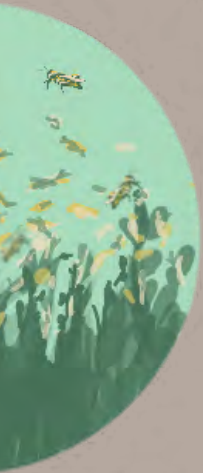




JOWHAR RESILIENCE PLAN



UN HABITAT
FOR A BETTER URBAN FUTURE

Jowhar Resilience Plan
January 2021

UNITED NATIONS HUMAN SETTLEMENTS PROGRAMME
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1 INTRODUCTION

The Jowhar Resilience plan provides an overview of the main features related to resilience in the city and its surrounding landscape. It briefly analyses the current development challenges with a special focus on climate-related and environmental-related risks affecting vulnerable population.

It is a complementary technical document to several other planning studies and reports to shape the future of Jowhar in a more sustainable way, providing basic urban services to all communities and leaving no one behind.

This resilience plan provides an identification of the main existing processes currently taking place in the territory and the city, from the point of view of vulnerability. The vision and example interventions are focused in reverting, at least partially, those processes.

This document is a first approach to drafting a resilience plan. Given the lack of available information from all spheres – social, environmental, economic, etc– it is currently difficult, if not impossible, to draft a full scope document.

However, this document does propose a clear methodology that can be later developed. Firstly, a regional and urban scale analysis identifies hazards (1), vulnerable areas (2) and current resilience elements (3). With this information, an interdependence assessment is conducted (4), through the problem tree analysis (inverted). This analysis identifies the process(es) that are in the root of the main hazards perceived across different scales. Once the processes have been identified, a complete vision (5) can be proposed, focused on modifying the main damaging process(es) and not spending energy on solving side symptoms. This method aims to reduce the hazards and vulnerabilities of Jowhar on the long term.

Reverting the main damaging processes is an endeavor that requires, in general, large-scale, long-term environmental strategic plans, which include continuous monitoring and

evaluation from the local authorities. This document does not develop such plans. What it does is propose examples of specific interventions (6) –bottom-up– that local administrations and individuals can undertake to increase urban and regional resilience. These actions are chosen according to their simplicity and based on their effectiveness (drawn from scientific literature descriptions). It would be advisable to present alongside the interventions a monitoring and evaluation plan, so as to ensure their being effective.

The UN has developed more comprehensive, local tools for resilience planning, such as CityRAP Tool, that would be advisable to develop on the field involving local participatory processes. It would also be advisable to conduct a Vulnerability and Risk Analysis (VRA) on the field to make for a more complete vision of the current processes.

It is hoped that this working paper contributes to the necessary public discussion on Jowhar's future development and facilitates decision-making by local, regional, state and federal authorities.

Reference is being made to other studies and data updates undertaken by UN agencies and other international stakeholders, such as: SWALIM (Somalia Water and Land Information Management), World Bank-FAO and CCCM Cluster.

This Resilience plan was drafted with support from the local Core Facilitation team of Midnimo II (Unity) project: "Support for the Attainment of Durable Solutions in Areas Impacted by Displacement and Returns in Galmudug and Hirshabelle States."

Midnimo II is jointly implemented by The United Nations Development Programme (UNDP), International Organization for Migration (IOM) and the United Nations Human Settlements Programme (UN-Habitat) and funded by United Nations Peacebuilding Fund.

HAZARDS

The first part of this resilience plan identifies hazards, based mainly on those related to environmental issues, such as droughts, water pollution, floods, etc. This identification is twofold, taking place on both regional and urban scale.



SIMPLIFIED INTERDEPENDENCE ASSESSMENT

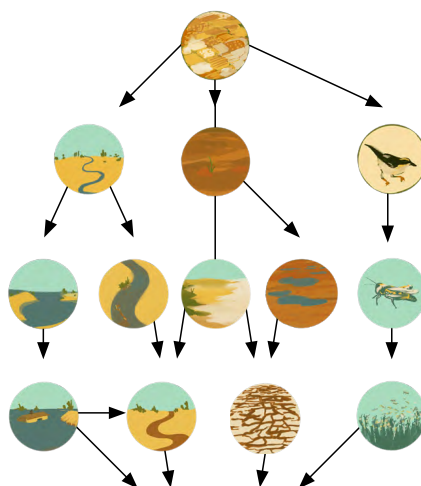
Using the problem tree analysis, hazards are presented (on a simplified format) with causal relations, providing a vision of the processes taking place currently in the city and its surrounding region. This method helps identify the root processes in the origin of the different hazards.

VULNERABILITY

The second part of this resilience plan identifies vulnerable areas. Due to the lack of updated information, vulnerability is not assessed from an agricultural crop loss point of view. Instead, the assessment identifies social vulnerable elements, mainly IDP camps, according to exposure and sensitivity. This identification takes place on regional scale, briefly, and on urban scale, with higher detail.

RESILIENCE ELEMENTS

The third part of this resilience plan identifies the current elements that provide resilience, both on regional and urban scale.



VISION

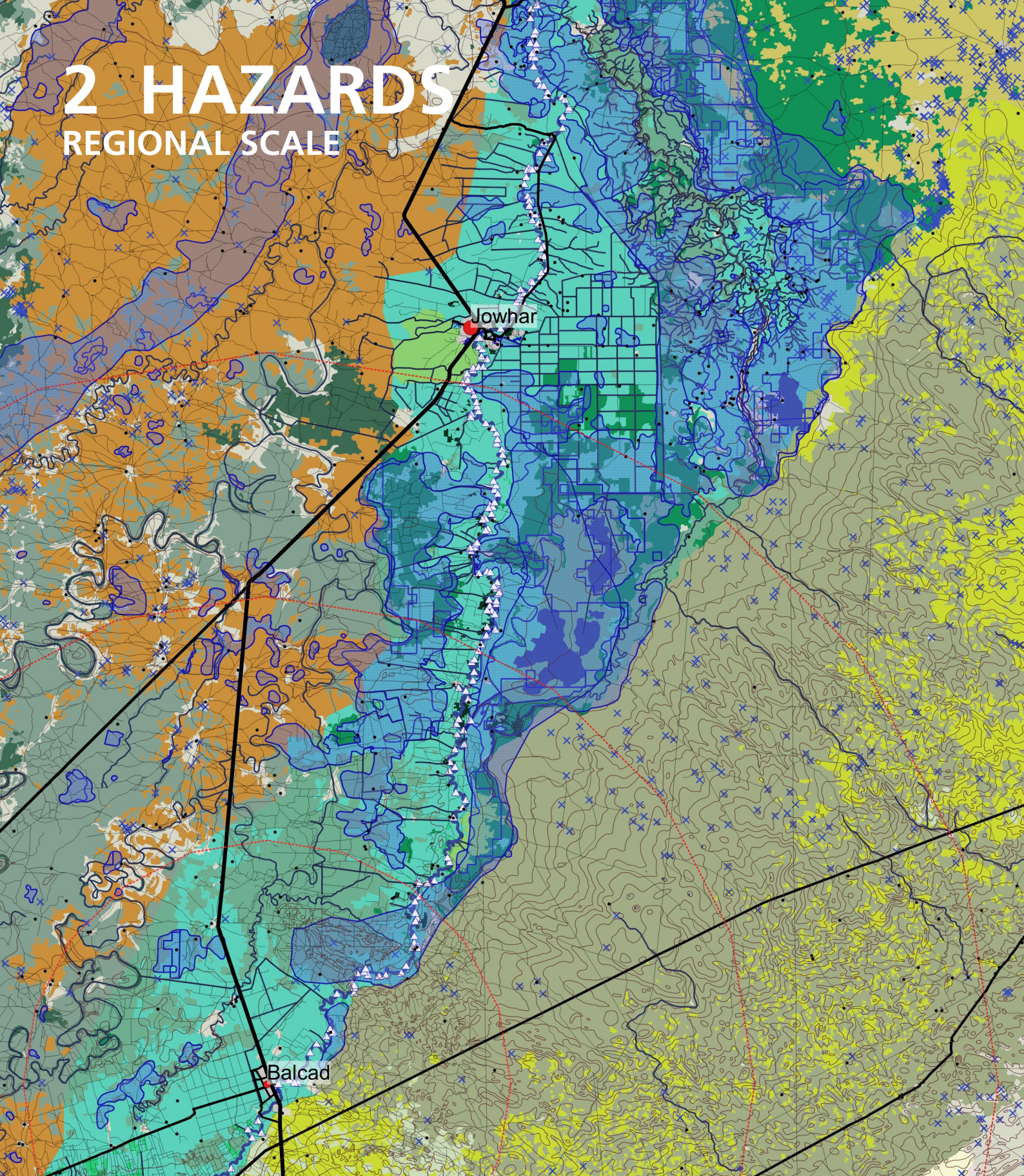
By reversing key elements previously identified on the problem tree, the causal relations between them are also reverted. This results on a vision for an improved future resilience that tackles the root elements of the damaging processes.

EXAMPLE INTERVENTIONS

Lastly, this resilience plan proposes tactical solutions and examples of specific interventions –bottom-up– that local administrations and individuals can undertake to increase urban and regional resilience. These actions are chosen according to their simplicity and based on their effectiveness (drawn from scientific literature descriptions). It would be advisable to present alongside the interventions a monitoring and evaluation plan, so as to ensure their being effective.

2 HAZARDS

REGIONAL SCALE



△ River breakages recorded in 2020

Area that has been flooded in last recorded floods:

2020 Deyr

2020 Gu

2019 Deyr

2018 Gu

River and wetland

× Water well

Episodically inundated flood or alluvial plain

Woodland - Low schrubland

Woodland - Schrubland

Rainfed fields | Sorghum, cowpea, sesame

Frequently inundated floodplain

Low schrubland

Schrubland

Irrigated crop fields | Orchards

Irrigated crop fields | Rice fields

Irrigated crop fields | Other

Coastal plain

Low Schrubland

Schrubland

Rainfed crop fields | Cowpea, casava

Rainfed crop fields | Maize, cowpea, millet

Coastal dunes

Sparse vegetation

Projections under a low-mitigation **climate change** scenario for Somalia suggest temperatures may increase 3° to 4°C by 2080.¹ The sea level along the coast is rising at approximately 1.3 mm/year.² Global climate models for the region predict overall precipitation to increase in future decades.³ Eight of the last ten years have seen chronic droughts in East Africa, including Somalia, and persistent droughts are likely to continue.⁴ This will further threaten livelihoods and food security. Climate change could lead to loss of biodiversity and soil fertility, and increase the prevalence of pests and disease, threatening agriculture and human health and increasing rates of urban migration, thus exacerbating conflict in Somalia.⁵ Climate change is a worsening factor in all hazards described below.

Jowhar is located in the Hirshabelle river floodplain, an area that is susceptible to **floods** in times of high water discharges from the adjacent rivers and bursting, poorly maintained irrigation channels.⁶ While the town itself is not located on the most flood prone area, torrential rains and floods turn Jowhar into an island accessible only by boat from Balcad, south, as recently as November 2020.⁷

The Shabelle river is the main source of water for daily use such as irrigation, food production and sustaining livestock herds. The absence of dependable water resource management institutions due to ongoing conflict has led to severe **degradation of water resources**.⁸ In addition to clashes between clans over access to water, there have been instances where Al-Shabaab has exercised control over access to water, blocking access to rivers, poisoning wells or destroying water infrastructure.⁹ Bad water quality causes water-borne diseases and triggers related health crisis.

Droughts are frequent and devastating, and the lack of water availability cause crop loss, livestock loss and affect human health. They are one of the most prevailing reasons for internal displacements of population and force the farmers to depend on humanitarian resources and other relief providers, including Al-Shabaab, for survival.¹⁰

The increasing number of dust storms and droughts, stronger winds, and notably hotter temperatures over the past four decades¹¹ make **locust plagues** hard to predict and control. For example, in late 2019, Cyclone Pawan and severe floods in the Horn of Africa created ideal conditions for desert locust breeding. Strong winds in 2020 helped to spread locusts across the region; in March/April and November/December, Somali farmers faced two infestations that led to the loss of approximately 20% of national crop yields. New infestations in 2021 are likely.¹²

Severe deforestation and **soil degradation** from poor agricultural practices, overgrazing of rangelands and climate change threaten not only the growth prospects but also the viability of Somalia's traditional nomadic pastoralism and rain-fed crop cultivation.¹³

These hazards affect on a regional scale bringing high impacts to vulnerable zones: Systematic crop loss, forced internal displacement due to lack of resources, and a destabilization of the basic means of survival.

climate change



floods

degradation of water quality



droughts

locust plagues



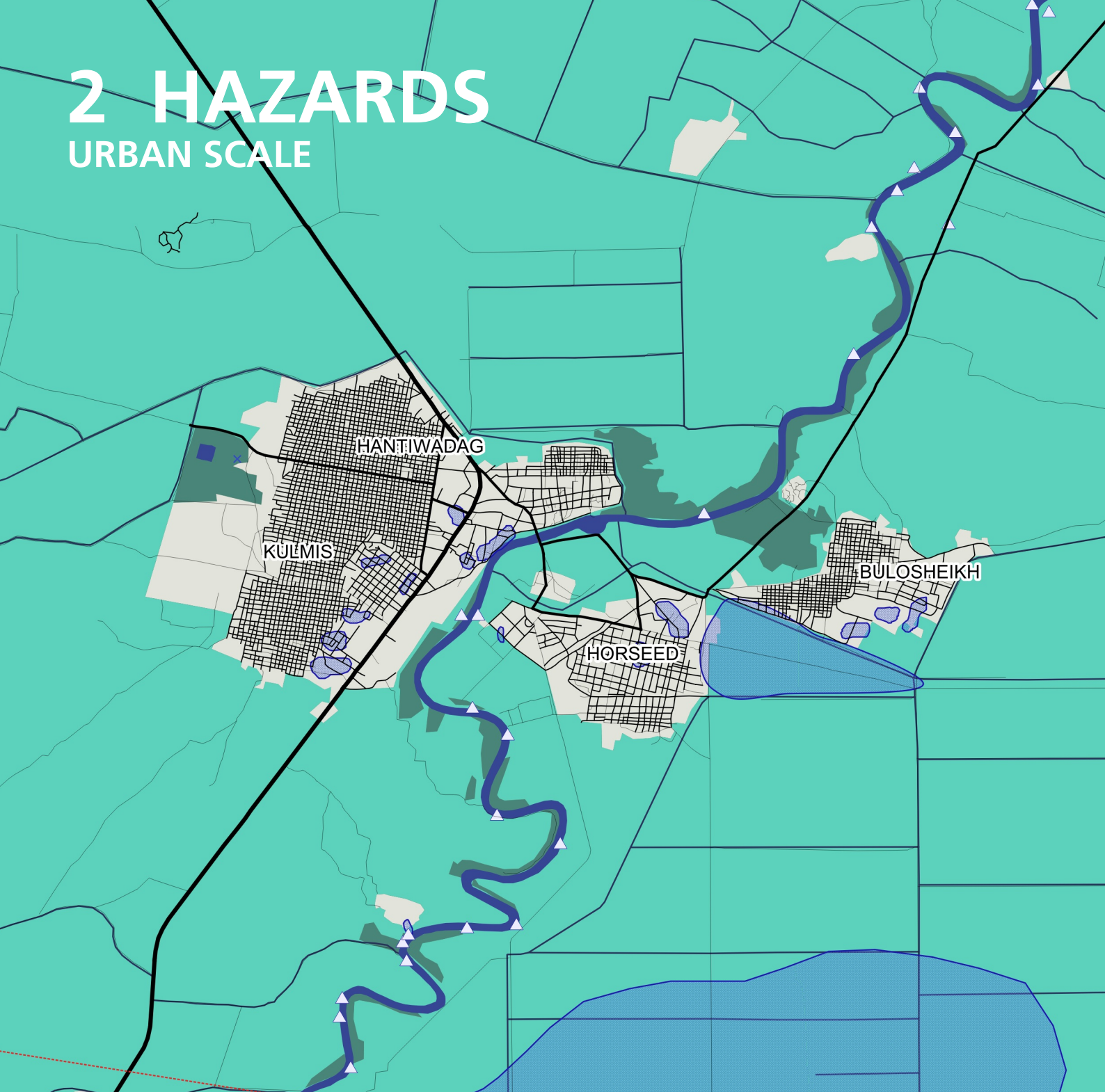
soil degradation

1 World Bank-FAO Future Climate Predictions, 2019 http://sdwebx.worldbank.org/climateportal/index.cfm?page=country_future_climate&ThisRegion=Africa&ThisCcode=SOM
2 National Adaptation Plan (NAP) Stocktaking Report, 2017
3 IPCC 2013; World Bank-FAO Future Climate Predictions, 2019
4 Carty, Oxfam: A Climate in Crisis: How climate change is making drought and humanitarian disaster worse in East Africa, 2017
5 Federal Republic of Somalia: Ministry of Natural Resources, Somalia National Adaptation Programme of Action to Climate Change, 2013. <http://unfccc.int/resource/docs/napa/som01.pdf>
6 European Environment Agency, Flood risks and environmental vulnerability, 2016
7 Puntland Post, November 2020 <https://puntlandpost.net/2020/11/17/jowhar-cut-off-by-flood-water/>

8 Houghton-Carr, H. A., Print, C. R., Fry, M. J., Gadain, H. & Muchiri, P. (2011). An assessment of the surface water resources of the Juba-Shabelle basin in southern Somalia. *Hydrological Sciences Journal* 56(5), 759-774. <https://doi.org/10.1080/02626667.2011.585470>
9 Strategic Foresight Group. (2019). Water and Violence: Somalia (Blue Peace Bulletin vol. 5/2019)
10 Middleton, Born, Nordqvist & Eklöv, 2018; UN (2018). UN Strategic Framework Somalia 2017-2020. <https://unsom.unmissions.org/un-strategic-framework-somalia-2017-2020-0>
11 Ministry of Natural Resources, 2013.
12 FAO. Desert Locust Crisis Somalia Action Plan. January-December 2020. (April update). https://fscluster.org/sites/default/files/documents/fao_somalia_action_plan_desert_locust_crisis_april_update.pdf
13 World Bank-FAO 2018, Somalia 2019

2 HAZARDS

URBAN SCALE



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https://www.yunbaogao.cn/report/index/report?reportId=5_17384

