

Climate Change Perceptions and Impacts in the Amboseli Region



By: Emma Brentjens, Cameron Bonnell, Mia Craven, and Gabriel Wilkins

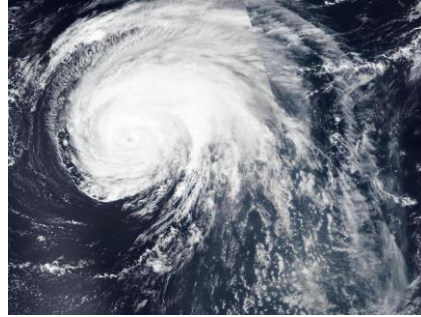
Project supervisor: John W. Kiringe (Ph.D.)

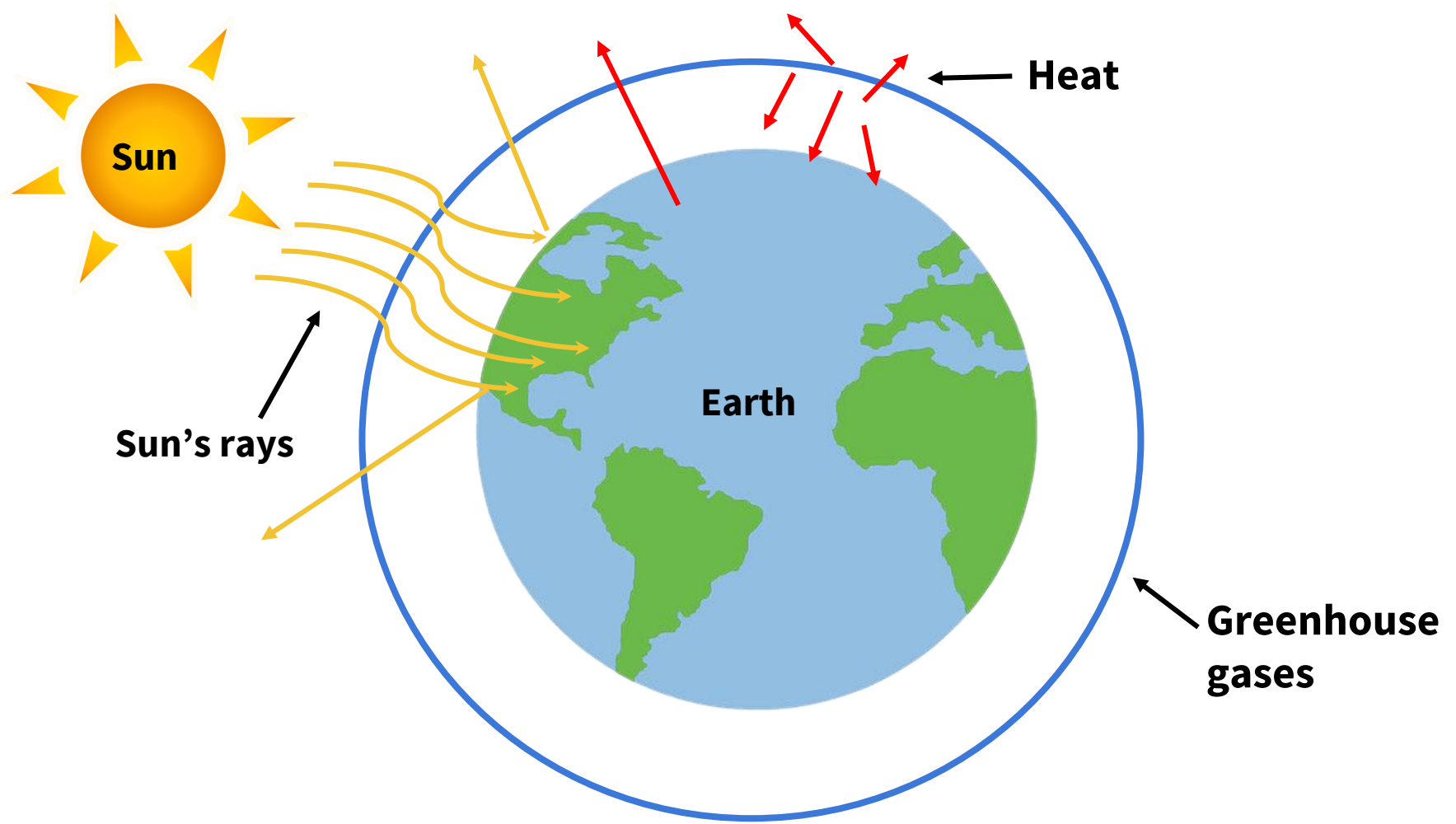
Introduction



Climate Change and Variability

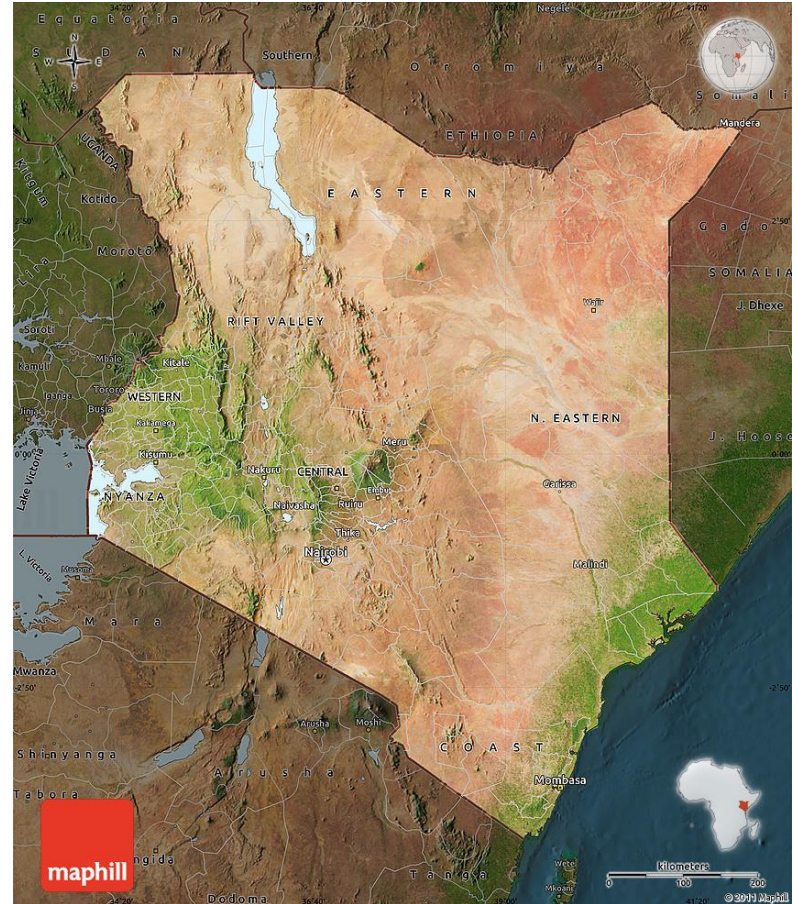
- **Climate change** = changes in the weather that happen over a long period of time
- **Climate variability** = short-term changes in weather that happen year-to-year





Climate Change in Kenya

- Arid and semi-arid landscape (ASAL)
- Rise in temperatures → affect weather patterns
 - Heavy rains and flooding



Problem Statement

- Pastoralism, agriculture, agropastoralism
- Rely on natural resources/need rainfall
- Livestock losses
- Increased malnutrition
- Social impacts



Objectives

- **Evaluate:**
 - **Community views on climate change and variability**
 - **Impacts of climate change and variability on different resources and livelihoods**
 - **Campaigns about climate change in the community**
 - **Actions used to deal with climate change**

Materials & Methods





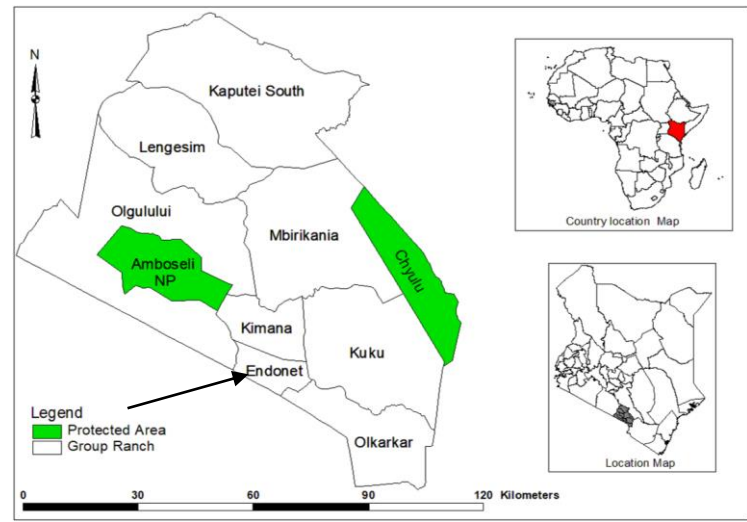
- **Survey**
- **3 groups with interpreters**



- **Did interviews in 5 locations**

- **Namelok**
- **Lolmeuti**
- **Noomayanat**
- **Impiron**
- **Oloile**

- **Focus group with elders**



Results & Discussion

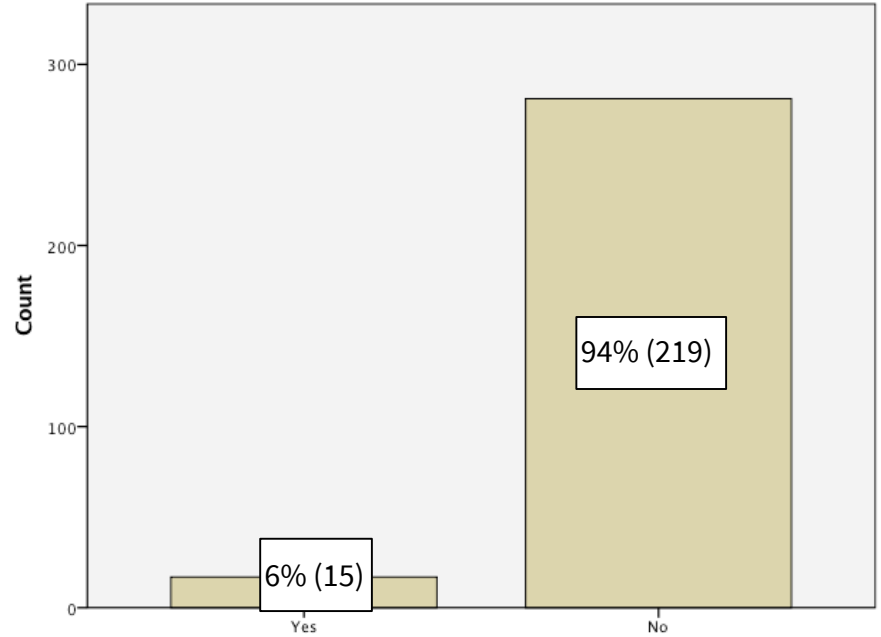
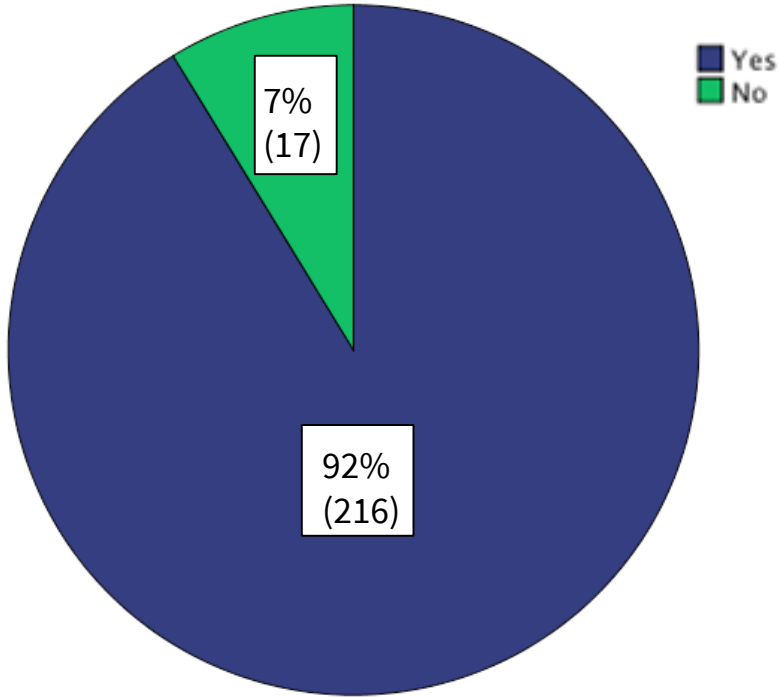


Perceptions of Climate Change - Results

- People noticing less rain & more severe droughts
- Change in people's activities (more work)
- Observe changes or learn from elders
- Mostly hear about climate change from TV/radio news



Have you noticed a change in the local climate and weather patterns?

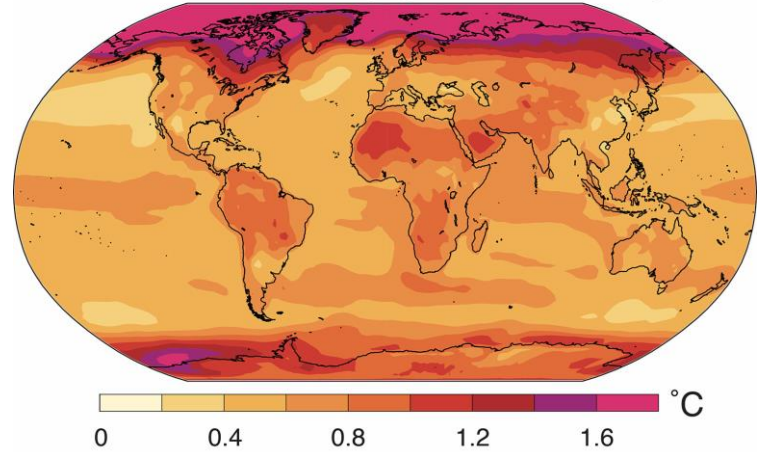


Are there climate change awareness/sensitization programs by the government?

Perceptions cont. - Discussion

- **Aware of local environmental impacts**
- **Not much knowledge of global climate change - unaware of full scope**
- **Not learning from government**
- **Cannot adapt to unknown changes**

Change in Annual Temperature
from historical anthropogenic climate forcing

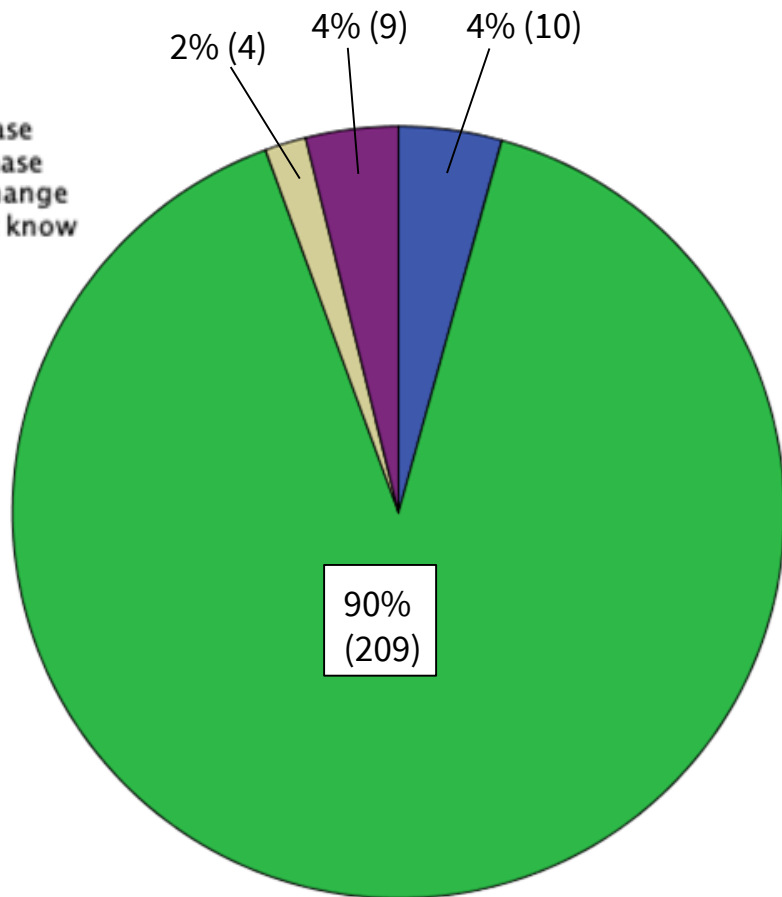


Impacts of Climate Change - Results

- **Reduced pasture quantity & quality**
- **Less rainfall and water for irrigation**
- **Lack of water, more pests and diseases**
- **Diversified livelihoods (business)**

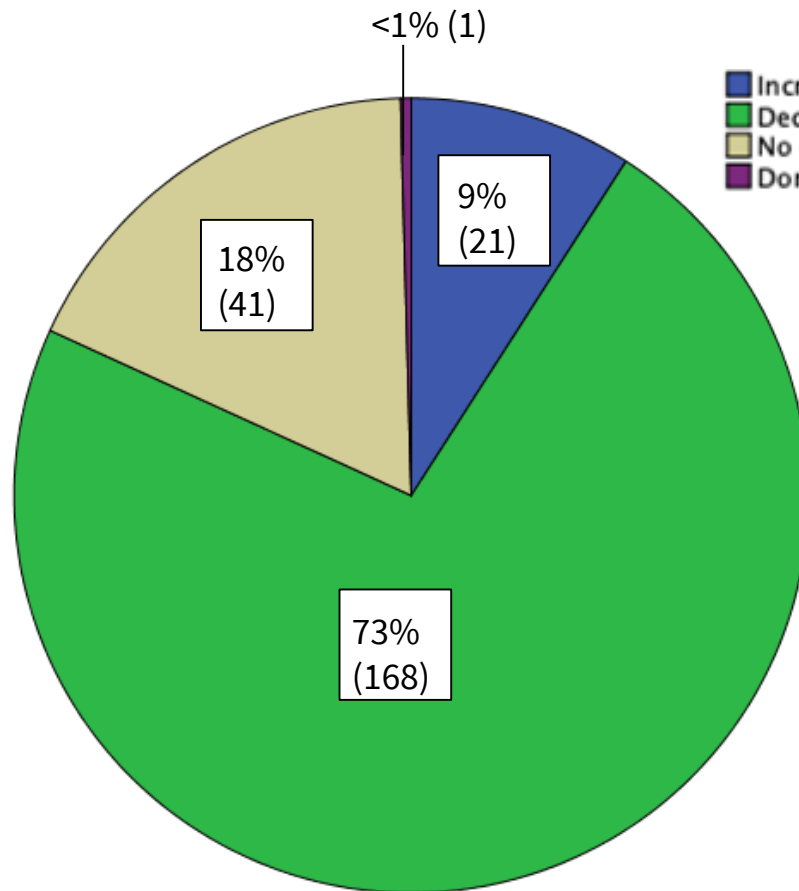


- Increase
- Decrease
- No change
- Don't know



Change in livestock production due to climate change

- Increase
- Decrease
- No change
- Don't know



Change in water available for irrigated agriculture due to climate change

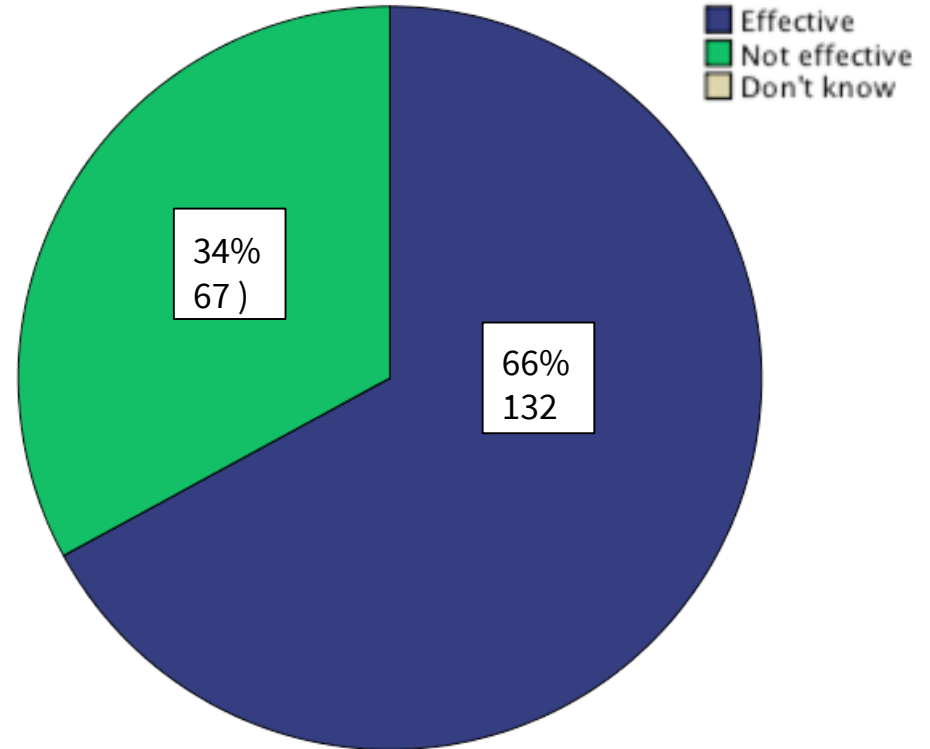
Impacts cont. - Discussion

- **Depressed livelihoods (lower production)**
- **Lower health and economic status (less water, lower nutrition)**
- **Forcing livelihood diversification**



Coping Strategies

- **People have coping strategies to combat climate change**
- **Most people find them to be effective**
- **Short term remedies**
- **Examples:**
 - **Store food for dry season,**
 - **Save pasture for dry season,**
 - **Reduce number of livestock,**
 - **Increase agriculture**



How effective are coping strategies?

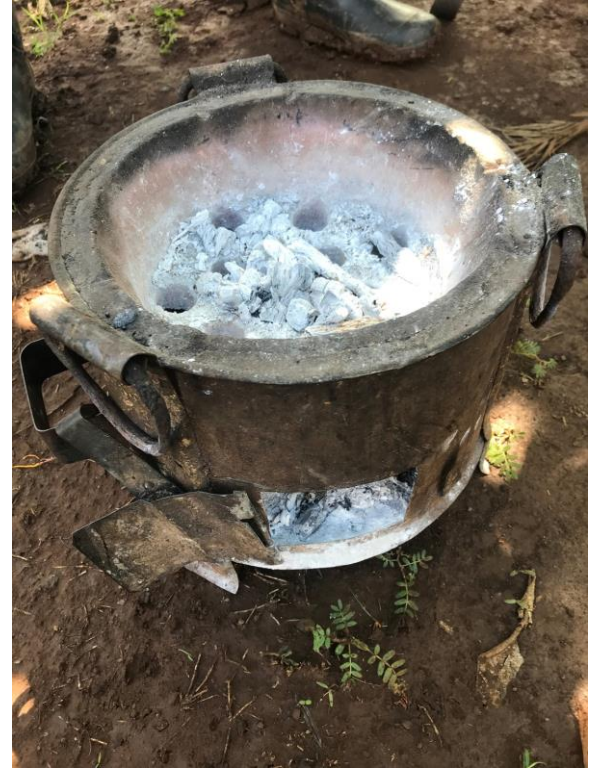
Coping Strategies cont.

- Setting aside grazing land
- Saving food and crop leftovers
- More agricultural pressure
- Move to business

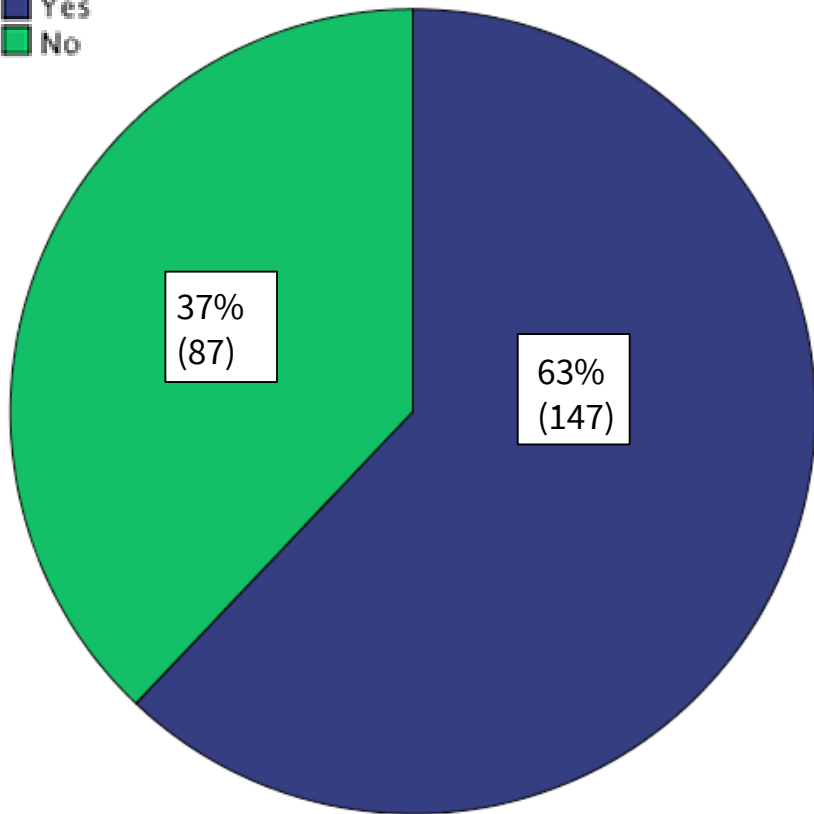


Solar Power and Improved Cooking Stoves (ICS)

- Most people use solar, not many use ICS
- Wide range of benefits associated with both
- Expense is an issue
- Lack of information

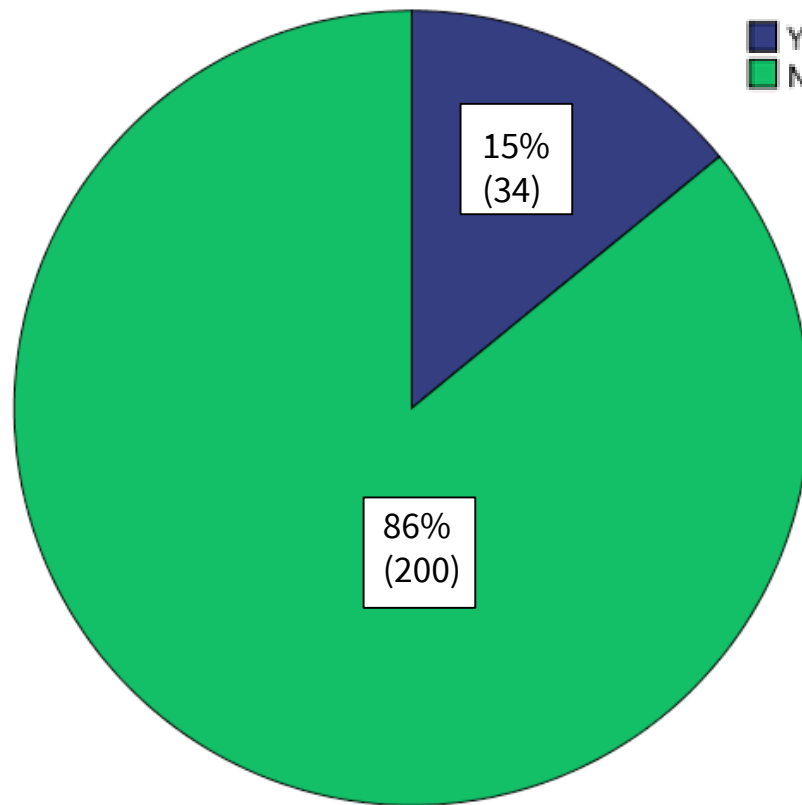


■ Yes
■ No



Do you use solar power?

■ Yes
■ No



Do you use improved cooking stoves?

Solar and ICS cont.



- **Provided electricity for light, phone charging, and TV/radio**
- **Less smoke, cooked faster**
- **Spread through advertisement or observation of neighbors**
- **Expensive, technical maintenance**



Conclusions

- **Communities are aware of climate change**
- **Climate change impact agriculture and pastoralism**
 - **Water**
 - **Pasture**
- **People have switched livelihood strategy**
- **Traditional way of cooking is harder**



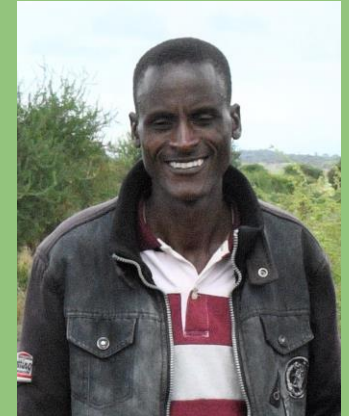
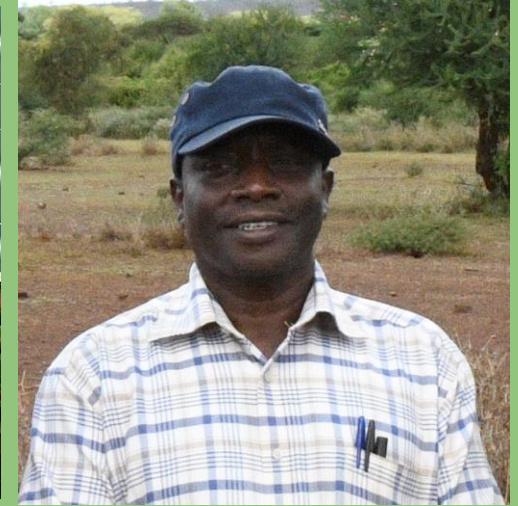
Recommendations

- **Communities awareness of climate change impacts**
 - **Causes**
 - **Adaptation methods/technology**
- **The government and NGO should increase assistance to communities**
 - **Climate change**
 - **Coping strategies**
 - **Distribution of new technologies**



Acknowledgments

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- **Martin Deya**
- **James Manto, Nelson Musikeri, and Francis Nkadayo**
- **Respondents**
- **Community elders**



Asanteni sana! / Ashe oleng!



Picture links

- <https://www.greenpeace.org/international/story/24683/hurricane-lorenzo-how-climate-change-influences-hurricanes/>
- <https://www.forbes.com/sites/erikkobayashisolomon/2019/10/25/have-you-heard-the-good-news-about-sea-level-rise/#2f77b2a92b3a>
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- <https://edition.cnn.com/2019/02/03/australia/townsville-queensland-flooding-intl/index.html>
- https://reliefweb.int/sites/reliefweb.int/files/styles/attachment-large/public/headline-images/Kenya_floods_Nov-2019%20%281%29.jpg?itok=C5BWERhD
- <http://www.maphill.com/kenya/maps/satellite-map/darken/>
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- Aduma et al., 2018
- <https://news.stanford.edu/2019/04/22/climate-change-worsened-global-economic-inequality/>
- <https://reliefweb.int/report/kenya/kenya-flash-update-no-2-floods-5-november-2019>
- <https://www.theafricareport.com/10796/kenya-drought-to-worsen-as-ruto-denies-deaths/>
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- <http://www.braced.org/news/i/Kenya-Maasai-herders-swap-to-goats-as-drought-fells-cattle>
- <https://www.theguardian.com/global-development/2019/aug/27/kenya-water-hyacinth-wonder-source-biofuel>
- <https://www.groworganic.com/organic-gardening/articles/drip-irrigation-part-3-using-drip-tape-in-the-garden>