (2021), climate change is predicted to reduce fish catches by 7.7 percent and shrink revenues from it by 10.4 percent by 2050 under a high CO2 emissions scenario. It further notes that this decrease in the catch may be as much of a drop as 26 percent in some parts of West Africa, and could be even higher for in other parts Africa countries closer to the equator: Because of climate change, fish availability is expected to change greatly, resulting into a frequent fluctuation of prices and markets, a fact which is likely to be compounded by other emerging global crisis such as Covid19 pandemic. This trend threatens security of employment and daily income for hundreds of other young fishermen. Direct impacts of climate change on fisheries include rising levels of water and temperatures in Oceans and lakes, migration of fish stocks towards colder waters away from equatorial latitudes (due to hot waters), and coral breaching due to acidification and increased storms due to regular and abrupt/extreme changes in weather conditions which also influences the abundance, migratory patterns, and mortality rates of wild fish stocks.

### 3.2.3 Livestock

Livestock are so important to Africa that the Food and Agriculture Organization of the United Nations (FAO) states that the future of African livestock will influence the development of the entire continent. However, researchers now warn that vast swathes of the continent could be stripped of these delightful creatures in the next few decades due to climate-induced heat stress, increased pests and diseases and reduced feed and forage. Cattle have been singled-out as a particularly vulnerable group.

- Other study concluded that by 2050 as many as 370 million cattle globally could suffer from one or more days of extreme heat, as could some six billion chickens. Other studies which examined the potential economic costs of heat stress in the

<sup>10</sup>See UN Women Watch, Fact Sheet: Women Gender Equality and Climate Change (2009)



future, suggest that by the end of the century, livestock farmers may face financial losses between \$15 and \$40 billion annually. Most of that loss will affect poor, tropical countries of South America, Asia and Africa.

- Heat stress is just one way that climate-variability threatens the livestock on a massive scale. Climate change is also impacting the production of feed and forage and the availability of grazing land and water, while worsening climate-sensitive diseases and disease vectors.
- In Tanzania “Livestock are among critical to rural incomes, nutrition and food security banks, and resilience in smallholder mixed crop/livestock and pastoral systems.”. It is the fact that, most of (60-80 %) the visited villages and rural households keep livestock as mobile and liquid assets, income generators and for household food and nutritional security. However, this is sector is facing prolonged drought and water stress leading to lower yields.
- Other common impacts of climate changes reported by pastoralists from the literature and interactions with communities is linked to severe recurrent drought periods result in shortage of forage and water, leading to cattle starvation and malnutrition. Pastoralists reported massive cattle deaths and outbreaks of diseases such as contagious bovine pleuropneumonia and tick-borne diseases. Further, poor livestock market prices were also reported as negative impacts on cattle production.

### 3.2.4 Settlement

According to (URT, 2020), human settlement is a place where people live. It refers to the totality of human community with all the social, material, organizational, spiritual, and cultural elements that sustain it. Any form of human dwelling, from the smallest house to the largest city, where group of people reside and pursue their life goals, can be understood as settlement. Human settlements come in many forms and can be permanent and temporary, rural and urban, mobile and sedentary, disseminated and agglomerated. Human settlements in Tanzania are affected by climate change in one of three major ways:

- (i) ***The economic sectors that support the settlement are affected:*** For example, resource availability could be affected. The demand for the goods and services produced in a particular city could change.



- (ii) ***Some aspects of physical infrastructure, buildings, urban services, and specific industries may be directly affected:*** For example, buildings and infrastructure in delta cities may be affected by coastal and river flooding; urban energy demand may increase or decrease because of changed space heating and space cooling needs; and coastal and mountain tourism may be affected by temperature and rainfall changes, and sea-level rise.
- (iii) ***Populations may be directly affected:*** For example, extreme weather episodes may lead to changes in deaths, injuries, or illness due to floods/cyclones, storms heat waves and drought. People may be displaced because of sea level rise

### 3.2.5 Socio-economic and Environmental Rights Related Climate Change Per Sector

Based on the widely documented literature, Climate change has deleterious impacts on the enjoyment of all human rights, including the rights to health, water, food, housing, standard of living, and life itself as summarized below.

#### 3.2.1.1 Agriculture and Livestock keeping

The most salient human rights challenges in the agriculture sector include gender equity, living incomes, working conditions, forced labor and contracting. Forced labor in the agriculture sector is often driven by 1) restriction of freedom of movement, 2) recruitment fees or debt, and 3) coercion at work. In agricultural production, examples of violations of these rights include:

- ✓ ***Crop failure and declining productivity, resulting in extreme poverty:*** this denies producers' rights to a decent standard of living and often causes further infringements of other rights, for example, the right to health and well-being.
- ✓ ***Limited knowledge, skills and access to credits and technologies:*** this keeps women locked in risky and unproductive situations and denies them their rights to equal protection and fair remuneration.



- ✓ **Hours of work:** Agricultural workers are particularly susceptible to excessive hours due to reduced productivity and crop failure. According to Article 23 of the UDHR, “Everyone who works has the right to just and favorable remuneration ensuring an existence worthy of human dignity.” Article 25 adds that, “Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food clothing, housing and medical care.”

### 3.2.1.2 Fishing

- ✓ The African Union recognizes that the fisheries and aquaculture sectors provide nutrition and food security, livelihoods, employment, export and foreign currency, conservation and biodiversity values that are of global significance. African States are looking to expand the fisheries and aquaculture sectors, as reflected in Goal 6 of the African Agenda 2063 (accelerating Africa’s Ocean economy for economic growth). Likewise, targets 14.7 and 14.b of the 2030 Agenda aim to increase the economic benefits to developing countries from the sustainable use of marine resources, and to ensure access of small-scale fishers to resources and markets. Consequently, the United Nations Economic Commission for Africa promotes the “Blue Economy” agenda and there is a rapid proliferation of initiatives across the continent. However, the human rights impacts and implications of the sector are not yet well understood or addressed.
- ✓ The realization of fundamental human rights, such as the right to food and to an adequate standard of living of fisheries workers in Africa is directly dependent on available and accessible fish stocks. Small-scale fisheries workers often live in remote areas with no or limited employment opportunities and service delivery from the State. Decreasing fish stocks and/or limited access to marine resources and markets increase poverty and denial of fundamental economic, social and cultural rights
- ✓ Nowadays if state authorities limit or ban access to marine resources for small-scale fisher’s due climate change adaptation, social protection becomes essential to uphold human rights for those affected. Examples of social protection responses include preferential fishing zones, emergency relief, in-kind transfers, cash or food



for work programme, livelihood training, technical support and replacement of equipment, unemployment benefits and health-related social security systems.

- ✓ Other key human rights for the fishing sector include Health and safety of workers, particularly due to the increasing needs for deep-sea/lake fishing, declining fish catch and security of livelihoods which is directly impacting food security. These have cumulative negative impacts on communities and their traditional livelihoods through reduced employment and income generation opportunities, leading to increased inequality and poverty levels.

### 3.2.1.3 Settlement

As with other sectors, climate changes possess several direct and indirect challenges on settlement related human rights. The most obvious challenges include the following:

- Forced resettlement of communities, including indigenous peoples.
- House instability
- Loss of livelihoods
- Lack of clean water
- Lack of food security (food availability, affordability and accessibility)
- Access to basic needs (health, education and

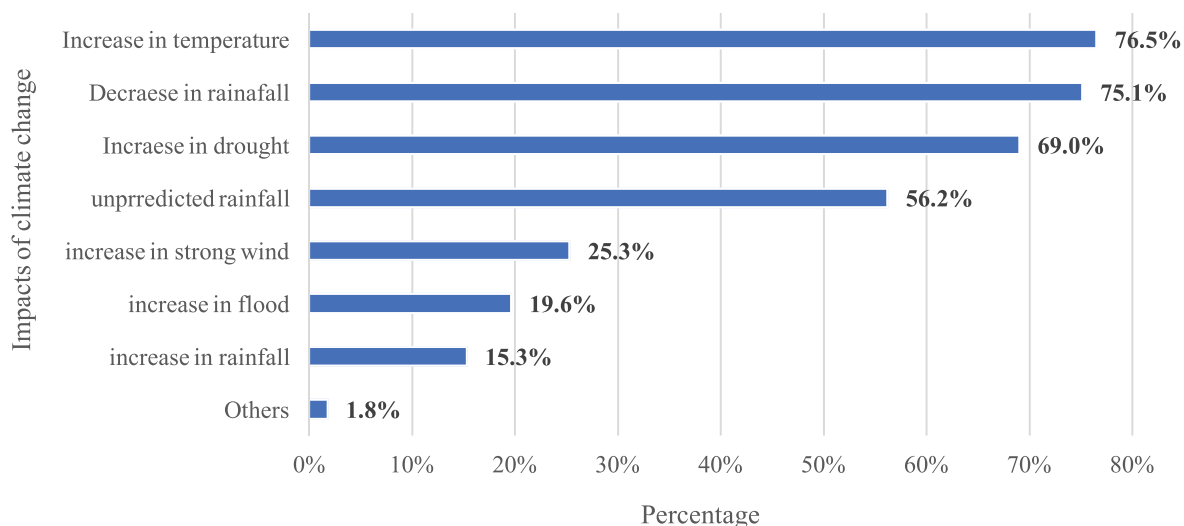
## 3.3 Findings and Recommendations from the Field Assessment

### 3.3.1 Food Security and Production Systems

In line with the widely documented evidence of the impacts of climate change globally and at the national level, this study found that the effects of climate change on crop and national food production are already evident in all study regions namely Manyara, Dodoma, Mbeya and the Lake Zones (Mwanza and Kagera regions). Farmers in the study regions notably, Dodoma and Manyara reported decreasing trends in productivity as a result of recent and recurrent droughts happening in their areas. Changes in temperature



and rainfall precipitation were reported to affect negatively some crops especially cereal crops and legume crops such as rice, maize and beans in the study areas as shown in figure below.



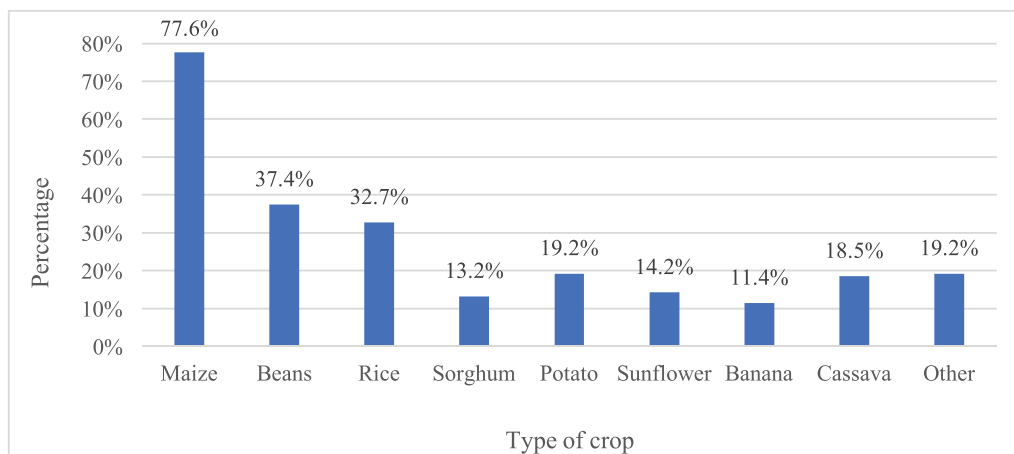
### Figure 3.3.1 Impact of climate change

In Kyela district for instance, Paddy farming is one of the popular food and cash crop which is increasingly affected by frequent dry spells due to limited water. Being an hydrophytic plant, Paddy is affected by limited water supply both in terms of crop growth as well as yield.

Crop diseases and pests were also reported as the most serious climate-related events in the Chole and Orkirungurung villages, affecting crop productivity, thus affecting food security - food availability, affordability and accessibility- and incomes for households. In Bukoba rural, an increased infestation of banana crops, causing serious wilting and withering of banana was reported to seriously affect both food and income traditionally derived from banana crops. The situation is aggravated by recurrent and prolonged dry spells which are affecting the traditional rain fed agriculture both in Kagera and Mbeya regions.



Although climate change is affecting all crops, the impacts are more pronounced on some crops than others. As shown in figure below, our data shows that Maize, Beans and Rice were the most affected crops, scoring 77.6%, 37.4% and 32.7% respectively.



**Figure 3.3.2 Impact of Climate Change on Crops**

These findings are in agreement with the findings of several studies conducted over the past years which revealed and some predicted related scenarios for small-holder farmers in the country. Focusing on cereals like maize, rice, sorghum, and millet, such studies (e.g. Rowhani et al. (2011), Yanda (2015), Kangalawe (2016), specified in different contexts that 20% increase in intra-seasonal precipitation variability reduces agricultural yields by 4.2%, 7.2%, and 7.6%, respectively, for maize, sorghum, and rice, which are the major food crops in Tanzania. Consequently, they projected that by 2050 climate change and variability will affect crop yields in Tanzania by 3.6%, 8.9%, and 28.6% for maize, sorghum, and rice, respectively. Further asserted that the impacts of climate change have significantly dried water sources such as wetland, thus narrowing the threshold of community livelihoods.

Despite the challenges above, the study observed the impact of farmers' education appears to of temperature shocks on productivity. Although limited in numbers, farmers with appropriate knowledge and skills on climate change and climate smart practices reported to have been impacted less (e.g., in Chemba) compared to communities with no/limited education on climate change and modern farming technologies (Kiteto and



Simanjiro). These findings imply a need for policy intervention to ensure that farmers in study regions are equipped for climate change adaptation as well as the use of modern farming technologies and inputs.

Following the negative impacts of climate change on agriculture as described above, fundamental human rights related to agriculture sector have been hugely affected as shown in figure below. According to the figure, the most affected rights relate to food security (87.9%), access to water (68.2%), health (66.4%) and life (40.0%) and rights to development (81.8%). As described earlier, prolonged and recurrent droughts have direct negative impacts on food security due to crop failure and reduced productivity. As indicated the agricultural sector in Tanzania is dominated by small-scale farmers (especially women) who have limited access to weather and climate services. This in turn affects household's food balance thereby compromising their basic right for food security which include Food availability, affordability and accessibility. Related to this is the right for development which is compromised in many different ways including: Firstly, most of rural households sell some of their harvest to gain cash which is used to support other development priorities such as construction of houses, shops and or investments in local trades and enterprises. However, with reduced harvests, households in addition to lacking harvests to sell, they have to spend some of their savings to buy foods thereby missing the opportunity to invest in development avenues. Right to life is equally threatened due to food insecurity as is the right for development which is further constrained by lack of time for engaging other productive and developmental entrepreneurs as farmers have to spend most of their productive time in sorting out direct impacts of climate change.

Secondly, with reduced food security and income, household health is also threatened and so rights to life. The human right to health is articulated in the Universal Declaration of Human Rights and in Article 12 of the ICESCR which provides that all persons have the right "to the enjoyment of the highest attainable standard of physical and mental health". The Human Rights Council has specifically recognized the impacts of climate change on the right to health on multiple occasions, including in its resolution 29/15 which calls for a panel discussion and a detailed study on the relationship between climate change and the enjoyment of the right to health. Increased crop failure in the field was reported to lead to malnutrition which is affecting their health particularly pregnant women and children. Similarly, with limited income, it means families most of which have no health insurance,

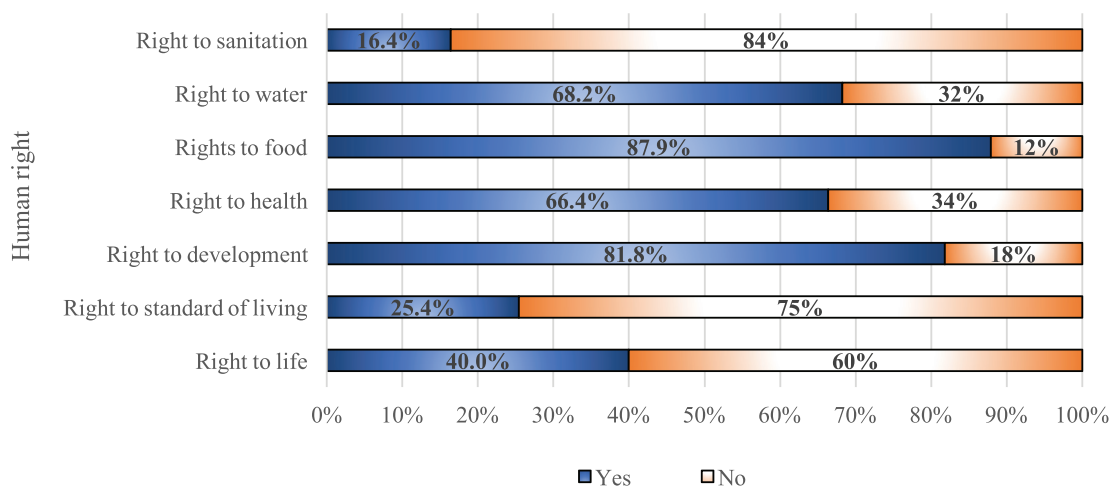




were struggling to pay for their health services which in turn affected their wellbeing and development aspirations.

The right to good health and development is further affected by lack of access to safe, clean and adequate amount of water which has direct implication on sanitation and hygiene. Prolonged, this has tremendous health consequences including diarrheal diseases such as cholera and dysentery, as well as typhoid. In addition, this has significant effects on right to health, right to life, right to an adequate standard of living, and right to education for children of the affected regions and right to water and sanitation.

**Figure 3.3.3 below summarizes the most affected human rights aspects in agricultural sector.**



**Figure 3.3.3. Affected aspects of socio-economic rights in Agricultural sector**

The findings above align with the World Bank study which warned that climate change will cause “health impacts [that] are likely to increase and be exacerbated by high rates of malnutrition<sup>11</sup>, including potential increases in vector-borne diseases and “heat-amplified levels of smog [that] could exacerbate respiratory disorders.”<sup>12</sup> Further, in its 5<sup>th</sup> assessment



report, the IPCC found that “climate change is expected to lead to increases in ill-health in many regions and especially in developing countries with low income, as compared to a baseline without climate change”.

In the case of education, the Universal Declaration of Human Rights establishes that “everyone has the right to education.” Article 13 of the ICESCR elaborates upon this right, guaranteeing to all persons, free, compulsory primary education and calling on States to progressively realize free secondary education for all. However, based on ours and several other studies, the impacts of climate change and the exigencies which it creates threaten this right in many ways. For instance, because of right to food, the impacts of successive droughts have caused some children to be “removed from schools because education



became unaffordable and because their work was needed by the family as a source of revenue”<sup>13</sup>. Additionally, prolonged climate change impacts weaken ability of States to expend maximum available resources for the progressive realization of the right to education and can further press children into the labour pool prematurely. Our findings therefore further reiterate the need for deliberate actions to safeguard these important

human rights.

### **3.1.2 The Human Rights Implications of Climate Change Impacts in Human Settlement and housing**

As with the agriculture sector, climate change impacts on settlements and housing were reported in all study areas in different contexts. According to the informants, the most prominent climate change features threatening settlement in study areas included rising sea/lake water levels in Coast and Lake zone regions, impacts on water resources (i.e. sanitization of fresh water resources in Coast region), extreme weather events (e.g. droughts in Manyara, Dodoma and Coast region), food insecurity security (especially in Manyara), increased health risks from vector borne diseases (in all study regions), and extreme heat/hot days (especially in Manyara region).

<sup>11</sup>The World Bank, Turn down the heat 2013, p. 24

<sup>12</sup>World Bank, Turn down the heat 2012, p. xvii.



Informants in the Coast and Kagera/Mwanza regions reported growing concerns of rising water levels from both the Indian Ocean and Lake Victoria. Findings revealed that hundreds (37.7%) of people in such areas have been affected by flooding leading to displacement of coastal residents. Informants also reported increased coastal erosion resulting from increased water levels which in turn has destroyed houses, infrastructure (houses and landing site), thereby forcing communities to including fisherman to abandon previously occupied coast areas (e.g., landing site) by moving further inland (37.7%).



In Manyara and Dodoma, reported climate change impacts on settlements related mostly to decreased inland drainage of water sources following decreased rains and drying up of wells and other water reservoirs. According to the informants, this has resulted into water scarcity for both irrigation and household use owing to prolonged drying of seasonal rivers and water catchments, with significant negative consequences on sanitation and food security. This was reiterated over 40% of respondents in Dodoma and Manyara who revealed that their water sources have been depleted (Stakeholders consultation, July 2022).

In addition to water quantity, water quality in Coast and other many parts of the country was also reported to have been negatively affected by climate change. For instance, the coastal area is facing sea level rise and inland saltwater intrusion which has inundated many of the hand-dug shallow wells particularly in Bagamayo district. As a result, some boreholes were reported to have been abandoned, subjecting women and girl child to increased walking burden of up to 1.5 km one way to collect water for domestic use (Stakeholders consultation, Bagamoyo, July 2022).

Moreover, temperature changes were also reported to impact settlement and housing in study regions (e.g., Manyara, Coast, Kagera and Mbeya-Kyela district) through emergency

<sup>15</sup>United Nations General Assembly, A/HRC/16/49/Add.2: Report of the Special Rapporteur on the right to food, Olivier De Schutter (2011), para. 13.



of disease vectors especially Malaria mosquitoes (rated at 49.3%), making communities more vulnerable to diseases and pests. In Manyara region (Kiteto and Simanjiro districts), rapid breeding of the housefly was reported to create a menace associated with enteric disorders, especially in conditions of poor sanitation due to water shortages in schools and some households (Stakeholders consultation, July 2022).

Furthermore, climate change was reported to impacts housing and settlements in study regions through food deficit (79%) whereby recurrent crop failures was reported to trigger transmigration into urban areas, mostly by male youth, thereby leading to disintegration of families. This challenge was reported mostly in Mbeya, Dodoma and Kagera regions where according to informants the problem varied across regions as follows: Mbeya (9%), Kagera (7%) and Dodoma (6%). Similarly, lack of folder and pasture for livestock was reported to force pastoralists to undertake more trans-boundary migrations to other regions of Lindi and Katavi where it has resulted into growing incidences of conflicts between farmers and pastoralists (Stakeholders consultation, July 2022).

### 3.1.3 Aspects of Socio-economic Rights affected by Climate change in the Settlement and housing sector

According to Article 11 of the ICESCR all persons are entitled to an adequate standard of living for themselves and their families including adequate housing. The scope and application of the right to housing is elaborated upon in General Comment No. 4 of the Committee on Economic, Social and Cultural Rights, which states that “the human right to adequate housing [and Settlement]...is of central importance for the enjoyment of all economic, social and cultural rights.”<sup>14</sup> Accordingly, like with all other economic, social and cultural rights, States are obliged to expend maximum available resources for the progressive realization of the right to housing [and Settlement] for all persons.

Nevertheless, based on the study findings as described above, fundamental human rights related to housing and settlement have been hugely affected as shown in figure below. According to the data in **figure 3.1.2** below, the most affected aspects of settlement in the perception of consulted stakeholders are food security (deficit/shortage) (79.0%), health and education (disruption of services) (49.3%), infrastructure (collapse/failure) (45.5%),

<sup>14</sup>United Nations Committee on Economic, Social and Cultural Rights, General Comment No. 4 (New York: United Nations, 1991), Art. 1.



and disease influx (increased incidences of diseases) (35.5%). As discussed in previous sections, crop failure due to extreme droughts have direct impacts on rights related to settlement since food security and availability of fodder is among the fundamental elements allowing to settlers to settle in a given place. Short of this, occupants will migrate to other areas as evidently reported in Manyara region (Stakeholders consultation, July 2022).

The right to an adequate standard of living is highly frustrated by the extreme change in weather conditions. Due to the change in climate, there has been experienced occurrence of frequent flood in areas that never experienced such hazards. This has caused unrest to majority of the citizens and hence necessitated most of them to migrate to other places in search of better places for residence. This has led to the violations of more other rights such as the right to education since parents tend to migrate with the children who later on become unable to attend schools. In addition to that, families that tend to migrate to other places suffer from enjoyment of other social services such as health services and water services as places they migrate to are not facilitated with such services.

Furthermore, intrusion of salt water into water wells due to sea level rise affects settlement related human rights especially for women and girl children who are subjected to increased burden of fetch water from increased distant sources which are sometimes located in unsafe locations. Increased walking distances denies women time to engage in other paid/productive and/or other social-political and development activities which would elevate them economically or politically, therefore perpetuating gender inequality.

Also, Individuals are also restricted from the enjoyment of the right to food. Due to recurrent and prolonged drought that triggers both water shortages and food scarcity. Availability of the common cereal food such as maize, rice and various horticultural crops are highly affected due to recorded period of rainfall shortage in most of the places. This is experienced and reported to have occurred in regions such as Mbeya (Kyela) and Dodoma (Chemba) districts that used to experience frequent rainfall seasons throughout the year. This has affected the social economic rights of the citizens living in areas solely depending on agriculture. Despite the change in climatic condition to have caused shortage of food, but individuals who depend on cash crops are double affected since their ability to secure food products is diminished but their economic statuses are also shaken as some of them depend on agriculture as their mean of livelihood.



The right to health is affected by the experienced change in the climatic conditions. The state of physical and mental health of individuals are affected either directly or indirectly through influx of diseases such as Malaria, Cholera and diarrhoea which are triggered by alteration in climate parameters which provides favorable conditions of vectors, leading to emergence of new diseases. This was evidently reported in Kagera region and Mbeya (Rungwe district) where Malaria was reported to be a new norm in the area.

Individuals' enjoyment to the right to health are directly impacted since places such as Southern highlands where there has never been experiences of occurrence of diseases like Malaria, now faces the said communities and hence affects their normal way of lives. But the right to health of individuals and citizens in areas that are migrated for hazards like flood and drought are also affected since during migration families also tend to migrate into places marginal/vulnerable locations due to high poverty levels that deny the of access to safer and secure habitats. These observations are in agreement with the observations and conclusion of the IPCC AR 6 which revealed that "Climate change has adversely affected physical health of people globally and mental health of people in the assessed regions. It notices with 'very high confidence' that "Climate change impacts on health are mediated through natural and human systems, including economic and social conditions and disruptions [whereby]...in all regions extreme heat events have resulted in human mortality and morbidity. The occurrence of climate-related food-borne and water-borne diseases has increased, ...the incidence of vector-borne diseases has increased from range expansion and/or increased reproduction of disease vectors".

It further underscores that "Animal and human diseases, including zoonoses, are emerging in new areas [while] water and food-borne disease risks have increased regionally from climate-sensitive aquatic pathogens, including *Vibrio* spp., and from toxic substances from harmful freshwater cyanobacteria. It asserts with 'high to very high confidence' that "in assessed regions, some mental health challenges are associated with increasing temperatures, trauma from weather and climate extreme events, and loss of livelihoods and culture".

The findings from this study resonates with the findings of several other studies which have reported a number of ways in which climate change threatens the right to housing and settlement. They assert that extreme weather events can destroy homes displacing



multitudes of people. Drought, erosion and flooding can gradually render territories inhabitable resulting in displacement and migration. The IPCC Assessment report five and six reaffirms these observations. The AR5 reveals that sea level rise threatens the very land upon which houses in low-lying areas are situated and is expected to “continue for centuries even if the global mean temperature is stabilized”<sup>15</sup>. IPCC AR 6 further avert with medium confidence that “Adverse impacts from tropical cyclones, with related losses and damages, have increased due to sea level rise and the increase in heavy precipitation”<sup>16</sup>.

The findings from this study therefore present important confirmation of the onset of the once predicted impacts and call for dedicated efforts to rescue and safeguard the fundamental human rights currently under risk of being unmet.

### **The rights to development**

The right to development has been majorly affected especially due force majeure hazards. The right to development is not only a human right itself but also necessitates for the realization of other socio-economic rights as well. So, once it is affected, it leads to automatic violation of other social and economic rights and hence limits people to enjoy and liberate themselves economically. Moreover, extreme events in form of flooding have negative consequences on infrastructure (e.g., collapse of roads/bridges and buildings) which in turn affect human rights tied to such critical infrastructure. Despite the government budget being insufficient, it often further frustrated and forced to re-prioritize re- construction of the affected infrastructure in effort to restore/safeguard attached human rights (access to education and health services) which are immediately halted once transportation and communication systems breakdown.

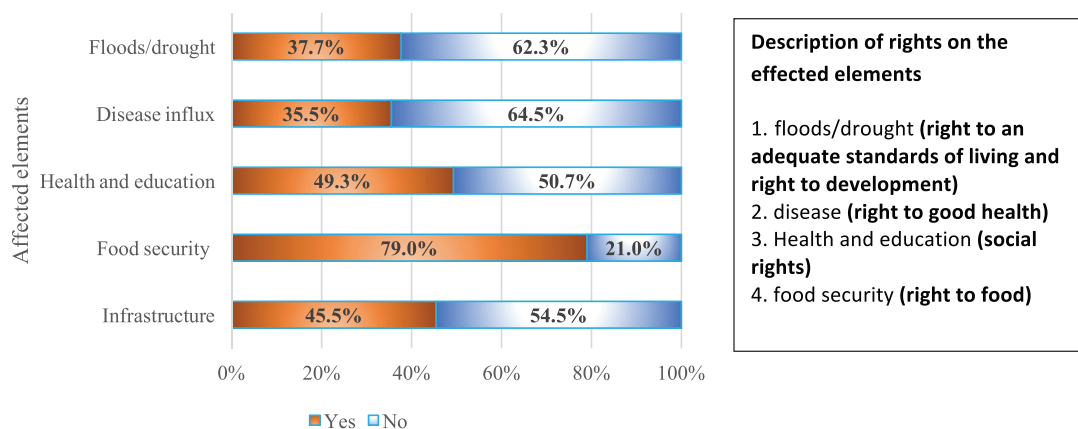
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<sup>15</sup>IPCC, AR5, p. 13.

<sup>16</sup>IPCC, AR6,p.9.







### Figure 3.1.2 The most affected elements of socio-economic rights in the settlement sector

Moreover, disruption of transportation and communication network further affects human rights related to meaningful and informed participation in planning and decision-making. The ICCPR guarantees to all persons the right to participate in public affairs including fundamental physical processes such as voting. The Declaration on the Right to Development guarantees the rights of all persons to participate in, contribute to and enjoy economic, social, cultural and political development and to share in the benefits therefrom. In the case of women, CEDAW provides for women's equal right to participate in political and public life at all levels (i.e., local, national and international levels) and the Convention on the Rights of Persons with Disabilities (CRPD) calls on State parties to ensure that persons with disabilities have access to political participation rights on an equal footing with others.

However, despite government's good initiatives to safeguard and uphold all human rights for all in the face of challenges posed by climate change and its impacts, observed and imminent risks from potentially forced migration, increased conflicts, broken infrastructure (roads) and increased restless lack of food, shelter etc. threaten to deny victims (often poor and marginalized especially women) a chance to attend and participate meaningfully in relevant planning and decision-making events. This fact has been reiterated by the fifth assessment of the IPCC that "people who are socially, economically, politically, institutionally





or otherwise marginalized are especially vulnerable to climate change and also to some adaptation and mitigation responses”<sup>17</sup>. It has also repeatedly been emphasized by Human Rights Council resolutions on the subject of human rights and climate change including resolution 10/4 which states that the impacts of climate change “will be felt most acutely by those segments of the population who are already in a vulnerable situation.

Thus, given that persons, groups and peoples in vulnerable situations face greater risk and threats from climate change, it is particularly important that the right to meaningful participation in planning and decisions making on issues likely to affect their rights and survival is honored. This means exploring deliberately alternative ways through which marginalized groups in affected areas can be assured of their participation in relevant events (e.g., through virtual options such as zoom meetings) would be a great approach in safeguarding their human rights related to meaningful and active participation in planning and decision-making. Moreover, this approach would respond to the IPCC call that, “recognition of diverse interests, circumstances, social-cultural contexts and expectations can benefit decision-making processes” and consequently, enables an effective and rights-based approach to tackling the threat of climate change<sup>18</sup>.

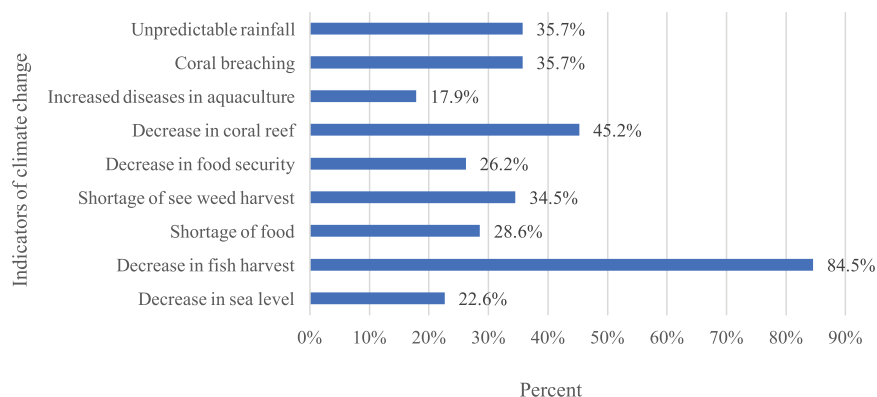
### 3.1.4 The Human Rights Implications of Climate Change Impacts in Fisheries

Fishermen in study areas particularly in the Coastal region (Mafia and Bagamoyo) and Mwanza (Ukerewe) reported observed impacts of impacts of climate change in their fishing industry. Although fisherman did not directly perceive the impacts of phenomena such as sea temperature rise, sea-level rise, changes in rainfall patterns, and changes in the salinity of the surface of the ocean, as climate change, they were aware and concerned associated trends including reduction in fisheries production over the years (84.5%), alteration of places with fish abundance (e.g. decrease of Coral reefs, 45.2%), disappearance or reduction of certain fish species and vulnerability of fish species (e.g. increased aquaculture diseases, 17.9% and unpredictable rainfall 35.7%) as shown in figure 3.1.3 below (Stakeholders consultation, July 2022).

<sup>17</sup>IPCC, AR5, p. 54

<sup>18</sup>IPCC, AR5, p. 19





### Figure 3.1.3 Impact of Climate Change in Fisheries

Our findings in this study are in agreement with various global, regional and national studies on the impacts of climate change on fisheries including the IPCC AR 6<sup>19</sup> which argued with high confidence that Climate change is causing the redistribution of marine fish stocks, increasing risk of transboundary management conflicts among fisheries users, and negatively affecting equitable distribution of food provisioning services as fish stocks shift from lower to higher latitude regions, thereby increasing the need for climate-informed transboundary management and cooperation.

Other studies (e.g. Vicky W.Y et al , 2020)<sup>20</sup> predicted declining fish catchment in tropics by up to 40% in potential seafood catch by 2050. Another study (Barange et al. ,2018) noted that extreme events affect not only infrastructure in the fisheries sector but also production quantities. The report warned that the impacts on the fisheries sector are not limited only to fishermen, but also to the sustainability and food security of the communities that depend on it. This argument was supported by 28% of respondents in our study (Stakeholders consultation, July 2022).

For instance, in Coast and Kagera regions, rising water levels in Indian ocean and Lake Victoria, pushed farther inland some fishing grounds thereby affecting the fishing

<sup>19</sup>IPCC, AR 6 (2021), SPM p.19

<sup>20</sup><https://www.nature.com/articles/s43017-020-0071-9>



activities and income generation. This occasion was reported to be an important concern since artisanal fishing makes a significant contribution to the economic sustainability of local communities, reaching an estimated 70,000-100,000 fishermen and collectors in study regions (Stakeholder consultation, Coast, Mwanza and Kagera regions, July).



Moreover, fishermen in Ukerewe, Bagamoyo and Mafia reported that some species such as herring, mackerel, capelin, blue whiting, sprat, anchovy and sardine have shifted away from shallow coastal waters and semi-enclosed areas into deeper waters, a fact which has heightened the difficulty of getting the once easily appropriable fish catch.

The informants further reported about the impacts of rising water levels and extreme weather events such as winds and storms that have affected not only fisheries but also aquaculture activities through destruction of various production infrastructures such as fish ponds and floating cages. In the case of aquaculture farming, informants reported that in addition to loss of fish during the invasion of floodwaters in ponds, the introduction of new species creates aquaculture unsustainability problems due to the entry of exotic species, a case which has also been reported elsewhere (Edwards, 2015). This challenge was particularly reported in Kagera region (Bukoba rural) where over 60 floating cages were partially or completely destroyed by the recent floods of 2020/21 (Stakeholders consultation, Kagera region, July 2022).

In the Coast region, climate change impacts on aquaculture were also reported to have had particular impacts on women who are the predominant players on this subsector, especially seaweed. Respondents in Mafia, for instance, revealed that increased sea levels and water temperature have made it difficult for women to engage effectively in this activity due to lack of appropriate gears since they now have to go into deeper waters where they need both safety training (e.g., swimming) as well as safety gears (including special clothing, boats, life jackets, and other devices) which they currently don't have.



Informants further elaborated challenges associated with deeper water Seaweed farming for women. They revealed that Seaweed harvesting is traditionally done by hand and ferried to the shore (mostly on women's' heads, and in fewer occasions, using a boat, or by day-hire young men) where it is spread out (either over a flysheet, atop sticks, or hanging from a drying line) to allow it to dry without being contaminated by sand or freshwater. Thus, in addition to access and safety challenges, moving further in deeper water means more burden to women and vulnerable seaweed farmers (in terms of time away from home and costs to buy boats and safety gears). This development was reported to reduce both profitability of the business and reduction in the number of women engagement in the business in Mafia district. This tendency (i.e., exclusion of women and vulnerable population from engagement in deep water Seaweed farming) is aggravated by women's limited ability to access and secure credits from financial institutions for purchase of relevant safety gears. Similar studies have indicated that from year 2000 seaweed production - *Cottonii* and *Spinosum* - has started decreasing especially *Cottonii* species. The most documented reasons being an increase in surface seawater temperature (Msuya, 2012).

As noted above, these findings from our study are in agreement with various recent studies that have been conducted globally and locally to assess the impacts of climate change on fisheries. These studies show that generally, the impacts of climate change on fisheries and aquaculture fall into direct and indirect impacts (Handisyde et al., 2006; De Silva and Soto, 2009; Maulu et al., 2021). Direct impacts are linked to the influence of physical and physiological factors that alter the fish stocks in a given production system, in the production of feed, and catches, as well as, influencing changes in species range and genetic variability. While indirect impacts affect the primary and secondary roads linked basically to the structure of production, prices of fishing inputs, production infrastructures, and all the services necessary for production to occur (De Silva and Soto, 2009; Knutsen et al., 2013; Freeman, 2017; Adhikari et al., 2018).

Studies also show and warn that rising ocean temperature and increased acidity makes it more difficult for marine organisms such as shrimps, oysters, or corals to form their shells. The rising ocean temperature and increased acidity makes it more difficult for marine organisms such as shrimps, oysters, or corals to form their shells. As a result, the distribution, productivity, and species composition of global fish production is altered, generating complex and inter-related impacts on oceans, estuaries and sea grass beds that provide habitats and nursery areas for fish<sup>21</sup>.



### 3.1.4 Aspects of Socio-economic Rights affected by Climate change in the Fisheries Sector

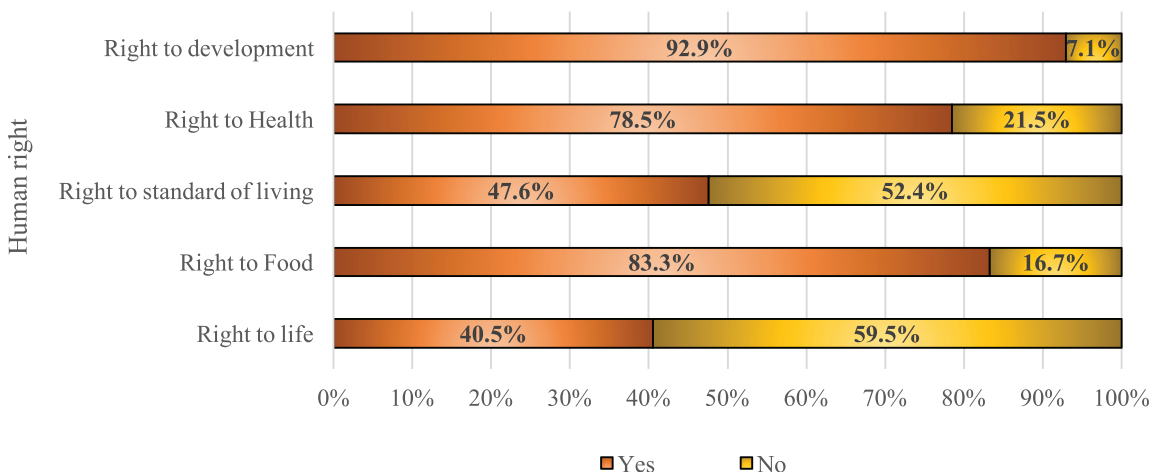
In line with the negative impacts of climate change on fisheries as described above, fundamental human rights attached to the fisheries sector have been hugely affected as shown in figure 4.1.4 below. According to the figure, the most affected rights relate to development (92.9%), food security (83.3%), health (78.5%), standard of living 47.6%), and life (40.5%). Climate change impacts are also affecting human rights related to work for both women and men. However, women are the most affected (Stakeholders consultation, July 2022).

The right to work is affected due to the climatic impacts in the fishery sector. Self-employment is regarded as among the common means of profit generation and means of livelihood options supporting several individuals and households in the lake zone and coast regions. As noted above, fisheries subsector employs estimated 70,000–100,000 local communities (i.e., Fishermen and collectors) who are engaged in different aspects of the value chain. These local communities derive their livelihoods and depend solely on the fishing activities. Hence, reduced fish catch due climate change means a significant obstacle towards enjoyment of the right to work and better life. These impacts are compounded by the lack of alternative pathways for these communities which would allow them to live a life with dignity.

In addition to that, the right to food is also affected by the reduction in fish catch and disappearance of aquatic organism due to the increase in acidification and temperature of the water. In turn reduced fish catch affect protein intake and other food types, leading to lack of necessary dietary intake with considerable health consequences as reported by the respondents. Inevitably, poor dietary intakes and increased health burden affect human rights related to one's life. Due to decrease in fish catch that necessitates to the dietary complications and lack of food rich in protein, the most vulnerable group to be complicated with such findings are children who depends a lot on the supplements from the dietary food such as protein-based foods.

<sup>21</sup><https://blogs.worldbank.org/nasilkiza/climate-impacts-on-african-fisheries-the-imperative-to-understand-and-act>





**Figure 3.1.4 Impacts of CC on Human Rights in Fisheries sector**

### 3.1.6 The Human Rights Implications of Climate Change Impacts in Pastoralism and livestock

Consultations with pastoralists in study areas revealed their understanding of the onset and impacts of climate change on their livelihood strategies. They reported consistent declines in amounts of rainfall, delayed onset and erratic cessation of rainfall, patterns which have lately become more frequent.

Respondents from all study areas, but particularly in Manyara, admitted that frequent droughts have led to severe economic impacts associated with poor livestock markets, water and pasture. Noting that the price of cattle has





continued to decline due to poor health condition of animals. They further reported that inadequate feed resources and water as well as heat stress has led to reductions in milk yield which is a staple food for pastoralists. Reduction in supply of milk poses risks to food and nutritional security of these communities, in particular for women and children especially since milk is traditionally and culturally a very important meal of the pastoral communities. More specifically, respondents in Simanjiro and Kiteto outlined the following climate induced challenges on their pastoralism:

### **Outbreak and increase of diseases**

They reported increase of animal diseases and pests in their villages whereby for the last 15 years, new diseases such as anaplasmosis, babesiosis and East Coast Fever (ECF), worms and foot-and-mouth diseases have increased. Such increase of diseases has led to an increase in livestock mortality rate which was estimated to range between 25% and 30% per year (Stakeholders consultation, July 2022).. This development has registered their concerns over possible increase in livestock mortality due to continued influx of diseases, decreased market prospects, reduced income generation and weakened ability of households to access food recourses.

### ***Changes to seasonal rainfall***

About 89% of the respondents complained about rainfall patterns and its impacts on their livestock. They noted delayed onset and condensed durations and with insufficient rainfall – less than 100mm per season. In Simanjiro, pastoralists also complained about prolonged drought that caused acute pasture and water deficit resulting in livestock mortality. They lamented that deeply that these incidences only increased their destitution and poverty circles.



### **Increased travel distances in search of pasture and water**

Ninety-nine per cent of respondents reported that distances to grazing land and water have increased tremendously in the past 10 years. In Simanjiro districts, it was reported that 39% of the respondents walked between 6 and 8 km to reach grazing areas while 26% reported that they walked between 3 and 5 km for the same purpose. Participants in the focus group discussion pointed out that during severe droughts they would feed goats, young animals, sick cattle and lactating cows near homes with tree branches, pods and leaves of *Euclea sp*, *Acacia nilotica*, *Acacia lahaiand* *Olea Africana* since they are the only trees that remain green during drought seasons. (Stakeholders consultation, Simanjiro, July 2022).

Findings further show that with exception of chicken smaller livestock species such as sheep and goat populations were moderately affected by rainfall shortages when compared with large livestock such as cattle. Table 3.1.4 shows that duck, donkey and sheep are the least affected animals compared to Cattle, goat and sheep. Generally, cattle are the most vulnerable livestock species due to higher energy requirements than other livestock types ((Stakeholders consultation, Simanjiro, July 2022, Lalman. D, (2015).

**Table 3.1.4 Effects of Climate Change on Livestock**

Variable	Obs	Mean
Cows/Cattle	76	68.4%
Goat	76	25.0%
Sheep	76	6.6%
Pig	76	15.8%
Hen	76	31.6%
Duck	76	5.3%
Donkey	76	5.3%

Moreover, discussion with pastoralist revealed that recovery of cattle populations is prolonged by interruptions due to subsequent shocks (decline in population or disturbance in age and sex structure), which occurs under high rainfall variability. Given the shorter





periods between successive droughts that was reported by pastoralist in study areas, with an approximate interval of 4–6 years, it is unlikely that most cattle herds would have sufficient time to recover from shocks and increase to their pre-drought numbers.

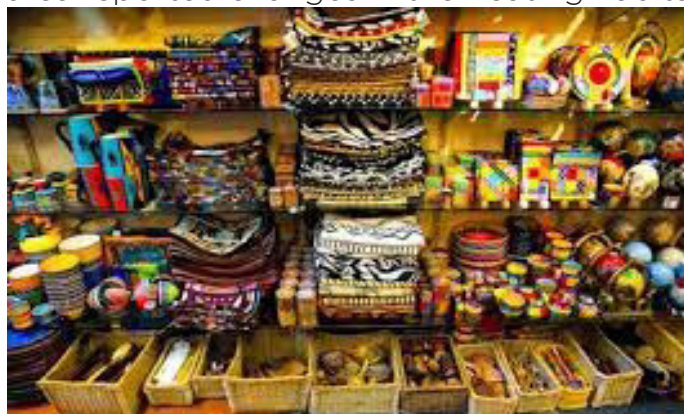
### **Adaptive Measures**

Following the increases and recurrent life-threatening climate change impacts as described above, pastoralists have developed adaptation measures which help them cope with these situations. These measures include:

**Changing livestock:** In response to the climate change and variability, pastoralists particularly in Kiteto and Simanjiro districts have embarked on the process of shifting from cattle pastoralism to multispecies herding, mostly sheep and goats which are seen as less vulnerable and therefore reasonable strategy for climate resilience.

**Water preservation practices:** In Kiteto and Simanjario district, water preservation practices were being done by digging shallow wells, locally known as lambo or pugu, for both human and livestock uses. This was done on a self-help basis locally known as “*harambee*”. The shallow wells are used by the community for domestic use as well as for animals. According to the informants and following increased scarcity of water, the numbers of water wells has been increasing year after another (i.e 130 in 2022 compared 21 in 2017). However, effectiveness of the well is challenged by re-curent and prolonged drought which makes these wells to function only for 3 to 4 months in a year.

**Changed eating habits:** Faced with consistent lack and or insufficiency of traditional food, majority of the pastoralists in the study area reported changes in their eating habits whereby they have switched from eating livestock products (milk and meat) only to eating cereals (leguminous and non-leguminous) products. Although eating habit could have also been influenced by modernization of the Wamaasai culture due to interaction with other cultures, reduced number and poor health of livestock due to changed climate is playing an important role on the trend.



Migration from rural to urban areas: Traditionally, pastoralists are rural dwellers migrating from one area to other areas searching for water and pastures for their livestock. Because of ecological and economic hardships coming from the climate change impact, informants revealed that some Maasai people, particularly women and young men are compelled to immigrate to urban and peri-urban areas to look for alternative sources of livelihood, including casual labour work, petty trade of various hand- made items, selling traditional medicines, and men being watchmen

**Diversification of livelihood strategies:** Ninety-five per cent of the respondents in Kiteto and Simanjiro districts confirmed that they were no longer depending only on livestock as used in the past, but they were also engaged in crop production, trade, and other activities such as hunting in order to increase their income and cope with the impacts caused by climate change. These practices especially agriculture, was reported by non- pastoralists to help reduce conflicts between pastoralists and farmers because with own crops, the Maasai farmers are likely to keep away their livestock from crops and perhaps away from other people's crops.

The above responses by the pastoralists in Simanjiro and Kiteto districts are in agreement with findings and recommendations from several other studies. For instance, a study on feeding ecology (Rojas-downing, MM et al (2017) supports the findings of our study that sheep and goats are better adapted to nutritionally poor vegetation than cattle and hence, are likely to survive on a stressed environment.

Other relevant studies with similar findings and conclusions include the study by Leweri C. et al (2021) which assessed the impacts of Rainfall variability and socio-economic constraints on livestock production in the Ngorongoro Conservation Area Authority (NCAA), Arusha, Tanzania. The study found that drought has affected different societies, particularly pastoralists, leading to increased poverty and more prevailing food insecurity. It noted that changes in rainfall and temperature have affected livestock production, market, water and pasture for livestock as well as increased distance to grazing areas. According to the Leweri, respondents admitted that frequent droughts have led to severe economic impacts associated with poor livestock markets and lamented that the price of cattle kept on declining due to poor animal health conditions, coupled with pressure to sell them due to lack of fodder to feed them. Moreover, respondents, according Leweri, reported that inadequate feed resources and water as well as heat stress has led to reductions in milk



yield, which was also reported elsewhere in Tanzania. More specifically, the study revealed the following relevant findings:

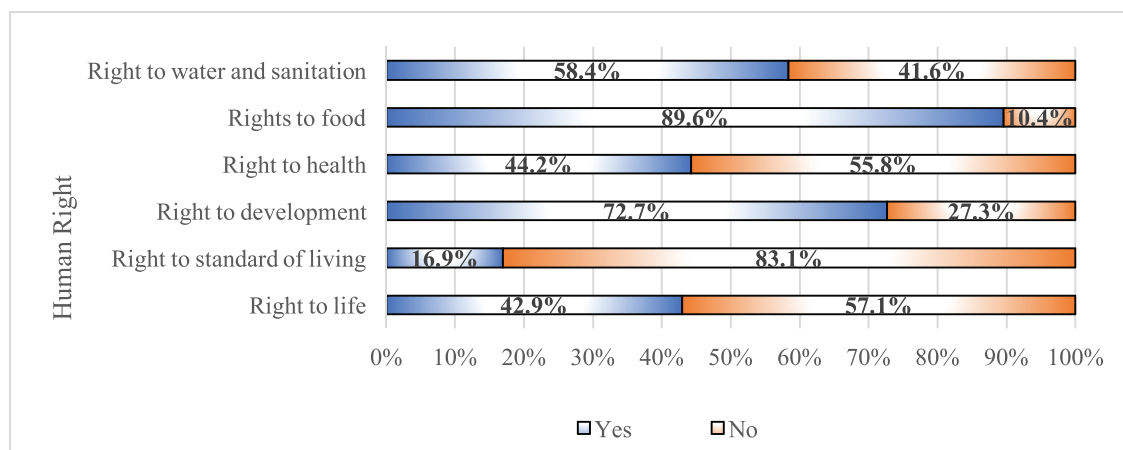
Droughts: Pastoralists reported that recurrent drought periods have caused massive losses of livestock, in particular cattle. Droughts have led to severe feed shortages and water scarcity, which leads to serious socio-economic impacts. It reported that, during the 2017's drought, for example, NCAA lost about 70% of livestock (Pers Comms,2022). Further, droughts make animals more susceptible to infectious diseases, which further reduce the ability of animals to survive.

### **3.1.7 Aspects of Socio-economic Human rights affected by Climate change in Among Pastoral communities**



In line accordance with the negative impacts of climate change on pastoral communities as described above, fundamental human rights attached to pastoralism sector have been hugely affected as shown in figure 3.1.5 below.





**Figure 3.1.5 Aspects of Socio-economic Rights attached to Pastoralism Sector**

According to the figure, the most affected rights relate to food security for livestock (89.6%), development (72.7%), water and sanitation (58.4%), health (44.2%), right to, life (42.9%) and standard of living 16.9%). The aforementioned impacts of climate change on livestock have direct impacts on several human rights as follows:

Firstly, Pastoralist is traditionally the only reliable livelihood and development pathways that pastoralism has long known and developed relevant institutions (mental, psychological and cultural) for. Lack of adequate and reliable food supply for livestock due to climate change is thus a big constraint in their pursuit for wellbeing and development as it means collapse of their livelihood patterns and associated human rights such as their rights to live the life they love most and are used to. As livestock produce (milky, meat and blood) is traditionally the staple food for pastoral communities (May& Ole Ikayo, 2007 in Munishi, E.J, 2019) reduced supply of meat and milk due to climate change threats means a significant constraint to the food security of pastoralists themselves particularly for women and children.

This trend (i.e., Consistent food supply for both livestock and human) has direct deleterious effects on development and health related rights. For instance, with reduced number of livestock due to poor health coupled with declining markets, pastoralists are



unable to implement a number of their development priorities and afford requisite health measures due to reduced incomes which are primarily tied to the livestock industry. This is compounded by changes some of the adaptation mechanisms (e.g., change of livestock) which they are forced to adapt in order to cope with the situation. As pointed by the informants most of new livestock adopted are small and so less profitable when compared with large livestock (e.g., cattle) which have to be abandoned.

Right to health. Secondly, with increased lack of water and good sanitation pastoral communities face health peril which further threaten their lives and that of their livestock. Other affected human rights among the pastoral communities include inability to maintain their preferred diet and right to family (family disintegration pressure to migrate to urban areas) especially by youth Masai and women to seek alternative livelihood options. On the latter, migration to urban areas to seek alternative livelihoods has direct consequences on their culture and traditions since Maasai youths have significant social and economic contribution to their tradition Maasai household livelihoods (Munishi, 2019). In addition to grazing livestock which is the core livelihood of the pastoralists, Maasai youth are expected to engage in tasks related but not limited to construction of livestock sheds, dips and preparations of cultural events aimed at enhancing Maasai livelihoods and traditions. In this case Maasai youth are regarded as lifeblood of the Maasai social and economic progress as most matters related to Maasai economic and cultural issues directly or indirectly depend on them (Ibid).

Right to family -family disintegration- violence against women and children, most of the women are deserted by their husbands as they tend to migrate in search of pasture. Children are exposed into hazardous environment and are likely to face the child violence since most of the times they are not under the care of their parent, hence they are exposed into high risk of violence against them. Thus, migration to urban areas to seek alternative livelihoods while its consequences are debatable (i.e., on the one end is their crucial right to pursue promising and reliable livelihood alternative) it on the other hand, pose precarious situation on the stability and sustainability of their households at home and associated traditions. Although rural-urban migration is happening in all communities the world over, it is possible that the rate of migration by pastoral communities may not have been at the current speed without the catalyst of climate change.



Further continued climate change impacts on livestock have direct impacts on other customs and tradition obligations such payment of bride price which is traditionally affected using some animals particularly cows and goats. Hence reduction in such animals due to climate change means alteration of such fundamental practices.



## 4. CONCLUSION AND RECOMMENDATIONS

### 4.1 Conclusion

As discussed in the foregoing sections, climate change is posing significant challenges on the socio-economic and human rights aspects of smallholder farmers, women, fish folks, Pastoralists and settlement in all study regions, districts and villages. In line with findings of several past studies at the global, national and regional levels, findings of this study have demonstrated the overwhelming nature and dimensions of climate change impacts on all sectors of the study human rights in all sectors study. While growing and multidimensional, the impacts seem to be interwoven and reinforce each other thereby aggravating poverty, resource use conflicts, malnutrition and inequality which ultimately compromise efforts towards sustainable development. Climate change impacts have also aggravated gender inequality especially through increased gender roles and family disintegration in pursuit of solutions to address the impacts. These trends have affected development patterns and increased workloads for women tremendously, pushing some community members back into deep poverty.

Despite the overwhelming impacts referenced above as revealed by both scientific studies and feedback from communities in study areas, there seems to be limited capacity in addressing the challenges. Discussion with informants both at the national, LGA and community level revealed a limited capacity and responsibility by duty bearers to adequately address prevailing challenges in a timely fashion across the study sectors. The study acknowledges and commends government efforts at various in preparing relevant legal and institutional frameworks including some programs for addressing climate change impacts in the study sectors and beyond. It is however, noted that:

- a) Most of these efforts have not placed human rights at the center of their design and implementation arrangements (i.e., theories of change and corresponding results frameworks don't always have SMART yardsticks from the human rights perspective)
- b) (ii) Most of the interventions have taken a small scale (pilot) approach and lessons (i.e., best practices) garnered from such projects have not, in many cases, been used





to design large scale, multisectoral and interdisciplinary solutions that adequately respond to the nature and scale of the prevailing and predicted impacts

- c) Most of the well formulated policies, strategies and actions plans are mostly recognized at the national (i.e., Ministry) level and very little is known at the LGA level and below where their actual implementation takes place. Examples are the currently formulated key climate change frameworks including NDC, 2021, NCCRS 2021/22-2025/26, NEP 2021 which contains some human rights provisions but are barely known at the LGA and beyond
- d) Although most of the critical human rights provisions from both the constitution and other regional and global frameworks have been succinctly identified and elaborated in the NHAP and other high-level frameworks (e.g., FYDPs) their implementation has not been appropriately and adequately translated in respective programs at the local levels including in M + E and budget frameworks

To address the above, this study has identified a number of strategic interventions that should be promoted by duty bearers (i.e., government MDAs), CSOs and DPs to design and implement projects and programs using a human-rights based approach. As discussed below, these interventions are aimed at accelerating implementation of human rights provisions and targets of the NHRAP as well the vision of the Constitution and the EMA 2004 that “that “every person has the right to a clean, safe, and healthy environment.

## **4.2 Recommendations**

Based on the observations and finding presented above, this study identifies a number of interventions that require urgent considerations in order to secure the increasingly threatened human rights in study sectors and safeguard well-being and livelihoods of communities in study areas. Accordingly, the study provides two sets of recommendations categorized as general recommendations and sector-specific recommendations as described below;





## 4.2.1 General recommendations for LHRC and other DPs

- i. In collaboration with other stakeholders, efforts should be made to conduct training and sensation of national level government authorities mandated with upholding human rights and those dealing with climate change management on relevant environment and climate change justice. This means, conducting orientation and sensitization sessions with responsible government officials to enlighten them on applicable human rights that are increasing at risk from climate change their duties in addressing such risks. Key relevant institutions to be sensitized/capacitated would include those charged with mandates for implementation and overseeing implementation of the NHRAP, Environmental/climate change and disaster management policies, strategies and action plans. These include among others:
  - The Ministry of Constitutional and Legal Affairs
  - The Attorney General's Chambers (AGC).
  - The National Assembly and its various Standing Committees.
  - The Commission for Human Rights and Good Governance (CHRAGG).
  - The United Nations Treaty Reporting Entities.
  - Disaster Management Department under the Prime Minister's office,
  - Division of environment in the Vice President's Office, both legal and technical departments
  - National Environment Management Council (NEMC)
  - Sector coordination department/Unit under the PO-RALG.
  
- ii. In collaboration with other stakeholders including PO-RALG, conduct training and sensation of sub-national level government authorities (e.g., regional, district, Ward and village levels) mandated with implementation of various environmental and climate change programs and protection of welfare and human justice at that level with a view of enhancing their understanding of relevant human rights affected by climate change as well as required interventions to uphold such rights.



- iii. Promote and support effective monitoring of implementation of relevant environment and climate change justice provisions enshrined in various national and international instruments paying particular attention to key vulnerable groups recognized by the law including Persons with Disabilities, elderly persons, children, women and persons living with HIV. The existing mechanisms including the one provided by the NHRAP M+E system presents a good opportunity for pursuing this as it calls for all MDAs to integrate and institutionalize human rights activities and include them in their respective MTEFs, and roll them over in their respective Annual Work Plans, Budgets and Reports.
- iv. Enlighten CSOs involved advocacy and monitoring of human rights on current status of environmental justice and human right issues in the country and encourage them to include key activities in their priority lists for advocacy and community training /sensitization include through building local capacity and empowering programs; participating in monitoring and evaluation of human rights issues at national and community level; mobilizing and enhancing community participation in human rights and climate change initiatives; and mobilizing community resources towards achieving the objectives of environmental justice and human rights across sectors.
- v. In collaboration with other stakeholders, conduct orientation and sensitization session to members of parliament, particularly relevant committees on human rights and environment/natural resources in order to appraise on the current status, gaps and areas for action
- vi. Conduct in depth sectoral analysis covering the entire respective regions/districts by increasing the sample size in to capture detailed perspectives of human rights and environmental justice from a regional/district level.
- vii. Facilitate and coordinate Climate change and Human Rights dialogue sessions at regional and national level (i.e., national dialogues/conferences on Climate Change and Human Rights) in order to foster understanding, responsibility and accountability by duty bearers.
- viii. In collaboration with relevant authorities and other stakeholders launch a program for monitoring and reporting progress and status of programs aimed at addressing environmental/Climate Change and Human Rights (e.g., GBV, VAC- related to migration) issues.



- ix. Given Zanzibar's vulnerability to climate change (as described clearly in several studies and legal frameworks) conduct a separate study for Zanzibar to understand the status and nature of the impacts of climate change on human rights among the Zanzibar populations and the response by mandated duty bearers. Based on the findings, establish relevant recommendations for further action.
- x. Conduct dialogues and advocacy to foster thorough consideration and integration of human rights obligations standards and principles in national climate policy, action and strategies.
- xi. Enhance communication between national climate change negotiators and human rights experts including through increased participation in the Geneva Pledge;
- xii. Increase scrutiny of the impacts of climate change on human rights by paralegals and other Human Rights observers
- xiii. Explore the needs and possibilities of creation of a legal instrument to protect the rights of climate affected/displaced people
- xiv. Promote Mitigation and adaptation efforts that place people at the centre, are gender sensitive, and ensure the rights of persons, groups and peoples in vulnerable situations, including women, children, indigenous peoples and the poor. These could be informed by the use of human rights impact assessments to ensure that proposed climate actions contributes to securing important human rights;
- xv. Consider formation of an informal committee/tasks force on human rights and climate change to identify good practices, strengthen accountability mechanisms, engage with CHRAGG and other relevant stakeholders on Climate Change and further explore the links between climate change and human rights.



## 4.2.2 Sectoral Recommendations

### a. Agriculture

- i. Advocate for effective implementation of key national climate change frameworks including national climate response strategy (NCCRS, 2021), National Determined Contributions (NDC,2021), the climate smart agriculture guidelines (2017) and other related policies and strategies with a view of addressing negative impacts of climate change on agriculture and human rights.
- ii. Promote implementation of relevant climate change adaptation measures identified by the NCCRS and NDC with a view of addressing the various human rights challenges on agriculture including food and water security. These measures include availing drought resistant crops, micro-irrigation, rain water harnessing and micro-dams for improved water efficiency; leveraging renewable energy – solar, food/crop storage facilities/warehouses; scaling-up rural electrification and promotion of natural gas for households and cold chain facilities for post-harvest loss management. Other measures include access to crop index insurance, intensification of agriculture to discourage deforestation; promotion climate smart agriculture for both crops and livestock and support value addition.
- iii. Strengthening extension systems (including training, access to technology, equipment and localized/downscaled Climate Services) for improved human rights in agriculture sector.
- iv. Enhance Access to and effective use of digital agriculture solutions (M-Kilimo and dash-board) which offers early warning information which is critical to mitigate potential negative impacts of climate change and associated negative consequences on human rights.

**b. Fisheries:** In order to protect and secure human rights and environmental justice related to fisheries sector, the following recommendations are made based on findings and lessons from the current study

- i. Train fish folks on safety issues related to deep water fishing (e.g., swimming for women) and assist with access to relevant safety equipment (GPS, life jackets, VHF radio signals) and other fishing gears.



- ii. Promote Marine spatial planning to protect and secure rights of different marine users and promote aquaculture/mariculture activities through addressing reported cases of conflicts among users of marine resources especially owing the growing momentum of Blue Economy investments
- iii. Support availability of refrigerated containers and other cold facilities at landing site to assist with storage as mitigation measure against losses of fish catches
- iv. Promote aquaculture including cage fish farming to address shortage of fish due to changing weather patterns and or lack of appropriate gears for deep water fishing due to climate change
- v. Support access to climate services (i.e., early warning information) among fishing community in order to minimize risks and reduce losses related to no catch/decreased fish catch safety threats (disasters) caused by lack of information
- vi. Strengthen enforcement of regulations governing fishing industry in order to protect the marine environment and its biodiversity as well as safeguard fish folks against related negative impacts on their human rights

## **ci. Settlement**

- i. Promote Land use planning in order to protect relevant human rights related to settlement and facilitate appropriate use of land to address potential conflicts resulting from encroachment and unplanned uses of land
- ii. Conduct risk assessment and hazard mapping for various settlement areas and establish zonations for areas suitable for Settlement thereby safeguarding human rights related to settlements
- iii. Support implementation of Climate Smart Building codes/standards to enhance adaptation and resilience buildings and secure relevant justices against climate change risks
- iv. Promote availability of alternative sources of water, energy and farmland in order to ensure availability of adequate and reliable supply of basic requirements such water and food in authorized settlement areas



- v. Strengthen enforcement of settlement regulations especially in risky areas (e.g., along river banks, earth quakes and flood prone areas) to avoid preventable catastrophic events
- vi. Conduct public training on health and safety measures and rescue mechanisms in order to safeguard lives and welfare of communities residing in risky but authorized areas
- vii. Enhance monitoring of progress and reporting on achievements in the implementation of human rights related interventions in settlement.

#### **d. Pastoralism**

- i. Consider and promote availability of alternative sources of water and food for livestock (e.g., introduce hydroponic fodder, Chaco dams and other necessary infrastructure) in order to address deficit of basic food requirements for animals and reduce growing conflicts between pastoralists and farmers
- ii. Improve extension services including animal diseases and pests' surveillance and management including use of deep wash facilities
- iii. Promote climate responsive pastoralism coupled with public education on selection of breeds and associated practices such as destocking of livestock in order to reduce tensions and conflicts related lack of fodder and water for livestock
- iv. Conduct training to both pastoralists and duty bearers on relevant human rights in the livestock sector that needs to be monitored and reported.



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