

Policy Brief

Secure and equal access to land for all: Lessons on land governance and climate resilience from Dar es Salaam, Tanzania

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Summary

Secure land and property rights are an essential aspect of planning for and delivering sustainable human settlements, as recognised in the United Nations Sustainable Development Goals and its New Urban Agenda. Secure land tenure schemes can play an especially important role in enabling households, communities and cities to adapt to climate change, for example, by providing secure access to land and shelter and by enabling investment in resilient infrastructure. As effective and equitable land governance can also underpin the realisation of many other development objectives, national governments can further their agendas for economic development, poverty eradication and climate change adaptation by promoting fair and transparent land tenure systems.

In Tanzania, the national government is working to establish clear urban land ownership and tenure systems, which drive economic productivity and enhance quality of life. This policy brief reviews some key elements of the programme by focusing on the 20,000 Plots Project, which aims to give increased land access and security across and beyond Dar es Salaam. To date, the project is the largest land delivery scheme that has ever been undertaken in Tanzania. In terms of the number of plots formalised, the depth of technical and institutional capacities developed, and the involvement of a wide range of governmental and non-governmental stakeholders, the project can be considered a major achievement.



Photo credit: Visty Banaji

About this policy brief

This policy brief was prepared by the University of Leeds. It was developed in partnership with the Coalition for Urban Transitions, which is a major international initiative to support decision makers to meet the objective of unlocking the power of cities for enhanced national economic, social, and environmental performance, including reducing the risk of climate change. The research presented here was conducted in support of the Coalition's Economics workstream, and builds on previous University of Leeds and Coalition research on the economic and social benefits of low-carbon cities. The opinions expressed and arguments employed are those of the authors.

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This policy brief is one of a series on frontrunning climate actions in cities around the world. The objective of this series is to strengthen the evidence on the economic and social implications of low-carbon, climate-resilient urban development. The series focuses on providing robust data on actual or ex post outcomes of climate action, ranging from better public health to job creation to greater equity. Each case study explores some of the preconditions for the successful design and delivery of urban climate action and provides national policy recommendations that could enhance their effectiveness and benefits.



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Although not its main goal, the 20,000 Plots Project clearly contributes to increased climate resilience in Dar es Salaam and more widely. By providing such plots outside of the most flood-prone areas, the 20,000 Plots Project contributed to building the resilience of 29,000 households by reducing the risk of flooding on their plots by nearly two-thirds. In a typical year, this translates into 16,200 fewer households having to deal with flooding. However, the project was marred by inefficient land use and exclusionary implementation processes, which ultimately exacerbated urban sprawl and the growth of informal settlements.

If the Tanzanian government were to design national land reforms that encouraged local authorities to systematically partner with community-based organisations – as demonstrated in the participatory resettlement process of the Chamazi Housing Cooperative and the cost-sharing land formalisation model developed by the Human Settlements Action Company (HUSEA) – Tanzania could enhance the efficacy and equity of its land reforms, with better outcomes for the economy, the environment and society. This process will need to be replicated in cities across the world as more and more land becomes unusable as a result of climate change.

Highlights

- Globally, at least 1 billion people live in slum-like conditions, without access to legal tenure, decent housing, or water and sanitation services.¹ In 2010, 200 million people in sub-Saharan Africa lived in informal settlements in cities.² These people – equivalent to more than 60% of the region’s urban population³ – mostly occupy poor-quality accommodation, in areas with high exposure to climate risk.⁴
- Secure land rights can help to reduce vulnerability to climate change in various ways: at the household level, by providing access to safe land and shelter; at the community level, by increasing the incentive to invest in resilient infrastructure and sustainable land management practices; at the city level, by controlling the environmental impact of urban growth; and at the national level, by providing a blueprint from which to implement climate change mitigation and adaptation plans. Fair and transparent urban tenure systems drive economic productivity by creating a more attractive investment environment, facilitating the collection of property taxes, allowing governments to leverage land-based financing mechanisms, and laying the foundations for a more equitable distribution of assets.⁵
- In 2016, an estimated 24 million people were displaced by climate-related hazards – 32 times the number of people displaced by other geophysical events, such as earthquakes, and three times the number displaced by conflict.⁶ Climate change will place even greater pressure on diminishing supplies of land for both human settlement and productive use.⁷ As the risks associated with climate change increase, the amount of urban space that becomes hazardous will necessitate a greater focus on improving resilience, in situ and via resettlement.
- The 20,000 Plots Project is the largest land delivery scheme that has ever been undertaken in Tanzania. The project was designed and led by Tanzania’s Ministry of Lands, Housing and Human Settlements Development (MLHSD), in response to estimates that the informal sector was producing 19,000 plots per annum to make up for the gap between the number of officially available plots and the number of applications for land received by the authorities.
- By 2010, the project had delivered around 40,000 plots in Dar es Salaam, and 58,590 plots nationwide. This was done using modern technology and multi-stakeholder implementation which reduced the surveying time of the first 20,000 plots from around six years to just 20 months. The project was entirely locally financed: the MLHSD borrowed TZS 8.9 billion (US\$3.83 million)⁸ from the Treasury to cover upfront costs, recognising that the planning, surveying and servicing of the land would unlock its value. Returns of TZS 29.3 billion (US\$12.64 million) – more than triple the initial investment – were generated in the first year of the project through the sale of plots.

- By providing plots outside of the most flood-prone areas of Dar es Salaam, the 20,000 Plots Project reduced the risk of flooding by nearly two-thirds for more than 29,000 households. In a typical year, this translates into 16,200 fewer households having to deal with flooding. However, at the same time, almost 8,000 plots were located in moderate or high-risk flood areas and just 14% of the plots formalised were affordable for low-income groups. The project exacerbated urban sprawl by prioritising the development of low-density, peri-urban plots, and failed to involve communities at any stage. These issues can largely be attributed to major governance deficits.
- Where local residents have organised through community savings groups or partnered with local institutions, they have demonstrated the potential of participatory land-related projects. For example, in Ubungo, a district in Dar es Salaam, the Human Settlements Action Company (HUSEA) has developed a cost-sharing model for land registration that allows lower-income communities to be involved in formalisation without restricting the opportunity for the government to generate revenue from such processes; and in the district of Temeke, with support from the Tanzania Urban Poor Federation and the Centre for Community Initiative, a community displaced by the port development formed a housing cooperative and collectively saved enough to buy a 30-acre plot of land in the ward of Chamazi.
- A project that draws on the fiscal and technological successes of the 20,000 Plots Project, but takes greater care to attend to socio-economic and governance concerns by learning from initiatives such as those by the Chamazi Housing Cooperative and HUSEA, could have significant economic, social and environmental benefits. National governments could create scope for this by designing a flexible land-delivery policy, which can be tailored to suit local needs, draws on innovative land-based financing mechanisms, and encourages local authorities to seek meaningful community participation in land formalisation.

The challenge: Providing equitable access to safe land for adequate housing

THE GLOBAL CHALLENGE

Secure land and property rights are essential for improving the livelihoods of the poor and ending poverty, as recognised in target 4 of the first United Nations (UN) Sustainable Development Goal (SDG 1), which calls for all women and men to have access to, ownership of and control over land and other forms of property. The SDGs recognise that fair and efficient land governance is vital for achieving gender equality (SDG 5), sustainable human settlement planning and management (SDG 11) and land degradation neutrality (SDG 15). The UN's New Urban Agenda also envisages cities and human settlements with secure land tenure.⁹

Cities in low- and middle-income countries face the multiple development challenges of managing rapid urbanisation, reducing social inequity, and protecting the environment, while increasing incomes and living standards. The high degree of overlap across the agendas of economic development, poverty eradication and climate change adaptation implies that there are opportunities for policies to secure multiple benefits.¹⁰

Spatial planning and its associated infrastructure development are essential for economic productivity, social wellbeing and environmental protection. Formal land ownership records can underpin effective spatial planning and facilitate low-carbon and climate-resilient development by providing the legal foundations from which to design compact, connected cities¹¹ and implement climate mitigation and adaptation plans.¹² They can also underpin the pursuit of other development priorities, for instance where they allow for the provision of better housing, improved water and sanitation services, the protection of human rights, and the promotion of gender equality.

However, globally, around 1 billion people live in informal settlements without legal tenure.¹³ This includes more than half of the urban population in the East African countries of Kenya, Tanzania, Uganda and Zambia.¹⁴ These people mostly occupy poor-quality accommodation, frequently in areas with a high exposure to climate hazards.¹⁵

Rapid population growth and climate change will place even greater pressure on diminishing supplies of land for both human settlement and productive use.¹⁶ Sea level rise, shoreline erosion, storm-surge flooding and saltwater intrusion are just some of the climate-induced processes that may lead to the degradation or disappearance of currently occupied land. Low-elevation coastal zones – which occupy just 2% of global land area but over 10% of the global population (nearly 90% of whom are urban dwellers) – are especially susceptible to climate risks.¹⁷ In 2016, an estimated 24 million people were displaced by climate-related hazards; overall, they are estimated to have displaced 32 times more people than other geophysical hazards such as earthquakes, and three times more than conflict.¹⁸

Those living in the informal settlements of coastal cities are among the most vulnerable to such risks, due to the exposed natural setting, built environment factors, and social exclusion.¹⁹ A lack of access to suitable land elsewhere results in the urban poor building weaker structures in hazardous areas, such as on floodplains, river banks or steep slopes. Many residents do not have access to “risk reducing infrastructure and services”, including drainage systems, electricity, health care and emergency services.²⁰ Dense, unplanned development is a leading cause of disease and exacerbates disease transmission, particularly in Africa and South Asia.²¹

Securing land and property rights for slum dwellers where informal settlements are located in habitable areas, or providing them with appropriate alternatives where their land is hazardous, can reduce vulnerability at the household level by providing access to safe land and shelter. Land rights can build household and community resilience by serving as collateral for credit or by being sold, creating new opportunities for income generation.²² They can be a prerequisite for investment in climate adaptation infrastructure and sustainable land management practices, since residents no longer feel at risk of eviction; conversely, having no secure or legally documented land rights inhibits investment in more resilient building structures.²³ Land for shelter is one of the most important assets for low-income urban groups.²⁴

Having legally documented rights to land can protect communities against arbitrary forced evictions or, where displacement is legitimate and necessary, can at least give them a voice in negotiations for resettlement and compensation. In the worst-case scenario, where land must be abandoned to sea level rise, or where habitation is made impossible by frequent and extreme climate-induced impacts, having rights to land can ensure that those who are displaced receive adequate compensation.²⁵ In such a scenario, secure land will need to be made available for the necessary resettlements and changing livelihood needs. The provision of registered and serviced land can minimise the negative impact of relocation and prevent the further growth of informal settlements.

THE CHALLENGE IN TANZANIA

More than one-third of Tanzania’s population of 59 million already live in towns and cities. With a population growth rate of 3.11% and urbanisation rate of 5.22% per annum, the urban population is expected to more than double by 2050. Around three-quarters of the urban population still live in informal settlements.^{26,27} The proportion of the population living in poverty has declined in recent years from 64% in 2010 to 47.4% in 2015, and extreme poverty has declined from 31.3% in 2010 to 17.7% in 2015.²⁸

Severe weather events have already imposed costs on Tanzania. Rising temperatures, droughts, more intense heavy rainfall events, extreme urban heat island effects in cities, and sea level rise make Tanzania the 26th most vulnerable country to climate risks, according to USAID.²⁹ Sea level rise alone will cost the country approximately US\$200 million per year by 2050 in lost land and flood damage.³⁰ Heavy rains frequently displace tens of thousands of people, causing damage to infrastructure, and flood-related deaths are common.³¹

The large number of people living in poor-quality housing, often on land that is exposed to a variety of hazards, are especially vulnerable to climate risks. Recognising that this is a significant challenge to climate change adaptation, Tanzania’s National Adaptation Programme of Action, prepared in 2007, includes the goal to “establish [a] good land tenure system and facilitate sustainable human settlements”.³² However, at present, only 15% of Tanzania’s land surface is surveyed.³³ Barriers to further registration include: limited human and financial capacity; a centralised approach with little involvement of local governments; inappropriate standards, regulations and procedures for land-use planning, regularisation and surveying; the politicisation of land delivery outputs; and the absence of a long-term strategic and resourced plan for land use.³⁴

During the last two decades, many sub-Saharan African countries, including Tanzania, have undertaken land reforms.³⁵ In urban areas, the emphasis has mostly been on land privatisation, with the objectives of stimulating private investment and enabling housing markets to work. Often, reforms are accompanied by titling programmes, which are designed to integrate informal tenures into the formal market. However, the impact of such reforms on the urban poor and on those living in informal settlements has been mixed. Even for those who are able to acquire a legal land title, paying taxes and other charges, securing development permission or complying with rules and regulations on land use are often insurmountable barriers to remaining on the property.³⁶

Land tenure is fundamental for poverty reduction and economic development in a climate-compatible way. Adaptation and mitigation responses in Tanzania must therefore incorporate these issues if they are to adequately counter the threat of climate change.³⁷ National governments have a crucial role to play in designing land-use policies that enhance the ability of other actors – such as local governments and communities – to adapt to the impacts of climate change, and which make for a more equitable distribution of assets.

Methodology

This case study was carried out by a team of researchers from the University of Leeds, in conjunction with colleagues at Ardhi University in Tanzania. It is based on 15 key respondent interviews, as well as site visits to housing developments, reviews of the academic literature, and expert reports from local consultancies and government agencies.

Stakeholders	Method
Federal government	1 interview
Local government	2 interviews
Surveying companies	3 interviews
Civil society	3 interviews + site visit (Chamazi)
Local residents	1 interview + site visit (Mabwepande)
Academia	4 interviews
International financing institutions	1 interview

The policy context: Preventing the expansion of informal settlements in cities

Tanzania is faced with an adaptation deficit, particularly in urban areas.³⁸ The 2012 National Climate Change Strategy represents a significant milestone but focuses primarily on budgetary concerns rather than policy issues, and does not outline an overarching action plan.³⁹ It pays very little attention to climate change in cities – mitigation and adaptation are focused more on natural resources and have a rural focus.⁴⁰

In addition, climate change is not yet mainstreamed into complementary policy areas, perhaps most notably those governing land use. The ability of national and municipal governments to sustainably manage urbanisation and human settlements is to a large extent determined by the land policy and governance context. In Tanzania, this has been shaped by the colonial and political history of the country. For example, the principle planning legislation to this day is the Town and Country Planning Act, which was imported wholesale from the United Kingdom in the 1950s and 1960s, with scant regard for its suitability to the very different geographical and political context of Tanzania.

POST-INDEPENDENCE LAND REFORM

During the early years of independence, Tanzania's first prime minister, Julius Nyerere, reformed pre-existing land tenure rights in order to give greater control to the newly formed nation state. Land was designated as one of the four pillars of development underpinning the country's political philosophy (alongside people, policies and leadership). Freehold titles enjoyed by European settlers and customary systems handled by indigenous chieftains were revoked, and land was effectively leased from the state and thus subject to covenants on use and changes in tenure.

NATIONAL LAND POLICY

By the 1990s, this state-driven approach to land management was overturned by the tide of structural adjustment programmes, which sought to create a more investor-friendly land policy.⁴¹ Accordingly, the Ministry of Lands, Housing and Human Settlements Development (MLHHSD) introduced the first National Land Policy in 1997.⁴² As well as attracting investment and mobilising the accompanying Land Acquisition Act, this new policy was explicitly designed to protect citizens' rights and enable all citizens to participate in decisions on matters connected with their occupation of land. It promised to ensure payment of full and fair compensation to any person whose land was acquired under the Land Acquisition Act. Although the compensation procedures were improved under these laws, in practice land expropriation is still often not conducted in accordance with legal requirements.⁴³

NATIONAL HUMAN SETTLEMENTS DEVELOPMENT POLICY

Shortly afterwards, a new national policy specifically addressing human settlements was also introduced by the MLHHSD. The National Human Settlements Development Policy (NHSDP) of 2000 built on the above commitments to sustainable and inclusive land use, promising to deliver adequate and affordable shelter to all income groups. This vision of providing "housing areas that are functional, healthy, aesthetically pleasant and environmentally friendly" was to be achieved through various objectives, including:⁴⁴

- making serviced land available for shelter and human settlements;
- improving the level of infrastructure provision;
- ensuring planning legislation and building regulations are consistent with the capabilities, needs and aspirations of all sections of the population;
- promoting the use of affordable building materials; and
- assisting the poor to acquire shelter.

The academics interviewed said that the policy is the principle legislation concerning housing but does not adequately cover this (a National Housing Policy is in development). Where housing is mentioned, the focus is on ownership, although safe and secure rental is also desirable in many contexts. It is also not well integrated with other key policies governing the use of land. For example, although one of the objectives of the NHSDP is to prevent land-grabbing for the purposes of land speculation, neither the National Land Policy nor the Land Acquisition Act provide any guidance on how to control this.⁴⁵

MUNICIPAL LAND MANAGEMENT

The Urban Planning Act (2007) established the institutional framework through which planning decisions would be made and implemented at the city level.⁴⁶ This included the legal guidelines that municipal authorities must abide by when acquiring land and compensating stakeholders. Municipalities are responsible for land planning and governance, and – ideally – should work to identify land owners and consult with them on any proposed developments.

When implemented well, this process should lead to the development of “land action plans”, which provide a platform for residents to gain tenure rights and engage in decision-making, and which regularise existing unplanned settlements. In this way, they generate increased revenue for municipalities from land taxes while simultaneously providing access to affordable, well-planned plots of land and shaping urban expansion. However, when implemented poorly, these policies enable national and municipal authorities to forcibly acquire land, with minimal if any compensation for residents (especially those that are unable to prove ownership or who are tenants), and to design urban development plans that favour investors over inhabitants.

The Tanzanian state has sought to tackle the growth of informal settlements by formalising and redeveloping communities in situ, but forced evictions remain commonplace; residents of informal settlements are often relocated to hazardous areas on the urban periphery which are unserviced and where they are disconnected from livelihood opportunities. In both scenarios, extensive consultation and collaboration with local communities is expected but, where power imbalances exist and there are competing interests at play, land management and governance may not always be so democratic or equitable. Ultimately, decisions relating to land titles, tenure, use and plans are all highly contentious and open to conflict.

The case study: State-led land reform and community-led resettlement

Dar es Salaam is a coastal, tropical city and the former capital of Tanzania in East Africa. It remains the country’s most important economic centre and is the most populous city with an estimated 5.8 million inhabitants in the greater metropolitan area.⁴⁷ The city region comprises five districts – Ilala, Kigamboni, Kinondoni, Tembeke and Ubungo – each governed by municipal councils which report to a Regional Commissioner and a Lord Mayor.

Delta cities like Dar es Salaam face a host of climate change-related threats, including sea level rise, flooding, and coastal erosion, as well as ecosystem degradation, heat waves, food scarcity and greater susceptibility to vector-borne diseases. The city is particularly vulnerable to water-related impacts, the effects of which are exacerbated by inadequate infrastructure, such as storm drainage and flood defences.⁴⁸ Frequent high-intensity flooding in Dar es Salaam has caused damage to property and infrastructure, the disruption of economic activity, the spread of disease, and even deaths.

Low-income residents of informal settlements are particularly susceptible to damage caused by heavy rain and other climate-related shocks. Approximately 80% of the city's population lives in informal settlements, on sites which flood regularly.⁴⁹ Some of these unplanned areas have population densities of up to 300 persons per hectare (compared with a citywide average of just 24).⁵⁰ Poverty and vulnerability in these areas are compounded by a failure to prepare for and accommodate rapid citywide population growth – from just 67,000 in 1950 to 572,000 in 1975, and close to 6 million today.⁵¹

The provision of legal tenure and serviced space within urban areas has not kept pace with the urban population growth – informal settlement is the norm in the city, and wealthier citizens have also established informal neighbourhoods. This need for attention to land use management has long been recognised, but not acted on: even the last masterplan, dating back to 1979, identified the need to prevent or restrict residential developments in areas at risk from floods and erosion.⁵² Since then, these hazards and investment in major infrastructure developments – such as mass rapid transport construction and port expansion – have resulted in the displacement of many residents of informal settlements.

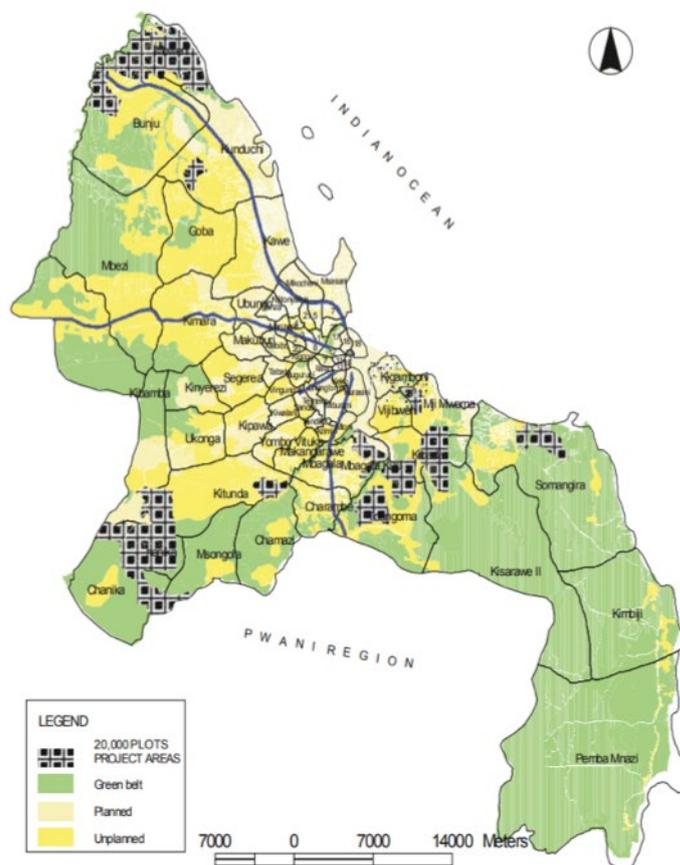
The provision of safe land for both the relocation or upgrading of existing informal settlements, and for new homes to meet growing demand, is a problem. Land delivery since independence has been sporadic. Still, the Government of Tanzania has done an impressive job of designing an overarching policy framework, which creates scope for systemic changes to land use and financing. If the national government were to encourage local authorities to systematically partner with community-based organisations, Tanzania could enhance the efficacy and equity of its land reforms – with better outcomes for the economy, the environment and society.

SUCSESSES: LOCALLY FINANCED LARGE-SCALE LAND DELIVERY

The 20,000 Plots Project, which began in 2002 and delivered more than 40,000 plots in Dar es Salaam by 2010 (see Figure 1), is to date the largest land delivery scheme that has ever been undertaken in Tanzania. In terms of the number of plots formalised, the depth of technical and institutional capacities developed, and the involvement of a wide range of governmental and non-governmental stakeholders, the project can be considered a major achievement.

However, the project was marred by inefficient land use and exclusionary implementation processes. These challenges are described in more detail in the following section. This section describes the positive outcomes of the 20,000 Plots Project. It then outlines two examples where communities are working with local authorities and institutions to lay foundations for inclusive and sustainable economic growth through efficient land use, good service delivery and participatory decision-making. Lessons from these cases regarding the co-production of essential infrastructure could help to address the governance deficits encountered in the 20,000 Plots Project.

Figure 1
Locations of the 20,000 Plots Project areas



Source: UN Habitat et al., 2010.⁵³

The 20,000 Plots Project

The 20,000 Plots Project was designed and led by the MLHSD in response to estimates that 19,000 informal plots were being produced annually to make up for the gap between the number of officially available plots and the number of applications for land received by the authorities.⁵⁴ The aims of the project were to: address the shortage of surveyed and serviced plots in the country; prevent the further growth of informal settlements, especially in hazardous and flood-prone areas; control land speculation; reduce poverty by issuing land titles, which could be used as collateral; and implement the ruling party’s manifesto, which promised to use planning and surveying to construct better human settlements.

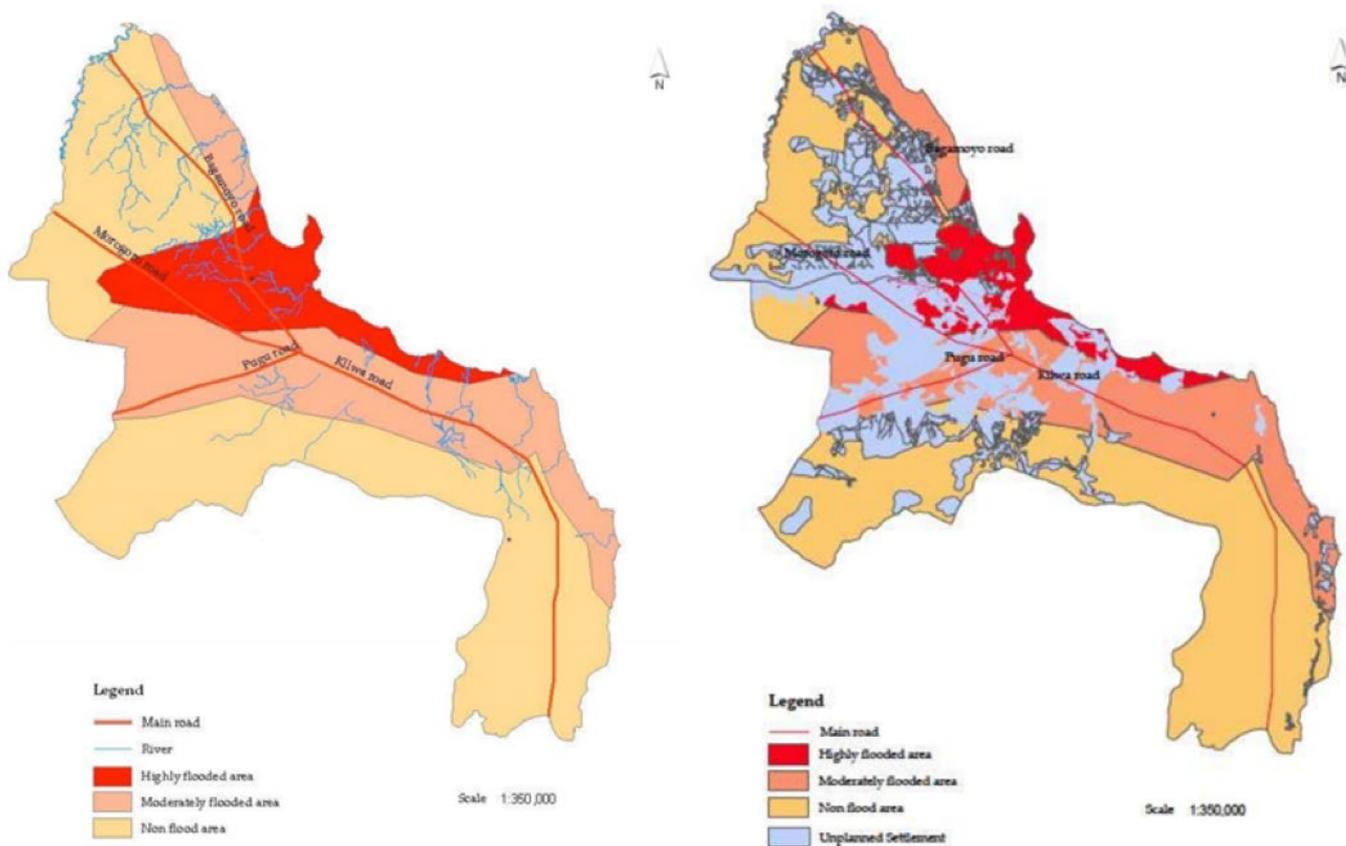
Interviewed academics, surveyors and government officials consider the project an impressive example of successfully implementing a regulatory framework. The link with the ruling party’s agenda meant that political backing was strong and the MLHSD was able to achieve an unparalleled rate of delivery by mobilising resources from all over the country. Surveyors from other cities were brought in and trained. MLHSD engaged the private sector, which surveyed around one-third of the total plots delivered. The multi-stakeholder model and the use of modern technology reduced the surveying time of the first 20,000 plots from around six years to just 20 months, according to surveyors involved in the implementation.

The financing mechanisms too were notable, and entirely from domestic resources. The MLHSD borrowed TZS 8.9 billion (US\$3.83 million) from the Treasury to cover upfront costs, recognising that the planning, surveying and servicing of the land would unlock its value. Academics interviewed say that it was the first time the government actually acknowledged that land has value, and attempted to leverage the benefits associated with it. Returns from the sale of plots in the first year were more than triple the initial investment, generating TZS 29.3 billion (US\$12.64 million) in revenue for the government.

Profits were put towards the provision of rudimentary infrastructure in project areas. Almost 1,000 kilometres of earth roads were constructed, and more than 50 town plans were designed.⁵⁵ Some of the revenue was used to kickstart replications of the project in other municipalities. By 2010, the project had delivered around 40,000 plots in Dar es Salaam, and 58,590 plots nationwide (including 10,000 in Mwanza, 2,700 in Morogoro, 2,390 in Mbeya, 3,000 in Bagamoyo and 500 in Kibaha).⁵⁶

Figure 2

Flood hazard zones in Dar es Salaam (left) and flood hazard zones with unplanned settlements (right)



Source: Pan-African START Secretariat et al., 2011.⁵⁷

Although the project was not designed to address issues of climate change, there were examples of climate-induced resettlement cases within the project area. For example, following devastating floods in December 2011, the government relocated 1,006 displaced households from the flood-prone informal settlement of Suna and allocated them formal land in Mabwepande. In addition to title deeds, the government provided trucks for moving belongings, building materials, tents, and temporary sanitary facilities in the then undeveloped plots. Six years later, interviewed residents of Mabwepande reported that, compared with Suna, the incidence of disease – particularly malaria – is much lower. The planned peri-urban environment is healthier for children, who have space to play, and safer for livestock, as animals are less exposed to flooding and theft. Perceptions of drug use and criminality have been reduced, and families report having been able to use their titles to access credit facilities, which have then been used to invest in education and productive assets, as well as to enhance resilience to future shocks by upgrading their housing.

Box 1

Reducing flood risk through land delivery in Dar es Salaam?

By plotting the location of 20,000 Plots Project settlements and the locations of the major slums in Dar es Salaam against maps of flood risk, estimates of the impact of the 20,000 Plots Project on disaster resilience can be made.

Using this approach, results suggest that for an average household the probability of facing a flood in a given year declined by almost two-thirds following the 20,000 Plots Project. This is equivalent to 16,200 families or nearly 70,000 people avoiding flooding events annually.

However, these average figures hide the fact that nearly 8,000 plots were assigned in moderate and high-risk flooding areas, and as a result likely increased flooding risks for households. In recent years, flooding has occurred in both the short and long rainy seasons and, as climate change continues, the frequency and severity of flooding may increase, emphasising the need for land-use planning – and urban planning more generally – to prioritise flood resilience.

By providing such plots outside the areas of Dar es Salaam most at risk of flooding, the authors have calculated that the 20,000 Plots Project reduced the risk of flooding by nearly two-thirds for more than 29,000 households. In a typical year, this translates into 16,200 fewer households having to deal with flooding.

Community initiatives to secure legal tenure

In partnership with local authorities, community initiatives to secure legal tenure are enabling residents to invest in better housing without fear of eviction. The following models demonstrate how joint ventures between public, private and community-based organisations can establish urban land-use systems, which stimulate economic productivity by protecting livelihoods, facilitating investment in infrastructure, and reducing inequality. Lessons from these case studies could inform the design and implementation of national land and housing policies that are inclusive, affordable and resilience-building.

Empowering lower-income communities to be involved in the formalisation process can have strategic value by creating opportunities for municipalities to realise the full social and economic value of land. The Human Settlements Action Company (HUSEA) has developed a cost-sharing model for land registration that has already achieved results at an impressive scale. Since 2017, the municipal council of Ubungo has so far approved 4,926 plots under this scheme, a remarkable statistic considering that some estimates place formal plot provision in urban areas at a rate as low as 6,000 per annum across the country as a whole.⁵⁸

The HUSEA model targets sub-ward communities in informal settlements. Each household in the community contributes TZS 200,000 (US\$86) for their land to be surveyed, plus an additional TZS 100 (US\$0.04) for every

square metre of land they occupy. Regressive funding is offset by taking greater contributions from larger landowners for investing in infrastructure that is to be installed locally, including roads and sewers. In some cases, larger landowners also donate land to be used for common purposes.

The proceeds are used to cover HUSEA's surveying costs, and a local nongovernmental organisation (NGO), the Ardhi Clinic (Swahili for "Land Clinic"), moderates the process. An agreed percentage of the money also goes towards community infrastructure upgrading. Open spaces within the communities are titled as public land and the deeds are given as a gesture of goodwill to the local government, who are required to approve the final plans. Since the formalisation process also facilitates their collection of property taxes, they are usually glad to do so.

Where residents have organised themselves through savings groups, they have been able to acquire land that contributes to building community resilience. In Kurasini, 300 families faced resettlement due to the redevelopment of the port area in 2007. With support from the Tanzania Urban Poor Federation (TUPF), the community formed a housing cooperative and collectively saved enough money to buy a 30-acre plot of land in the ward of Chamazi. A local NGO – the Centre for Community Initiative (CCI) – provided technical assistance and loans to help the community develop a masterplan that included a variety of land uses, allocating space for a market, horticultural activities, a health centre and a school. CCI and TUPF worked with Slum/Shack Dwellers International to leverage US\$100,000 of funding from The Rockefeller Foundation for the purposes of demonstrating a successful relocation.

Between 2007 and 2012, the Chamazi Housing Cooperative constructed 42 homes, a solar-powered borehole, water points and a sewerage system. This equates to construction costs of a little over US\$2,000 per home – dramatically low compared with the construction of an average dwelling in Dar es Salaam, which costs around US\$18,000, and less than 10% of the US\$23,000 average cost of building a home in sub-Saharan Africa.⁵⁹

Inspired by Thailand's Baan Mankong collective housing programme, Chamazi Housing Cooperative applied for and was granted planning permission to develop plots of 200 square metres (half of the legally ordained minimum plot size). To reduce the capital costs of the project, and since the capacity of community members to repay loans was low, they adopted an incremental approach to housing construction. This allowed owners to develop their housing based on their own needs and resources, with maximum flexibility.⁶⁰ This involved initially building single-storey houses (containing a kitchen, a bathroom and a living area) to which a second storey could be added later – reducing upfront costs and also likely overall costs, with interest. This model lays the foundation for high but liveable density, which is both environmentally favourable and more affordable.

CHALLENGES: GOVERNANCE DEFICITS AND ENVIRONMENTAL CONCERNS

Despite successes in terms of financing and implementation, the 20,000 Plots Project demonstrates that strengthening tenure security without implementing complementary measures to support equitable access to and use of land can increase inequality. Ultimately, this will have negative impacts on economic growth, poverty reduction and the environment.

Only 14% of the plots formalised were affordable for low-income groups.⁶¹ Interviewed surveyors reported that land speculation was only controlled in the very short term – today, plots are selling for 20 times as much as their 2004 prices. Even the small proportion of low-income families who did manage to access a plot have mostly chosen to sell their land for profit, and have since returned to the informal settlements and hazardous settings from which they were relocated in the first place. Community participation in the project was absent.

There was little regard for other major issues that should have been mainstreamed into the land delivery. The project exacerbated urban sprawl due to the large plot size and lack of transit links: just 16% of the plots produced are consistent with high-density urban development. Existing land use issues were not given due consideration. Compulsory land acquisition (where sites were not vacant) and the division of land into specified plot sizes reduced the availability of agricultural land close to the city. Compensation was offered for existing crops and for the loss of farmland, but did not take into account the longer-term losses of income or food for subsistence. Climate change

was not incorporated in the project design: the fact that nearly 8,000 plots were designated in areas with moderate and high flood risk, potentially increasing exposure to flooding for approximately 33,000 people, suggests that the resilience benefits highlighted in Box 1 were incidental.

Citywide, the delivery of serviced land has been especially slow since the 20,000 Plots Projects ended in 2010, and unmet demand for housing plots has continued to grow. As a result, the growth of informal settlements in Dar es Salaam continues. Many of these challenges can be attributed to governance deficits. Coordination between different levels of government and between different governmental departments was weak. The project was centrally implemented, with very little authentic power devolved to the local level, despite national government expecting local governments to maintain the project areas. The MLHSD largely withdrew once the plots were surveyed and the initial rudimentary infrastructure was in place, leaving the municipalities with limited resources and little political backing to make any further improvements. Poor coordination with other government agencies meant that infrastructure and services, such as piped water supply, sewage systems, and public transport, were not always delivered in unison with plots.

Resettled areas like Mabwepande and Chamazi (located 25 kilometres and 20 kilometres from the city centre respectively) have since become surrounded by informal settlements. This makes service provision in and maintenance of the formal settlements difficult, and highlights that formal land systems are failing to keep up with urban population growth. Poor transport links make the city centre and its associated concentration of economic opportunities unreachable for the poorer residents, reducing income-generating opportunities, while household expenditure has increased due to the higher price of market goods. In Chamazi, repayments for housing construction became extremely difficult. In Mabwepande, difficulties were exacerbated by the disregard shown to existing social networks in the resettlement process. This resulted in reduced access to informal service provision, such as short-term microcredit and childcare.

Scaling up the benefits

As the risks associated with climate change increase, more land is likely to become unusable, and the process of resettling communities will be increasingly necessary in cities like Dar es Salaam.⁶² Economic development and building resilience at the community level will require the upgrading of informal settlements and an improvement in the ability of the urban poor to legally acquire safe land. Municipalities can harness land rights to manage the environmental impact of urban growth, to facilitate effective urban planning and infrastructure investment, and to generate revenue to sustain the provision of safe land for all. Nationwide, fair and transparent urban tenure systems can lay the foundations for urban planning that unites the agendas of poverty eradication, economic development and climate change adaptation.

Despite major shortcomings with regard to inclusivity, the 20,000 Plots Project remains the largest land delivery scheme in Tanzania to date. The number of plots delivered in six years far exceeded the total number created across the country since independence in 1961.⁶³ The financing mechanisms of the project made economic sense, generating much-needed revenue for the government and demonstrating that the successful implementation of an ambitious regulatory framework could be achieved without donor funding or support – a significant achievement since a lack of resources is often a major obstacle in supplying urban land.⁶⁴

Yet the perceived benefits from land registration and titling are not automatic, and in some circumstances they can even have an adverse effect.⁶⁵ The public preparation of urban land in cities – particularly those like Dar es Salaam that are located in low-elevation coastal zones – must proceed far more efficiently and equitably than it does at present, if human settlements are to develop in a coordinated and sustainable manner.⁶⁶ National governments could draw on the fiscal and technological successes of the 20,000 Plots Project and incorporate participatory governance and implementation measures from community-led initiatives to deliver land reforms that enhance economic productivity, social equity and environmental protection.

The collaborative and innovative processes practised by the Chamazi Housing Cooperative and HUSEA demonstrate how governments can work with a variety of stakeholders to shape urban form while enhancing the wellbeing of the poor and vulnerable. For example, altering planning standards to allow for smaller plot sizes (as Namibia has done) is cost-effective both for residents, who have to buy less land, and for governments, who have to spend less on connective infrastructure.⁶⁷ Likewise, group tenure or block land titles can help individuals overcome restrictive upfront costs by facilitating the pooling of resources, and can also reduce surveying costs overall and generate revenue through property taxes. Incremental housing construction can help to make participation in the formal housing market more attainable for those who might otherwise be constrained by their inability to meet strict regulations upfront. Allowing for these mechanisms in land delivery projects could accelerate land administration processes (including the regulation of land and property development, the generation of revenues from the land through sales, leasing and taxation, and the use and conservation of the land), while also making such projects more inclusive and reducing their environmental footprint.

Experiences from Chamazi and Mabwepande show that relocation should be minimal. Evictions and resettlements can be traumatic for those involved: livelihoods can be compromised, access to essential services may be lost, assets may be destroyed or rendered useless, and social networks are broken up.⁶⁸ A land registration model like that demonstrated by HUSEA and the communities with which it works is one way in which tenure can be strengthened in situ for lower-income residents. Protecting inhabitants' right to remain in their homes can stimulate investment in resilience-building infrastructure.

Cities like Dar es Salaam, however, are likely to see more and more cases where relocation is the best option – given the increase in climate change risks – and will need to be prepared for this. A growing body of literature recognises the need for resettlement of vulnerable populations as an adaptation strategy, assuming that it is voluntary, development focused, and only undertaken as a last resort.⁶⁹ This approach could reduce the impact of disasters in terms of human lives and injuries, and present an opportunity to improve the standard of living of vulnerable groups.⁷⁰

Community-led efforts require partnerships with the state to achieve scale and security. National governments must play a clear role in enabling meaningful participation from a wide range of stakeholders, as shown in Uganda's Transforming Settlements of the Urban Poor (TSUPU) programme.⁷¹ Such joint ventures generate the opportunity to move towards more inclusive urban-development planning and service delivery,⁷² which in turn will underpin national efforts on economic growth, poverty alleviation and climate change action.

Policy recommendations

Five main policy recommendations emerge from this case study.

- 1. Establish a clear national policy framework for land surveying and registration and develop a reliable digital registry.**

Secure land rights can form the foundations of broader policy agendas, which drive economic development by creating an attractive investment environment, and which build resilience by improving infrastructure and service provision to reduce the vulnerability of marginalised groups. The 20,000 Plots Project demonstrates how actions from national governments can enable urban policy-makers to leverage the value of land (and property) to support urban development. In Tanzania, this was done by allowing city governments to borrow against the expected returns from land sales and property taxes that would be delivered as part of the project, thereby enabling investment in infrastructure and urban development. Such land-based financing mechanisms can only be accessed where there is a legal and formal foundation, which requires the development of a clear national policy framework for land surveying and the registration of land in a reliable digital registry. Ensuring that appropriate governance structures are in place to secure the effective and equitable implementation of such measures on social, economic and environmental grounds is also critically important.

2. Ensure surveying and registration is carried out in a way that contributes to inclusivity and sustainability objectives.

It is not only necessary to make more registered and serviced land available in absolute terms, but to do so in a way that increases access for and the participation of the urban poor, without causing a negative environmental impact. National governments could facilitate community-led enumeration and mapping, drawing on lessons from HUSEA. Policy could be reformed to allow greater flexibility of formal titling and building regulations. For example, national governments could permit block titling or group tenure – as used in the Chamazi case, and also extensively in Thailand’s Baan Mankong upgrading programme – to provide secure land tenure for and prevent the crowding out of low-income households, by allowing communities to pool resources. Programmes should actively enable incremental housing development, also known as self-help housing, as a flexible construction approach that closely resembles how the urban poor often construct their own homes in informal circumstances. The environmental impact of construction could be reduced by encouraging compactness, which contributes both to greater affordability and more efficient and equitable land use. Governments could consider reducing or removing regulations on minimum plot size, and reforming property taxes to encourage more intensive land use, for example through “split-rate” policies that tax land at a higher rate than buildings and improvements.

3. Build institutional and technical capacity for land reform at the national and city level.

The 20,000 Plots Project demonstrated that the national political prioritisation of providing serviced land can ensure the successful implementation of land policies. However, in order to make such projects more inclusive, as well as self-sustaining over subsequent political terms, it is important that municipalities are equipped with the resources and expertise to ensure the ongoing delivery of land. One option could be to reform national planning standards to allow greater flexibility in building designs and to build capacities for local authorities to better tailor them to local needs, as demonstrated in Chamazi where the minimum plot size was reduced. Municipalities should build capacities to work with local actors to prevent conflicts, which could incur wider social and economic costs. National governments can also encourage and enable local authorities to seek meaningful community participation in project design and implementation. The state of Kerala in India, for example, was able to achieve impressive levels of cost-efficiency and high satisfaction among beneficiaries when implementing national-level public housing policies, through effective partnerships involving state government and municipal authorities as well as community-based organisations and research institutes.⁷³

4. Support the mapping of climate risk and vulnerability, and target vulnerable areas and groups in the provision of formal land.

A key tool for developing inclusive, climate-resilient cities is the mapping of vulnerabilities. There is a need for urban vulnerability assessments to enable local governments to identify vulnerable groups and downscaled climate modelling to project which parts of the city will be the most exposed to risk. With this data, governments can develop effective responses – in land reform and planning – with targeted adaptation measures that take into account the spatial implications of climate change. This information can be used to help governments make decisions regarding the prioritisation of investments and actions. Engaging communities in this process – as in the World Bank-supported Dar Ramani Huria (Swahili for “Dar Open Map”) community-based mapping project – can be a collaborative and cost-effective way to begin the mapping process and can also stimulate greater awareness of and engagement in disaster risk reduction.⁷⁴

5. Develop coordinated urban plans by ensuring that land policies are integrated with other urban development priorities to generate societal and environmental gains.

Fair and transparent tenure systems could form the basis of a comprehensive city-scale development plan, which limits urban sprawl, supports accessibility, and promotes efficient and equitable land use. An effective land-based strategy to integrate land use and infrastructure development can harness economic, social and environmental gains.⁷⁵ Coordination between national policy-makers, municipal authorities and service providers (such as utilities companies, property developers and transport operators) is critical for effective and strategic land use planning. National governments can play a key role in regularly convening these stakeholders to develop integrated spatial and infrastructure plans.

Conclusions

Secure land and property rights are essential for improving the livelihoods of the poor and ending poverty. In terms of addressing climate change, land rights can reduce vulnerability in various ways: at the household level, by providing access to safe land and shelter; at the city level, by controlling the environmental impact of urban growth; and at the national level, by providing a blueprint from which to implement climate change mitigation and adaptation plans.⁷⁶ Land for shelter is one of the most important assets for low-income urban groups.⁷⁷

The 20,000 Plots Project in Dar es Salaam is the largest land delivery scheme that has ever been undertaken in Tanzania. Over the course of eight years (2002–10), the project delivered 40,000 plots in Dar es Salaam, and 58,590 plots nationwide. This was achieved using modern technology and multi-stakeholder implementation, which allowed rapid delivery. The project was entirely locally financed, and demonstrated how revenue can be generated for governments using land value capture mechanisms.

However, the project's successes were tainted by major governance deficits related to inclusivity and environmental concerns, which may have served to reduce the resilience of urban residents to climate change and which exacerbated inequality by displacing low-income residents. One of the most difficult aspects of climate adaptation and mitigation is the lack of connection between land use planning and infrastructure provision. The 20,000 Plots Project was implemented in mostly peripheral areas without adequate transport links, exacerbating urban sprawl and disconnecting communities from their livelihoods.

Examples from bottom-up participatory land-related projects in Dar es Salaam – including the HUSEA and Chamazi Housing Cooperative – demonstrate that progress is being achieved in Tanzania. Lessons from such projects regarding inclusivity and environmental concerns (for example, incentivising dense development, in non-hazardous areas, selected through community participation, coordinated with infrastructure provision, and taking livelihoods into consideration) should be mainstreamed into the designs of projects like the 20,000 Plots Project. Land delivery could therefore contribute to the reduction of environmental degradation by encouraging sustainable urban form, and to the increased resilience of urban residents – in particular the urban poor.

Growing national populations, particularly in urban areas, will only increase demand for planned, serviced land. Furthermore, as land becomes unusable as a result of climate change, at-risk populations will require relocating, a process that will need to be repeated in cities across the world. National governments can develop the foundations for land use, resilience and development policies to be mutually supporting, by ensuring that land use and wider urban planning policies are integrated. Flexible national leadership that empowers communities and municipal governments to adapt land governance arrangements to suit local contexts could stimulate multiple benefits for poverty eradication, economic development and climate change adaptation.

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ABOUT THE COALITION FOR URBAN TRANSITIONS

The Coalition for Urban Transitions – launched in 2016 at the Climate Leaders’ Summit in New York – is a major new international initiative to support decision makers to unlock the power of cities for enhanced national economic, social, and environmental performance, including reducing the risk of climate change. The Coalition provides an independent, evidence based approach for thinking about ‘well managed’ urban transitions to ensure that the growth of urban areas, and the accompanying process of economic, social, and environmental transformation, maximises benefits for people and the planet.

The initiative is jointly managed by the **C40 Cities Climate Leadership Group (C40)** and **World Resources Institute (WRI) Ross Center for Sustainable Cities**. Members include over 20 major institutions spanning five continents, including research institutions, city networks, international organizations, infrastructure providers, and strategic advisory companies. The initiative will be overseen by a Global Urban Leadership Group to steer and champion the work.

Follow the Coalition’s work at www.coalitionforurbantransitions.org on LinkedIn, on Twitter @NCEcities and Facebook @coalitionforurbantransitions.

ABOUT THE UNIVERSITY OF LEEDS

The University of Leeds is a founding member of the prestigious Russell Group of Universities and a leader among UK research intensive institutions. With over 8000 staff and 32000 students, the University of Leeds is consistently ranked in the top 100 Universities worldwide and the School of Earth and Environment has been recognised among the top 50 Environment schools globally. For the most recent work from the University of Leeds on urban areas and climate action please visit www.candocities.org

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