Final Report

Climate Risk Assessment Urban Adaptation and Resilience in Africa

- Summary

DODOMA

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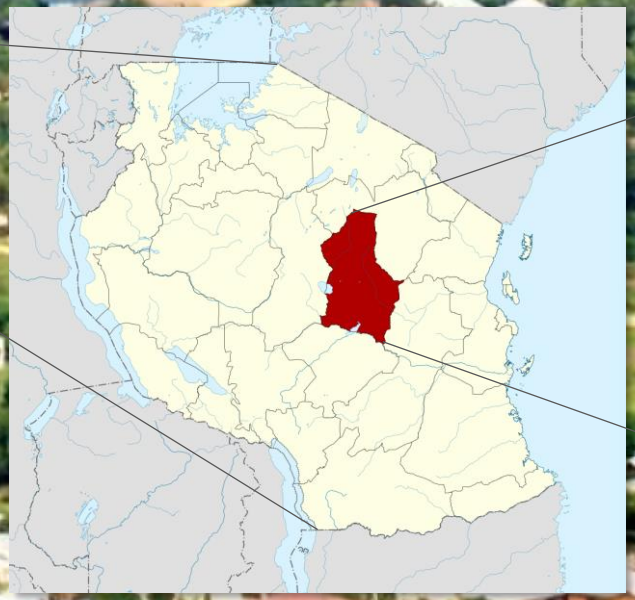
Dodoma
Introduction

Dodoma Capital City District (CCD)

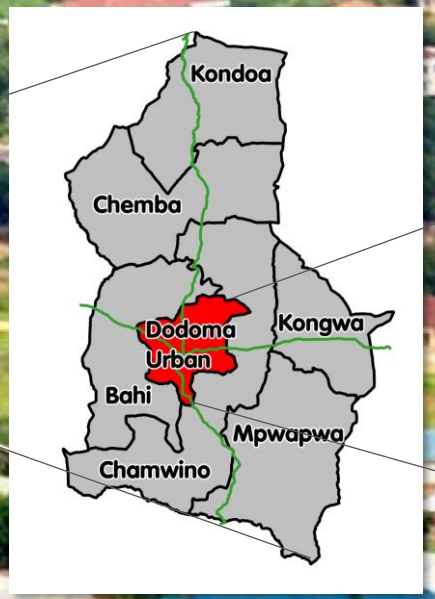
- Capital of Tanzania since 1973
- Open and low-density city with 261,529.96 hectares
- Population: 580.000 (0,9% of national population and population growth of 5,5% per year)

POP 2020: 580.000
2040: 1,7 million

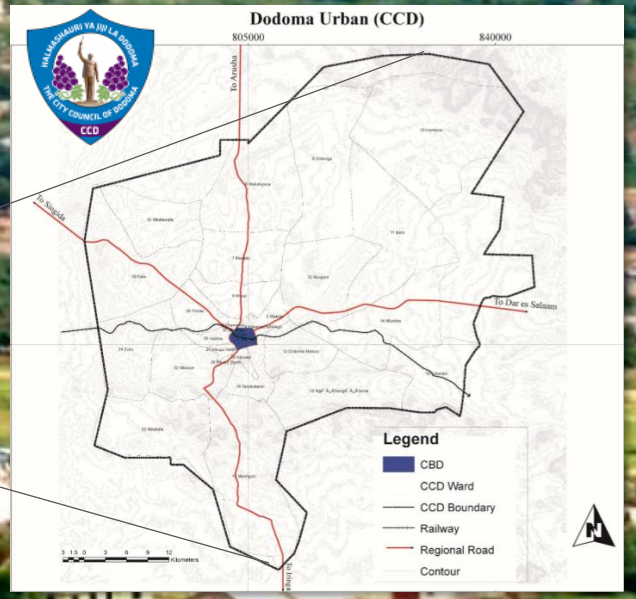
GDP TZS 470,000
(~ €180)



Dodoma Region (Wikipedia, 2022).



Dodoma Capital City District within Region (Wikipedia, 2022).



Dodoma Capital City District (Dodoma City Masterplan, 2019)

Dodoma – Main Challenges

1. **High dependance on the agricultural sector**: a big part of Dodoma's economy relies on agriculture. The agricultural sector is very sensitive to climate extremes which may lead to loss of income and food supply by decreased agricultural productivity.

2. **Fast urbanization of the city**: as all national Government Administrations moved to Dodoma since 2017, the city population is booming. Therefore, Dodoma faces multiple challenges associated with rapid urbanization in terms of built-environment and physical and social infrastructure planning. Also, this rapid urbanization brings challenges to ensure resilience to disaster risks hazards.

3. **Informal settlements:** informal development often happens in vulnerable locations which further exasperates the living conditions for the occupants.

4. **Drinking water supply:** currently Dodoma is highly dependent on limited drinking water sources that are extremely affected by drought and can be vulnerable to earthquakes.

Tanzania (Climate) Governance structure

From National Level to Local Level

National Level

At national level, The Vice President Office (VPO) – Division of Environment - is responsible for Climate Change adaptation policies and activities

- Policies, actions
- Monitoring
- Evaluation

Regional Level

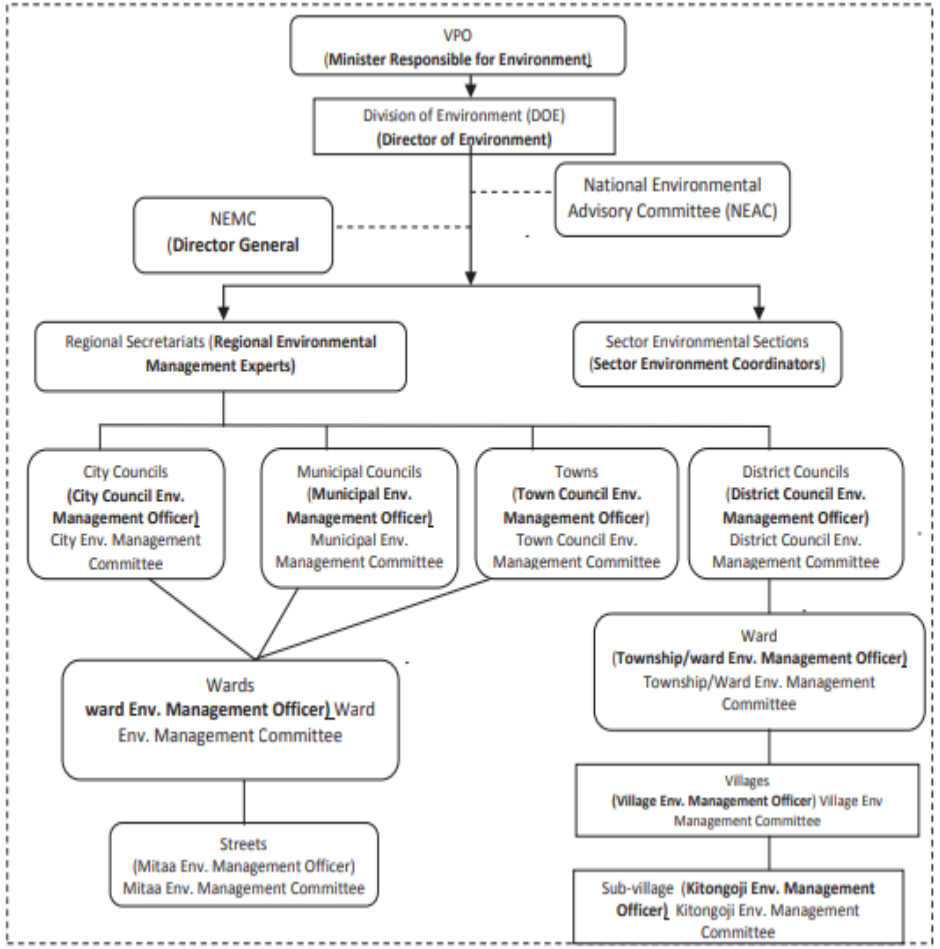
The regional secretariats (Regional Environmental Management Experts) have a secretary and supervising role. They are responsible for the coordination of (climate) actions and tasks related to monitoring and evaluation of these actions.

Local Level

At local level, the City Council, the Municipal Council, the Town Council or the District Council are responsible for the implementation of the (climate) actions and policies.

Ward/Village level

At the most local level, the Ward Officer takes care of the implementation of actions in the wards. Also, specific needs on ward level are identified by the Ward Officer.

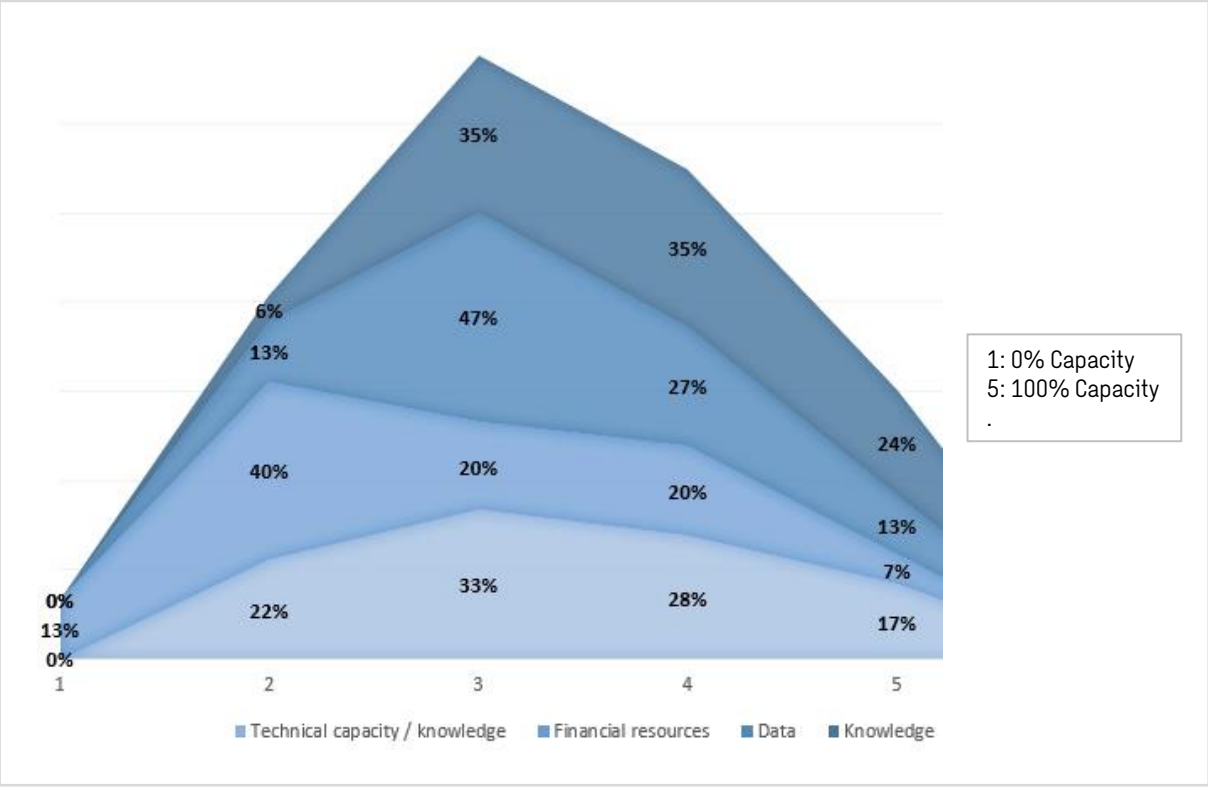


National Governance on Environmental issues (National Climate Change Strategy , 2012)

Dodoma Climate Governance

City Stakeholder's perception

Do you feel the city has the required capacity to make Dodoma climate resilient?



Source: Questionnaire Dodoma CRA (2022)

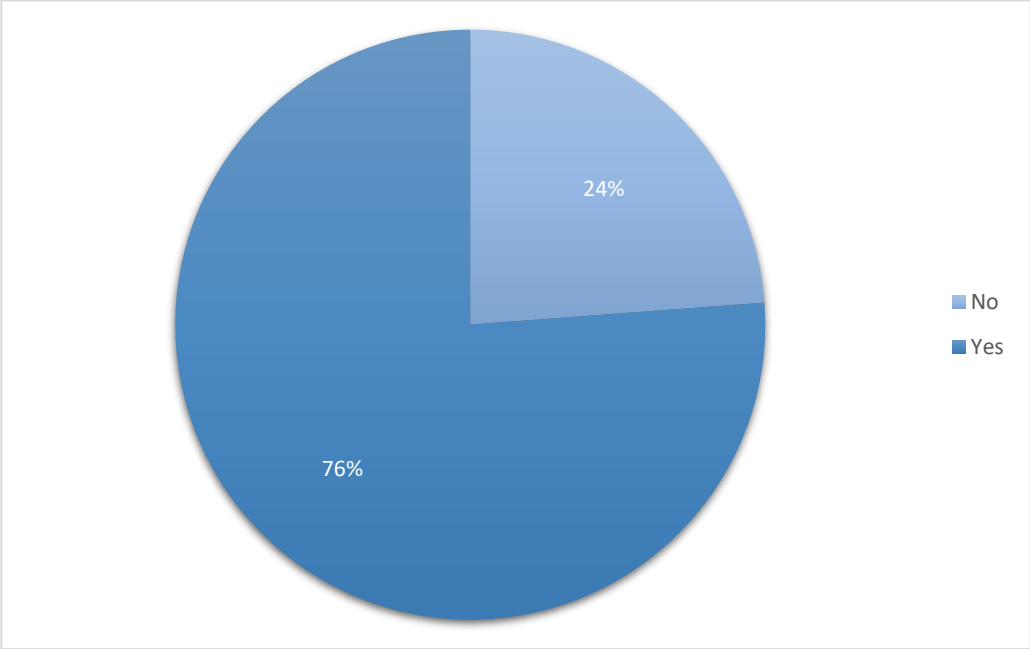
Local Government's Capacity to make Dodoma Climate Resilient

- According to the city stakeholders, Dodoma has quite good ***knowledge*** and ***technical capacity*** to make Dodoma Climate Resilient.
- ***Data availability*** and ***Financial resources*** are more limiting factors.

Dodoma Climate Governance

City Stakeholder's perception

Is Dodoma city considerate of regular people in its ambition to become Climate Adaptive and Resilient?



YES

- Citizens feel involved in some environmental projects such as the Green Dodoma Project;
- Also tree planting campaigns focus on the involvement of regular people;
- Some people feel supported by the city of Dodoma in terms of knowledge on how to stop environmental disruption;
- Some individuals indicate that they feel a strong need to conserve the environment and participate in that.

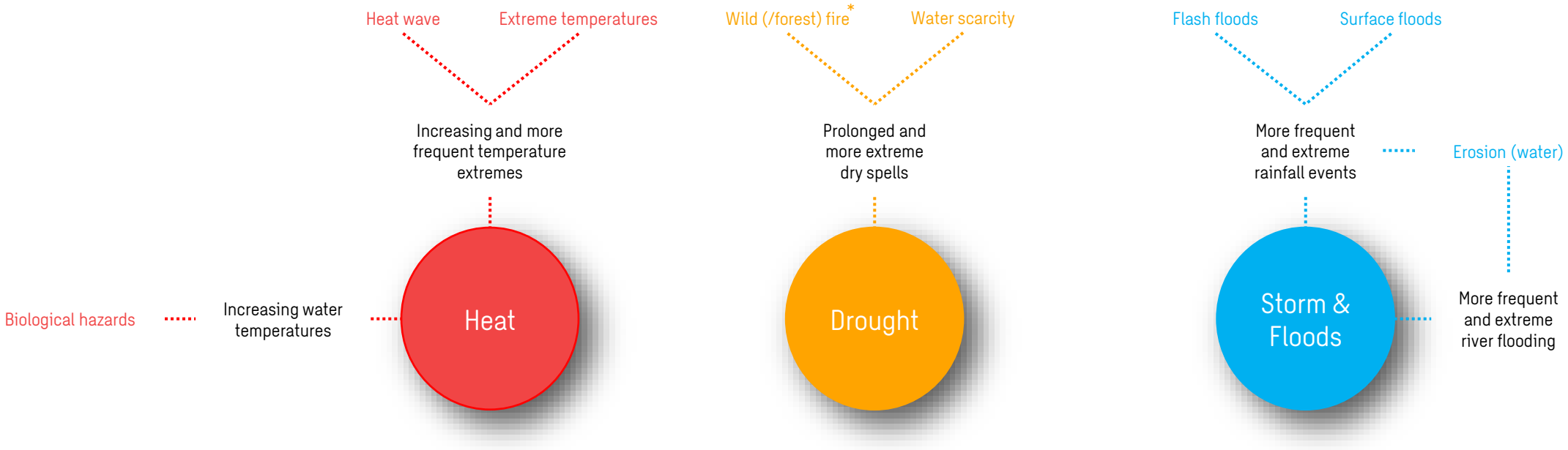
NO

- Individuals indicate that the rules and regulations regarding climate change adaptation are not followed. E.g. trees are planted during the wet season but there is no focus on maintenance of these trees during the dry season;
- City stakeholders indicate there is too little attention to educate people;
- There is no plan for climate adaptation measures.

Source: Questionnaire Dodoma CRA (2022)

Hazard Assessment

Hazards in Dodoma



LEGEND

In black: Primary Climate Hazard

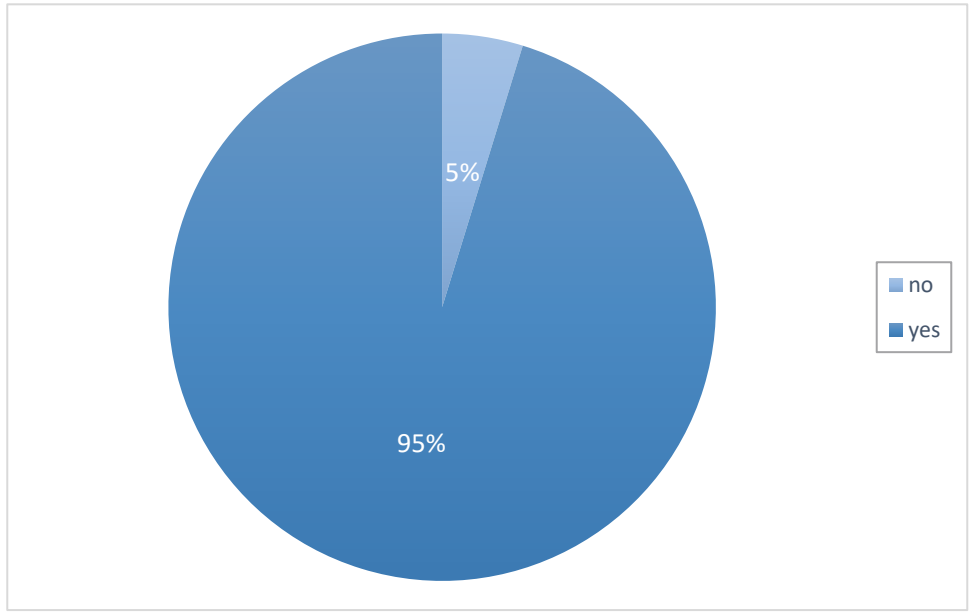
In colour: Secondary Climate Hazard

* The start of Wild/forest fires is generally caused by humans; due to drought these fires get more extreme and devastating

Hazard Assessment

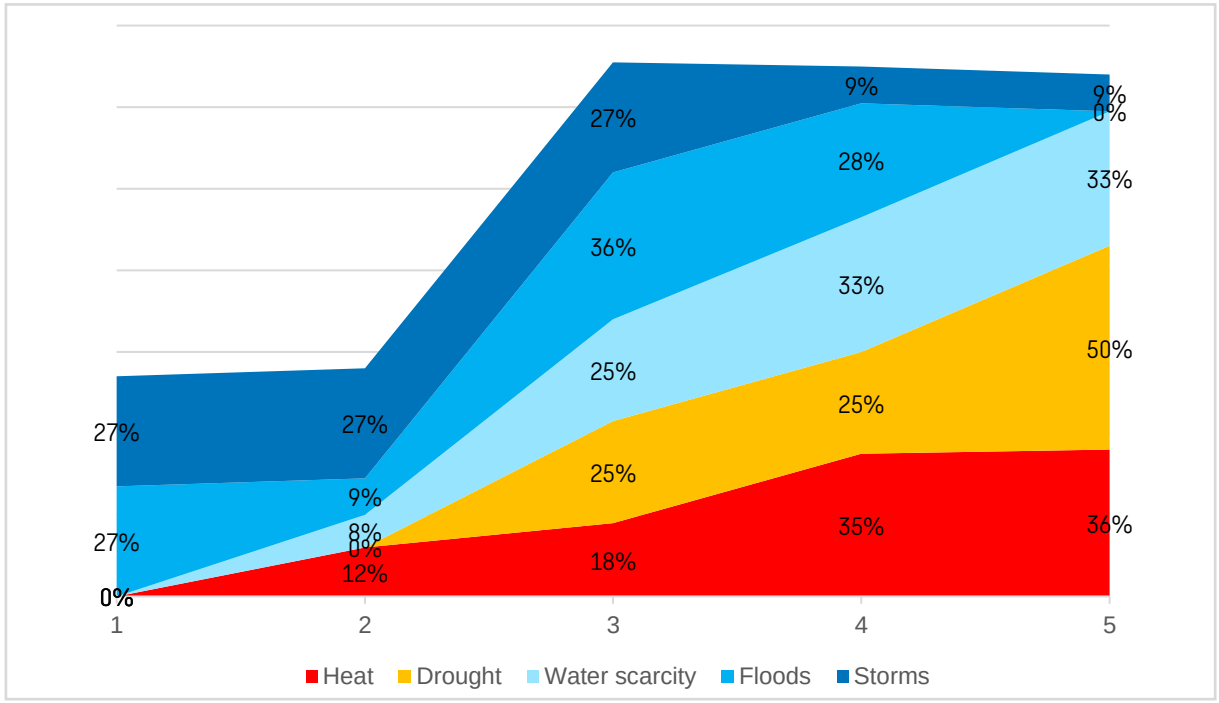
Citizen perspective

Do you know what the effects of climate change are in Dodoma?



- City stakeholders seem to be very aware of the effects of climate change in Dodoma: **95%.**

Do you feel affected by the impacts of heat/drought/floods and storms?



- City stakeholders indicate to be mainly affected by **heat**, **drought** and **water scarcity**. The same individuals indicate to be less affected by the effects of **floods** and **storms**.

Source: Questionnaire Dodoma CRA (2022)

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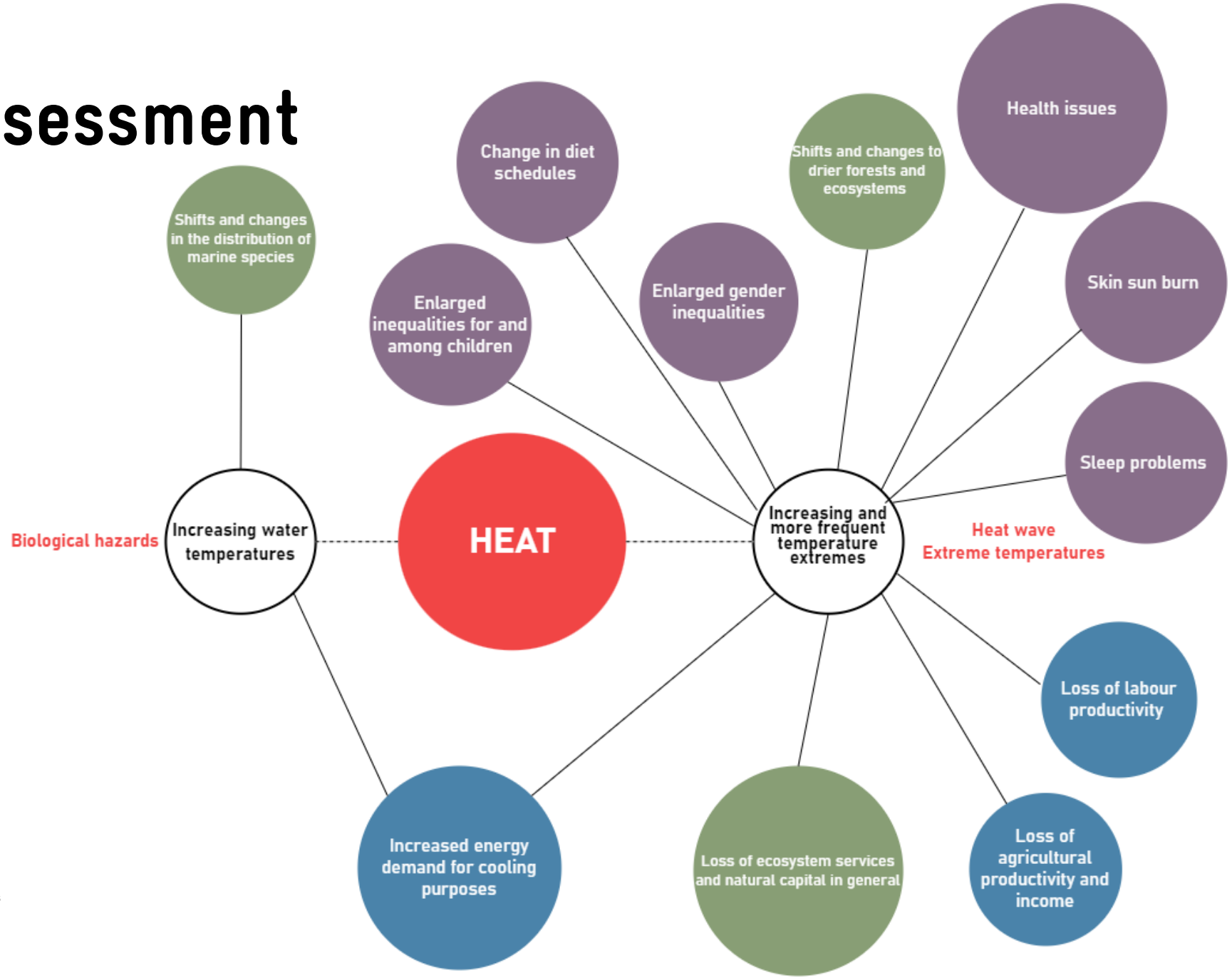
Impact Assessment



Climate hazards

Natural impacts

Social impacts

Economic impacts

Highly prioritized impacts

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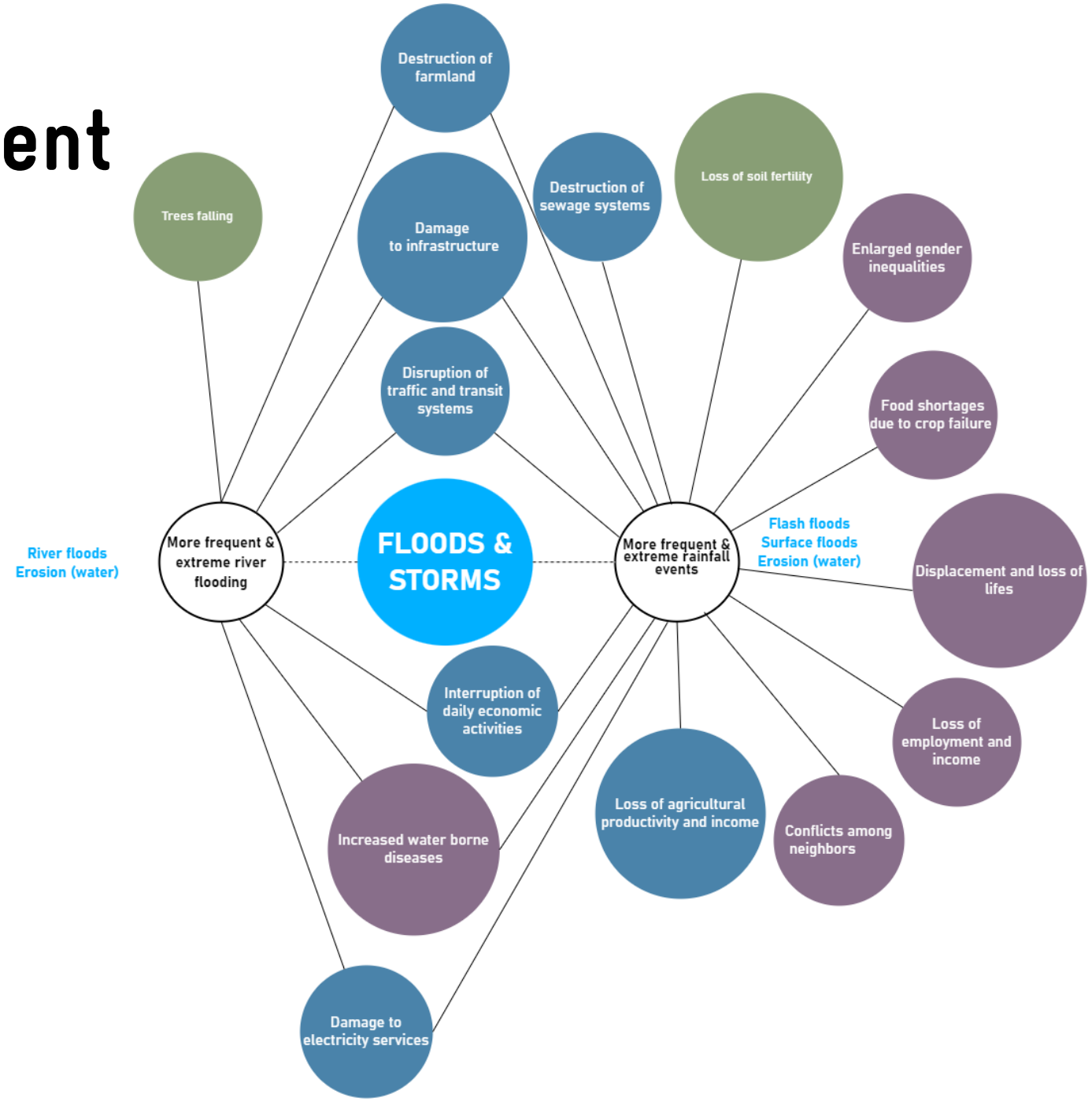
Impact Assessment



Climate hazards

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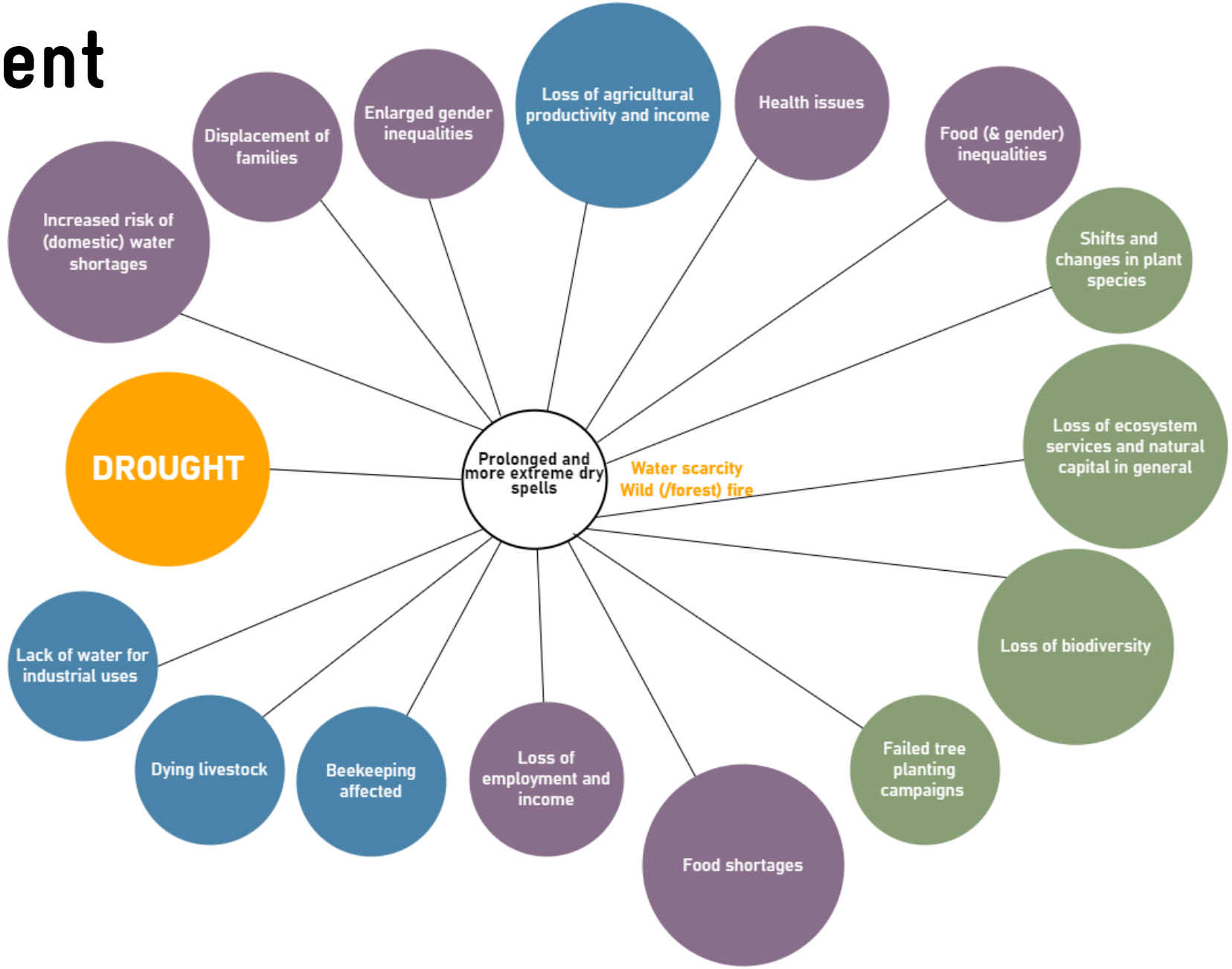

Climate hazards

Natural impacts

Social impacts

Economic impacts

Highly prioritized impacts

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Impact Assessment

Spatial Diagnostic – Hotspot areas

Floods: Hotspot areas

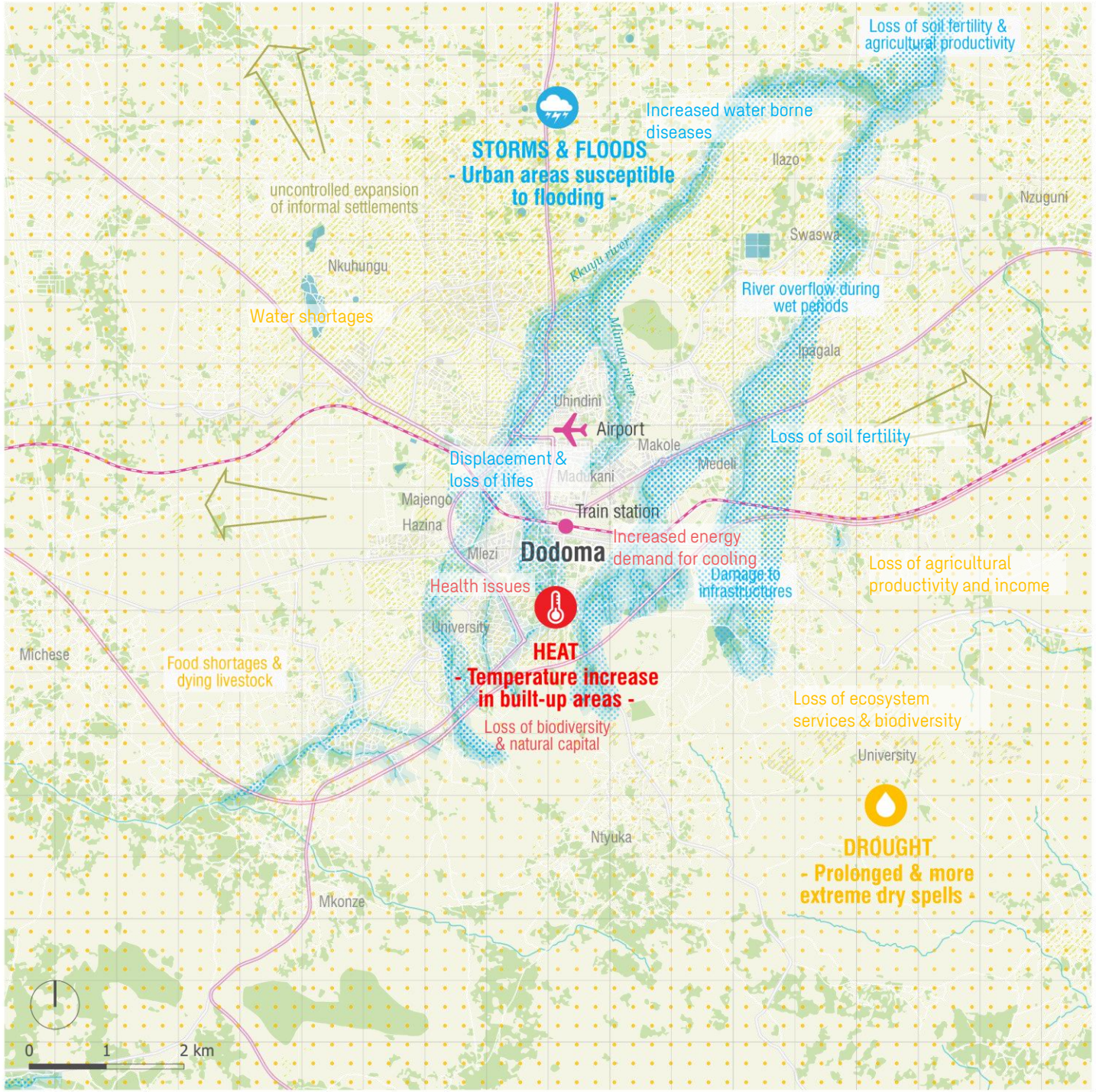
- In the **built-up areas** of Dodoma City Center due to more frequent and extreme rainfall
- **River floods**

Heat: Hotspot areas

- The most extreme temperatures occur in Dodoma City Center, especially during the night as these built-up areas suffer most from **urban heat island effect**
- Especially **informal settlements** are affected due to limited financial resources for cooling equipment

Drought: Hotspot areas

- Complete Dodoma CCD is exposed to prolonged and more extreme dry spells.
- **Agricultural areas** are mostly affected



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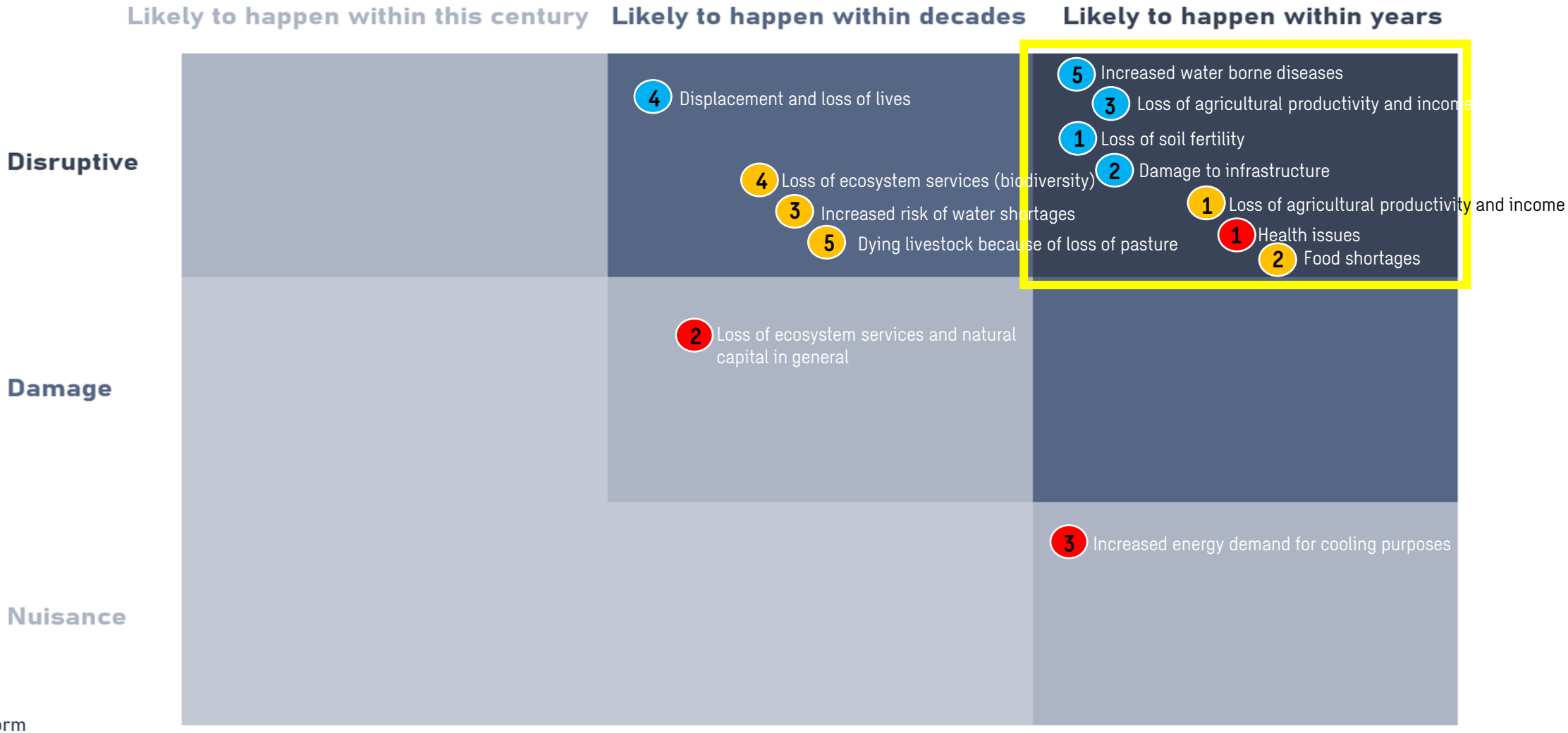
Risk Assessment

Key climate risks



[1] The time series projections of the prioritized impacts in this Risk Matrix is done by the Dodoma City Advisor based on the questionnaire input from the city stakeholders.

No regret measures

Based on the results of the interviews with city stakeholders, field interviews, the questionnaire results and key documents, the following no regret measures were identified for Dodoma:

	Link with key climate risk:
• **Sustainable farming**	1 2 3
• **Drinking water management**	1 2
• **Waste management**	5
• **Law enforcement**	1 1 2 1 2 3 5
• **Make Dodoma green**	1 1 2
• **Create awareness on climate change**	1 1 2 1 2 3 5
• **Climate resilient infrastructure**	1 2
• **Flood prevention**	1 2 3 5

Past and planned investments

Past investments

1) The Ecovillage adaptation to climate change in central Tanzania

2) Construction of Chidaya Sanitary Landfill

3) Construction of Ilazo Ipagala storm water drain and three foot bridges

Obtained information per investement:

- Actions
- Expected result
- Budget
- Funding
- Year
- Actors involved & Implementing agencies
- Lessons learned
- Community engagement
- Support to vulnerable groups
- Climate hazard:

Planned investments

1) Drainage & Sanitation Development Plan (DSDP)

2) Make Dodoma Green

3) Construction of Farkwa water dam at Farkwa in Kondoa/Chemba

Past and planned investments– Citizens

Are you aware of any citizen initiatives in Dodoma that help to reduce climate risks?

71% YES

“ Citizen initiatives that help to reduce climate risk:

- Each year during the rainy season civil servants participate in **tree planting campaigns** with the aim of at least having several trees grown per year. The government provides trees to the community to plant at their places.
- In **building permits**, plot owners are advised to plant a minimum of five trees per plot depending on plot size.
- There are **Community environmental** groups that focus on conserving the environment in order to reduce the impacts of climate risks.
- Collection of **plastic bottles** by hawkers.
- Harvesting of groundwater by the **construction of borehole wells** by individuals themselves. ”

Source: Questionnaire Dodoma CRA (2022)

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