Resilience in Urban Sudan (RUS): a Temporal Analysis of Social Cohesion and Resilience to Tackle the Consequences of Climate and Environmental Change in Urban Khartoum

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1. Purpose and Aims

The main purpose of this research is to contribute to scientific knowledge to tackle consequences of climate and environmental changes in urban areas of the Global South. The project will strengthen applied studies on urban sustainable development according to the Sustainable Development Goal 11, also known as the Urban SDG (USDG) (Kloppa & Petretta 2017). This project therefore aims to explore urban community resilience and the initiatives of social cohesion that are participatory and inclusive and help mitigate climate change and adapt to increasingly challenging conditions in urban areas. In order to face environmental threats, at the roots of growing inequalities, there is a scholarly need to better understand the proactive or reactive acts of resilience that urban communities develop themselves. Dealing with the Sustainable Development Goal 10 and 13, this project also highlights the ways communities in a specific urban neighbourhood contribute to enhance a sustainable climate action and strengthen efforts to reduce inequalities.

In order to study the effects of climate change and environmental issues in urban areas, the researcher will conduct a temporal analysis focused on the neighbourhood of Jabra in Greater Khartoum. The aim is to explore environmental challenges as well as the societal responses that are developed by the communities in Jabra through the use of combined historical methodologies.

One main research question will inform this study: *To what extent are memories of key environmental events present in specific groups and society at large, and how do these memories contribute to social cohesion and resilience?*

This temporal study is part of a broader interdisciplinary project that will involve collaboration between researchers in Sweden and Sudan and combine environmental sciences, humanities and social sciences, to fill up a gap in knowledge on how resilience and social cohesion is fostered – or not fostered – in the neighbourhood of Jabra in Greater Khartoum, as an excellent case study of an urban area under climatic duress. On the longer term, this project aims to contribute to urban sustainable development and planning through producing policy recommendations on how to increase and enhance social cohesion in fragmented neighbourhoods affected by increasing and repeated environmental challenges and migration influxes.

2. State of the Art

Sudan is currently witnessing rapid urbanization as a result of decades of protracted conflict which has displaced millions of people inside the country who have migrated to urban centres like Khartoum (Assal, 2008). Moreover, it is envisaged that the country will increasingly become severely affected by upcoming climate change with projections of rising temperatures by over 3 degrees celsius in 2060. Projections also indicate that in South Sudan, global warming will be felt 2,5 times more than the global average (UNDP, 2017). In addition to hotter climate, the country is also challenged by erratic rainfall, drought and extreme flooding events, dust storms, thunderstorms, and heat waves.

Climate change in Sudan has a diverse range of effects: (1) environmental (desertification, reduction of agricultural land, industrial pollution and deforestation), (2) social (immigration and migration), (3) political (mismanagement of existing resources like water) (UNEP 2007; Murillo *et al.*, 2008). These effects lead to pressure on natural resources as well as explosive situations (such as water and food insecurity, social discontent, conflicts, divided communities) posing serious threats to livelihoods and social cohesion, weakening resilience.

Khartoum specifically, as the largest urban center in Sudan, suffers from desertification. Already in the 1980s, research showed that rapid urbanization puts more pressure on the natural resources in the immediate hinterland, thus further accelerating the desertification process (Babiker and Omer, 2014). Greater Khartoum is densely populated and highly vulnerable, with 64% of the country's urban population residing in the area (Zakieldeen, 2009). Currently Greater Khartoum is "host" to a growing population of multi-ethnic Internally Displaced People (IDPs) from the Darfur and Kordofan provinces, migrants from South Sudan, Eritrea, Ethiopia and the latest arrivals of war refugees from Syria (Sudan Tribune 2016; Lyon & Salih 2016) fueling social tensions and fragmenting neighbourhoods (UNHabitat 2016).

The selected neighbourhood, Jabra, reflects above mentioned diversity and fragmentation. Jabra lies in the southern fringe part of Khartoum city (Ahmad 2002). The Jabra neighbourhood has been identified and selected for this study due to the many challenges it faces in terms of its social and cultural diversity. Most importantly, it offers an ideal micro-unit of analysis for the many challenges posed to Khartoum as a consequence of the latest processes of urbanization-migration and impacts of climate change. Studies on the Jabra neighbourhood are, to say the least, limited and primarily focused on public health (Abdalla and Ahmed 2017). Jabra evolved from a small rural settlement in the 1920s to a densely populated urban settlement as Khartoum rapidly grew itself. Growth occurred particularly in the 1960s, and it was in 1983 that the authorities decided to consider it a legal settlement (Hardoy and Satterthwaite 2014). As a residential area, Jabra is ethnically, religiously and culturally highly diverse and suffers from concentrated poverty, high unemployment rates, and recurring violence. The continuous inflow of refugees, IDPs and migrants exacerbated these conditions, as individuals and groups compete for access to limited urban services and resources. Thus, rising social tensions and decreasing social cohesion represent reality in Jabra and threaten the social cohesion, and in turn the sustainability and resilience towards climate change in the area.

Issues related to the impacts of climate change and environmental challenges with conflict in rural areas of Sudan have received much international scholarly attention (Butler 2007; Verhoeven 2011; Selby and Hoffman 2014, 2017). Amongst those publications, a report based on desk research and fieldwork conducted by the African Centre for the Constructive Resolution of Disputes (ACCORD), funded also by the Swedish International Development Cooperation Agency (SIDA), was published by Salomon Bronkhorst in 2011. These works are particularly useful to understand the close correlation between resource scarcity and conflict primarily in rural areas and to identify the roots of the massive displacement that caused a "pathological urbanization" (Assal 2008) in Khartoum. A broader perspective on the impact of climate change on Sudanese resources and economy is provided by Zakieldeen and Hanafi (2004, 2009, 2011). They conducted extensive research on vulnerability, adaptation and resilience to climate change of Sudanese communities. Their work provides a source of inspiration for the current project as they pays particular attention a) to the need of combining academic research with policy-making and development aid, and b) of prioritizing local people's needs and stakeholders' role in the formulation of effective policies.

These works provide a set of literary sources to understand the social impact of climate change in the country. However, a research gap is observed by the lack of comprehensive interdisciplinary studies on social cohesion, resilience, and migration especially in urban areas, combining Middle Eastern studies scholarship on the wider region with physical and social sciences as proposed in this applied research project.

Social cohesion, or the social relations, networks and bonds which tie individuals and groups together in a given context, has increasingly been promoted as an important tool for fostering peace, stability and socio-economic development in volatile societies (Brown and Zahar 2015; Cox and Sisk 2016). In fact, new international agendas for peacebuilding and development explicitly highlight the link between state fragility and social cohesion, and thus the need to strengthen social relations between individuals, groups and the state for long term peace, and development (OECD 2011; UNDP 2012).

International donors tend to measure social cohesion outcomes in terms of increases in associational life, decreases in community violence, greater trust in others, and attitudes towards the government (Langer *et al.* 2017; Browne 2013). However it is important to note that social cohesion is essentially an endogenous process and thus there is danger in applying a generalised, externally developed framework that does not capture the nuances of individual cases, when assessing social cohesion in a given locality. At this time, limited empirical data exists measuring the forms in which this complex concept takes on a micro-level in everyday life (Langer *et al.* 2017), especially in the context of urban Sudan. As a key yet complex concept in development studies, social cohesion is related to growth and conflict; a weak social cohesion affects economic growth, increases the risk of conflict and thus weakens resilience towards the impacts of climate change. Three dimensions of social cohesion are identified which will be measured in this study; the extent of perceived inequalities, the level of societal trust and the strength of people identification with a neighbourhood and national identities (Langer *et al.* 2017).

3. Project Description

This study is part of a broader interdisciplinary project that combines environmental sciences, humanities and social sciences, to fill in a gap in knowledge on how social cohesion is fostered – or not fostered – in the urban neighbourhood of Jabra with respect to enhancing resilience to climate change. The project intends to survey a demarcated geographical urban neighbourhood called Jabra, located in the southern fringe belt (zone 3) in Khartoum (Ahmad 2002), Sudan. Particular attention will be paid to the relationship between social cohesion, resilience, fragmentation and migration by exploring the way long-term settled, emigrants and new immigrants relate to each other and construct the reality of their neighbourhood.

4. Theory and method

4.1 Theory

The key concepts social cohesion and resilience will inform this study as it accepts the notion that community experience and knowledge about coping, recovering, and adapting to critical events is key to building resilience (Gero, Meheux & Dominey-Howes, 2010). This research critically engages with the definitions of social cohesion and resilience from the natural hazard perspective provided by Langer *et al.* (2017) and Cutter *et al.* (2008). For measuring the level of social cohesion in Jabra, this study will investigate inequalities, levels of trust and identities as crucial elements of the so-called Social Cohesion Triangle according to Langer *et al.* (2017). It will explore the ability and strategies of Sudanese society to respond to climate change where resilience is a product of inherent conditions that allow social systems to absorb impacts and cope with events, as well as facilitate post-event, adaptive processes that allow social systems to reorganize, change, and learn in response to imminent threats.

Beyond the sustainable livelihoods approach, commonly used in development studies (Casciarri *et al.* 2015), this project utilises Giddens's structuration theory in combination with De Certeau's theory of the production of space through everyday practices (1984) to analyse urban neighbourhood spaces and human activities. The significance of structuration theory for this project is its acknowledgement that behaviour and structure are intertwined, and its focus on human actions. When people perform activities, they also reproduce objects in space, something which Giddens calls "the duality of structure" (Giddens 1984). For Giddens structure is what gives form and shape to social life, but it is not itself that form and shape, structure only exists in and through the activities of human agents (Giddens 1989). In the context of this project, "the neighbourhood" represents a 'social system', as it is made up of relations, interactions, and bounded social practices that link person across time and space (Giddens 1984; De Certeau 1984). Through this theoretical perspective, the project will be also able to contribute to the enhancement of urban refugee livelihood policies by aid agencies and host governments.

This research uses an innovative historical approach to the study of urban areas, resilience and the impact of climate change. It concerns *the temporal analysis of resilience and social cohesion* in the Jabra neighbourhood and focuses on the role of memories and traditions in building proactive or reactive resilience and community action in response to envi-

ronmental challenges. This second study provides an analysis of how historical climatic events in Greater Khartoum are remembered with respect to the multiple social and cultural practices through which residents of Jabra have negotiated the space between their history and their memory. As a matter of fact, not only the physical conditions but also the mental cohesion and integrity with regards to how environmental challenges are perceived and should be faced, is indeed of great significance in sustainable urban development. In a neighbourhood with such a degree of diversity, cultural performances are the common denominator for anchoring the past in collective experiences of specific groups. Social memory and historical traditions, and thus social cohesion and resilience, can be mobilized in order to link past experiences with present (and future) strategies and initiatives to face climate change. Significant values of cultural heritage and social memory are linked to the ways communities react to recover from change and related climatic hazards, that is to say the strategies and initiatives on which they build their proactive or reactive resilience to face these issues.

Hence this study reflects a performative turn in scholarship that embraces Greg Dening's reconceptualization of history. History here is regarded not only as a text to be read but rather as a performance that is created today (Dening 1996). History is therefore treated an act of constant transformation, and, "so far from being merely a passive receptacle or storage system, an image blank of the past, is rather an active, shaping force" (Samuel 1994), thus suggesting that everyday practices are 'performed' (Schechner 2006). History, heritage, traditions and memories contribute to social cohesion and sustainable development that in turn strengthen acts of proactive and reactive resilience. One of the implications of this reorientation is a reconceptualization of history that provides a new tool to measure and better understand the social cohesion of a culturally diverse space through the study of performances that inform belonging and identity. However, this performative turn suggests a significant degree of convergence in the work of historians and anthro-pologists, which explains the interdisciplinarity of this project.

4.2 Methods

A randomised sample of maximum 20 respondents for the research, will be based on two identified groups in the Jabra neighbourhood; residents and newcomers in particular Syrian refugees. Many Syrians are fleeing the war in their country to Sudan as a top destination, in particular Khartoum, because Syrians are allowed to enter without a visa and then enjoy the same rights and services, access to state education and healthcare as local Sudanese, once settled. In Sudan, the Syrian community has grown to 100 000 according to Sudan's Commission of Refugees, while other estimates place that number at 250 000 (Al Majdoub 2017).

The methodology of this research project is qualitative. The primary goal of qualitative research is to interpret and document an entire phenomenon from an individual's viewpoint or frame of reference (Denzin and Lincoln 2018; MacDonald 2012). The expertise of an historian with a background in political science will ensure the successful use of the historical methods applied to everyday life. Dealing with traditional archival research, research methodologies will also focus on semi-structured face-to-face interviews with open ended questions as well as oral history and biographical and life narrative interviews with local residents and migrants. In addition, ethnographic observation of the local rhythms and pat-

terns of everyday life will also be conducted to reflect the diversity of communities' initiatives and the heterogeneity of these practices that aim to face the climate change. Diary methods will also be used in this project in order to collect qualitative data about user behaviours, activities and experiences over time. Study participants will be asked to keep a diary and document specific information about their (past and current) daily resilience activities. Such a method will be useful for mapping and understanding long-term strategies of resilience that to deal with environmental issues such as residents and migrants' habits, attitudes, motivations, everyday practices, discourses and perceptions.

5. Significance and Scientific Novelty

The urgency to mitigate and adapt to climate change in Sudan is very high. While the Sudanese national adaptation plans for climate change, as well as the existing scholarship, are primarily focused on rural communities, this project prioritizes urban areas. This study is particularly designed to enhance policy-formulation and implementation of climate action in urban areas. Social cohesion and resilience are main foci for the study. What this project adds is the way in which social cohesion as a concept actually works *in practice* to foster social trust, reduce inequality and bridge social groups on an everyday-level in highly divided, fragile communities in developing-country contexts (Langer *et al.* 2017; Chan *et al.* 2006; Stewart 2010; Browne 2013; Kaplan 2008).

To disentangle the complexities of social cohesion and resilience in relation to climate change, this research will complement the expertise and methodologies of three additional scholars: an environmental scientist, a human geographer and anthropologist, and a migration expert, all experienced with fieldwork in the MENA region. The research team will be able to provide analyses of social cohesion in a temporal sense (community resilience through traditions and memories) and a spatial sense (community resilience through the use of public space). The investigation will therefore utilize an innovative mixed methods approach to data collection as well as analysis triangulation to develop robust and unique insights into the study of social cohesion in the neighbourhood under examination.

5.1 Project organization

This research will last for three years and will be hosted at the *Malmö University School of Arts and Communication (K3)*, which has been at the forefront of exploring interdisciplinarity in both theory and practice. Key to this research is the collaboration and interdisciplinary exchange with a team composed of three distinct partners: Joshka Wessels, Senior lecturer, anthropologist and human geographer at the *Malmö University School of Arts and Communication (K3)*; Sumaya Zakieldeen, Professor of Environmental Sciences at *The Institute of Environmental Studies (IES) at Khartoum University*; Fanny Christou, Postdoctoral fellow and migration expert at the *Lund University Center for Sustainability Studies* (LUCSUS).

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