

PEOPLE'S RESPONSES TO CLIMATE CHANGE IN SUB-SAHARAN AFRICA AND THEIR IMPACTS ON NATURE



Camila Donatti

David Hole, Chris Zganjar, Kimberly Holbrook,
Nikhil Advani, Darren Long, David Williams, Matt Morley,
Celine LaVina & Rebecca Goodman



PROBLEM ADDRESSED

- Climate change may **directly** impact the ecosystems and biodiversity that communities rely on
- Climate change can also **indirectly** impact ecosystems and biodiversity **through people's adaptation responses**



PROBLEM ADDRESSED

- Climate change may **directly** impact the ecosystems and biodiversity that communities rely on
- Climate change can also **indirectly** impact ecosystems and biodiversity **through people's adaptation responses**

Change in climate

impact

response

Decreased rainfall → Decreased crop production → Hunting for food



PROBLEM ADDRESSED

- Climate change may **directly** impact the ecosystems and biodiversity that communities rely on
- Climate change can also **indirectly** impact ecosystems and biodiversity **through people's adaptation responses**
- **Understanding those indirect impacts are extremely important for adaptation and conservation planning**



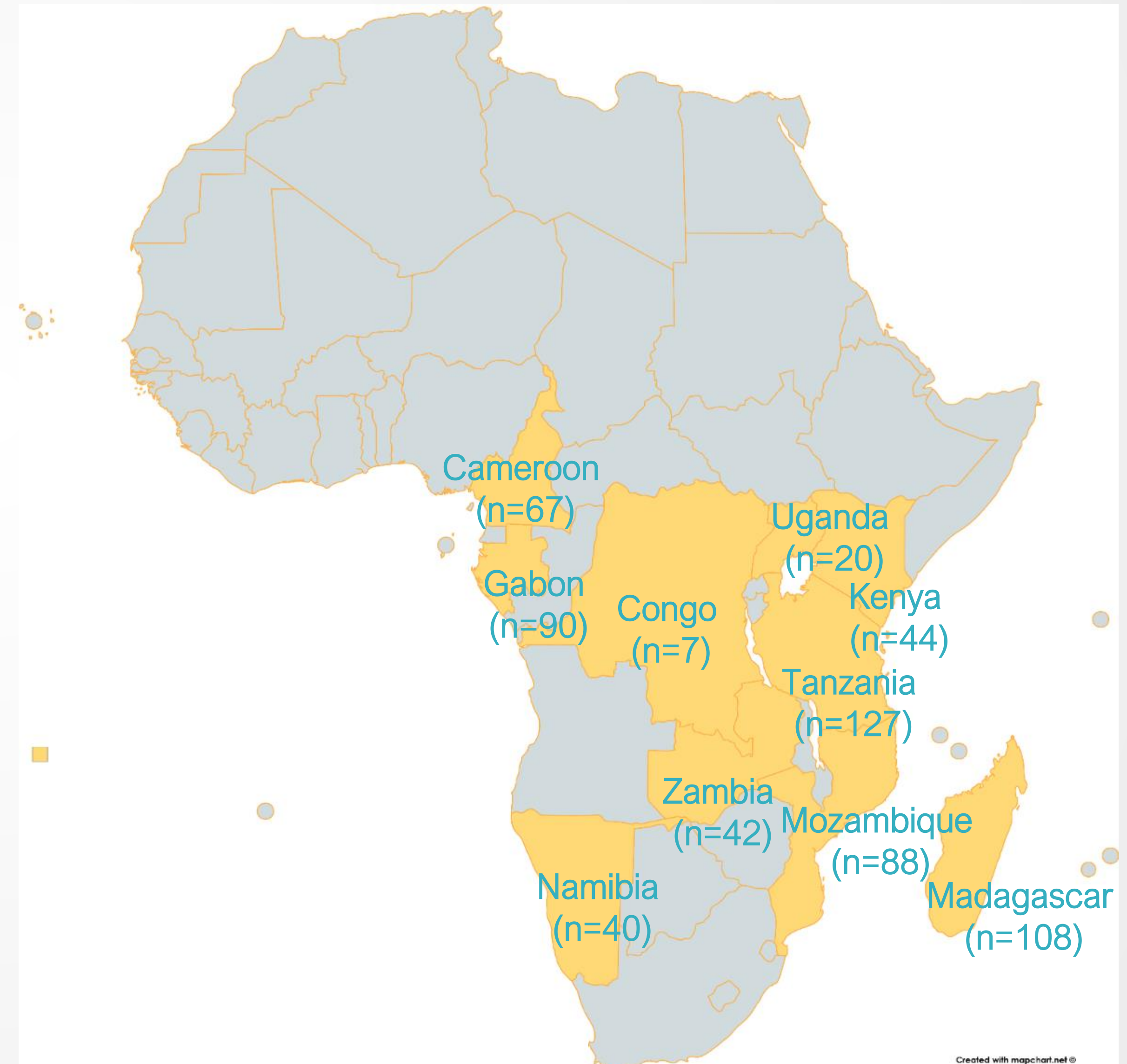
RESEARCH QUESTIONS

1. What changes in climate are farming communities facing in Sub-Saharan Africa?
2. How those communities are responding to those changes in this region?
3. How those adaptation responses may impact biodiversity?



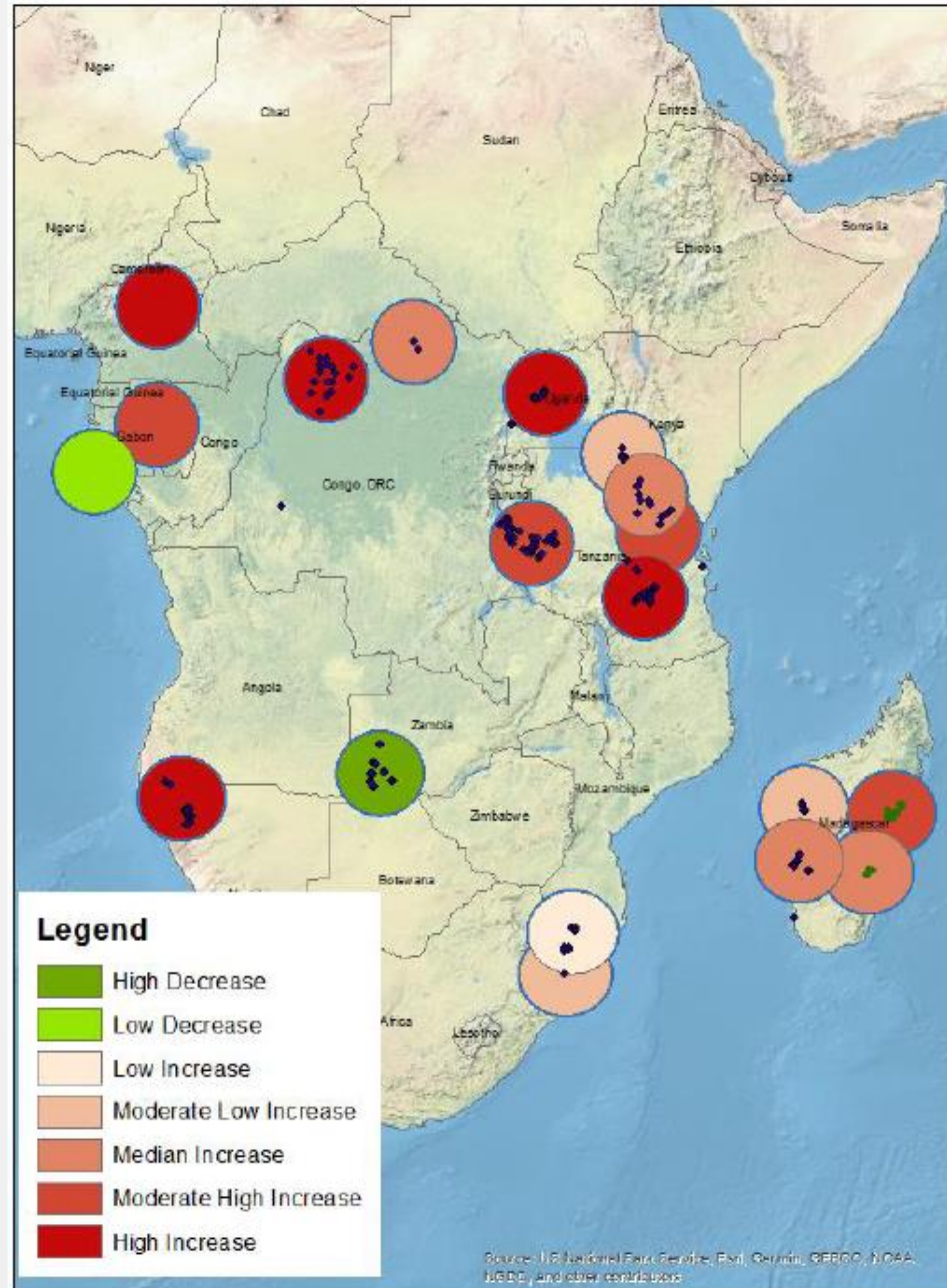
RESULTS

- 652 surveys with key informants
- Farming communities
- 2,943 adaptation responses

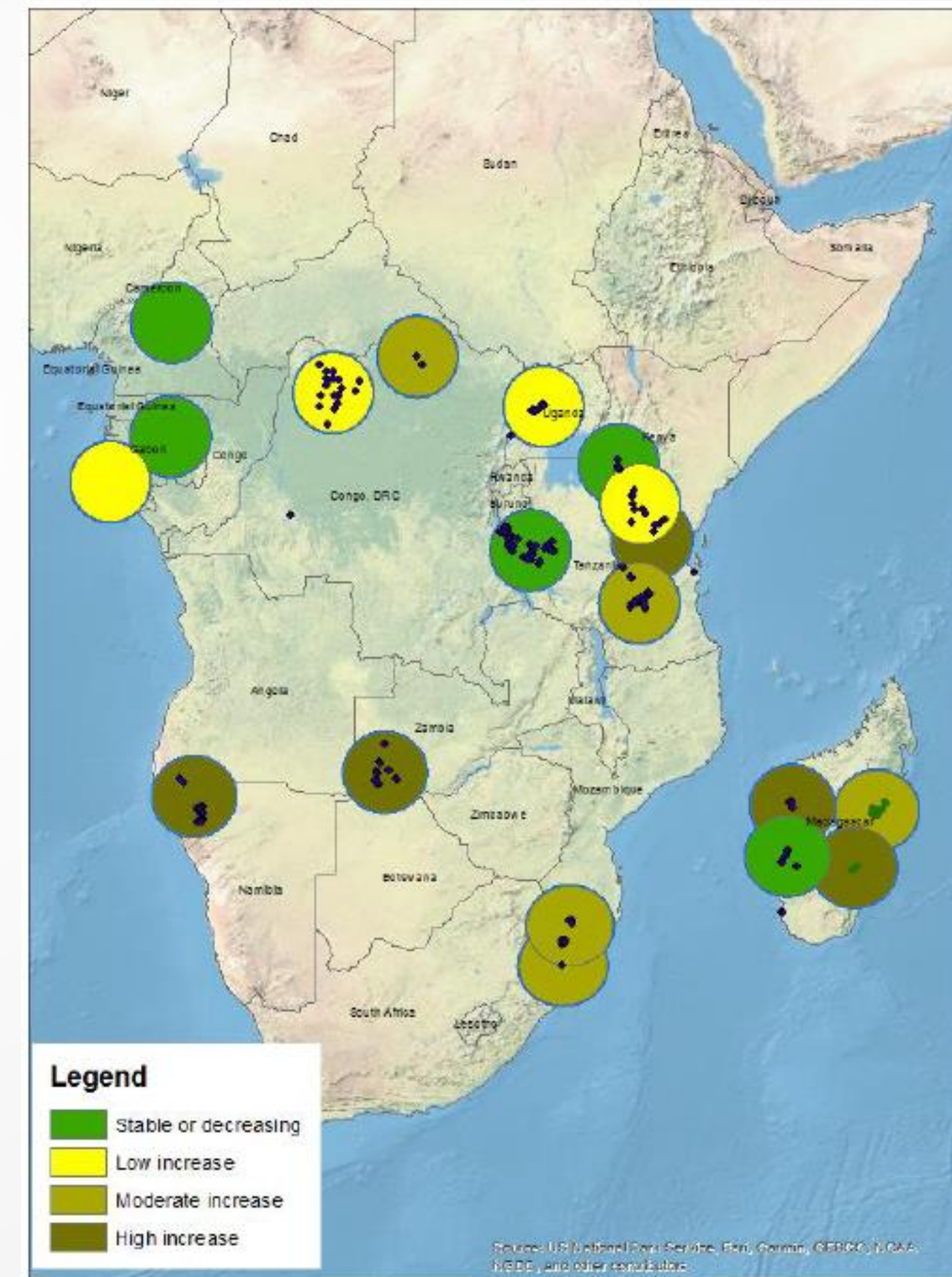


CHANGES IN TEMPERATURE AND DROUGHTS

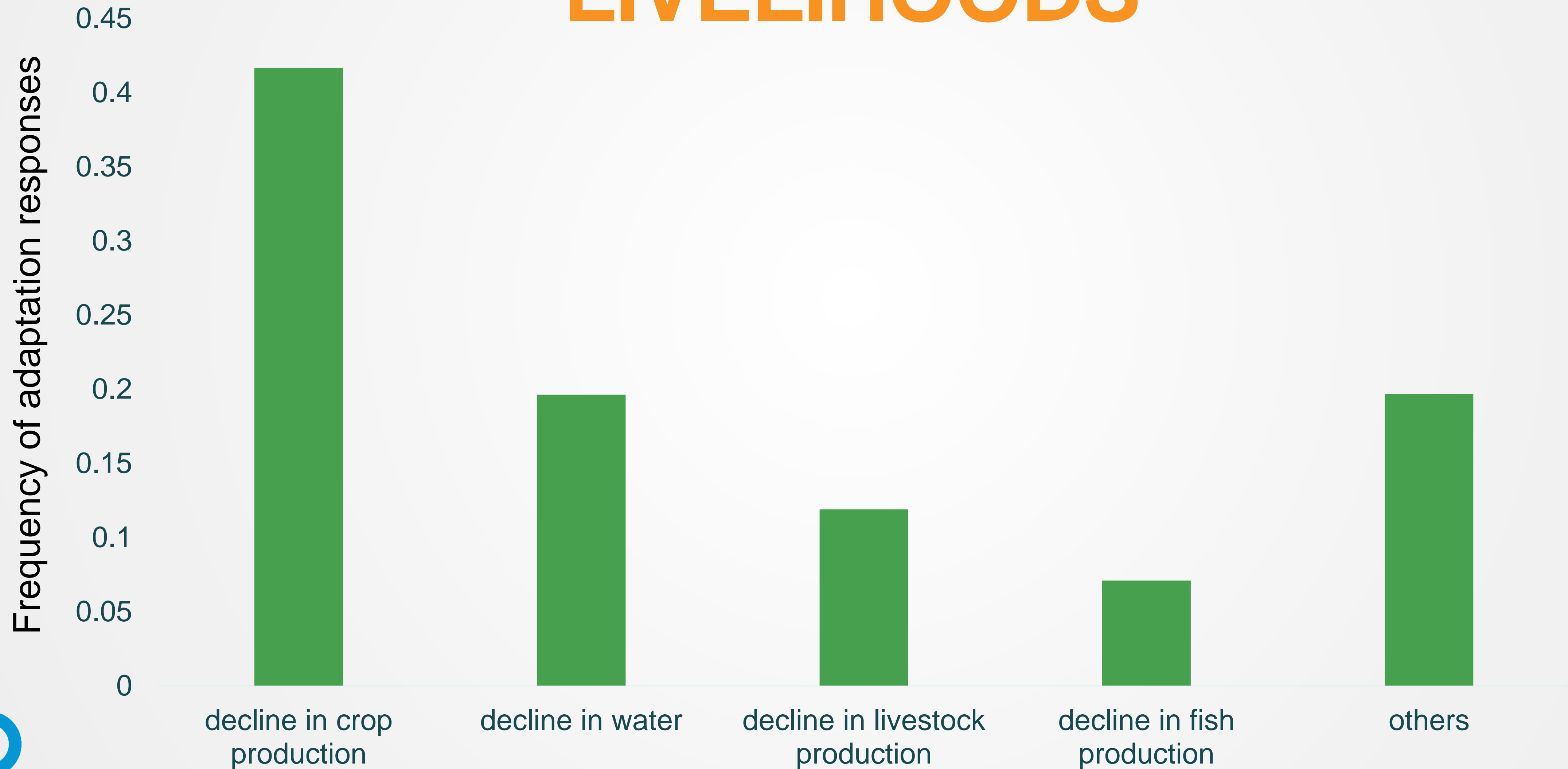
Temperature Percent Change



Change in number of months of droughts



CLIMATE CHANGE IMPACTS ON LIVELIHOODS



MOST COMMON RESPONSES

- Identified a total of 47 types of adaptation responses
- Logging, hunting or collecting products from forest (11.7%)
- Diversifying from current livelihood (10.55%)
- Walking long distances for water and resources (8.27%)
- Expanding farmland (5.51%)
- Migrating (5.21%)
- Planting trees (4.56%)



POTENTIAL IMPACTS ON BIODIVERSITY

Positive

Neutral

Context
dependent

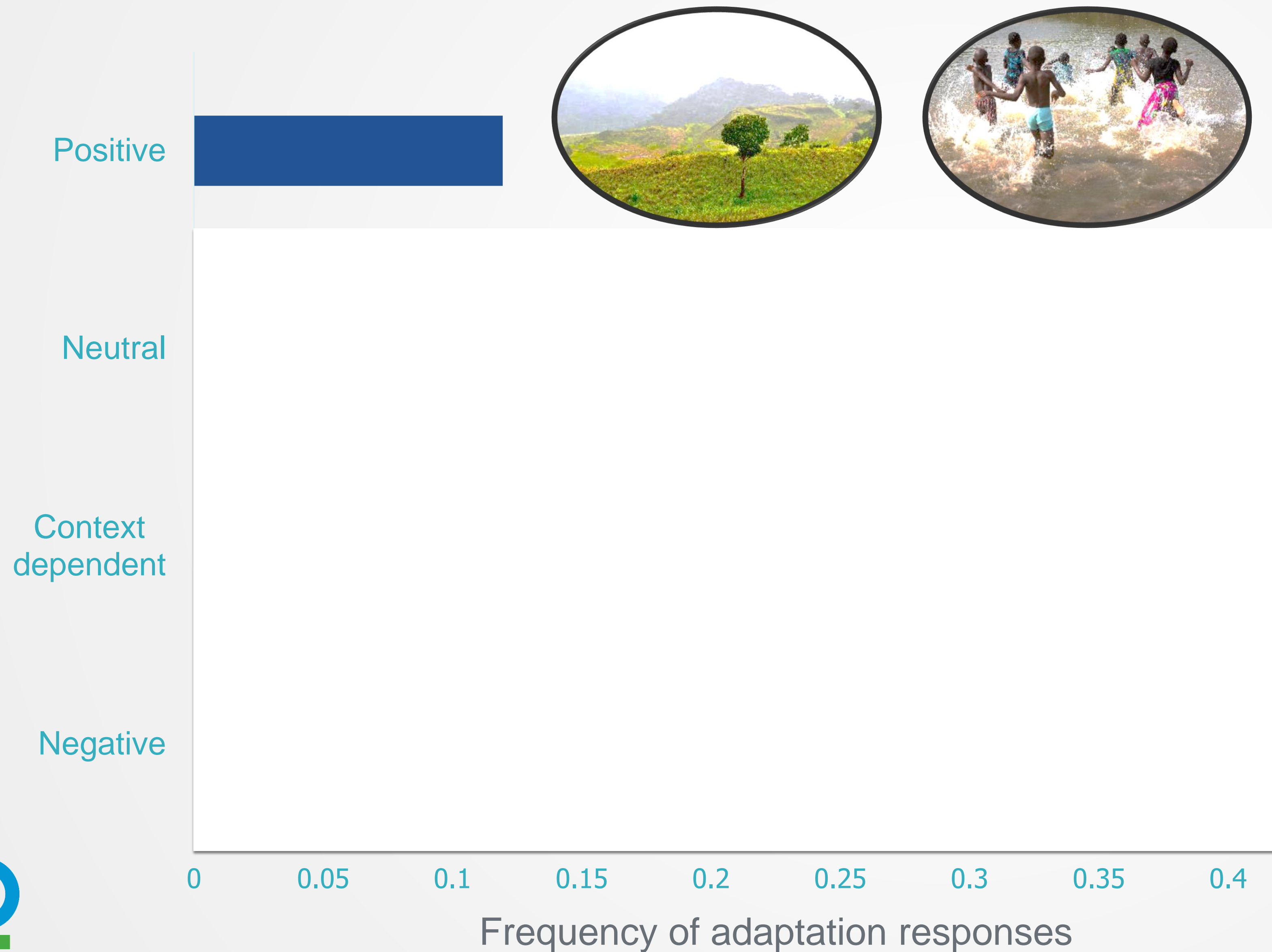
Negative

0 0.05 0.1 0.15 0.2 0.25 0.3 0.35 0.4

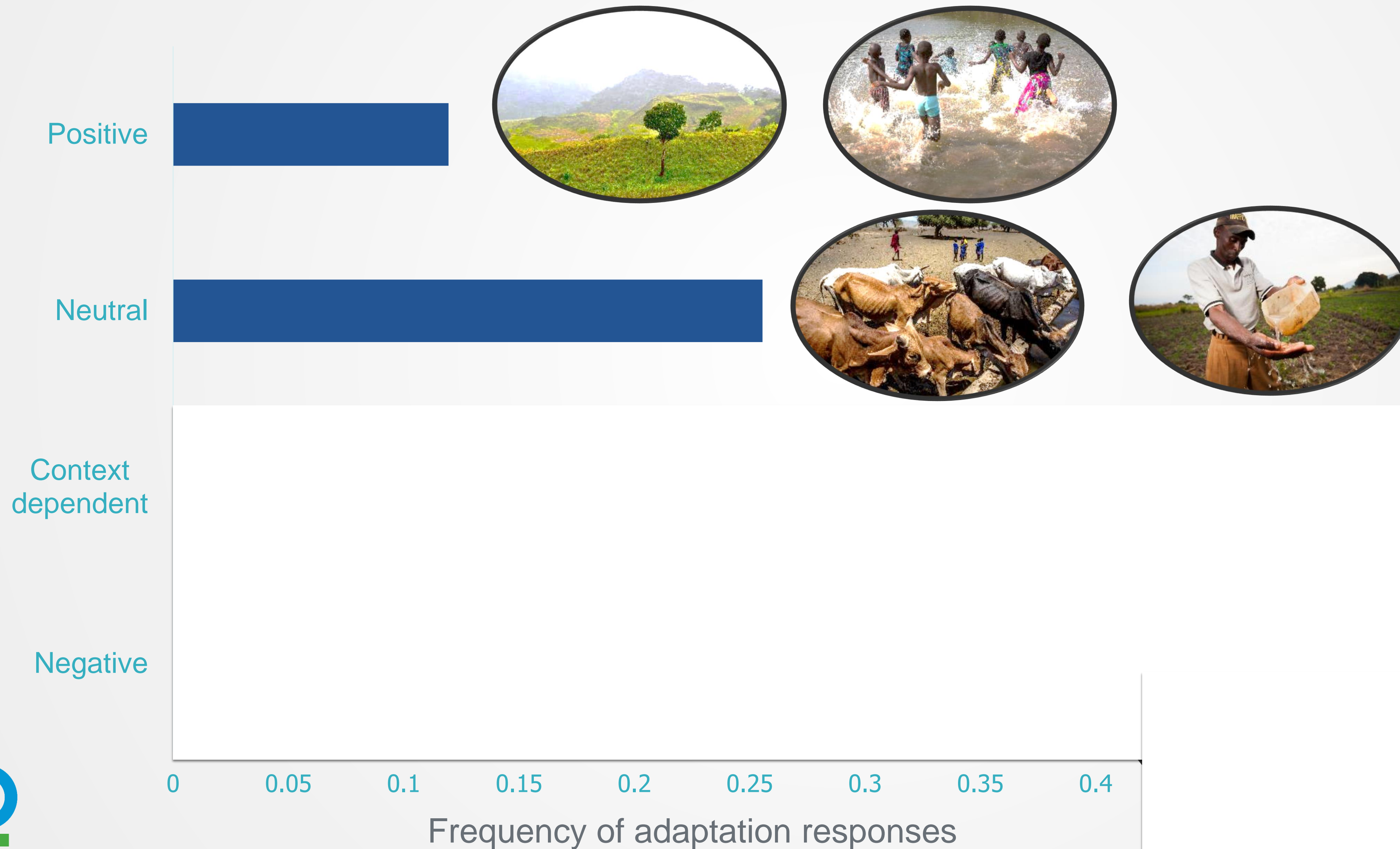
Frequency of responses



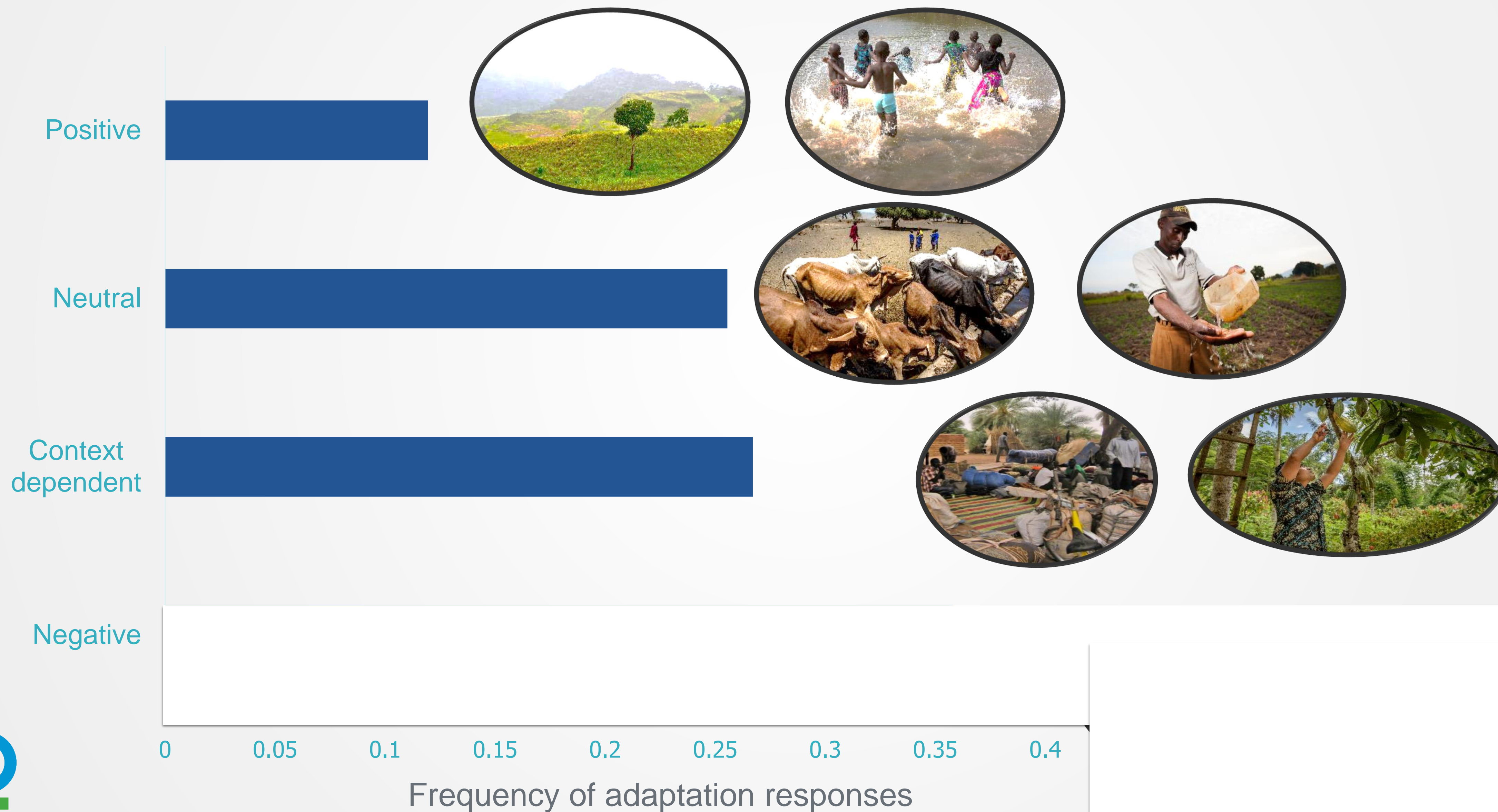
POTENTIAL IMPACTS ON BIODIVERSITY



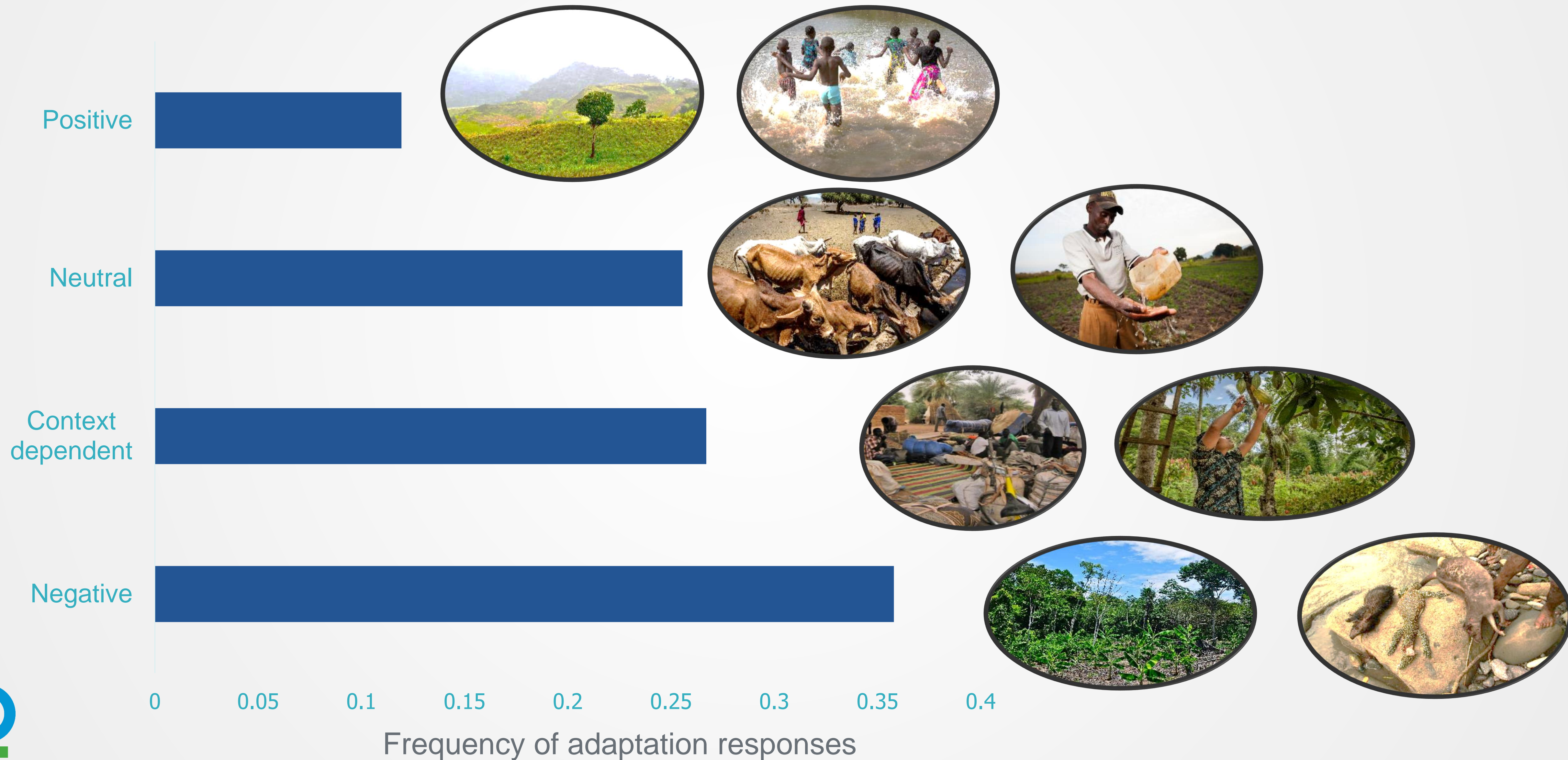
POTENTIAL IMPACTS ON BIODIVERSITY



POTENTIAL IMPACTS ON BIODIVERSITY



POTENTIAL IMPACTS ON BIODIVERSITY



CONCLUSIONS

- Communities are mainly responding to a few impacts on their livelihoods driven by climate change
- Over 35% of the adaptation responses have a negative impact on biodiversity
- There is a need to identify and promote alternative responses that may increase the resilience of farming communities and minimize the negative impacts on biodiversity



ALTERNATIVE ADAPTATION RESPONSES

Decline in crop and livestock production:

- Use more resistant seeds and breeds
- Diversify without expanding
- Make changes in the planting calendar/schedule
- Include trees in the field, especially through natural regeneration
 - Protect crops from extreme events
 - Provide other benefits and sources of food and income



FOR MORE INFORMATION

cdonatti@conservation.org

www.abcg.org

