

Precarious technoscapes: forced mobility and mobile connections at the urban margins

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Abstract: Displaced people settling at the margins of Somali cities live in conditions of extreme precarity. They are also active users of information and communications technology (ICTs), employing mobile phones to maintain social networks, obtain information, navigate urban space and labour markets, transfer and store money, and receive aid. This article explores mobile connectivity from the perspective of displaced people, analysing how they experience mobile phones, and the connections they enable in the context of conflict and urban reconstruction in Somalia. The findings caution against techno-optimist developmental discourses, and provide a nuanced picture of the benefits, constraints, challenges and risks entailed in the engagement of marginalised urban populations with ICTs. Although providing various beneficial affordances, increased mobile connectivity does not by itself diminish inequalities. ICTs can reinforce power differentials between urban labourers and employers, become instruments of exploitation, and increase the distance between receivers of aid and the transnational regimes that govern precarity in Somali cities.

Keywords: Mobile phones, mobile money, ICT4D, precarity, displacement, migration, urbanisation, Somalia, Africa.

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Introduction

Urbanisation in Somalia is closely related to displacement and migration.¹ Violent conflicts and periodic ecological shocks displace people who often move to cities. There they either settle in makeshift dwellings in ruined buildings, build shacks on unused inner-city spaces or set up tents in sprawling camps that ring the outskirts of urban centres. While moving and settling, displaced people learn to navigate the uncertainties and insecurities of unfamiliar urban environments, mobilise new and existing social relations, engage with humanitarian organisations, and look for means to survive within urban labour markets. Their acute precarity is reflected and compounded in their meagre possessions and basic shelter: corrugated steel huts, or tents constructed from sticks, tarpaulin, discarded cloth or tin cans. In the new urban settlements, people often go without adequate food and lack sufficient access to healthcare or education. Basic mobile phones, however, are widely used by people in precarious settlements—in Somalia and across the wider continent—and constitute an increasingly ubiquitous information and communications technology (ICT) integral to their sense-making, security and survival.

Mobile connectivity has become a prominent feature of social and economic life in Somali cities. The Somali telecommunications sector has been one of the most expansive industries post-1991, a period characterised by state collapse, conflict, foreign military intervention, and externally backed counterinsurgency and state-building efforts. In this article, we ask how displaced people use mobile phones and how engagement with ICT infrastructure shapes their everyday life in the urban environment. Improving ICT access for marginalised mobile populations is an often-stated goal of international development actors, and is frequently associated with narratives of ‘empowerment’ (Hatayama 2018; World Bank 2016). In the wake of the so-called ‘European Refugee Crisis’ of 2015–2016, the figure of the ‘connected migrant’ (Diminescu 2008) has risen in prominence. Accounts of digitally mediated mobility have highlighted the practical value of ICTs as they expand networking abilities of mobile populations, increasing access to information and other resources that facilitate movement (UNHCR 2016). Increasingly, however, critical interventions are challenging this tech-optimism, highlighting individualised harms and burdens of connectivity (Awad & Tossell 2019), the techno-colonial power inequalities built into

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‘digital innovation for development’ discourse and practice (Madianou 2019), and the implication of ICTs in ‘post-humanitarian’ strategies for reproducing and governing an expanding global precariat (Duffield 2018).

Academic literature on migrants’ use of ICTs tends to focus on refugees *en route* to the Global North. Although studies of the impacts of ICTs for marginal populations in the Global South are increasing, research on the use of phones by forced migrants on the African continent is limited. This article’s empirical material was generated in a research project that explored links between urbanisation and displacement² from the perspectives of displaced people in three cities in Somalia: Baidoa, Bosaaso and Mogadishu.³ It draws from 79 narrative interviews—conducted by researchers from Somalia and the authors between 2017 and 2018—with residents of multiple urban settlements in which predominantly displaced people reside. Thirteen semi-structured interviews were also held in those cities with so-called ‘gatekeepers’, host communities, humanitarian workers and local government officials. Additionally, the researchers used ‘photovoice’, equipping 30 people, ten in each city, with camera-phones to document their everyday lives.⁴ Photos used in this article were taken by these research participants. Drawing on research findings on migration to Europe, the interviews included questions on access to mobile phones and ICT infrastructure during displacement and resettlement. The interviewees confirmed widespread use and highlighted the everyday



Figure 1. A female resident of a displaced people’s camp in Mogadishu holds her baby and phone. Photo by Mano (July 2018).

² <https://securityonthemove.co.uk/>

³ Displaced people make up a significant proportion of the populations of these cities. The project also conducted research in Hargeisa, capital of the *de facto* independent but internationally unrecognised Republic of Somaliland (Stuvøy *et al.* 2021).

⁴ The photographic materials and testimonies were used in exhibitions aimed at stimulating dialogue between local policymakers and people living at the urban margins. An online version of the exhibition is available at: <https://securityonthemove.co.uk/photo-exhibition/>. Pseudonyms are used for interviewees; photographers are mentioned by their first name.

affordances of mobile phones for maintaining social networks within cities, and with rural places of origin. Mobile phones also enabled payments for work and facilitated engagement with humanitarian actors using mobile money systems for cash aid.

Drawing from Appadurai, we use the concept of ‘technoscapes’ to emphasise the ‘global configuration ... of technology’ that ‘moves at high speeds across various kinds of previously impervious boundaries’ (1990: 34). Appadurai’s emphasis on mobility, flows and ‘scapes’ aims at overcoming the often static and spatially bounded conceptualisation of the social. Instead, he highlights how multiple, multidirectional and chaotic flows crisscross the globe, creating overlaps and intersections that shape contemporary global culture. To underscore his argument, Appadurai tends to contrast flows with (spatial) fixities and implicitly dissolves the dialectic tension between mobility and geographic spatiality that other researchers have identified as constitutive of socio-spatial formations (Thrift 2006). His emphasis on flows, therefore, runs the risk of overlooking how multiple mobilities are embedded in—and simultaneously shape—a variety of locally specific social relations and materialise unequally in socio-spatial formations and landscapes across the globe (Heyman & Campbell 2009). We build on Appadurai’s notion of technoscapes, emphasising the planetary expansion of digital technologies. However, beyond the notion of unfettered movement, our focus on the everyday lives of people at urban margins shows how flows are staggered and interrupted as they are embedded in improvised and cobbled-together materials that constitute the precarious fringes of global technoscapes. Precarity here identifies politically-induced conditions of existential and normalised uncertainty and insecurity for certain populations (Butler 2009: ii). People undertake continuous improvisation, making their living through assembling left-over materials and social fragments, and mitigating infrastructural gaps and technological deficiencies with their bodies and labour (Simone 2018; McFarlane 2018). Our articulation of precarious technoscapes enables us to identify how marginalised urban populations engage with and understand ICTs, without detaching these local, specific uses of technology—and the particular socio-spatial relations in which they take place—from the wider flows that enable and shape them. It is through this everyday lens that transnational flows and the multi-scalar entanglement of people living at the margins of Somali cities become visible.

Elsewhere, we have identified entanglements of locally distinctive and globally travelling practices governing displaced populations and have discussed people’s agency to comply with or resist these modalities of government. The role of international humanitarian regimes and (diasporic) capital investment makes the reconstruction of (post) conflict Somali cities and the commodification and regulation of property relations inherently transnational (Bakonyi *et al.* 2019; Bakonyi 2021). In this article, we use the example of mobile phones, as individual devices and related infrastructure, as a further example of (global) interconnectedness. Urban ICTs play a distinctive role in forging multiple connections: between displaced people, the Somali diaspora, urban investors

and employers, international telecommunications companies, humanitarian agencies, and national and international policymakers. We examine how people who live in acute precarity make use of mobile phones and engage with these networks. Exploring multiple and diverse encounters through the lens of ICT infrastructure and its usage demonstrates how these particulars are embedded in wider networks and flows. This is more illuminating of conditions and practices of urban precarity than focusing simply on the ‘effects’ of technologies *on* particular groups (Brinkman *et al.* 2017).

The article proceeds with a review of literature on the relations between connectivity and (forced) mobility. We point to the paucity of empirical engagement on these questions *within* cities in the Global South and discuss growing scepticism about the ‘empowering’ potential of connectivity. This is followed by an introduction of the dynamics of displacement and (post)conflict urbanisation in Somalia. Here we also discuss the emergence of telecommunication companies as powerful actors within the conditions of a (formally) unregulated economy. We then discuss how connectivity is experienced by people with limited literacy, but who are compelled to engage with mobile systems. We examine how people imagined the affordances of technology (Nagy & Neff 2015), the things they felt that they could do with mobiles to address their conditions of insecurity caused by displacement. However, their accounts also brought to light various risks or insecurities associated with the social and economic relations mediated through mobile connections. We focus on relations between employers and a displaced workforce, and how mobile phone/money use reflects and reinforces spatial urban divides, power imbalances, and differing levels of digital capability. We also highlight risks associated with digital humanitarian engagement, data collection and connectivity into extortive global migration networks. Mobile infrastructure is embedded in the social fabric of urban life and implicated in the political economies of displacement, aid and labour that underpin the (post)conflict reconstruction of Somali cities. A comprehensive account of these interconnections is required for any assessment of the extent to which the lives of people at the margins are improved by ICT access.

Mobile phones and mobile people: displacement, empowerment and precarity

The acceleration of migration flows through Mediterranean routes around 2015 prompted significant research interest in the role of phones and mobile internet access for people making perilous journeys into ‘fortress Europe’. A burgeoning literature explores how mobile connectivity helps migrants access practical journey-relevant information, navigate border regimes, access or avoid human trafficking/smuggling networks, connect with humanitarian actors, and obtain digital resources on arrival

that may foster social integration (Borkert *et al.* 2018; Dekker & Engbersen 2014; Frouws *et al.* 2016; Gillespie *et al.* 2018). This builds on earlier research on phones as the ‘social glue’ of migrant transnationalism (Vertovec 2004) and the emergence of ‘digital diasporas’ in the internet age (Brinkerhoff 2009). ICTs have long contributed to the deepening and broadening of transnational social networks and influenced further migration (Charmarkeh 2013; Diminescu 2008; Horst, C. 2006; Hiller & Franz 2004; Komito 2011; Lindley 2009b; Madianou 2016; Oiarzabal & Reips 2012; Schaub 2012). Studies in these fields have focused mainly on international migration and journeys to Europe, while migration within the Global South has gained less attention. Research on displaced peoples’ ICT use in African contexts is limited, although recent studies on camps in Kenya and Uganda have shown significant smartphone use and a higher than the national average smartphone ownership (Hounsell & Owuor 2018).

Recent studies have critiqued utilitarian interpretations that emphasise the transformative or empowering aspects of ICT access. Awad & Tossell (2019) detail the emotional strain that post-arrival migrants face in their use of social media to maintain connections with a conflict-affected homeland. Connectivity builds expectations among family members that arrivals in Europe will always be ‘on-call’ to fulfil long-distance obligations. Digital connections can also enable mobility-linked extortion and studies have highlighted how phones, digital images and videos are used by groups who detain and torture migrants in transit countries for ransom payments from distant family members (Van Esseveld 2019; MacGregor 2019). This is a phenomenon we discuss below.

Studies of phone use by people moving within countries of the Global South have asked whether increased connectivity accelerates rural-to-urban migration (Muto 2012; Onitsuka & Hidayat 2019). Given the multiplicity of factors that drive migration to cities, differentiation of causes and effects of urban in-migration is difficult. Migration may be driven by economic growth and employment ‘pull’ factors, which can themselves contribute to greater ICT diffusion and expand markets for migrant connectivity (Cartier *et al.* 2005; Hübler 2016). Ethnographic research on mobile phone use and mobility within the Global South has emphasised the impacts of ICTs on social networks and their contribution to the continued entanglement of rural and urban economies and livelihood-related movements. Steel *et al.* (2017: 148) describe how ICT use in Cameroon, Rwanda and Sudan ‘facilitated new connections and decreased the physical and psychological distance between the city and the countryside’. They situate this within historical continuities of mobility, identified as a crucial element of the livelihoods across multiple African contexts (Steel *et al.* 2017: 153; De Bruijn *et al.* 2010).

Nonetheless, communication practices of migrants moving to and within cities have received little attention. Very few studies engage with the use of ICTs by internally displaced populations and those living in conditions of acute ecological,

economic or social precarity. [Boas \(2020\)](#) looks at the online social networking of people displaced by climate change-related environmental shocks in Bangladesh, and emphasises the complexity and multi-directionality of movement. Here, mobile phones enable migrants to maintain extended and dispersed social ties, which can be leveraged when necessary. [Boas \(2020: 1330\)](#) argues that phones allowed for the coordinated utilisation of geographically expanded networks, improved mobility decision making and reduced risks. Phone/online access allows micro-coordination of movements during emergencies, makes information available and thus supports displaced people's decision making.

Considering mobilities related to everyday livelihoods, research in the 'ICT for development' (ICT4D) field has explored gender dynamics and potentials for women's empowerment through improved access to mobile communications. Studies highlight how devices ease access to market-relevant information or increase entrepreneurial capacity ([Komunte 2015](#); [Kusimba et al. 2015](#); [Suri & Jack 2016](#)). However, scepticism about the liberating promises of technology grows. Research has shown, for example, how cultural and economic factors can reinforce patriarchal power in the ways phones are accessed and used ([Wallis 2011](#)). ICTs may facilitate long-distance links vital for accessing opportunities, such as those described in [Dahya & Dryden-Peterson's \(2017\)](#) study of Somali refugees' use of virtual support networks to (potentially) access higher education. However, as they and others note, mobile connectivity does not automatically transform or transcend social structures, and ICTs are more often used in ways that support existing structural and agentic constraints on gender equality, reinforce existing social power dynamics and strengthen patriarchal familial bonds ([Hahn & Kibora 2008](#); [Horst, H.A. 2006](#)). [Porter et al. \(2020\)](#) provide a comparative account of relationships between young women's phone ownership and usage, their relative empowerment, and chronic poverty in Ghana, Malawi and South Africa. Women's use of phones is often embedded in new forms of surveillance and control by male family members and partners. Phones can increase the threat of sexual harassment by powerful others, which can negatively impact educational and entrepreneurial strategies. While the authors acknowledge that 'many women now perceive the phone as an essential tool for promoting work opportunities', they also emphasise the lack of evidence that phone use has had a positive impact or removed restrictions in contexts of 'intense competition for jobs and business opportunities among women with few skills and little capital' ([Porter et al. 2020: 188](#)).

Recognition of patriarchal and economic constraints to technologically mediated empowerment has not dampened international humanitarian and development organisations' enthusiasm for ICT-orientated interventions, and programming often engages narratives around the entrepreneurial capacity of impoverished populations. Projects frequently attempt to leverage potential benefits to livelihoods and education opportunities that ICTs can provide ([Hatayama, 2018](#)) and feed into currently

dominant ‘resilience’ discourses (Chandler 2014). The neoliberal underpinnings of such programming have been widely critiqued, partly because the promotion of self-reliance and self-care shifts welfare responsibilities onto refugees themselves (Skran & Easton-Calabria 2020). For Duffield (2018: 142), the emphasis on innovative and design-based responses to poverty forms part of a global ‘post-humanitarian’ shift away from structural social transformations to the acceptance of an inequitable global *status quo*. This acceptance is enacted through ‘disaggregated biopolitical technologies’, including the use of mobile telephony, a platformised ‘gig economy’, and the digital facilitation of humanitarian management from a distance.

These research contexts and questions are relevant to our discussion of mobile phone use, displacement and urbanisation in Somalia, a country historically characterised by high levels of mobility and extensive, often securitised (and militarised) humanitarian engagement. A large part of the Somali population is directly or indirectly dependent on nomadic pastoralism or agro-pastoralism, and climate-induced migration increasingly intersects with waves of mass displacement that accompany recurrent conflict. Mobility is multidirectional. People on the move build on wide social networks and mobilise complex social relations that stretch across kin groups and urban and rural locations. Acknowledgement of the multi-directionality, multiplicity and complexity of migration is a starting point for analysis of precarious technoscapes. We focus here on the role of ICTs in establishing, maintaining or changing these networks, and how they are activated and used when needed. Studies on mobile phone connectivity within dynamics of displacement, (re-)settlement and urbanisation in Somalia or the wider Horn of Africa are lacking, and we know little about the way ICTs affect living conditions in sprawling camp-like settlements that exist within and around many cities. How do displaced people use mobile phones? Do phones shape how they navigate the new urban environment, establish settlements or look for new livelihoods? How are survival strategies involving mobile phones gendered? Before turning to accounts from displaced people that begin to answer these questions, we provide in the next section a brief background to the recurrent conflict and ongoing urban reconstruction in Somalia, and outline the rise and role of the modern telecommunications sector.

Displacement, urban (re)construction and connectivity in Somalia

The cities of Mogadishu, Baidoa and Bosaaso have each been affected in different ways by violent conflicts and corresponding phases of destruction, displacement, resettlement and (re)construction. Somalia’s central government collapsed in 1991. The clan-based factions that ousted the longstanding military regime failed to form a new government, fragmenting in subsequent phases of violence that increasingly

came to be organised along clan lines (Kapteijns 2012). Consequently, many people migrated from previously more diverse cities to territories dominated by their clan (Hoehne 2016). Physical institutions and symbols of the state were destroyed in Mogadishu, along with much of the city's wider infrastructure. Militias fought over southern regions, grabbing valuable agricultural land and humanitarian supplies flowing into the country. The violence accelerated the effects of drought and initiated a famine, within which the agriculturally productive Bay region and its main city Baidoa became an epicentre (de Waal 1997: 164–8). Bosaaso, a port city on the north-eastern Somali coast, was largely spared from violence and became an attractive destination for people violently displaced from elsewhere, including officials and businesspeople linked with the former regime, as well as southern 'minority' clan/ethnic groups (Marchal 2010).

By the mid-1990s, and following the withdrawal of the failed UN humanitarian intervention (1992–95), mass violence subsided. Unable to re-establish a central government, clan-based militias divided Somalia into a patchwork of fiefdoms (Bakonyi 2013). Some governance experiments became lasting political projects—such as the north-eastern autonomous Puntland State, with Bosaaso as its commercial centre. In the early 2000s, a Union of Islamic Courts formed in the southern regions as a relatively broad-based and popularly-supported authority (Ahmad 2015; Barnes & Hassan 2007). Neighbouring Ethiopia (backed by the US) understood the Courts as a security threat and invaded the country in 2006. The Courts were overthrown, but Al Shabaab emerged from their ruins. The group consolidated its power across the southern regions, including Mogadishu and Baidoa, until the African Union Mission for Somalia (AMISOM) helped the Transitional Federal Government oust it from the capital in 2011. This fighting caused mass displacement out of Mogadishu. However, Al Shabaab's withdrawal from the capital coincided with a severe famine which, during 2011, precipitated a new influx of people into Mogadishu and Baidoa. These cities promised access to humanitarian aid with the presence of AMISOM and other international actors. Despite losing direct control of most of its former urban strongholds since 2011, Al Shabaab maintains its insurgency in rural areas and regularly launches attacks in the Somali capital. Nonetheless, the absence of large-scale urban violence has initiated investments in business and real estate, often driven by the diaspora. Displaced people play a role in urban reconstruction as they provide a large pool of cheap labour. They often clear and prepare land for settlements, which can increase its value. Owners may then return and evict displaced people to sell or commercially develop these plots (Bakonyi *et al.* 2019: 88).

In the context of statelessness, and despite recurrent phases of violence, a vibrant and expanding telecommunications market has evolved in Somalia. Throughout the 1990s, multiple mobile phone and internet providers imported telecommunication infrastructures and established their services across the fragmented political space

(Collins 2009; Feldman 2007; Nurhussein 2008). High competition drove down air-time costs while coping with a largely unregulated and (concerning business transactions and property rights) formally unprotected environment,⁵ required innovation from providers.

This could be seen, for instance, in the development of SMS-based mobile money systems that are now prevalent across the Somali territories. Telesom, the leading mobile provider in Somaliland, launched its Zaad mobile money service in 2009 (Iazzolino 2015). This was emulated by telecommunication companies in southern Somalia and Puntland. Cash can be deposited into users' mobile accounts and the input of SMS-based codes on even basic phones—indicating the desired function, amount, the phone number of recipient and a security PIN—enables the transfer of balances. SMS notifications inform users that money has been sent or received, and provide account balances. The systems effectively operate as saving accounts and are used to send and receive money. Like Safaricom's renowned MPesa system in Kenya, Somali SMS mobile money systems do not require mobile internet, but unlike MPesa, they have hitherto not charged transfer fees. In Somalia, mobile money is calculated in US Dollars, as the devalued local currency is not easily transportable across the fragmented territories and printed banknotes have diminished (Figure 2).⁶ These factors, alongside the proliferation of cheap mobile handsets, have led to the widespread uptake of mobile money. As the accounts below demonstrate, people use mobile money services for their everyday shopping, receipt of wages and humanitarian support, and money transfers within social networks. Even beggars often hold signs with their mobile numbers as passers-by aren't likely to have small (physical) cash.

Telecommunications companies play a central economic role throughout Somalia and have emerged as powerful business actors. These companies overlap with the foreign remittance industry and nascent formal banking sector, and hold investment portfolios in agricultural land, food production and trade. Emblematic of their status in narratives of economic growth, their physical corporate headquarters are rising in size and visibility on the skyline of cities such as Mogadishu. Hormuud is the dominant telecom provider in southern Somalia—with Golis and Telesom leading in the Puntland and Somaliland markets, respectively. These companies emerged

⁵ Properties are not entirely unprotected in Somalia. Multiple property and user rights are embedded in informal regulations and customary laws that are, however, constantly negotiated and often also violently contested. They are also not uniformly applied and change in accordance with the groups able to exert dominance.

⁶ In spite of the collapse of the state, and with it the national bank, the Somali Shilling (SoSh) continued to be used, alongside US Dollars for larger transactions. Over the years, several politico-military leaders printed new banknotes, initiating severe inflation of the SoSh (Luther 2012). In recent years, the printing of 'forged' banknotes has ceased and the availability of SoSh has significantly reduced.



Figure 2. Children in a resettlement area for displaced people in Bosaaso play with ‘worthless’ paper currency printed by a previous administration. Photo by Nurow (July 2018).

around 2002 and grew out of earlier infrastructure developed by the Al Barakaat remittance company (Hagmann & Stepputat 2016: 10; Lochery 2015; Marchal 2002). Al Barakaat operated until 2001 when its funds were frozen by the US following accusations of links to terrorist financing (Lindley 2009a: 529). Today, Hormuud offers a wide range of services and is a provider of some of the lowest-cost mobile internet data in the world. In this context, mobile telephony provides a nearly ideal-typical example of the global flows that Appadurai’s concept of technoscapes emphasises. Although internet access via smartphones is beyond the reach of the majority of people living at the margins of cities, basic mobile phones and mobile money were used by all interviewees. Only four interviewees, all of them elderly, did not possess a phone. However, they still used the devices of relatives or neighbours to communicate or receive money. Some interviewees reported that they had not had a phone for some time because it was broken, had been stolen or they had to sell it. They usually tried to replace it as soon as possible.

Hormuud has become a leading actor in the political economy of Somalia. The expansion of mobile telephony has precipitated a shift by humanitarian actors towards mobile money cash assistance, further expanding mobile phone use by displaced people. [Jaspars *et al.* \(2019\)](#) outline the wide-ranging impacts of this development, not only at the micro level of vulnerable populations' access to aid but also concerning the broader entanglements of humanitarian assistance, business and conflict. Major international aid organisations give out SIM cards or phones to displaced people and these are used at registered retailers to buy essential items, often alongside biometric ID and e-voucher systems. This requires large-scale close cooperation between humanitarian actors and telecom companies. Around 90 per cent of cash aid transfers in Somalia flow through Hormuud, which takes fees from humanitarian mobile transfers and supplies equipment for aid organisations ([Jaspars *et al.* 2019: 18](#)). The company arguably wields more power than the Somali Federal Government. It invests heavily in food imports and rural land for export-orientated agriculture, contributing to a decline in local food production, rising rural land prices and subsequent displacements of farming populations, particularly from weaker or so-called minority clans ([Jaspars *et al.* 2019: 25, 44](#)). This occurs in rural hinterlands still affected by Al Shabaab's influence and militancy, itself playing a role in driving forced displacement. [Jaspars *et al.* \(2019: 34\)](#) point out corruption in the cash aid system and the lack of attention paid by humanitarian actors to the wider political economy of assistance. At the micro level, displaced people often make payments to gatekeepers involved in the creation and management of their settlements. While gatekeepers provide support to new arrivals, they also extract a share of aid when camps become big enough to attract the attention of humanitarian organisations ([Bakonyi 2021](#)). We return to these practices below.

The fact that telecommunications companies have become key players in the complex political economy of humanitarianism illustrates how the impact of ICT diffusion cannot be conceptualised solely through a micro-level focus on individual device use. Similarly, [Brinkman *et al.* \(2017\)](#) analyse South Sudan's mobile phone industry and infrastructure, emphasising the embeddedness of the sector in the political economy of mobility, displacement and speculation around emerging ICT markets. Nonetheless, micro-level data on the ICT use of the urban poor is lacking. Addressing this, the following section shows how mobile phone-use conditions urban mobilities and precarious livelihoods at the margins of rapidly growing Somali cities. It also connects people—in ambiguous ways—to the transnational humanitarian and commercial networks that underpin their contemporary reconstruction. Here, mobile telephony, in spite of its ability to collapse spatial and temporal distances, contributes to the establishment of socio-spatial and infrastructural formations located at the precarious edges of both growing cities and global technoscapes.

Navigating precarity in Somali cities: mobile affordances

Most of the people interviewed during the research had been displaced from rural areas. Some had moved only a few months prior to interview; others had been displaced in earlier periods of violence and had lived in the cities for nearly two decades. All lived in settlements that were, in popular parlance, referred to as camps or neighbourhoods of ‘the displaced’ (*barakacayaasha*).⁷ People frequently described a combination of different factors causing their displacement, including armed conflict, ecological shocks such as droughts or floods, or high levels of taxation by Al Shabaab. Many referred to the loss of their livelihoods and poor economic prospects in rural areas. Distinctions between ‘forced’ internal displacement and ‘economic’ rural–urban migration, or between people who cross state borders (refugees, returnees) and those who move within the same country, can obscure the social complexity of displacement and urbanisation in a region where state boundaries are regularly crossed by nomadic pastoralists, traders and displaced people. People categorised as refugees, returnees or internally displaced people by international organisations often lived side-by-side with other poor urban dwellers, who could not afford rising rent prices in the rapidly growing cities. This section analyses how interviewees who were residing in settlements associated with displacement (camps) used mobile phones in the course their displacement, and perceived and experienced mobile connectivity in the context of precarity. Despite living in conditions of acute poverty, a large majority of interviewees reported owning a basic mobile phone, often a Techno or Nokia model, and had experience using mobile money. Many people had not purchased their phone but received the device from a family member, a humanitarian organisation or an employer. As in other African contexts, mobile sharing is common in families and among neighbours, so even when ownership is lacking this does not necessarily mean absence of use (Hahn & Kibora 2008).

The importance of mobile telephony is reflected in the morphology of urban camps. Signboards with mobile telephone numbers are spread throughout clusters of camps at the cities’ outskirts, as well as in camps located in the inner city. The signboards (Figure 3) display the telephone numbers of camp leaders (so-called gatekeepers) who organise and manage these settlements. Gatekeepers in Mogadishu often hailed from clan families of people who own the land on which displaced people settle. A large proportion of displaced people come from either Rahanweyn (Digil & Mirifle) clans or belong to other, often racialised, minority groups such as the so called ‘Jareer’/‘Somali Bantu’ (Kusow & Eno 2015). They therefore need a broker to negotiate settlement with landowners and ensure the protection of the camp through that clan.

⁷ Status designations are often territorialised (Wacquant *et al.* 2014). The status of displaced people in cities in Somalia is linked with both the place of settlement and the clan affiliation of the settler (Bakonyi & Chonka *forthcoming*).



Figure 3. Baidoa camp sign. Photo by Ahmed (July 2018).

Interviewees also explained how they use the phone to inform incoming relatives and friends about places to settle. People who had decided to move to the urban camps had often communicated before with relatives and neighbours who had already made the journey. These contacts helped them find a place where they could obtain the necessary support until they learned how to navigate the city. Most displaced people try to find camps where aid is available or expected. Many interviewees outlined how mobile phones enabled them to stay in contact with family members who remained in rural areas. People spoke frequently with their relatives to receive updates on their wellbeing and ‘the family situation’ (Gedi, Baidoa, 3 January 2018). They received political and security updates, or ‘whether they received rain or not’ (Olad, Baidoa, 3 January 2018). Several interviewees appreciated how the phone removed the

need for them to travel back to the rural areas for information. Ikran compared a lack of access to a phone to being ‘like a deaf person’ (Bosasso, 23 December 2017). Aliya, a 30-year-old woman who had lived in Mogadishu for 7 years after leaving the south-western Bakool region, explained the difference between the present and displacement in an earlier period when fewer people had mobile phones. In an earlier experience of displacement, she lost contact with the aunt who had raised her and could only obtain second-hand information about her wellbeing:

There were no mobile phones at that time. So she [aunt] did not know whether I was alive then. I met her a few years back when I had already become a [older] woman. [In the meantime] I have been working for families for free, in return for living with them. [At that time] I met with people who fled from that place and they told me about my aunt. (9 January 2018)

Shamsa, who fled to Mogadishu in 2014—after a drought hit her region and Al Shabaab blocked humanitarian aid—explained the challenges of being unable to communicate with loved ones:

[When I fled] I couldn't communicate with anyone because I did not have a mobile phone with me, you understand? And I did not have their contacts with me. So, I didn't know their situation ... I can't even speak with my siblings ... I am worried. (9 January 2018)

Displaced people in Baidoa emphasised difficulties in getting in contact with family members as Al Shabaab disrupts communication networks. According to a camp resident in Baidoa, the Islamist militia suspects that people ‘are communicating with their enemies’ and providing them with information on the areas they control and therefore ‘end up destroying the antennae [telephone masts]’. When they can make calls, their family members ‘talk in fear’ of repercussions by Al Shabaab and the conditions of insecurity they endure (Robla, Baidoa, 3 January 2018). Al Shabaab has also enforced bans on the use of mobile internet on smartphones in areas which it controls ([RSF/Reporters Without Borders 2014](#)).

Many displaced people rely on financial and other assistance from neighbours, relatives and friends, and phones facilitate searching for and requesting support. As Eney explained:

I benefit [from the phone], for example, when I wanted something from someone, I used to go to him or her. But now, I just call them while I am at home. If I don't have something for my family to eat, [you call and say] ‘if you have worked today and you made some money, please bring me something ...’ Yeah, he will send me 5 dollars or 2 dollars. So, I benefit from not having to walk in the sun. (Baidoa, 2 January 2018)

Eney confirms how mobile telephony transforms experiences of space and time. It allows people to communicate and to mobilise support without the need to move physically and contributes to dissolving oppositions of nearness and remoteness, mobility and fixity, presence and absence ([Urry 2007](#): 180–1). Interviewees particularly appreciated the use of the phone for sending and receiving money: ‘I really thank

God for providing us such kind of services' (Gedi, Baidoa, 3 January 2018). As Gedi puts it, the phone replaced the wallet, and interviewees described how they pay for their shopping in town or receive money for services provided to others. Underscoring the hand-to-mouth nature of their economic precarity, Shoobta noted that if her husband was late from work, he would still be able to send money to the family so that the children would not have to go to bed hungry (Mogadishu, 9 January 2018).

Others outlined how mobile money facilitated their settlement in urban camps, as they could instruct relatives to sell the few belongings they had left back home. Megaag, for example, still had livestock and requested his brothers to sell his animals and send the money to pay for his settlement in an urban camp (Baidoa, 4 January 2018). Idow in Baidoa emphasised a similar affordance, but referred to security on the move:

It helped me a lot. You know, when you are a traveller and you look after animals you just deposit money into the EVC service because you might encounter thieves on the way. Carrying cash is riskier ... So, when your money is in the EVC service, no one can take it from you. Maybe someone can take your life, but can you take [money from] a sim card? No one can. (1 January 2018)

However, phones are a common target of armed robbers, and many participants noted fears and experiences of violent crime. Deynabo, a woman in Mogadishu, described how she had been robbed:

There are some thieves around some of the places where I work. One day, as I was walking from work, they attacked me with a knife. They robbed me of my cell phone, and my money was within the phone. They also took a plastic bag of food from me. Immediately, I went to the [telephone] company and informed them that my mobile phone was stolen by thieves. And the money was returned. I was coming from work, it was late afternoon around 4pm. I was then without a phone for some months, but I later got another one. (8 January 2018)

Although other interviewees spoke about robbers' use of violence to get hold of a victim's PIN to access accounts, in most cases, people perceived mobile money to be more secure than carrying cash. In Deynabo's case, her savings were available as soon as the phone company provided a new SIM and restored access to her account.

Without access to formal banking, interviewees outlined how mobile money (Sahal) functions like a savings account. Yasmin in Bosaaso explained that

if my husband brings 10 Dollars a day, we use 5 Dollars for things like rent and keep the other 5 in Sahal The phone helps us to save the little money we get. (23 December 2017)

Mobile money accounts are often used in rotating group saving schemes, known as *Ayuutol/Hagbad*. Groups pool contributions from members, who take it in turn to receive the accumulated pot. This allows for the payment of debt or larger purchases.

Mobile phones have also become central to the ways in which displaced people navigate the urban environment in search of work. Women often provide laundry or cleaning services to wealthier households, while men characteristically look for

opportunities on construction sites. Although women continue to go door-to-door to offer domestic labour, they also leave their mobile numbers. This allows clients to call them when work is available, and the worker to call to inquire about work. Aasia in Mogadishu outlined that she only bought a phone to enable her client to call if work was available. She also emphasised that a phone was needed to receive her payment as there is generally ‘not much [paper] cash circulating’ (8 January 2018). Dhahiro additionally explained how the phone facilitated work and ad hoc assistance from clients:

When there is work, [customers] check on me when they don't see me around. They ask if I am sick, and they sometimes send me a dollar so that I can buy food for my kids. ... I might say that my daughter is hungry. They would say, I will send a dollar to this poor person or two dollars so I can buy milk for my children. Thank God. (Mogadishu, 7 January 2018)

The prevalence of mobile money enables humanitarian organisations to increasingly rely on these systems for cash aid. Some interviewees noted how displaced people had been biometrically registered and given SIM cards; some even received phones, through which they had received some support.

Precarious technoscapes: limits and risks of connectivity

The previous section indicates the extent to which mobile phones are embedded in the daily experiences, mobilities and livelihoods of some of the poorest and most vulnerable people in Somali cities. So far, the affordances of mobile phones have been described in terms of their perceived value and in ways which correspond with dominant humanitarian narratives about the empowering utility of ICTs. In this section, however, we illustrate how social inequalities are reflected in displaced people's ICT use, and the extent to which necessities to engage with mobile communications reinforce their positions of precarity and marginality.

Urban displaced populations constitute a large pool of cheap and exploitable labour. As people in the camps usually do not hail from dominant clan groups in the cities, social and labour relations are stratified and unequal. In such contexts, technologies such as mobile money can be used in ways which disadvantage workers and reinforce spatial divides between the camps and city neighbourhoods where workers and employers reside. Aasia, for example, reported three instances where people who employed her for domestic labour in Mogadishu promised to send payment by phone but then failed to do so (8 January 2018). Other women had similar experiences and were either paid less than the agreed amount or received nothing at all. Aalima explained how she had little chance of recovering the payment:

Sometimes they [the employers] say to us 'give your number and we will send the money to you.' Then, after a while, they send you less money than what you have worked for. This happened to me one day. I went shopping and when I reached the market, I collected what I needed and then

told the seller to withdraw his money from my phone. When he tried it, there was no money in my phone. Then I ran back to where I had worked. I told the sister [of my employer] 'you sent me only a message – so give the money to me in cash.' She said, 'I already sent you the money. So if I have not sent you the money, why did you leave here?' As we were quarrelling, some of the neighbours came and tried to calm the lady. But she insisted and forced me out of her house. One of the ladies assisted me with one thousand shillings [approx. 0.04USD] and advised me to leave. I left and went to the Telecom company. But they told me there was no money that was sent to the phone. Then I kept quiet and left. (8 January 2018).

With greater circulation of hard currency, it would be less likely that the women would leave their place of casual employment without receiving payment. The ability for employers to defer payment relies on the prevalence of mobile money for remote transfers. Other important factors are the employer's physical detachment in a gated compound in a city neighbourhood; the employee's subordinate position; displaced people's related inability to leverage influential social networks in the city; and a lack of enforced labour laws.

Aalima's description of her interaction with the shopkeeper—from whom she attempts to buy goods and thus discovers that she has not been paid—highlights another problem which compounds her disadvantaged position. She tells the vendor to withdraw the money from her phone for her, indicating that she is not comfortable or fully able to use the phone interface to send the money herself. Although the majority of interviewees spoke about familiarity with mobile money systems, many also noted that they required assistance to use the technology. This was particularly true for older people and especially women, and was often related to weak literacy skills, hindering navigation of the text-based inputs and notifications (Wasuge 2019). In Aalima's case, this reduced her ability to confirm whether the payment was received.

In other contexts, studies have reported difficulties with text-based phone interfaces as a factor hindering people's use of digital financial tools and services (Wyche & Steinfeld 2016). Differing levels of (digital) literacy are important here, as we heard about the widespread usage of services, albeit with simultaneous reliance on other people to assist with some functions. Nagan, a 30-year-old laundrywoman, explained that she is usually paid through the mobile. However, she also noted that she does not know how to fully operate the services:

I do not know how to use it. I go to [shops] and tell them to get the money out for me. ... I can tell how much I have left in my account. However, I do not know how to send money to others. I was taught how to check my account, but I could not understand how to send money well. (7 January 2018)

Shamsa explained her device use in a similar way: 'I ask the people I trust to help me to send money to the people I owe money' (Mogadishu, 9 January 2018). While mutual help is common in the settlements of displaced people, the inability to operate the transfer and banking services or even to check the amount of money received,

paid or left in the account diminishes people's capacity to act independently and opens opportunities for control and abuse. Although none of the interviewees explicitly highlighted this risk, the accounts of exploitative labour relations discussed above are compounded by such digital inequalities.

Many interviewees treated mobile phones as part of their essential living expenses. Others, however, simply couldn't afford to spend money on communication and only irregularly topped up their phones. As Dahabo explained:

I call my clients and ask if they have a job to be done. ... I spend a lot of money. The rate of calling is too high. When you call the families and the clients asking if you can come for them, you must top-up each time. ... The amount I use [for topping-up] it is very high. Sometimes I miss a job and [I have to] take debt from neighbours. Or we sleep hungry for some nights. But if I get a job, that night my children will have a good night. (Mogadishu, 9 January 2018)

Many reported that they would put on the minimum required 10 cents of airtime, which would enable them to 'flash' people with a missed call, signalling a request for a call back. As most displaced people were not connected to electricity, they also pay to charge phones, even if this service costs only a few Somali Shillings from kiosks in/near camps.

Across Somalia, mobile phones play a role in the remittance sector, which facilitates huge inward financial flows from the global diaspora. Although remittances are vital for the wider Somali economy and household finances, displaced people from marginalised social groups are generally less likely to have these diasporic connections and regular access to financial remittances (Majid *et al.* 2018). Conversely, some interviewees' accounts of international and migration-linked networks highlighted dangers of transnational connectivity. For Murayo in Bosaaso, discussion of her children's use of messaging platforms (such as WhatsApp) prompted her to recount her daughter's experience of undocumented migration (*tahriib*) to Europe. The young woman was detained in Libya by human traffickers who contacted her mother (Murayo) in Bosaaso by phone. Her daughter described the violent abuse she was suffering and the traffickers' demand for thousands of dollars to secure her release and onward travel to Europe. Murayo pleaded her poverty and was able to negotiate the sum down to \$2600, which she then raised through family and social networks in Bosaaso. The money was sent to an intermediary in Mogadishu and then a smuggler in Sudan. These contacts were afforded by international mobile phone connections, and this may also include the transmission of images or video. In this case, Murayo reported that her daughter had reached Europe, first Italy and later Holland, but that she had struggled to find work and did not regularly remit money. Therefore, Murayo had not been able to pay back most of the debt she owed.

Other international links and resources manifest in displaced people's digitally mediated engagements with humanitarian organisations. Although some interviewees had received SIM cards or phones from humanitarian organisations on which to receive mobile-cash support, they did not speak in detail about their experiences of using these

systems. Instead, they often complained that transfers occurred only once or were irregular. Digital cash transfers are often seen as being more discrete for recipients, giving greater potential control over spending (Sossouvi 2013). As noted above, the management of urban camps for displaced people is undertaken by gatekeepers who are often affiliated with owners of the camp land. Some interviewed gatekeepers were quite candid about the share of aid they received from camp residents following distributions. We discuss elsewhere ambivalence towards gatekeeping practices and the patron–client relations in which they are embedded. Displaced people often weigh up the tangible support they received from gatekeepers against their obligations to pay a share of any external assistance received (Bakonyi *et al.* 2019; Bakonyi 2021). Mobile money doesn't protect recipients from these obligations as gatekeepers are aware of the timing and scope of distributions and those registered (fieldnotes, Mogadishu, July 2018).

The relationships between camp leaders, humanitarian organisations and telecommunications companies also raise questions about the data being generated and stored through beneficiary registrations. Somalia currently lacks any data protection laws (Haji 2019) and data is collected by both humanitarian organisations and telecommunication companies without oversight. The collection and utilisation of humanitarian (meta) data and the risks this involves has only been recently discussed by humanitarian actors (Privacy International/ICRC 2018). In Somalia—a country lacking regulatory oversight and characterised by violent conflict and international military and civil engagement—the risks of data misuse are particularly acute. Some of these dangers relate to surveillance, either from foreign or national intelligence agencies or from Al Shabaab. The latter maintains its military campaign against governmental institutions/representatives and their international backers. Al Shabaab operates parallel governance institutions and uses mobile telephony to request and collect parallel tax from businesspeople in cities, using it to threaten its opponents. Its occasional closure of mobile internet and its suspicion towards the use of smartphones is partly rooted in the awareness of the risks of data surveillance and the use of phones by spies to direct drone attacks against its members.

Conclusion

Mobile telephony has been adopted at rapid speed in Somalia and has inserted itself into and transformed everyday lives. Building on Appadurai, we conceptualise 'precarious technoscapes' to emphasise how the mobile connections of displaced people who settle at the precarious urban fringes remain part of quickly evolving global technological assemblages, but also highlight the unequal distribution and locally specific realisations of these global transnational flows. The speedy adoption of mobile telephony among some of the world's poorest people has been accompanied by assumptions about ICTs' equalising and empowering effects. Our analysis contributes to a tempering of techno-optimist

discourses that, despite growing critique, continue to characterise humanitarian imaginaries. We have explored how displaced people settling at urban margins understand and experience the mobile boom, and how everyday movements, communications, transactions and social relations are mediated through and shaped by ICTs.

Interviewees emphasised various benefits mobiles brought to their lives, focusing on social networks and financial transfers. The phone facilitated mobility, and enabled access to information on available settlements and material aid. It allowed displaced people to stay in contact with relatives in Somalia and abroad, eased the search for jobs and facilitated the mobilisation of support. Above all, the telephone has developed into a 'global banking tool' (Easterling 2014: 121) and a partial alternative to formal banking and traditional forms of payment. The mobile phone became an important technology for network capital, the social relations that enable mobility and circulation (Urry 2007: 194–203).

The use of mobile phones and mobile money also brings risks for displaced people. Beyond the dangers of robbery, people with lower levels of literacy were often unable to fully operate phones and had to rely on neighbours, family members or shop owners to access their accounts. They were often unable to ensure that employers had transferred payments and were vulnerable to deception. The possession of a mobile phone does not, in and of itself, empower people and neither does it automatically minimise social exclusion. Instead, the use of the phone remains embedded in social relations and is shaped by power differentials, notably concerning economic constraints (which phone to buy, and how often to use it), differing levels of literacy, and social networks that can be mobilised for support. Although the mobile phone can be used to make and maintain these social connections, it does not by itself generate access to relevant networks and does not ameliorate the power differentials that structure these networks. Engagement with the micro-sociology of ICT use can help to shed light on wider inequalities, in this case, the relation between marginalised urban populations and the commercial and humanitarian actors engaged in the reconstruction of Somali cities. Beyond the imaginary of frictionless flows and connectivity, people at precarious fringes of technoscapes continue to improvise and cobble together social relations and materials in their daily attempts to ensure their survival, while adapting to the new circulatory regimes and modalities of mobility that Appadurai (1996) has emphasised. Of emerging concern here is the rapid 'datafication' of humanitarianism and the unregulated generation and storage of data on vulnerable populations. Extreme power imbalances exist between recipients of humanitarian aid on the one hand, and humanitarian agencies and communications companies on the other. Further investigation is required on the implications of these digitally mediated entanglements. This requires a move beyond teleological assumptions of technology-facilitated development and a critical reflection on the risks that new forms of data generation entail concerning the protection of privacy, surveillance, commercialisation and the governance of precarious populations.

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