



CLIMATE CROWD

Community-driven solutions to help people and nature in a changing climate

COMMUNITIES OUTSIDE CONSERVANCIES AND NATIONAL PARKS, ZAMBEZI REGION, NAMIBIA SUMMARY REPORT

SEPTEMBER 2022



IMPACTS OF WEATHER AND CLIMATE ON COMMUNITY LIVELIHOODS

When questioned about the observed weather and climate changes:

- 87% of the respondents reported decreased rainfall and changes in rainfall seasonality.
- 56% reported hotter temperatures.
- 49% noted prolonged drought.
- 42% of the respondents observed changes in wind patterns.
- 38% noted loss of water sources.
- 11% reported increased rainfall and flooding.

ABOUT

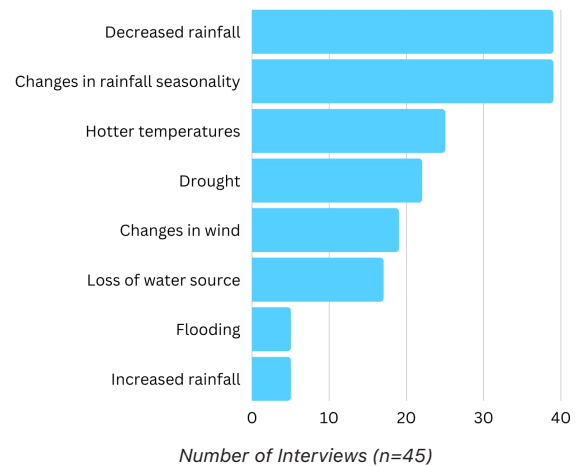
[Climate Crowd](#) is a bottom-up, community-driven initiative. Working with communities and local organizations in more than 30 countries, we collect data on climate impacts on communities, analyze the data, present the data back to the communities, and work with them to develop, fund, and implement on-the-ground solutions that help people and nature adapt to a changing climate.

BACKGROUND

We conducted 45 interviews in communities outside conservancies and national parks in settlements such as Machita, Zilitene, Kabbe, and Ikaba in Namibia's Zambezi Region. We interviewed 21 women and 24 men in November 2021; interviewees included traditional authorities, crop and livestock farmers, fishers, thatch and reed harvesters, and settlement elders. We assessed the impacts of climate change on community livelihoods, natural resources, and biodiversity. We explored how communities respond or adapt to these impacts.

STUDY AREA

The Zambezi Region lies at the heart of the largest conservation area in the world, the Kavango Zambezi Transfrontier Conservation Area. Namibia's most humid region has an average annual rainfall of 650mm. It has a hot, semi-arid climate with minimum and maximum temperatures of 2-4°C and 34-36°C, respectively. Its dry season is from April to November, with a shorter wet season from mid-November to early April. Four perennial rivers run through this region: Zambezi, Chobe, Kwando, and Linyanti. The Namibia Meteorological Service has noted warmer temperatures than usual in the Zambezi Region. Data shows that, from 1901-2016, the average annual temperature in Namibia increased annually at a rate of 0.0123°C. The Machita, Zilitene, Kabbe and Ikaba communities live off crop and livestock farming, selling reeds and thatching grass, and fishing.



IMPACTS OF CLIMATE CHANGE ON COMMUNITY LIVELIHOODS

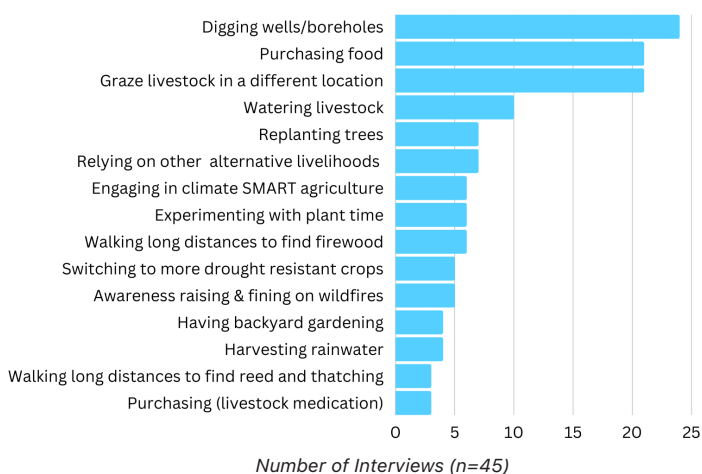
Decreased crop production and water scarcity have negatively impacted food security, leading to hunger and income loss. A large portion of respondents, 96%, in both settlements reported a decline in crop production, while 84% reported an issue with water scarcity. They attributed these issues to prolonged drought and decreased rainfall. These communities rely heavily on their crops for sustenance, selling surplus for cash to buy other necessities. Communities also noted a decline in pasture available. 78% of respondents attributed this to increased livestock diseases, pests, livestock mortality leading to income loss for communities. Additionally, among those surveyed 73% noted a decline in wild fruits available. Communities subsidize their diet and income by eating and selling wild fruits.

Respondents also reported that drought, wildfires and population growth have led to the decreased availability of firewood (36% of respondents), thatching (29%) and fish (27%) also noting a decline in the size of fish. Additionally, those surveyed noted that hotter

temperatures have impacted human health (31% of respondents), reporting increased headaches, coughs, high blood pressure, and fatigue impacting their ability to work. Respondents also observed that changes in wind patterns have resulted in property damage (18% of respondents).

COMMUNITY RESPONSES TO CLIMATE CHANGE

To cope with decreased crop production, some families have resorted to purchasing food (41% of respondents) from commercial markets in Katima Mulilo, some to switching to more drought resistant crops (11%) and engaging in climate smart agriculture, and others have been experimenting with planting times (11%), or cultivate backyard gardens (9%). The poorest families, who cannot afford the aforementioned adaptation measures, have had to rely on what the land can provide by continuing to rely



“There have been a lot of changes in the way we perceive things. We did not know that we could derive so many benefits from fishing. Income generated from fishing has helped us improve our livelihoods.”

on crop farming, wild fruits and rationing their food to survive. Water scarcity as a result of decreased rainfall, has made some families resort to drilling boreholes and wells (53% of respondents), and others to harvesting rainwater (9%). How people adapt is linked to their financial and human resources, and those who cannot afford to drill boreholes rely on neighbours.

Due to loss of pasture, farmers reported grazing livestock in different locations during the day (47% of respondents), watering livestock (22%), and purchasing medicines to treat increased livestock disease. To counteract firewood loss, communities have

started replanting trees (16% of respondents), raising awareness, trekking long distances to find firewood (13%), fining people who chop down/burn down trees (11%) and using other alternatives to fuelwood such as cow dung. Communities also noted they now cover longer distances to find reeds and thatching grass. Additionally, communities have started implementing fish closing seasons and implementing more sustainable fish farming practices to recover fish populations.



To cope with poor human health, the communities such as Machita, Zilitene and Ikaba must travel to Katima Mulilo to access health care. Some people rebuilt dwellings or changed how they built them because of property damage. A small group has become highly reliant on other alternative livelihoods (16% of respondents) such as selling reeds and thatching grass, and firewood.

IMPACTS ON BIODIVERSITY

Many survey respondents noted that one of the most significant impacts on biodiversity has been the mortalities of plants and trees (47% of respondents) and birds (9%) and other wild animals (7%) due to drought. Twenty-nine percent also noted that birds have been migrating from arid settlements to more water rich areas. Additionally, some plant and tree species now blossom and produce fruit in seasons when they formerly did not (16% of respondents). Incidents of human-wildlife conflict were also reported, with the majority involving elephant, buffalo, and crocodile (7% of respondents). Communities have responded by erecting wooden fences and planting chilli bombs. Respondents also noted that adaptation strategies such as deforestation and land clearing have resulted in habitat loss (20% of respondents) and habitat degradation (16%).



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