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## **Enhancing Climate Resilience in Africa for Development**

## Kariuki Muigua\*

#### Abstract

This paper critically examines the need to enhance climate resilience in Africa. It argues that climate change is a major threat to development in Africa. It explores the impacts of climate change in Africa and their effects on development in the continent. In light of the adverse impacts of climate change in Africa, the paper posits that enhancing climate resilience is a key approach towards confronting climate change and fostering development. The paper critically discusses the achievements made and challenges faced towards fostering climate resilience in Africa. It also offers ideas towards enhancing climate resilience in Africa for development.

## 1.0 Introduction

Climate change is increasingly impacting our ecosystems, with disruptive effects on the social well-being, economic development, and environmental sustainability of current and future generations<sup>1</sup>. The impacts of climate change include intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity among others<sup>2</sup>. These impacts are being felt across regions and in many sectors important to society, such as human health, agriculture and food security, water supply, transportation, energy, and biodiversity and ecosystems<sup>3</sup>. These effects are expected to become increasingly disruptive in the coming decades threatening the future of both humanity and nature<sup>4</sup>.

<sup>4</sup> Ibid

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<sup>&</sup>lt;sup>1</sup> United Nations Environment Programme., 'Climate Change' Available at <a href="https://www.unepfi.org/climate-change/climate-change/">https://www.unepfi.org/climate-change/climate-change/</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>2</sup> United Nations., 'What is Climate Change?' Available at <a href="https://www.un.org/en/climatechange/what-is-climate-change">https://www.un.org/en/climatechange/what-is-climate-change</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>3</sup> World Bank Climate Change Knowledge Portal., 'What is Climate Change?' Available at <a href="https://climateknowledgeportal.worldbank.org/overview">https://climateknowledgeportal.worldbank.org/overview</a> (Accessed on 03/06/2024)

Climate change therefore presents significant and complex challenges for global economies since it affects economic development, social progress, and the sustainability of communities and ecosystems<sup>5</sup>. It has been described as one of the greatest challenges facing humanity today<sup>6</sup>. Climate change has significant implications on energy, food and water security as well as health and safety for countries and people around the world<sup>7</sup>. It is therefore a key threat to the attainment of the Sustainable Development agenda<sup>8</sup>.

As a result of its impacts, responding to climate change has become an urgent global, regional, and national priority<sup>9</sup>. The United Nations 2030 Agenda for Sustainable Development<sup>10</sup> acknowledges that climate change is one of the greatest challenges facing humanity and its adverse impacts undermine the ability of all countries to achieve Sustainable Development. It urges all countries to take urgent action to combat climate change and its impacts<sup>11</sup>. In order to achieve this goal, Sustainable Development Goal (SDG) 13 urges all countries to strengthen their resilience and adaptive capacity to climate-related hazards and natural disasters<sup>12</sup>; integrate climate change measures into national policies, strategies and planning<sup>13</sup>; and improve education, awareness-raising

<sup>&</sup>lt;sup>5</sup> Navigating Climate Resilience: Kenya's Battle with Recent Flooding., Available at <a href="https://www.acts-net.org/blogs/foresight-africa-blog/navigating-climate-resilience-kenya-s-battle-with-recent-flooding">https://www.acts-net.org/blogs/foresight-africa-blog/navigating-climate-resilience-kenya-s-battle-with-recent-flooding</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>6</sup> United Nations Environment Programme., 'Responding to Climate Change' Available at <a href="https://www.unep.org/regions/europe/regional-initiatives/responding-climate-change">https://www.unep.org/regions/europe/regional-initiatives/responding-climate-change</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>7</sup> Ibid

<sup>8</sup> Ibid

<sup>9</sup> Ibid

<sup>&</sup>lt;sup>10</sup> United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <a href="https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf">https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf</a> (Accessed on 30/05/2024)

<sup>11</sup> Ibid

<sup>12</sup> Ibid

<sup>13</sup> Ibid

and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning<sup>14</sup>.

In order to effectively tackle climate change, it has been noted that there is need for the global community, states, and communities to embrace climate resilient strategies as a transformative approach towards climate change<sup>15</sup>. States have been urged to take urgent steps to build resilient societies and economies in order to effectively confront climate change and foster development<sup>16</sup>.

This paper critically examines the need to enhance climate resilience in Africa. It argues that climate change is a major threat to development in Africa. It explores the impacts of climate change in Africa and their effects on development in the continent. In light of the adverse impacts of climate change in Africa, the paper posits that enhancing climate resilience is a key approach towards confronting climate change and fostering development. The paper critically discusses the achievements made and challenges faced towards fostering climate resilience in Africa. It also offers ideas towards enhancing climate resilience in Africa for development.

## 2.0 Climate Change in Africa

Climate change represents a major threat to the realization of the Sustainable Development agenda in Africa<sup>17</sup>. It has been noted that Africa is the most vulnerable continent to the impacts of climate change<sup>18</sup>. Despite having the lowest greenhouse gas emissions compared to other continents, Africa faces exponential collateral damage as a result of climate change, posing systemic risks to its economies, infrastructure

<sup>14</sup> Ibid

<sup>&</sup>lt;sup>15</sup> Navigating Climate Resilience: Kenya's Battle with Recent Flooding., Op Cit

<sup>&</sup>lt;sup>16</sup> United Nations Climate Change., 'Adaptation and Resilience' Available at <a href="https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction">https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>17</sup> African Development Bank Group., 'Climate Change in Africa' Available at <a href="https://www.afdb.org/en/cop25/climate-change-africa">https://www.afdb.org/en/cop25/climate-change-africa</a> (Accessed on 03/06/2024)
<sup>18</sup> Ibid

investments, water and food systems, public health, agriculture, and livelihoods, threatening to undo its modest development gains and slip into higher levels of extreme poverty<sup>19</sup>.

The United Nations Environment Programme (UNEP) notes that while Africa has contributed negligibly to climate change, with just about two to three percent of global greenhouse gas emissions, it stands out disproportionately as the most vulnerable region in the world<sup>20</sup>. According to UNEP, Africa's vulnerability to climate change is driven by the prevailing low levels of socioeconomic growth in the continent<sup>21</sup>. It has been noted that while climate change is global, the poor are disproportionately vulnerable to its effects since they lack the resources to afford goods and services they need to buffer themselves and recover from the impacts of climate change<sup>22</sup>. Africa's vulnerability to climate change is also worsened by the continent's reliance on climate-sensitive activities such as rain-fed agriculture, herding and fishing, leading to income losses and increased food insecurity<sup>23</sup>.

It has been noted 17 out of the 20 countries most threatened by climate change in the world are located in Africa and climate change already impacts up to 2 to 9 percent of national budgets across the continent demonstrating the severe impacts of climate change in Africa<sup>24</sup>. Africa is responsible for only a fraction of global greenhouse gas emissions

<sup>19</sup> Ibid

<sup>&</sup>lt;sup>20</sup> United Nations Environment Programme., 'Responding to Climate Change' Available at <a href="https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change">https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>21</sup> Ibid

<sup>&</sup>lt;sup>22</sup> Ibid

<sup>&</sup>lt;sup>23</sup> Ibid

<sup>&</sup>lt;sup>24</sup> United Nations Economic Commission for Africa., '17 out of the 20 countries most threatened by climate change are in Africa, but there are still solutions to this crisis' Available at <a href="https://www.uneca.org/stories/17-out-of-the-20-countries-most-threatened-by-climate-change-are-in-africa">https://www.uneca.org/stories/17-out-of-the-20-countries-most-threatened-by-climate-change-are-in-africa</a> '2C-but-there-

are#:~:text=According%20to%20the%20latest%20report,health%2C%20productivity%20and%20food%20 security. (Accessed on 03/06/2024)

but is suffering disproportionately from climate change<sup>25</sup>. Climate change is harming food security, ecosystems and economies, fueling displacement and migration and worsening the threat of conflict over dwindling resources in Africa<sup>26</sup>. Further, it has been noted that heatwaves, heavy rains, floods, tropical cyclones, and prolonged droughts among other impacts of climate change are having devastating impacts on communities and economies in Africa, with increasing numbers of people being at risk<sup>27</sup>. It has been argued that if climate change is left untamed, the coming decades and years would easily be characterized by severe climate-induced pressure on Africa's economies, livelihoods and nature<sup>28</sup>.

According to the United Nations, climate change is having a growing impact on the African continent, hitting the most vulnerable hardest, and contributing to food insecurity, population displacement and stress on water resources<sup>29</sup>. Climate change has severe economic, social, and environmental impacts in Africa including food and water insecurity, health hazards, and decrease in Gross Domestic Product (GDP)<sup>30</sup>. It has been pointed out that given Africa's high exposure, fragility and low adaptive capacity, the effects of climate change are expected to be felt more severely in the coming years<sup>31</sup>. Due to climate change, people's health, peace, prosperity, infrastructure, and other economic activities across many sectors in Africa are exposed to significant risks threatening development in the continent<sup>32</sup>.

<sup>&</sup>lt;sup>25</sup> World Meteorological Organization., 'Africa Suffers Disproportionately from Climate Change' Available at <a href="https://wmo.int/media/news/africa-suffers-disproportionately-from-climate-change">https://wmo.int/media/news/africa-suffers-disproportionately-from-climate-change</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>26</sup> Ibid

<sup>&</sup>lt;sup>27</sup> Ibid

<sup>28</sup> Ibid

<sup>&</sup>lt;sup>29</sup> United Nations Climate Change., 'Climate Change is an Increasing threat to Africa' Available at <a href="https://unfccc.int/news/climate-change-is-an-increasing-threat-to-africa">https://unfccc.int/news/climate-change-is-an-increasing-threat-to-africa</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>31</sup> World Meteorological Organization., 'Africa Suffers Disproportionately from Climate Change' Op Cit <sup>32</sup> Ibid

Responding to climate change is therefore vital for development in Africa. Despite its little contribution to the problem of climate change, Africa is already experiencing the negative effects of this phenomenon, resulting widespread losses and damages<sup>33</sup>. The negative impacts of climate change are already directly affecting food security and livelihoods in Africa with extreme climate events such as drought, heavy rains, and floods fueling migration and displacement in the continent<sup>34</sup>. As a result of the severe and growing impacts of climate change in Africa, it has been noted that there is an urgent need to enhance the resilience of African people and economies to climate change in order to foster development in the continent<sup>35</sup>.

## 3.0 Enhancing Climate Resilience in Africa: Progress and Setbacks

Climate resilience has been defined as the ability to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate change<sup>36</sup>. It has also been described as the capacity or ability to anticipate and cope with climate shocks, and to recover from their impacts in a timely and efficient manner<sup>37</sup>. It can also refer to the capacity to prepare for, respond to, and recover from the impacts of hazardous climatic events while incurring minimal damage to societal wellbeing, the economy and the environment<sup>38</sup>. Improving climate resilience involves assessing how climate change will

isting%20inequalities (Accessed on 03/06/2024)

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<sup>&</sup>lt;sup>33</sup> Jacob. D., Weber. T., & Celliers. L., 'Supporting Africa's Development to Increase its Resilience to the Impacts of Climate Change' Available at <a href="https://www.openaccessgovernment.org/supporting-africas-development-to-increase-its-resilience-to-the-impacts-of-climate-change/161370/">https://www.openaccessgovernment.org/supporting-africas-development-to-increase-its-resilience-to-the-impacts-of-climate-change/161370/</a> (Accessed on 03/06/2024)

<sup>34</sup> Ibid

<sup>&</sup>lt;sup>35</sup> United Nations., 'Realizing a Climate-Resilient and Prosperous Africa' Available at <a href="https://www.un.org/en/un-chronicle/realizing-climate-resilient-and-prosperous-africa">https://www.un.org/en/un-chronicle/realizing-climate-resilient-and-prosperous-africa</a> (Accessed on 03/06/2024)

<sup>&</sup>lt;sup>36</sup> Center for Climate and Energy Solutions., 'Climate Resilience Portal' Available at <a href="https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%20exacerbate%20ex">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%20exacerbate%20ex</a>

<sup>&</sup>lt;sup>37</sup> The London School of Economics and Political Science., 'What is the Difference between Climate Change Adaptation and Resilience?' Available at <a href="https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-difference-between-climate-change-adaptation-and-resilience/">https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-difference-between-climate-change-adaptation-and-resilience/</a> (Accessed on 03/06/2024)

<sup>38</sup> Ibid

create new, or alter current, climate-related risks, and taking steps to better cope with these risks<sup>39</sup>.

It has been noted that the ideal of climate resilience can be achieved through three independent outcomes<sup>40</sup>. This can be realized through realizing the vision of resilient people and livelihoods where people most vulnerable to climate risks, especially those living in least developed countries and small island developing States, are resilient, and bale to prosper and thrive<sup>41</sup>. Achieving the ideal of resilient people and livelihoods entails fostering climate justice and a just transition for all with no one being left behind<sup>42</sup>. The ideal of climate resilience can also be achieved through resilient businesses and economies where all climate risks are fully understood by all businesses, investors and society<sup>43</sup>. Further, it can be attained through resilient environmental systems where ecosystems and biodiversity are protected against climate risks including extreme events and disasters as well as long-term changes in climate<sup>44</sup>. Strengthening climate resilience requires a holistic and multi-dimensional approach to enhance individuals', communities', and countries' social, human, natural, physical and financial capacities to cope with and recover from the impacts of climate change<sup>45</sup>.

Enhancing climate resilience is a key priority for all countries. It has been noted that as greenhouse gas emissions continue to rise, climate change will continue to accelerate<sup>46</sup>. Further, it has been observed that even if greenhouse gas emissions were to stop today, climate change will continue to manifest for some time as the Earth's system responds to

<sup>&</sup>lt;sup>39</sup> Center for Climate and Energy Solutions., 'Climate Resilience Portal' Op Cit

United Nations Climate Change., 'Climate Resilience' Available at <a href="https://unfccc.int/sites/default/files/resource/ExecSumm\_Resilience\_0.pdf">https://unfccc.int/sites/default/files/resource/ExecSumm\_Resilience\_0.pdf</a> (Accessed on 03/06/2024)

<sup>41</sup> Ibid

<sup>&</sup>lt;sup>42</sup> Ibid

<sup>43</sup> Ibid

<sup>44</sup> Ibid

<sup>&</sup>lt;sup>45</sup> The London School of Economics and Political Science., 'What is the Difference between Climate Change Adaptation and Resilience?' Op Cit

<sup>&</sup>lt;sup>46</sup> Center for Climate and Energy Solutions., 'Climate Resilience Portal' Op Cit

the warming already underway<sup>47</sup>. It is therefore necessary for all countries to anticipate the impacts of climate change and act now to minimize future economic, environmental, and social risks<sup>48</sup>.

The need to enhance climate resilience for development is set out under the *United Nations Framework Convention on Climate Change* (UNFCCC)<sup>49</sup>. The Convention urges all countries to protect the climate system for present and future generations<sup>50</sup>. It seeks to achieve the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system<sup>51</sup>. According to UNFCCC, such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner<sup>52</sup>. It sets out commitments by states aimed at fostering climate-resilient development and limiting greenhouse gas emissions in order to combat climate change<sup>53</sup>. UNFCCC also recognizes the adverse impacts of climate change in developing countries and urges developed countries to support these countries in enhancing climate resilience through approaches such as climate finance and technology development and transfer<sup>54</sup>.

In addition, the *Paris Agreement*<sup>55</sup>, seeks to strengthen the global response to the threat of climate change, in the context of Sustainable Development and efforts to eradicate poverty. It sets out the need to enhance climate resilience and urges all countries to increase their ability to adapt to the adverse impacts of climate change and *foster climate* 

<sup>47</sup> Ibid

<sup>48</sup> Ibid

<sup>&</sup>lt;sup>49</sup> United Nations Framework Convention on Climate Change., United Nations., 1992., Available at <a href="https://unfccc.int/resource/docs/convkp/conveng.pdf">https://unfccc.int/resource/docs/convkp/conveng.pdf</a> (Accessed on 04/06/2024)

<sup>&</sup>lt;sup>50</sup> Ibid, Preamble

<sup>51</sup> Ibid

<sup>52</sup> Ibid

<sup>53</sup> Ibid

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<sup>&</sup>lt;sup>55</sup> United Nations Framework Convention on Climate Change., 'Paris Agreement.' Available at <a href="https://unfccc.int/sites/default/files/english\_paris\_agreement.pdf">https://unfccc.int/sites/default/files/english\_paris\_agreement.pdf</a> (Accessed on 03/06/2024)

resilience and low greenhouse gas emissions development, in a manner that does not threaten food production (Emphasis added)<sup>56</sup>. Parties under the Paris Agreement establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to Sustainable Development (Emphasis added)<sup>57</sup>. The Paris Agreement also urges states to build the resilience of socioeconomic and ecological systems, including through economic diversification and sustainable management of natural resources<sup>58</sup>. It further acknowledges that enhancing the resilience of communities, livelihoods, and ecosystems is vital in combating climate change<sup>59</sup>. The Paris Agreement also urges states to fully realize the ideal of technology development and transfer in order to improve resilience to climate change and to reduce greenhouse gas emissions (Emphasis added)<sup>60</sup>. Realizing the objectives of the Paris Agreement is therefore vital in enhancing climate resilience for development.

Further, at a continental level, the *African Union Climate Change and Resilient Development Strategy and Action Plan*<sup>61</sup> seeks to achieve the vision of climate-resilient communities and economies as set out in Africa Union's *Agenda* 2063<sup>62</sup>. The strategy sets out the principles, priorities and action areas for enhanced climate cooperation and long term, climate-resilient development in Africa<sup>63</sup>. It seeks to realize a sustainable, prosperous, equitable and climate-resilient Africa by building the resilience of African communities,

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<sup>&</sup>lt;sup>56</sup> Ibid, article 2 (1) (b)

<sup>&</sup>lt;sup>57</sup> Ibid, article 7 (1)

<sup>&</sup>lt;sup>58</sup> Ibid, article 7 (9) (e)

<sup>&</sup>lt;sup>59</sup> Ibid, article 8 (4) (h)

<sup>&</sup>lt;sup>60</sup> Ibid, article 10 (1)

<sup>&</sup>lt;sup>61</sup> African Union Climate Change and Resilient Development Strategy and Action Plan., Available at <a href="https://au.int/sites/default/files/documents/41959-doc-CC\_Strategy\_and\_Action\_Plan\_2022-2032\_08\_02\_23\_Single\_Print\_Ready.pdf">https://au.int/sites/default/files/documents/41959-doc-CC\_Strategy\_and\_Action\_Plan\_2022-2032\_08\_02\_23\_Single\_Print\_Ready.pdf</a> (Accessed on 04/06/2024)

<sup>&</sup>lt;sup>62</sup> Africa Union., 'Agenda 2063: The Africa we Want' Available at <a href="https://au.int/sites/default/files/documents/33126-doc-framework\_document\_book.pdf">https://au.int/sites/default/files/documents/33126-doc-framework\_document\_book.pdf</a> (Accessed on 04/06/2024)

<sup>&</sup>lt;sup>63</sup> African Union Climate Change and Resilient Development Strategy and Action Plan., Op Cit

ecosystems and economies, and supporting regional adaptation<sup>64</sup>. The Strategy identifies key cross-sectoral opportunities and interventions that are essential for achieving climate-resilient development pathways and accomplishing the SDGs in Africa including transforming food systems, protecting land-based ecosystems, transforming energy systems, transforming mobility and transport, enhancing inclusive, low-emission industrialization, transforming water systems, transforming the blue economy, digital transformation, and building resilient urban centres<sup>65</sup>. It is imperative to implement this Strategy in order to enhance climate resilience in Africa for development.

In addition, the *East African Community Climate Change Policy*<sup>66</sup> acknowledges that the adverse impacts of climate change are a major challenge to socio-economic development globally<sup>67</sup>. According to the Policy, the African continent including the East African region is particularly vulnerable to impacts of climate change affecting key economic drivers such as water resources, agriculture, energy, transport, health, forestry, wildlife, land and infrastructure, disaster risk management among others<sup>68</sup>. The Policy notes that these impacts include; water stress and scarcity, food insecurity, diminished hydropower generation potential, loss of biodiversity and ecosystem degradation, increased incidence of disease burden, destruction of infrastructure, high costs of disaster management as result of increased frequency and intensity of droughts, floods and landslides<sup>69</sup>. The Policy seeks to strengthen climate resilience within the East African region<sup>70</sup>. It urges member states of the East African Community to institute and implement measures which will improve the adaptive capacity and resilience of the East African region to the

<sup>64</sup> Ibid

<sup>65</sup> Ibid

East African Community Climate Change Policy., Available at <a href="https://www.eac.int/environment/climate-change/eac-climate-change-policy-framework">https://www.eac.int/environment/climate-change/eac-climate-change-policy-framework</a> (Accessed on 04/06/2024)

<sup>&</sup>lt;sup>67</sup> Ibid

<sup>68</sup> Ibid

<sup>69</sup> Ibid

<sup>70</sup> Ibid

negative impacts of climate change<sup>71</sup>. These approaches include promoting diversification of economies to reduce overdependence on climate-sensitive sectors<sup>72</sup>; promoting alternative livelihoods systems amongst most vulnerable communities<sup>73</sup>; enhancing the adaptive capacities of communities, fragile ecosystems and national economies<sup>74</sup>; and promoting social protection as a tool for disaster risk reduction and climate change adaptation<sup>75</sup>. Implementing these strategies is key in enhancing climate resilience within the East African Community.

At a national level, Kenya has an elaborate legal and policy framework aimed at enhancing climate resilience including the *Climate Change Act*<sup>76</sup>, the *National Climate Change Policy*<sup>77</sup>, and a *National Climate Change Action Plan*<sup>78</sup>. However, despite these attempts, the ideal of climate resilience in Africa is yet to be realized.

The negative impacts of climate change continue to directly affect food security and livelihoods in Africa<sup>79</sup>. In addition, adverse effects of climate change including drought, heavy rains, and floods continue to drive migration and displacement in the continent<sup>80</sup>. It has also been noted that climate change is increasing inequalities and poverty rates in Africa<sup>81</sup>. According to the United Nations, extreme weather events including more frequent and intense droughts, floods, heatwaves and other climate-induced impacts,

<sup>&</sup>lt;sup>71</sup> Ibid

<sup>72</sup> Ibid

<sup>73</sup> Ibid

<sup>74</sup> Ibid

<sup>75</sup> Ibid

<sup>&</sup>lt;sup>76</sup> Climate Change Act., No. 11 of 2016, Government Printer, Nairobi

<sup>&</sup>lt;sup>77</sup> Sessional Paper No. 5 of 2016., 'National Climate Change Framework Policy.' Available at <a href="http://aiap.or.ke/wp-content/uploads/2018/10/Climate-Change-Framework-PolicyMay2017.pdf">http://aiap.or.ke/wp-content/uploads/2018/10/Climate-Change-Framework-PolicyMay2017.pdf</a> (Accessed on 04/06/2024)

<sup>&</sup>lt;sup>78</sup> Ministry of Environment, Climate Change and Forestry., 'Draft Strategic Plan: 2023-2027' Available at <a href="https://www.environment.go.ke/wp-content/uploads/2023/05/MoECCF-Strategic-PlanDraft07.05.2023-updated.pdf">https://www.environment.go.ke/wp-content/uploads/2023/05/MoECCF-Strategic-PlanDraft07.05.2023-updated.pdf</a> (Accessed on 04/06/2024)

<sup>&</sup>lt;sup>79</sup> Jacob. D., Weber. T., & Celliers. L., 'Supporting Africa's Development to Increase its Resilience to the Impacts of Climate Change' Op Cit

<sup>80</sup> Ibid

<sup>81</sup> Ibid

including accelerated desertification, coastal erosion, species extinction and habitat loss are wreaking havoc on African economies<sup>82</sup>. As a result, it is imperative for African countries to adopt climate response strategies that foster Sustainable Development<sup>83</sup>.

## 4.0 Conclusion

Climate change is a major threat to Sustainable Development in Africa<sup>84</sup>. The impacts of climate change including droughts, floods, heatwaves, desertification, coastal erosion, species extinction and habitat loss are wreaking havoc on African economies<sup>85</sup>. Climate change poses systematic risks to African economies, infrastructure investments, water and food systems, public health, agriculture, and livelihoods, threatening to undo the continent's modest development gains and slip it into higher levels of extreme poverty<sup>86</sup>. Further, in light of Africa's high exposure, fragility and low adaptive capacity, the effects of climate change are expected to be felt more severely in the coming years<sup>87</sup>. It is therefore vital to enhance climate resilience in Africa for development.

Investments in Africa's infrastructure is a key strategy in making people and communities more resilient to the threats posed by climate change<sup>88</sup>. It has been pointed out that infrastructure can drive climate-resilience and development through providing direct adaptation or resilience benefits that protect from climate hazards<sup>89</sup>; through driving economic development that underpins people's capacity and resources to adapt<sup>90</sup>; and through contributing to macro-economic resilience by facilitating trade or

<sup>82</sup> United Nations., 'Realizing a Climate-Resilient and Prosperous Africa' Op Cit

<sup>83</sup> Ibid

<sup>&</sup>lt;sup>84</sup> African Development Bank Group., 'Climate Change in Africa' Op Cit

<sup>85</sup> United Nations., 'Realizing a Climate-Resilient and Prosperous Africa' Op Cit

<sup>&</sup>lt;sup>86</sup> African Development Bank Group., 'Climate Change in Africa' Op Cit

<sup>&</sup>lt;sup>87</sup> World Meteorological Organization., 'Africa Suffers Disproportionately from Climate Change' Op Cit

<sup>&</sup>lt;sup>88</sup> Private Infrastructure Development Group., 'Africa Climate Solutions: Investing in Infrastructure for Climate Resilience across Africa' Available at <a href="https://www.exeter.ac.uk/v8media/research/gsi/PIDG-Exeter\_Report\_2023.pdf">https://www.exeter.ac.uk/v8media/research/gsi/PIDG-Exeter\_Report\_2023.pdf</a> (Accessed on 04/06/2024)

<sup>89</sup> Ibid

<sup>90</sup> Ibid

reducing dependence on imports<sup>91</sup>. Enhancing Africa's infrastructure is therefore vital for climate resilience and continued socio-economic development in the continent<sup>92</sup>.

It is also necessary to invest in disaster risk reduction in Africa<sup>93</sup>. Climate change is intensifying natural disasters in Africa such as floods, droughts, cyclones, earthquakes, landslides with increased economic losses and mortalities<sup>94</sup>. Disaster Risk Reduction entails reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and environment and improved preparedness for adverse events<sup>95</sup>. Disaster Risk Reduction is a key approach in enhancing climate resilience. It has been noted that climate-smart disaster risk reduction saves lives by limiting the amount of risk people face and the level of damage a crisis might cause<sup>96</sup>. It can help communities effectively prepare for and cope with natural hazards<sup>97</sup>. Strengthening Disaster Risk Reduction is therefore vital in enhancing climate resilience in Africa for development.

It is also necessary for African countries to foster climate-resilient development strategies by transforming key sectors including food systems, energy systems, transport,

<sup>91</sup> Ibid

<sup>&</sup>lt;sup>92</sup> World Bank Group., 'Enhancing the Climate Resilience of Africa's Infrastructure' Available at <a href="https://www.worldbank.org/content/dam/Worldbank/Feature%20Story/Africa/Conference%20Edition%20Enhancing%20Africas%20Infrastructure.pdf">https://www.worldbank.org/content/dam/Worldbank/Feature%20Story/Africa/Conference%20Edition%20Enhancing%20Africas%20Infrastructure.pdf</a> (Accessed on 04/06/2024)

<sup>&</sup>lt;sup>93</sup> Muigua. K., '(Re) Imagining Effective Disaster Prevention and Management for Development in Africa' Available at <a href="https://kmco.co.ke/wp-content/uploads/2024/04/Re-Imagining-Effective-Disaster-Prevention-and-Management-for-Development-in-Africa.pdf">https://kmco.co.ke/wp-content/uploads/2024/04/Re-Imagining-Effective-Disaster-Prevention-and-Management-for-Development-in-Africa.pdf</a> (Accessed on 04/06/2024)

<sup>&</sup>lt;sup>94</sup> African Union., 'Catalysing Risk-Informed Early Action in Africa: Investing in Multi-Hazard Early Warning Systems to Strengthen Resilience to Disaster Risk' Available at <a href="https://au.int/sites/default/files/documents/42530-doc-AUC\_DRR\_Policy\_Brief\_2.pdf">https://au.int/sites/default/files/documents/42530-doc-AUC\_DRR\_Policy\_Brief\_2.pdf</a> (Accessed on 04/06/2024)

<sup>95</sup> Ibid

<sup>&</sup>lt;sup>96</sup> IFRC., 'Climate-Smart Disaster Risk Reduction' Available at <a href="https://www.ifrc.org/our-work/disasters-climate-and-crises/climate-smart-disaster-risk-">https://www.ifrc.org/our-work/disasters-climate-and-crises/climate-smart-disaster-risk-</a>

reduction#:~:text=Climate%2Dsmart%20disaster%20risk%20reduction%20saves%20lives%20by%20limiting%20the,and%20cope%20with%20natural%20hazards. (Accessed on 04/06/2024)

<sup>97</sup> Ibid

industrialization, water systems, and the blue economy by enhancing their resilience and adaptive capacity to climate change<sup>98</sup>. Further, unlocking climate finance is vital in strengthening climate resilience in Africa<sup>99</sup>. Access to climate finance can enhance climate resilience in Africa through investments in human, technical, and institutional capacity of the continent towards confronting climate change<sup>100</sup>.

Africa has the ability to manage the effects of climate change and build resilience. Enhancing climate resilience in Africa for development is therefore a goal that can be unlocked.

<sup>&</sup>lt;sup>98</sup> African Union Climate Change and Resilient Development Strategy and Action Plan., Op Cit <sup>99</sup> Ibid

<sup>100</sup> Ibid

#### References

Africa Union., 'Agenda 2063: The Africa we Want' Available at <a href="https://au.int/sites/default/files/documents/33126-doc-framework\_document\_book.pdf">https://au.int/sites/default/files/documents/33126-doc-framework\_document\_book.pdf</a>

African Development Bank Group., 'Climate Change in Africa' Available at <a href="https://www.afdb.org/en/cop25/climate-change-africa">https://www.afdb.org/en/cop25/climate-change-africa</a>

African Union Climate Change and Resilient Development Strategy and Action Plan., Available at <a href="https://au.int/sites/default/files/documents/41959-doc-cc\_strategy\_and\_Action\_Plan\_2022-2032\_08\_02\_23\_Single\_Print\_Ready.pdf">https://au.int/sites/default/files/documents/41959-doc-cc\_strategy\_and\_Action\_Plan\_2022-2032\_08\_02\_23\_Single\_Print\_Ready.pdf</a>

African Union., 'Catalysing Risk-Informed Early Action in Africa: Investing in Multi-Hazard Early Warning Systems to Strengthen Resilience to Disaster Risk' Available at <a href="https://au.int/sites/default/files/documents/42530-doc-AUC\_DRR\_Policy\_Brief\_2.pdf">https://au.int/sites/default/files/documents/42530-doc-AUC\_DRR\_Policy\_Brief\_2.pdf</a>

Center for Climate and Energy Solutions., 'Climate Resilience Portal' Available at <a href="https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%2">https://www.c2es.org/content/climate-resilience-overview/#:~:text=For%20example%2C%20a%20combination%20of,impacts%20can%20combination%20of,impacts%20can%20combination%20of,impacts%20can%20combination%20of,impacts%20can%20combination%20of,impacts%20can%20combination%20of,impacts%20can%20combination%20of,impacts%20can%20combination%20of,impacts%20can%20combination%20of,impacts%20combination%20of,impacts%20combination%20of,impacts%20combination%20of,impacts%20combination%20of,impacts%20combination%20of,impacts%20combination%20of,impacts%20combination%20of,impacts%20combination%20of,impacts%20combination%20of,impacts%20of,impacts%20of,impacts%20of,impacts%20of,impacts%20of,impacts%20of,impacts%20of,impacts%20of,impacts

Climate Change Act., No. 11 of 2016, Government Printer, Nairobi

East African Community Climate Change Policy., Available at <a href="https://www.eac.int/environment/climate-change/eac-climate-change-policy-framework">https://www.eac.int/environment/climate-change/eac-climate-change-policy-framework</a>

IFRC., 'Climate-Smart Disaster Risk Reduction' Available at <a href="https://www.ifrc.org/our-work/disasters-climate-and-crises/climate-smart-disaster-risk-reduction#:~:text=Climate%2Dsmart%20disaster%20risk%20reduction%20saves%20lives%20by%20limiting%20the,and%20cope%20with%20natural%20hazards</a>

Jacob. D., Weber. T., & Celliers. L., 'Supporting Africa's Development to Increase its Resilience to the Impacts of Climate Change' Available at <a href="https://www.openaccessgovernment.org/supporting-africas-development-to-increase-its-resilience-to-the-impacts-of-climate-change/161370/">https://www.openaccessgovernment.org/supporting-africas-development-to-increase-its-resilience-to-the-impacts-of-climate-change/161370/</a>

Ministry of Environment, Climate Change and Forestry., 'Draft Strategic Plan: 2023-2027'

Available at <a href="https://www.environment.go.ke/wp-content/uploads/2023/05/MoECCF-Strategic-PlanDraft07.05.2023-updated.pdf">https://www.environment.go.ke/wp-content/uploads/2023/05/MoECCF-Strategic-PlanDraft07.05.2023-updated.pdf</a>

Muigua. K., '(Re) Imagining Effective Disaster Prevention and Management for Development in Africa' Available at <a href="https://kmco.co.ke/wp-">https://kmco.co.ke/wp-</a>

<u>content/uploads/2024/04/Re-Imagining-Effective-Disaster-Prevention-and-Management-for-Development-in-Africa.pdf</u>

Navigating Climate Resilience: Kenya's Battle with Recent Flooding., Available at <a href="https://www.acts-net.org/blogs/foresight-africa-blog/navigating-climate-resilience-kenya-s-battle-with-recent-flooding">https://www.acts-net.org/blogs/foresight-africa-blog/navigating-climate-resilience-kenya-s-battle-with-recent-flooding</a>

Private Infrastructure Development Group., 'Africa Climate Solutions: Investing in Infrastructure for Climate Resilience across Africa' Available at <a href="https://www.exeter.ac.uk/v8media/research/gsi/PIDG-Exeter\_Report\_2023.pdf">https://www.exeter.ac.uk/v8media/research/gsi/PIDG-Exeter\_Report\_2023.pdf</a>

Sessional Paper No. 5 of 2016., 'National Climate Change Framework Policy.' Available at <a href="http://aiap.or.ke/wp-content/uploads/2018/10/Climate-Change-Framework-PolicyMay2017.pdf">http://aiap.or.ke/wp-content/uploads/2018/10/Climate-Change-Framework-PolicyMay2017.pdf</a>

The London School of Economics and Political Science., 'What is the Difference between Climate Change Adaptation and Resilience?' Available at <a href="https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-difference-between-climate-change-adaptation-and-resilience/">https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-difference-between-climate-change-adaptation-and-resilience/</a>

United Nations Climate Change., 'Adaptation and Resilience' Available at <a href="https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction">https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/introduction</a>

United Nations Climate Change., 'Climate Change is an Increasing threat to Africa' Available at <a href="https://unfccc.int/news/climate-change-is-an-increasing-threat-to-africa">https://unfccc.int/news/climate-change-is-an-increasing-threat-to-africa</a>

United Nations Climate Change., 'Climate Resilience' Available at <a href="https://unfccc.int/sites/default/files/resource/ExecSumm\_Resilience\_0.pdf">https://unfccc.int/sites/default/files/resource/ExecSumm\_Resilience\_0.pdf</a>

United Nations Economic Commission for Africa., '17 out of the 20 countries most threatened by climate change are in Africa, but there are still solutions to this crisis' Available at <a href="https://www.uneca.org/stories/17-out-of-the-20-countries-most-threatened-by-climate-change-are-in-africa%2C-but-there-are#:~:text=According%20to%20the%20latest%20report,health%2C%20productivity%20 and%20food%20security.

United Nations Environment Programme., 'Climate Change' Available at <a href="https://www.unepfi.org/climate-change/climate-change/">https://www.unepfi.org/climate-change/climate-change/</a>

United Nations Environment Programme., 'Responding to Climate Change' Available at <a href="https://www.unep.org/regions/europe/regional-initiatives/responding-climate-change">https://www.unep.org/regions/europe/regional-initiatives/responding-climate-change</a>

United Nations Environment Programme., 'Responding to Climate Change' Available at <a href="https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change">https://www.unep.org/regions/africa/regional-initiatives/responding-climate-change</a>

United Nations Framework Convention on Climate Change., 'Paris Agreement.' Available at <a href="https://unfccc.int/sites/default/files/english\_paris\_agreement.pdf">https://unfccc.int/sites/default/files/english\_paris\_agreement.pdf</a>

United Nations Framework Convention on Climate Change., United Nations., 1992., Available at <a href="https://unfccc.int/resource/docs/convkp/conveng.pdf">https://unfccc.int/resource/docs/convkp/conveng.pdf</a>

United Nations General Assembly., 'Transforming Our World: the 2030 Agenda for Sustainable Development.' 21 October 2015, A/RES/70/1., Available at <a href="https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20">https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20</a> for %20Sustainabl e %20Development %20web.pdf

United Nations., 'Realizing a Climate-Resilient and Prosperous Africa' Available at <a href="https://www.un.org/en/un-chronicle/realizing-climate-resilient-and-prosperous-africa">https://www.un.org/en/un-chronicle/realizing-climate-resilient-and-prosperous-africa</a>

United Nations., 'What is Climate Change?' Available at <a href="https://www.un.org/en/climatechange/what-is-climate-change">https://www.un.org/en/climatechange/what-is-climate-change</a>

World Bank Climate Change Knowledge Portal., 'What is Climate Change?' Available at <a href="https://climateknowledgeportal.worldbank.org/overview">https://climateknowledgeportal.worldbank.org/overview</a>

World Bank Group., 'Enhancing the Climate Resilience of Africa's Infrastructure' Available at <a href="https://www.worldbank.org/content/dam/Worldbank/Feature%20Story/Africa/Conference%20Edition%20Enhancing%20Africas%20Infrastructure.pdf">https://www.worldbank.org/content/dam/Worldbank/Feature%20Story/Africa/Conference%20Edition%20Enhancing%20Africas%20Infrastructure.pdf</a>

World Meteorological Organization., 'Africa Suffers Disproportionately from Climate Change' Available at <a href="https://wmo.int/media/news/africa-suffers-disproportionately-from-climate-change">https://wmo.int/media/news/africa-suffers-disproportionately-from-climate-change</a>