Resilient Markets in Beledweyne

At the Frontlines of Conflict and Climate Change

Summary

Beledweyne is grappling with a severe humanitarian crisis triggered by extensive flooding on November 12th when rising river water levels led to extensive flooding that engulfed the town. This crisis persisted, culminating in a surge of water levels on November 17th due to heavy rainfall. Approximately over 200,000 individuals are affected by the flooding. Danish Refugee Council managed evacuation sites currently the most populated, including Farah Cafi with 2000 households, Cel Jaale A with around 1000 households on the east side of the city, and Far Majabaley on the west site with 1000 households, these evacuation areas have become crucial hubs for affected populations.

Tragically, four individuals lost their lives in the catastrophe, and concerns are growing as prices for essential commodities increased by 12% since the floods, with the risk of further rises if the situation persists. The flooding severed transportation routes, especially the bridge connecting the east to the west side, exacerbating the logistical challenges, this bridge is essential in restocking food supplies from Bossaso and Galkayo. This underscores the urgent need for humanitarian assistance and coordinated efforts for immediate needs and long-term recovery.

The flooding has cut off residential areas, agricultural land, and critical infrastructure, causing significant displacement and forcing thousands to evacuate. Urgent humanitarian needs, including clean water, food, shelter, and medical assistance, are priorities, with the risk of waterborne diseases looming large.

The impact on infrastructure is substantial, hindering access to affected areas and complicating relief efforts. Logistical challenges from damaged infrastructure further complicate the situation. Ensuring access to self-relocation areas is crucial for ongoing relief efforts. Continuous monitoring and adaptive response strategies are essential, necessitating collaboration between local, national, and international entities to effectively address the multifaceted challenges posed by the flooding in Beledweyne. Financial resources are urgently needed to support ongoing relief efforts.

DRC's Response

On November 11th, 2023, the Ministry of Humanitarian Affairs and Disaster Management (MoHADM) took decisive action in response to the flooding crisis in Beletweyne. They promptly deployed a rescue boat, made available through a previous ECHO Disaster Risk Reduction (DRR) project facilitated by DRC, to assist in and around the town of BLW. In a strategic move, a dedicated rescue committee was established to oversee the operations of the rescue boat, ensuring a coordinated and effective response. Additionally, a standby telephone number was set up at the MoHADM regional office, enhancing communication efficiency during the rescue operations.

The following day, on November 12th, 2023, the rescue boat was actively engaged in rescue efforts, demonstrating its effectiveness by successfully saving 40 households stranded in Lebow and Shinile villages. These individuals were efficiently transported to a secure area, providing much-needed relief and ensuring their safety. The commitment to the rescue mission persisted, as on November 13th, 2023, the rescue team achieved another success by rescuing and relocating 30 people from Dheriyow village to a safe area. The swift and well-coordinated actions of MoHADM, supported by DRC's resources and the established communication in-

frastructure, have played a crucial role in mitigating the impact of the flooding and safeguarding the affected population.

- Provision of 3 cycles of MPCA as anticipatory action to 892 vulnerable households.
- Distribution of emergency shelter kits and essential hygiene kits to 1,100 households as part of DRC's Minimum Response Packaging – MPCA (one off provision).
- Deployment of 3 rescue boats in Beletweyne and 2 rescue boats Jowhar.
- DRC on daily basis provides water to 888HHs at Faran cafi and Eljaale. Each HH gets 45 liters of water from a bladder that is managed by water relief committees.
- Relocation assistance for 188 households attempting to self-relocate to evacuation sites.
- Dissemination of early warning messages through CCCM staff and outreach teams across all DRC-managed IDP sites and via FM radio across Hirshabelle state.
- 3,380 households have already received rain kits as part of flood anticipatory action
- Conducting hygiene promotion activities to reduce the risk of waterborne diseases.
- Identification of protection cases for referral and IPA

Water Systems in Beledweyne

Beledweyne's topography is similar to a flat valley, with higher ground on the fringes of the city where small rivulets drain into the Shabelle river and are seasonal only carrying water when it rains, the elevation gently slopes towards the south side as the river traverses towards the lower regions of Hirshabelle state. The urban layout of Beledweyne is entirely shaped by the course of the Shabelle River, with critical infrastructure located along the river especially where it meanders. The Shabelle River is narrow with deep gorges up to 10 m: the river generally drains the entire region and has enough water flows to support irrigation along the riverine belt of the Hirshabelle region. There is an outlet canal that was constructed to accommodate excess water flows and support irrigation but since the last two floods, the canal's capacity to accommodate excess water flows has been completely overwhelmed. Several flood protection activities were previously carried out, such as river embankments and canal constructions in Hawdley, Bilisid, Helakelyo, Bundaweyn, and Bacaadaha. These activities were implemented by community-based organizations, INGOs, and the UN. However, these structures were overwhelmed after the floods in May.The short span of the river from its source in Ethiopia makes the river flow fast. It is only during the rainy seasons (Deyr and Gu) when the river system is flooded.

Flooded IDP site in Beledweyne, 12 November

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Growing pains

Historically, El Niño has wrought significant impacts on Somalia. In 1997–1998, it brought devastating floods, resulting in approximately 2,000 casualties, the displacement of 250,000 people, and substantial damage to livestock and stored harvests. In October 2015 and 2019, heavy rainfall triggered flooding that affected 145,000 people. That same year, El Niño caused a severe drought, especially in Puntland and Somaliland, where over 220,000 people urgently required lifesaving assistance.

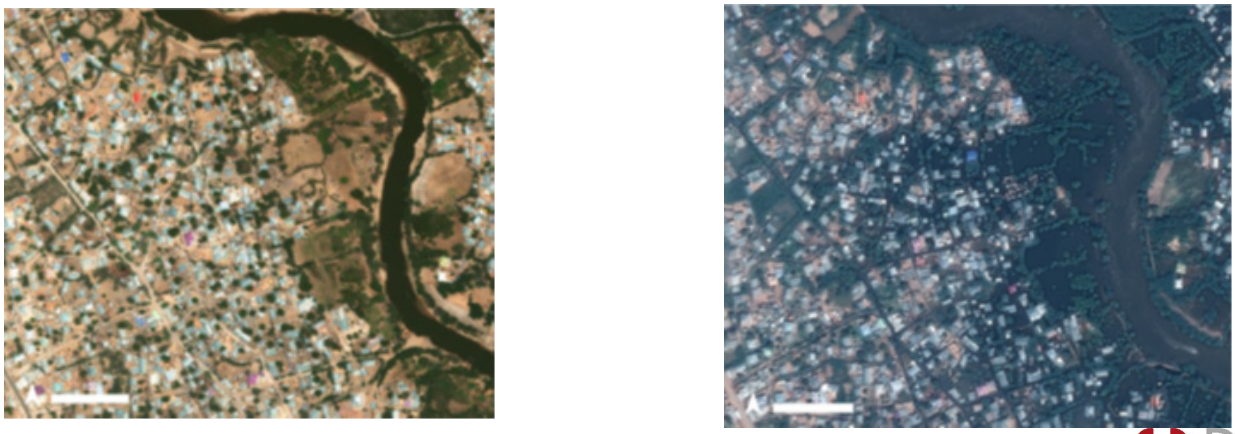
In early May 2023, due to heavy rainfall in Ethiopia, the Shabelle River overflowed in Beletweyne. This natural disaster wreaked havoc on roughly 90% of the town, including vital infrastructure. The consequences were profound: essential services faltered, hospitals ceased operation, and prices skyrocketed.

In the context of Somalia, projections for the Deyr season indicated above-average rainfall due to the convergence of a confirmed El Niño event (90%) and a favorable Indian Ocean Dipole. These forecasts suggest the likelihood of a one-in-a-hundred-year event. Based on current flood waters that might be true. With the intensity, magnitude and severity of floods becoming worse due to climate change, the susceptibility of the community is further heightened by haphazard urban development, which leaves the population extremely vulnerable in the face of these worsening natural hazards.

Urban expansion has defined the city of Beledweyne, the population has grown by 11,682 individuals (1,947 households) since the beginning of 2023 and informal settlements on the rise. The infrastructure has been completely overwhelmed, the absence of drainage systems and haphazard planning restrict the flow of water draining back into the river and water remains stagnant for months.

The central part of the city is the most densely populated area hosting crucial urban services such as hospitals, markets, and government facilities.[1] In the last five years, the absence of a planning system has led to a dispersed, organic development spreading eastward along the road connecting the city center to the trade corridor linking Mogadishu and Ethiopia. The rapid urbanization of Beledweyne, coupled with the lack of proper planning, poses a heightened vulnerability for the population, its physical infrastructure, and its economy. This heightened vulnerability stems from the escalating frequency and intensity of floods due to climate change, as the city continues to evolve without a comprehensive urban planning strategy in place.

1 UN habitat Flood Risk and Urban Resilience



To the left is a satelite image of Beledweyne before October 2022 and to the right image after November 12 after the flooding event. Source: UNOSAT

As the river bank breaches, the city becomes divided, severing access between the eastern and western sides. Beledweyne lacks a sufficient stormwater drainage system, coupled with a predominantly flat topography where the city periphery stands higher[2] than the central urbanized area. This geographical configuration results in prolonged inundation, lasting for weeks, as the natural flow of the river is hindered and water passage is obstructed by urban infrastructure. As the flooded waters remains stagnant, the city teeters on the brink of waterborne disease outbreaks due to the absence of a proper sanitation system, particularly for sewage. First-hand account of the flooding depicts a scenario where sewage water mingles with floodwaters during the city's inundation, further exacerbating the potential health risks.

The convergence of climate-related impacts and poorly planned urbanization amplifies the risks faced by the community, necessitating urgent and comprehensive measures to enhance resilience and mitigate the potential consequences of future floods.

Humanitarian conundrums: building absorption shocks

The challenges posed by the complex situation are further compounded as humanitarian services are severely hampered. A key factor contributing to this complexity is the displacement of most humanitarian actors, with our offices completely inundated and our staff displaced. The intricate security dynamics, driven by the presence of armed actor groups, further escalate the difficulties, elements of insecurity remain and social clan dynamics that complicate the targeting of the right populations.

Notwithstanding these challenges, DRC teams have been tirelessly working to support the affected populations, implementing various preparedness measures. Anticipating the crisis, DRC initiated proactive actions to stay ahead of potential crises, prevent, and mitigate impacts. This involved the implementation of Anticipatory Actions such as the provision of Unconditional Cash Transfers (UCT) based on forecasted hazards , monitoring river water levels to trigger warnings specific to risk levels and anticipating the peak effects on the

2 On the fringes of the city are higher grounds. The self-evacuation areas are located along these higher grounds and so is the airport.

Community members in Beledweyne seen relocating to the evacuation areas a week before the floods on 12 November

Search and rescue operation in Beledweyne

local population.

To enhance community awareness, DRC disseminated weather forecasts through diverse communication channels such as radio and community mobilizers. Collaboration with the Early Warning Early Action Committee and Disaster Risk Reduction (DRR) Committee set up last year facilitated anticipatory actions. Upon the release of the first cycle of UCT, DRC began sharing information on relocation sites, enabling populations to relocate. The second transfer, triggered on 8th November as river water levels approached the height of the river bank, aimed to stabilize the purchasing power of vulnerable people, reducing risks for households during displacement. This financial support[3] allowed internally displaced persons (IDPs) to acquire shelter and essential supplies in anticipation of the impending flood.

In addition to service provision, DRC played a crucial role in initiating flood task force meetings well in advance. This ensured coordination and the implementation of a comprehensive plan to streamline activities in relocation sites. These meetings established clear communication channels between humanitarian organizations,

Road leading upto Howlawadag evacuation site

Market being set up in Howlwadag evacuation site on the west of Beledweyne

Vendors seen setting up shop in Howlwadag evacuation site on the west of Beledweyne

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local authorities, and the community to synchronize efforts. DRC collaborated with SODMA and MOHADMA to align its anticipatory action plan with the existing frameworks. Furthermore, DRC facilitated the evacuation of affected populations by mobilizing two boats for rescue efforts, with boat maintenance overseen by DRC and the government ensuring the efficiency of rescue operations. Two additional boats have been provided by FAO in partnership with COOPI to support the rescue efforts.

Notes from the field

DRC teams reported that over 90% of IDP sites targeted for anticipatory measures had successfully self-relocated to designated Evacuation sites which can be attributed to the implementation of anticipatory actions. Upon reaching the IDP sites, teams observed that a significant portion of the relocated shelters had plastic sheets, and temporary markets had been established at the relocation areas, ensuring continued access to food and supplies for the displaced population.

However, reaching some of the evacuation sites presented formidable challenges. The road leading to Howlwadag Site on the west side of Beletweyne, was found to be unnavigable, with a 400-500-meter stretch submerged and surrounded by thick mud. To overcome this obstacle, an excavator was employed, incurring a cost of $100 to assist trucks in passing through. Despite these logistical challenges, more than 10 trucks, laden with essential supplies, were mobilized, underscoring the dedication to ensuring that IDPs have access to the necessary provisions despite the adverse conditions. The resilience of the response, in the face of logistical hurdles, reflects the commitment of different stakeholders to meeting the needs of the affected population during this critical time.

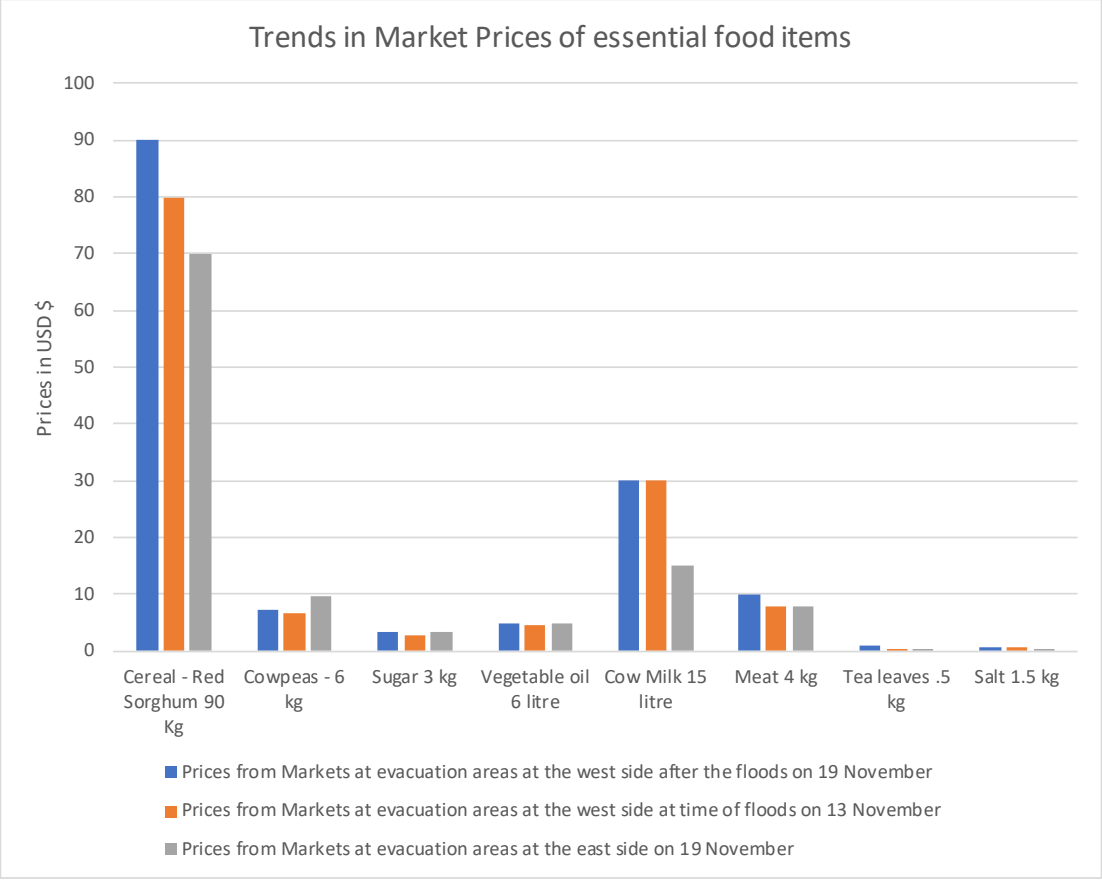
As Beletweyne currently grapples with flooding, critical market challenges, including limited stock in local stores, heightened demand, and constrained access due to flooding, can potentially leading to food shortages. However, the number of vendors, potential influx of cash by humanitarian actors and their ability to restock (if supply routes remain accessible) can potentially mitigate shortfalls. Key Informant Interviews (KIIs) reported key insights into the market dynamics, emphasizing the delicate balance between supply and demand. The town relies on 40 retail stores in the west for its essential supplies. However, these stores operate strictly on a retail basis, lacking wholesale services. Their stock is limited and estimated to last merely 7 to 10 days, presenting a vulnerability in the face of sustained demand or disruptions. A surge in demand for essential commodities compounds the market challenges. Access is further impeded by flooding, transforming Hol Wadag into an isolated area. The impact of these challenges highlights the town's susceptibility to potential food shortages. The primary supply routes originate from Bosaso via Galkayo, with a journey time of approximately 7 days. However, the reliability of this route is compromised by expected delays attributed to flooding, checkpoints, and insecurity along the way. Although supply routes from Ethiopia remain open, the predominant commodities sourced are fresh foods and vegetables. Equally, supplies from Mogadishu are sidelined due to access constraints. Notably, the market has established vendors integral to WFP cash and voucher assistance program that is currently targeting 40,000 individuals, underscoring the existing capacity to restock in case of shortages. This distribution network could be pivotal in mitigating potential food crises.

Addressing impediments along the Bosaso-Galkayo route is critical for ensuring a consistent and timely flow

of goods. Given the town's vulnerability to flooding, establishing robust emergency preparedness plans will be crucial for swift responses to potential shortages, leveraging existing distribution networks. A significant disparity in commodity prices exists between the evacuation sites, particularly notable in the contrast between the east and west sides. Essential food items in markets on the east side were reported by KIIs on November 19 to be $147.25, while on the west side, they are reported at $111.1, reflecting a substantial difference of 33% between the two locations, as vendors on the west are expecting supplies to finish soon and have hiked prices. Following the floods there has been an overall increase in prices, rising by 12%, with data collection taking place on November 13 and November 19. These variations underscore the economic impact of the impassable bridge and the resulting supply chain disruptions, leading to distinct pricing dynamics in different parts of the affected area.

This discrepancy can be attributed to the markets on the east side remaining unaffected, as opposed to the challenges faced on the west side. The impasse of the bridge connecting the two sides further exacerbates this situation, hindering the smooth flow of goods from the primary supply route originating from Galkayo. The inaccessibility caused by the impassable bridge has created distinct market dynamics, resulting in varied pricing conditions between the two sides.

Despite facing formidable challenges brought about by flooding, the market systems in Beletweyne have demonstrated remarkable resilience and innovation. The ability to absorb shocks and continue functioning amidst disruptions underscores the adaptability and resourcefulness of the community. Recognizing and building upon these strengths can contribute to not only overcoming current disruptions but also creating a more resilient and adaptive market environment for the future.



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Emergent Needs

Flood waters are expected to constantly rise based on the rainfall forecast with the River water levels remaining high, the natural function of the river to drain will remain impeded for some time because of infrastructure and as soils remain saturated. The current composition of the Flood Task Force contains multiple actors from the government and humanitarian sector and covers Hirshabelle State, most notably focusing on Beletwayne and Jowhar. However, it is recommended to localise the Flood Task Force to the district level to provide a swifter response.

UNICEF are planning a treatment process that can clean the available water sources for human consumption. This water could be used to fill the emergency water bladders to support minimum standards for water per household in the exponentially growing evacuation sites. Additionally, the application of water catchment tanks which are structural reservoirs designed to capture and store rainwater and floodwaters. The primary purpose of such infrastructure is to efficiently collect, manage, and store water resources, contributing to both water conservation and site upkeep along serving the needs of the affected population. Apart from providing essential emergency service, the tank serves as an essential component in the sustainability of interventions by effective resource management, especially in areas prone to seasonal floods and limited access to clean water sources. The potential for water borne diseases due to omnipresent stagnant harbors one of the gravest concerns for the populations, with sewage infusing the water system and a harmful rise in mosquito populations.

As water continues to rise evacuation areas remain at risk of being flooded in order to support camp management and further evacuations OCHA has been coordinating with partners to collect satellite imagery and drone footage to support response efforts

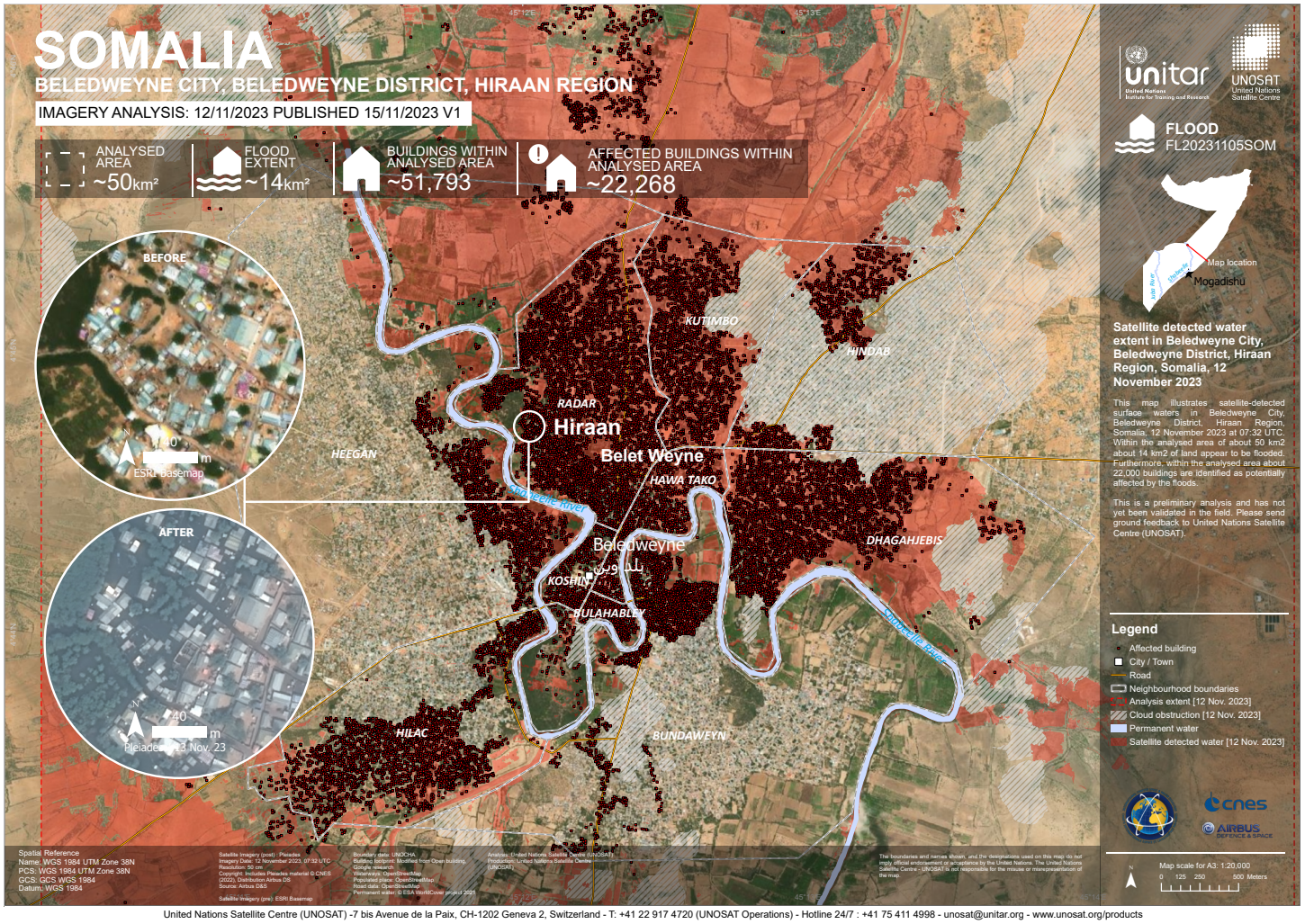
Learning Lessons All Over Again

Post-emergency and preemptive action ahead of the next flooding season necessitates the need for a comprehensive government plan to tackle the Beletwayne urban floodplain. Enhancing agriculture, implementing reforestation, and improving soil quality are essential to augment the water absorption capacity of Beledweyne and its surroundings. Effective water management at the watershed level is crucial for optimizing water utilization and facilitating ground infiltration, thereby mitigating urban flooding. Infrastructure initiatives should prioritize water harvesting to close the water cycle locally. Designing water networks should involve creating new canals, reconfiguring existing ones, and optimizing the canal profile, bridges, and surrounding

Rising water levels in Beledweyne

urban developments. These measures aim to reduce flood risk, enhance water quality, facilitate groundwater recharge, improve waste management, and minimize overall water consumption. Infrastructure projects need to address the absence of a city drainage system, input road culverts and implement additional realistic outlet canal designs to support flood outflows.

Post-recovery from the floods provides an opportunity to influence the decision-making for improved urban planning and development of water infrastructure projects in Beledweyne, which should factor in the community's needs and aspirations and build in their suggestions to reflect local realities.



Satellite image depicting flood extent on November 12. Source: UNOSAT