UN-HABITAT

SECURING LAND TENURE FOR CLIMATE RESILIENT INFORMAL SETTLEMENTS:
A CASE STUDY OF AN INTEGRATED APPROACH IN AFGHANISTAN

KEY MESSAGES[1]

- Afghanistan ranked sixth in the most recent Climate Risk Index, with a population exposed to drought, floods, landslides, and extreme heat; these risks are occurring in one of the gravest humanitarian emergencies globally, with widespread poverty afflicting the country after four decades of conflict.

- Residents of more than 1,000 urban informal settlements are acutely vulnerable: located in hazard-prone areas; populated largely by IDPs; lacking basic services, adequate housing; and subject to frequent evictions by authorities.

- This case study presents a pilot project that integrates land tenure and climate resilience programme tools in an informal settlement in the city of Herat: Afghanistan's second largest city and the capital of the drought-prone Western Region.

- The findings provide evidence that interventions to secure tenure and construct climate resilient community infrastructure have mutually strengthening outcomes for residents of informal settlements.

- The study identifies programme tools for upscaling integrated land and climate interventions for long-term resilience outcomes in informal settlements across Afghanistan.

What are the links between land tenure insecurity and climate vulnerability?

The vulnerability of an estimated one billion people living in the world's informal settlements constitutes 'one of the greatest challenges' for climate policymakers globally.[2] Informal settlements are acutely vulnerable to climate breakdown because of their physical attributes (located in hazard-prone areas, lacking adequate housing and infrastructure), the socioeconomic characteristics of their inhabitants (low-income migrants, IDPs, and other vulnerable groups), and their existence outside formal governance systems (informal tenure, lacking critical municipal services).

The prevalence of informal settlements is expected to increase as the climate crisis worsens. Climate-induced displacement will result in absolute numbers rising as people are forced from rural areas no longer viable for settlement to urban centres in search of livelihoods.[3] In this context, high competition for urban land will drive informal housing expansion into higher-risk localities.

Tenure insecurity produces vulnerability in informal settlements by restricting climate resilient investments.[4] The link between tenure and investment has been documented extensively in studies spanning decades and continents:[5] authorities, service providers, communities, and individuals do not invest in public or private assets that are at risk of appropriation. Consequently, informal settlements are characterised by housing, service and infrastructure deficits that render their residents vulnerable to climate shocks.

Given the links between land tenure and climate vulnerability, there is a growing consensus to support interventions that secure tenure for climate resilient outcomes.[6]

What approaches can strengthen land tenure for climate resilient outcomes?

Programmes to strengthen tenure typically involve the registration of individual or household property rights. The dominant 'land titling' paradigm replaces customary tenure with legal land titles issued by the state. Informal settlements are often excluded from such programmes, however, because they do not meet the requirements for formal title.[7] In response, the more recent 'fit-for-purpose' approach focuses on the strengthening, recognition and registration of established customary tenure systems (i.e. tenure systems that are rooted in local socioeconomic and cultural practices but exist outside of the formal system). Recent evidence from the Asia-Pacific suggests that fit-for-purpose land registration can support climate resilient investments, provided that supporting financing mechanisms are in place.[8]

An alternative approach focuses on community-level activities, including community planning and implementing of infrastructure investments to consolidate settlements. Communal-scale activities signal authorities' recognition of a settlement's legitimacy, and are widely

2   Dodman, D., Archer, D., Mayr, M., Engindeniz, E., 2018. Pro-poor climate action in informal settlements. UN-Habitat Nairobi Kenya 46, 1–60.
3   Ziervogel, G., 2021. Climate urbanism through the lens of informal settlements. Urban Geogr. 42, 733–737.
4   McDermott, R., Gibbons, P., Ochieng, D., Olungah, C.O., Mpanje, D., 2021. Does tenure security reduce disaster risk? A comparative study of the Nairobi settlements of Kibera and Kawangware. Int. J. Disaster Risk Sci. 12, 445–457
5   Payne, G., 2004. Land tenure and property rights: an introduction. Habitat Int. 28, 167–179
6   Mitchell, D., McEvoy, D., 2019. Land tenure and climate vulnerability. UN-Habitat, Nairobi.
7   Flower, B.C., 2019. Built on Solid Foundations? Assessing the Links between City-Scale Land Titling, Tenure Security and Housing Investment. Plan. Theory Pract. 20, 358–375.
8   Mitchell, D., Barth, B., Ho, S., Sait, M.S., McEvoy, D., 2021. The benefits of fit-for-purpose land administration for urban community resilience in a time of climate change and COVID-19 pandemic. Land 10, 563.

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recognised as an effective measure to strengthen *de facto* tenure security.[9] Moreover, such investments can directly reduce climate vulnerability by installing or upgrading climate resilient infrastructure.[10] Community-based approaches are suited to resource-scarce settings, since they do not require authorities to have the financial capacity and/or institutional apparatus to demarcate and register private ownership rights. In the long term, communal approaches provide the foundation for subsequent household-scale land registration.

In some cases, informal settlements are located in areas rendered uninhabitable by climate breakdown. Livelihoods may be degraded to such an extent that continued habitation is unfeasible, or the risk to life and property from climate hazards becomes so great that planned resettlement (also referred to as planned retreat) is the only viable option. Guidelines are emerging in many countries to ensure that this process is participatory, that sites are suitable, and that tenure security is assured for sustainable outcomes.[11]

Integrating land and climate programming through a community-based approach in Afghanistan

Afghanistan provides a useful case study to assess the potential for integrated land and climate interventions to result in mutually strengthening outcomes. The country is ranked sixth in the most recent Climate Risk Index, with a population exposed to drought, floods, landslides, and extreme heat.[12] The impact of climate hazards is compounded by the extreme precarity of the population. In 2023, the UN identified 28 million people (out of a population of 40 million) in need of humanitarian assistance.[13] The residents of more than 1,000 urban informal settlements are acutely vulnerable: located in hazard-prone areas; populated largely by IDPs; lacking basic services and adequate housing; and subject to frequent evictions by authorities.[14]

Since 2015, UN-Habitat's Housing, Land and Property (HLP) programme has worked to increase tenure security in Afghanistan's informal settlements. This case study will focus on a community-based HLP project that integrates land tenure and climate resilience programme tools in an informal settlement in the city of Herat, which is the capital of Afghanistan's drought-prone Western Region. In recent years, Herat has experienced droughts and flash floods of increasing frequency and severity, which have been linked to long-term climate breakdown.[15]

The case study settlement of Kart-E-Maiwand includes 347 households, accounting for 1,885 people; 30% of households are headed by women. The site was established almost 12 years ago by people moving from conflict- and drought-affected rural areas seeking safety and access to improved livelihoods.

The UN-Habitat project, which ran from 2022 to 2023, aimed to secure the communal land rights of the area and strengthen the resilience of the community to climate breakdown.

9   Gilbert, A., 2012. De Soto's The Mystery of Capital: reflections on the book's public impact. Int. Dev. Plan. Rev. 34, v–xvii
10 Satterthwaite, D., Archer, D., Colenbrander, S., Dodman, D., Hardoy, J., Patel, S., 2018. Responding to climate change in cities and in their informal settlements and economies. Accessed Aug 28, 2018.
11 Tadgell, Anne, Brent Doberstein, and Linda Mortsch. "Principles for climate-related resettlement of informal settlements in less developed nations: A review of resettlement literature and institutional guidelines." Climate and Development 10.2 (2018): 102-115.
12 Eckstein, D., Künzel, V., Schäfer, L., 2021. The global climate risk index 2021. Bonn: Germanwatch.
13 OCHA, 2023. Humanitarian Needs Overview Afghanistan 2023. OCHA, Kabul
14 REACH Initiative, 2020. Afghanistan: Informal settlement assessment - Factsheet booklet of multi-cluster & COVID-19 analysis, Round 1 (May-June 2020). Available at https://reliefweb.int/report/afghanistan/afghanistan-informal-settlement-assessment-factsheet-booklet-multi-cluster-covid
15 OCHA, 2023. Afghanistan: The alarming effects of climate change. Available at https://www.unocha.org/news/afghanistan-alarming-effects-climate-change#:~:text=Rising%20temperatures%20are%20rapidly%20altering,common%20sight%20across%20the%20country.

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Assessing land tenure and climate needs in Kart-E-Maiwand

To determine the land tenure needs and climate vulnerability profile of residents, UN-Habitat implemented a full coverage household survey and a Participatory Hazard, Vulnerability and Capacity Assessment (PHVCA). Tools deployed during the PHVCA included hazard mapping, hazard matrixes, stakeholder Venn diagrams, and seasonal calendars, conducted with separate groups of male and female participants (Fig 1).

Fig 1: PHVCA mapping session with women participants

The assessments found residents of Kart-E-Maiwand are exposed to severe climate hazards associated with their location: in the drought-prone Western Region and on the banks of a large river, which runs dry in the summer and is prone to flash flooding in spring and winter (Fig 2). Drought, flood and associated disease exposure were identified by residents as the most severe hazards facing the community. These hazards had caused death, damage and destruction of property, and the loss of income and livelihoods. In recent years, droughts and floods have increased in severity and frequency, causing significant hardship to the community.

Fig 2: River channel running through the settlement

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Tenure insecurity is an issue that underpins the community's climate vulnerability. Residents occupy state land and have no legal property documents to confer their tenure rights. Their insecure tenure limits housing investment, resulting in low-quality dwellings with inadequate sanitation facilities that are prone to damage during climate shocks (Fig 3). There are also critical deficits in basic services and infrastructure coverage. The lack of a water supply network increases exposure to contaminated water during periods of flood and drought. In addition, absent flood prevention systems render the community vulnerable to rapid on-set risks to life and property, and slow-onset risks of disease, income loss and associated hardship. The precarious livelihood characteristics of residents compound these challenges, with female-headed households suffering the lowest incomes and most insecure livelihoods. Although the community's capacity to respond to shocks was limited, the important role of community-based organisations in supporting residents was noted.

Fig 3: Resident uses water carried with containers outside typical dwelling

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UN-Habitat's integrated land and climate response

UN-Habitat deployed an integrated land and climate approach to address the vulnerabilities identified in the household survey and PHVCA. The aim was to (i) strengthen community land tenure and (ii) to plan and implement climate resilient community infrastructure. To this end, the following activities were implemented:

1. **Participatory land use mapping** was conducted to create a spatial record of the settlement, including approximate parcel boundaries (Fig 4). Parcels were georeferenced to household survey results. Community groups endorsed the maps, and were supported to secure the endorsement of local authorities. In doing so, this activity provided protection to the customary tenure arrangements that exist in the settlement. In the long term, this activity paves the way for household-level land registration to further strengthen tenure security.
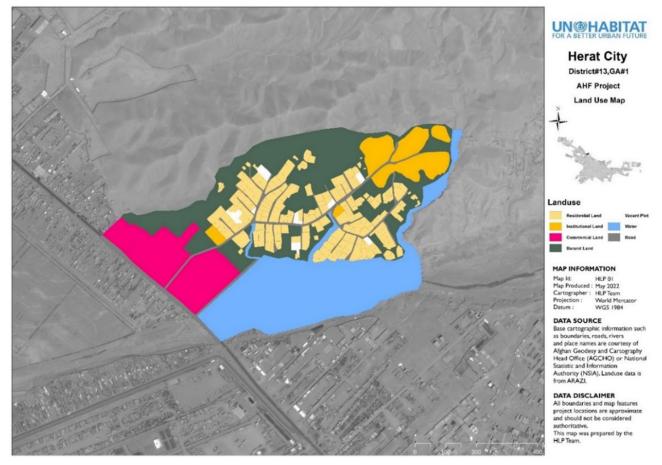

Fig 4: Land use map of settlement

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2. **Community-based vulnerability assessments and settlement planning** activities identified critical climate vulnerabilities and remedial climate resilient investments (Fig 5). Community groups were supported to secure authorities' endorsement of these maps. In this way, the land rights and climate resilient investment plan of the settlement obtained official recognition, reducing the risk of eviction and mainstreaming climate resilient planning in the community's future development.
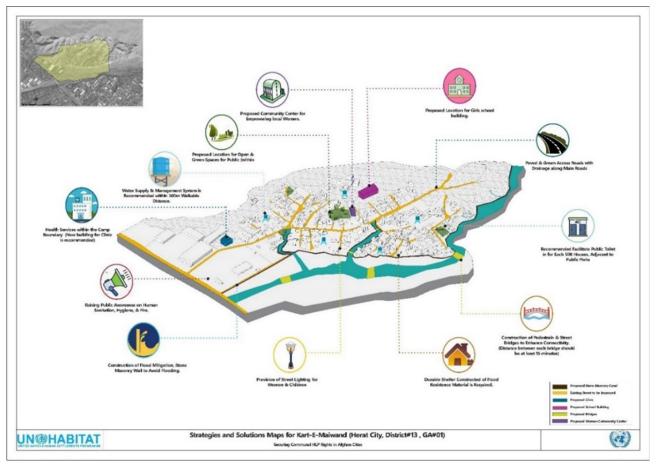

Fig 5: Settlement solutions map

3. **Priority climate resilient community investments** identified in the solutions and strategies map were actioned: to reduce climate risk and consolidate the settlement to strengthen *de facto* tenure security (Fig 6). The community selected a flood drainage system, which resulted in a range of positive impacts for residents (Box 1).

Fig 6: Flood drainage infrastructure

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A key aspect of the integrated land and climate approach was centring the community throughout the project implementation process using UN-Habitat's *People's Process* modality.[16] The UN-Habitat project strengthened the community-based organisation in the settlement through capacity building and training, and by centring it in all project activities: from endorsing land use maps, to identifying climate resilient investments, to negotiating with authorities for endorsement of their land use and settlement plans. Finally, the climate resilient public assets constructed through the project were handed over to the community in a 'handover ceremony'. Local authorities attended the ceremony, confirming their acceptance of the site's legitimacy and future development, further strengthening tenure and mainstreaming climate resilience into urban planning processes.

The project also leveraged opportunities to use community labour for climate resilient outcomes. The construction of the drainage system used community labour implemented through a cash-for-work modality, employing both female and male community members. Providing people with cash-for-work increased their social and economic capacity to cope with climate shocks, while also contributing to the installation of infrastructure that increases their community's resilience (Box 1).

Box 1
Community member's experience of the project

My name is Zainab, I am 30 years of age. I am from the Koshk-E-Robat Sangi district of Herat Province. We occupied this area after leaving our homeland because of drought. Before we occupied the land was vacant, located between the mountains and the river. We have no documents for this land. I have seven children and my husband is an unskilled worker. He suffers from black jaundice, which limits his ability to work. He is also unable to find work that does not involve manual labour because he is illiterate. Recently he was without work; it was a great challenge for me and my family to survive.

Recently, the UN-Habitat project started in our area. I participated in various workshops, including the PHVCA. These gave me and other women helpful information and enabled us to take part in making decisions about the future of our community. Through the workshops we prioritized infrastructure projects based on the problems in our community that need to be solved urgently. I am proud that as a woman my ideas were heard, and I took part in identifying the projects just like the men. Through these workshops, we selected the flood drainage construction project. The canal solves some the biggest challenges for the community, such as the stagnant wastewater causing diseases, impassable commuting routes, and most importantly protection against flooding from the river. With the construction of the canal, we can also use the river water to wash dishes and clothes, because we can access the river safely.

The project has also improved the income of our family. My husband works as a labourer on the project curing the cement for construction. The cash he has received supports our family and pays our living costs. With the skills gained in curing cement, I hope he will gain employment in the construction industry in the future.

Land tenure and climate resilience toolkit

Up-scaling the integrated land and climate programmatic approach detailed in this brief has the real potential to move residents of Afghanistan's informal settlements out of climate vulnerability. The programmatic approach deployed by UN-Habitat in Afghanistan could also be implemented in other contexts for tenure security and climate resilience outcomes. To this end, Fig 7 identifies the key integrated land and climate programme tools, and highlights their links to both tenure and resilience outcomes.

16 Lankatilleke, L., 2010. The people's process: The viability of an international approach. Build. Back Better 63

Project action	Tenure outcome	Climate resilience outcome	UN-Habitat guidance/toolkit
Household survey	Creates socioeconomic record of occupancy history linked to parcels.	Provides detailed gender-disaggregated data on climate vulnerability to inform remedial investments.	Household-level enumeration is a key tool for assessing land tenure needs and climate vulnerability. UN-Habitat has developed several toolkits on enumeration practices in informal settlements covering land tenure (see Fit-For-Purpose Land Administration toolkit) and climate response (see Climate Change Vulnerability and Risk guide)
Participatory assessments	Identifies sources of tenure insecurity and associated vulnerabilities.	Identifies climate hazards, vulnerability and capacity to respond.	UN-Habitat's Climate Change Vulnerability Assessment Manual provides a range of participatory tools to identify community hazards, vulnerability and capacity to respond. Tools include hazard matrixes, transect walks, spatial analysis, and seasonal calendars to assess intersectional risks (mediated by gender, disability) that vary spatially and by season.
Land use mapping	Creates spatial record of land use and occupancy claims. Endorsed maps confer authorities' recognition of communal land tenure rights.	Provides a spatial profile of the area that is useful for future climate resilient planning and investment.	Sustainable land use planning is deployed by UN-Habitat to support climate resilient settlements. The Land Tenure and Vulnerability guide details the participatory processes to demarcate land parcels for increased tenure security, and for defining climate sensitive land use categories, including mapping ecosystem services and natural resources.
Settlement plans	Endorsed maps confer authorities' recognition of communal investment and development plan.	A key tool informing appropriate climate resilience investments that meet the needs of the population.	UN-Habitat has developed spatial planning tools tailored to respond to complex forms of vulnerability that exist in informal settlements. A range of urban planning tools are detailed in the comprehensive Our City Plans manual, which provides guidance on sustainable settlement planning across a range of contexts. There is also guidance on leveraging community-level processes into municipal-scale City Resilience Action Planning.
Infrastructure investment	Consolidate the settlement to increase *de facto* tenure security.	Increases resilience of settlement to climate hazards	In Afghanistan and other crisis settings, UN-Habitat's People's Process provides a community-centred toolkit to upgrade basic infrastructure utilizing local labour and expertise. UN-Habitat also provides guidance on constructing climate resilient community assets in the Climate Proofing Public Infrastructure toolkit.
Cash-for-work	Labour deployed to construct community assets that strengthen tenure.	Strengthens economic capacity of community to respond to climate shocks.	Cash-for-work is an important tool to strengthen climate resilience. There are numerous approaches in deploying cash-for-work for climate resilient outcomes, including providing more workdays in times of climate shocks, and deploying labour to build climate resilient community assets. Details of how cash-for-work is deployed by UN-Habitat in the People's Process toolkit.
Capacity building of community-based organisations	Strengthened community structures to negotiate for tenure security.	Strengthened community structures to identify, implement and monitor climate resilient infrastructure construction, and increase social resilience of community,	UN-Habitat programmes in informal settlements are defined by a community-centred approach and partnerships with community-based organisations. Tools to strengthen community-based organisations for climate resilient outcomes are detailed in UN-Habitat's Pro-Poor Climate Action in Informal Settlements guide.

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