DO YOU KNOW YOUR CITY?

Results from collaborative data initiatives to drive innovation in cities

Cities Alliance

Cities Without Slums

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The Cities Alliance Innovation Programme
This publication documents results from the Cities Alliance Innovation Programme Call for Proposals on the theme Know Your City! The Innovation Programme is a Cities Alliance global funding instrument to identify and support innovative partnerships and approaches in cities of all sizes around the world. It enables Cities Alliance to create impact for catalysing change where it matters most; our small grants directly reach and benefit communities at the neighbourhood level. By providing seed funding as well as access to networking and learning, Cities Alliance empowers its grantees to transform their communities and cities, catalysing the innovative potential within those spaces. Although the Innovation Programme projects intervene in cities and communities, they generate creative solutions to problems cities face today that link to Cities Alliance's work at all levels.

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Foreword

In 2015, the global community embarked on a new development commitment, underpinned by the Sustainable Development Goals (SDGs), to foster integrated action on social, environmental and economic challenges, with a focus on inclusive development that leaves no one behind. With around 70% of the world population estimated to live in cities by 2050, the cities of today are building the crucial foundation that determines whether these goals will be achieved or not.

Despite major advances in information technology, there is little reliable data on (or recognition of) how cities are growing and changing. This is especially true for poor urban areas, where a shortage of information often reflects the social and economic marginalisation of the poor. Without the relevant information, it is very difficult to make informed policy choices for the whole city and all its citizens. This marginalisation of the urban poor is often reinforced by a lack of community representation in collecting neighbourhood data, for example in official surveys and censuses.

To help fill this gap, the Cities Alliance initiated a call for proposals to identify and support local innovations in community-oriented data gathering initiatives. Through our call, we identified 11 projects from Asia, Africa and Latin America that provide vivid examples of how community-driven, collaborative data initiatives can improve accountability, transparency and trust to support inclusive city planning and responsive service delivery.

Transforming data into innovation in cities is as promising as it is challenging. Data alone does not automatically lead to action or improvement of local governance. Change depends on whether data is understood and used, in line with local governments' needs and capacities. It requires strong political leadership, as well as citizen mobilisation and participation. We hope that this publication inspires mayors, community organisations and development partners looking to support the global commitment to leave no one behind in rapidly urbanising cities

William Cobbett
Director, Cities Alliance

1. INTRODUCTION

There are several reasons why data collection remains a challenge around the world, particularly in secondary cities in low- and middle-income countries. First, collecting demographic, economic and social information is often the responsibility of national statistical offices, which can create a "national bias" in which data collection fails to include the local level. Instead, data production focuses on the strategic needs of nationwide policies, and information is collected through traditional census methodologies. Data relevant to local governments is typically non-existent, and local actors are unable to access the existing national-level data.

Amid a backdrop of decentralisation, rapid urbanisation and population growth, local governments face pressure from a rising demand for urban goods and services. However, most subnational governments are not equipped with the necessary financial, technical or human resources to meet the demand. They also typically lack the capacities and resources to collect, use and disseminate disaggregated data by geographic location.[1]

As a result, many cities have poor-quality data sets with information that is not disaggregated and excludes entire population groups or settlements. This makes multivariate analyses difficult, such as identifying service accessibility

An Innovative Data Toolkit for City Management

To support local government officials in their data management, the Cities Alliance developed a practical, step-by-step guide that compiles basic data, system, resources and security needs so that cities can plan and govern more effectively. It helps local governments:

1. Identify, collect, manage, analyse, and use data so they can understand the city better and make evidence-based decisions; and
2. Govern and plan according to four typologies: metropolitan cities, secondary cities, regional capitals and urban growth corridors.

The toolkit is a resource for cities with data and information and communication technology (ICT) systems at all stages in development. Learn more http://www.citiesalliance.org/sites/citiesalliance.org/files/DataToolkit_WEB.pdf

[1] Eric Swanson. "Data Disaggregation: Like the Layers of a Pyramid," United Nations Foundation blog, 30 April 2015. http://unfoundationblog.org/data-disaggregation-like-the-layers-of-a-pyramid.

obstacles for members of a certain minority group or the need for more focused, tailored policies. Disaggregating data by geographic location is key to understanding inequalities within settlements and the territory as a whole. In a context where resources are limited and demands urgent, indicators based on disaggregated data can support a more strategic allocation of scarce public resources to vulnerable groups or areas – becoming the backbone of a more equitable, cost-efficient policymaking agenda.

Traditional collection methods and data sources alone – such as government census surveys and administrative sources – are insufficient to close this gap. To be relevant for urban planning, innovative data approaches are needed that include different stakeholders in data collection or build on new technologies.

Quality and availability of data also play a key role within the United Nations 2030 Agenda for Sustainable Development. Local-level data gaps and the lack of data on all social groups have been identified as key issues for monitoring the progress of the SDGs. The importance of local urban actors for the implementation and monitoring of SDG 11 on sustainable cities and communities, as well as other SDG targets with an urban dimension, has also been recognised.

The opportunities of new technologies and collaborative data initiatives

New technologies have led to an exponential increase in the volume, quality and types of information available worldwide.[2] Researchers are referring to a "Data Revolution," where technology has enabled us to collect data cheaper and faster and disseminate it more widely, for example through mobile phones and GPS devices. As this transformation provides a pathway for innovation and effectiveness in policymaking, international development bodies have also called for a data revolution in sustainable development.[3] Their goal is to ensure that governments and the development community will work to guarantee that this data revolution benefits all citizens

New technologies and new approaches to data collection have supported the rise of citizen-generated data,[4] where civil society and communities take a leading role in data collection and use. Innovative and collaborative data and information initiatives build on a multi-stakeholder approach by supporting collaboration between local governments and citizens in data collection, use and understanding of data.

Innovative and collaborative data and information initiatives engage citizens and governments to collaboratively collect, understand and use data and information to fill in existing data gaps.

Citizen-generated data (CGD) refers to recent innovative methodologies where citizens take a leading role in data collection and use it to directly monitor, demand or drive change on issues that affect them. *(DataShift, 2015. "What is citizen-generated data and what is the DataShift doing to promote it"?)*

[2] Independent Expert Advisory Group (IEAG) on a Data Revolution for Sustainable Development (2014). *A World that Counts: Mobilizing the Data Revolution for Sustainable Development*, http://www.undatarevolution.org/wp-content/uploads/2014/11/A-World-That-Counts.pdf.

[3] OECD (2017). *Development Co-operation Report 2017: Data for Development*. OECD Publishing: Paris, https://doi.org/10.1787/dcr-2017-en.

[4] Datashift Global Gender Thematic Forum – Exploring the global coverage, credibility and complementarity of civil society and citizen-generated data on gender issues.

These novel approaches can produce disaggregated, reliable and accurate data and information sets that will inform better-tailored, more effective and inclusive governance processes. As the next chapters outline, they provide the chance to:

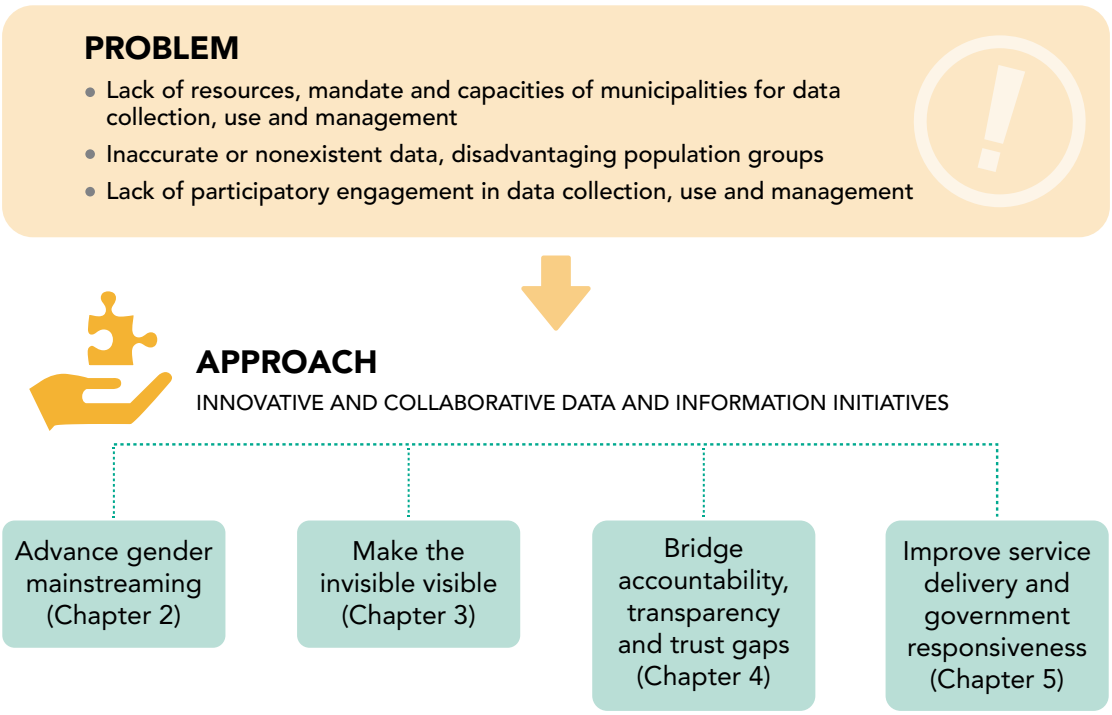
Advance Gender Mainstreaming (Chapter 2)
Innovative and collaborative data and information initiatives can collect sex-disaggregated data and eliminate gender biases from data sets to reflect the realities of all population groups. Therefore, they support policy making and service delivery that respond to the needs of all, including women and girls, and contribute to women's empowerment and gender equality.

Make the Invisible Visible (Chapter 3)
Through collaborative and innovative approaches, data and information initiatives can provide quality data on the whole city, including informal settlements, which are often excluded from official data sets. Their data can empower citizens to advocate for their rights and inform the government's decision-making processes for more inclusive urban planning.

Bridge Accountability, Transparency and Trust Gaps (Chapter 4)
Innovative and collaborative data initiatives can provide openly accessible information and create new communication channels between government and citizens. Their collaborative approach fosters more dynamic engagement between citizens and governments, which when combined with data initiatives, can lead to higher levels of trust, transparency and accountability.

Improve Service Delivery and Government Responsiveness (Chapter 5)
Innovative and collaborative data initiatives can collect and analyse information on quality, accessibility and affordability of public services. This data is essential to inform government decision making, as well as to provide citizens with the necessary information to advocate for more equitable service delivery.

Figure 1: How do innovative and collaborative data initiatives drive inclusive urban development?



The Cities Alliance's support for new technologies and collaborative data initiatives

The Cities Alliance Innovation Fund, which replaced our Catalytic Fund in 2018, has supported projects that demonstrate diverse, smart ways of data collection to promote inclusive city planning and responsive service delivery. They are geographically diverse, and in some cases, active in multiple countries (see Map 1).

This publication aims to contribute to the debate on data and cities by highlighting 11 innovative data initiatives that represent diversity in implementing organisation, contexts, policy sectors and approaches for data collection and use. It highlights common characteristics and challenges that we hope will inspire other local actors to explore new ways of using data and information to get to know and transform our cities.

MAP 1: Cities Alliance Know Your City! projects and the countries where they are active

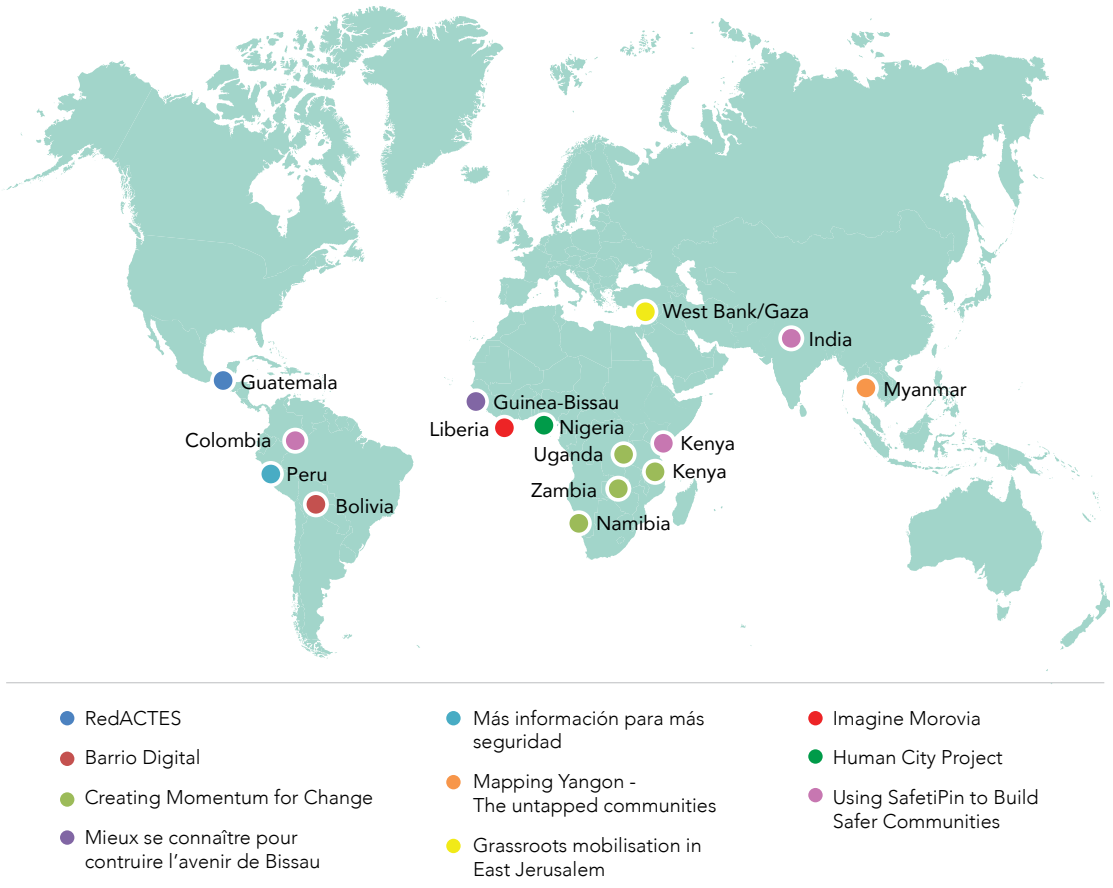


TABLE 1: Overview of the Know Your City! projects and their approaches

City/Country	Project Title	Project Description	Chapter
Bogotá, Colombia; Delhi, India; and Nairobi, Kenya	Using Safetipin to Build Safer Communities	Mobile phone application to collect and share crowdsourced data on women's safety in public spaces	2
Guatemala City, Guatemala	RedACTES	Platform for reporting corruption, safety threats and poor service delivery in public transportation by SMS, phone or web	2
Port Harcourt, Nigeria	Human City Project	Youth media trainings and participatory mapping of waterfront slums for advocacy and empowerment	3
Yangon, Myanmar	Mapping Yangon – The untapped communities	Data collection and mapping of informal settlements for advocacy and policy development	3
East Jerusalem, Palestine	Grassroots mobilisation towards improved emergency responsiveness and slum upgrading	Urban database to facilitate access to neighbourhood data for advocacy on marginalised areas affected by the separation wall in East Jerusalem	3
La Paz, Bolivia	Barrio Digital	Web platform and SMS service for citizen feedback to the municipality on public services and infrastructures in upgraded neighbourhoods	4
Kenya, Namibia, Uganda, and Zambia	Creating Momentum for Change	Slum dwellers, planning schools and local authorities partnering for inclusive informal settlement mapping and upgrading	4
Lima and Callao, Peru	More information for more security	Data collection and analysis to provide accurate information on public safety for advocacy purposes	4
Bangalore, India	BUMP – Bangalore urban metabolism project	Groundwater mapping and analysis published on an open data platform to improve water resource management	5
Bissau, Guinea-Bissau	Knowing each other better to build Bissau's future	One-stop-shops and City Days that provide access to information on basic services and contact with local authorities	5
Monrovia, Liberia	Imagine Monrovia	Data collection and capacity building for improved local government planning and service delivery	5

2. ADVANCING GENDER MAINSTREAMING AND WOMEN'S EMPOWERMENT

Innovative and collaborative data and information initiatives can collect sex-disaggregated data and eliminate gender biases from data sets to reflect the realities of all population groups. Therefore, they support policy-making and service delivery that respond to the needs of all, including women and girls, and contribute to women's empowerment and gender equality.

Despite major strides in recent decades, women and girls still face unequal access to education, healthcare, labour markets, and political representation[5] – significantly limiting their livelihood opportunities compared to male counterparts. By introducing SDG 5 on gender equality, the United Nations is seeking to address this gender gap and promote the empowerment of all women and girls.

Considering SDG 11 – which aims to make cities and human settlements inclusive, safe, resilient and sustainable by 2030 – it has become crucial to understand how urban policies can be more gender responsive to support the social and economic inclusion and empowerment of women and girls.[6] Otherwise, the stark inequalities in the access to basic goods and services[7] risk offsetting the advantage cities have when it comes to gathering people, resources and ideas.

The first step in supporting the social and economic inclusion and empowerment of women and girls is to recognise the many ways gender inequality affects the lives of city dwellers. Then, develop gender-responsive programmes and initiatives, including service delivery arrangements, strategies and practices. A programme or initiative is gender-responsive if gender roles, norms and inequalities are considered, and measures taken to address them .[8] They have a positive impact on women's lives in cities, increasing their mobility and opportunities. For instance, government provision of affordable and accessible public day-care services reduces women's time burden on unpaid and domestic work, helping them improve their livelihood opportunities and labour force participation. Studies estimate that increasing female participation in the labour force can add US $28 trillion to annual global GDP by 2025.[9]

A gender perspective needs to be included in urban policies and throughout any project management lifecycle – problem analysis, activities and objectives, and indicators – so that gender-related aspects can be monitored, and achievements can truly contribute to bridging the gender gap. This perspective on policy making and project design is often called **gender mainstreaming.**

What is the gender gap?

Gender gap refers to the difference that exists between males and females in access to some social good or benefit based solely on their gender, which is usually in favour of men.

In its 2017 Global Gender Gap Report, the World Economic Forum examines four critical areas of gender inequality: economic participation, education attainment, political empowerment, and health and survival.

[5] For more information, see the Gender Inequality Index developed by the United Nations Development Programme: http://hdr.undp.org/en/content/gender-inequality-index-gii.

[6] Ana C. Ogando, "Gender-Just Cities and the New Urban Agenda," WIEGO blog, June 17, 2016, http://www.wiego.org/blog/gender-just-cities-and-new-urban-agenda.

[7] Cities Alliance (2017). *Gender Responsive Public Services: Pathways to Equitable Economic Growth in Cities.* http://www.citiesalliance.org/sites/citiesalliance.org/files/Cities_Gender_Layout_FinalWeb.pdf.

[8] ibid

[9] McKinsey Global Institute (2015). *The power of parity: how advancing women´s equality can add $12 trillion to global growth.* https://www.mckinsey.com/global-themes/employment-and-growth/how-advancing-womens-equality-can-add-12-trillion-to-global-growth.

Mainstreaming gender into city policies must consider the local context and resources; however, finding reliable local data to inform gender mainstreaming in cities can be challenging. Despite major technological advances in data and information collection, management, use and dissemination, gender inequality is often reproduced in statistical records.[10] Most existing data is not sex-disaggregated, which affects evidence-based decision making and gender mainstreaming. Governments are often unaware of the different gender needs and priorities. In addition, data on women and girls often reflects traditional conceptions of gender roles, undervaluing women's workload and their contribution to the economy. For example, labour statistics frequently focus on remunerated work and exclude or give less priority to household and care work, in which women are highly represented.[11]

Gender-responsive services and projects can address practical and strategic gender needs, empower women and girls, and transform societies to be more equal and inclusive. However, promising, overcoming gender inequality in cities through data and information still faces considerable challenges. Gender inequality is generally the result of restrictive and traditional social norms and cultural practices; changing it implies challenging the establishment, as well as power relations, discourses and actions.

How do innovative and collaborative data and information initiatives drive gender equality and women's empowerment in cities?

Sex-disaggregated data is necessary to reflect the realities of all population groups and to eliminate gender biases from data sets. Producing reliable data, as well as accessing and understanding it, empowers women and civil society organisations working on gender equality. It can be used as an advocacy tool, pushing policy makers towards gender-responsive service delivery that covers the needs of all, including women and girls.

Gender Responsive Public Services: Pathways to Equitable Economic Growth in Cities

This Cities Alliance paper examines how local interventions to support gender responsive delivery of key public services can contribute to the economic empowerment and social inclusion of often marginalised and vulnerable groups and individuals.

It highlights the experiences of six cities in different regions: Nairobi and Ouagadougou (Sub-Saharan Africa); Delhi (Asia); São Paulo and Kingston (Latin America and the Caribbean); and San Francisco (North America).

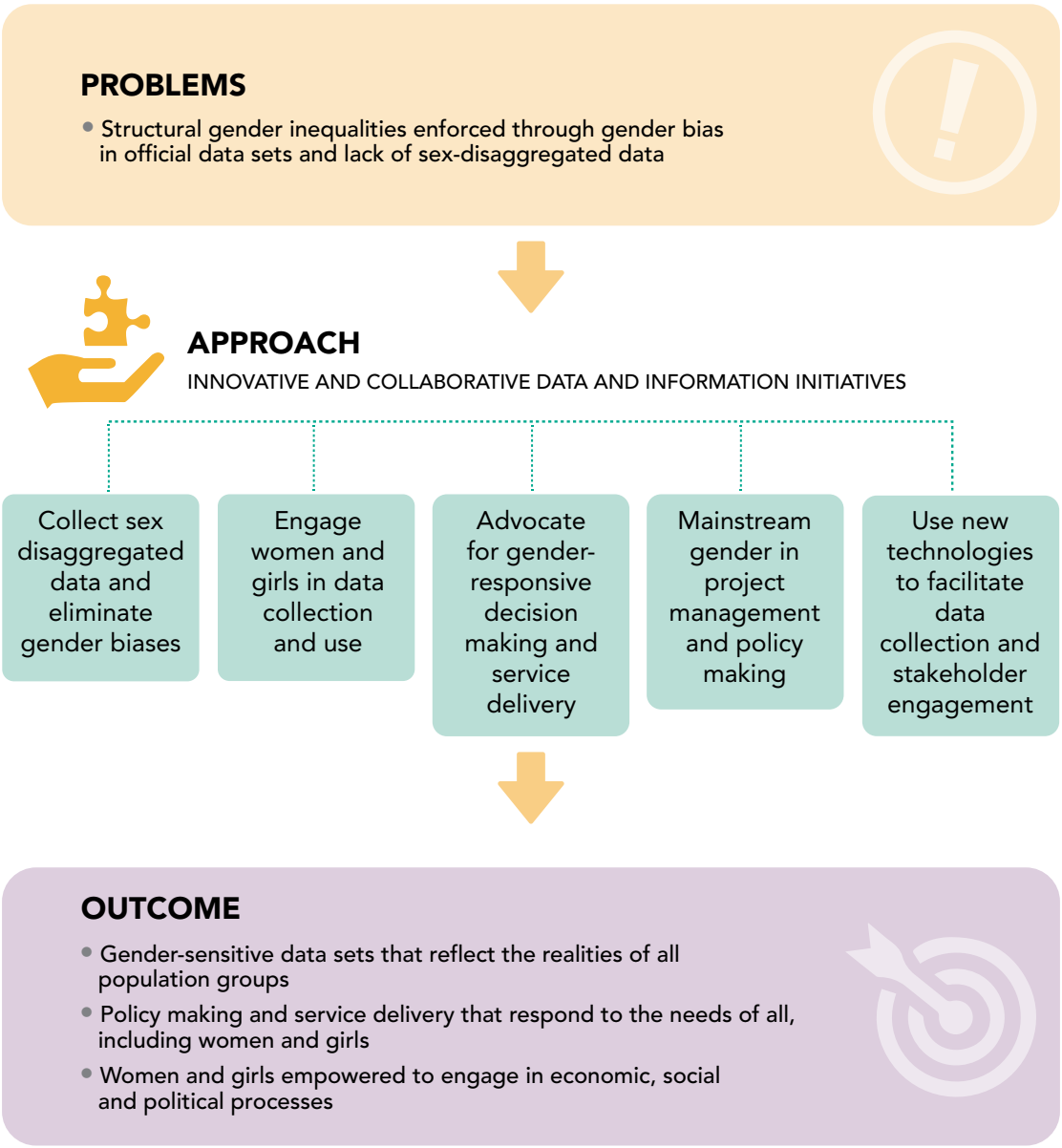
[10] IEAG (2014).

[11] United Nations (2010). *Developing Gender Statistics: a practical tool*. Geneva: United Nations.

Scholars advocate for a "gender data revolution"[12] supported by new technologies, big data, as well as innovative and collaborative approaches to data and information.[13] Such initiatives build on women's engagement in data collection, management, use and advocacy.

The SDG monitoring framework can provide opportunities for collaboration between local, regional, national governments, and civil society to develop targets and indicators for measuring progress on gender equality.

FIGURE 2: How can innovative and collaborative data initiatives drive gender-equality and women's empowerment?



[12] Badiee, Shaida and Claire Melamed (2014). "Making the data revolution a gender data revolution." http://www.undatarevolution.org/2014/12/15/gender-data-revolution/

[13] Datashift Global Gender Thematic Forum "Exploring the global coverage, credibility and complementarity of civil society and citizen-generated data on gender issues."

CASE STUDIES

In cities around the world, local governments, NGOs and civil society are undertaking initiatives to address the data gap and gender-related bias. These two case studies show how two innovative Innovation Fund projects, Safetipin and RedACTES, are gearing public services towards the needs of women and girls, improving city governance, and including women's voices in policymaking.

A. Using Safetipin to Build Safer Communities

DESCRIPTION:
Safetipin is a mobile phone application to collect and share crowdsourced data on women's safety in public spaces

IMPLEMENTING PARTNERS:
Active Learning Solutions Pvt. Ltd, the Secretary of Women of the Municipality of Bogotá, the City Planning Department of the Municipality of Nairobi and the Municipality of New Delhi

Violence in public spaces directly impacts the lives of women in cities. It restricts their freedom to move, study, work, and enjoy leisure activities. Yet, information on women's perception of safety in cities remains limited. The Using Data to build Safer Communities project – implemented in Bogotá, Delhi and Nairobi in partnership with the local governments – addressed this data gap. Safetipin is a mobile phone application which collects and shares crowdsourced data on women's safety in public space. The app allows women to rate the safety of their neighbourhoods based on nine qualitative parameters, such as street lighting, gender diversity in the area, or the quality of the walking path. This information is transformed into safety scores and audits, which enable the project to identify key problems and areas for improvement. They also inform women and government on the safety of their neighbourhoods.

How has the initiative contributed to gender-responsive public service delivery and improved governance in cities?

The project has generated a robust and gender-sensitive database on safety in public spaces, which is informed by the crowdsourced data of women's perception of safety.[14] Using this information empowers women and girls to take informed decisions about where and how they move about in the city. This increases their access to the city and to the services it provides and helps women to engage in a constructive, evidence-based dialogue with local government.

The project shared its data sets with the city governments and provided recommendations on how to make cities safer for women, such as street design to reduce crime opportunities,

[14] Crowdsourced data is obtained through smartphones or mobile platforms, which are frequently characterised by GPS technology. It allows for real-time data gathering and gives projects greater reach and accessibility.

improved street lighting, restructured markets and bus terminals, as well as more community participation in designing and managing streets and public spaces.[15] In all three cities, Safetipin demonstrated direct impact on making public service delivery gender-responsive:

- In Delhi, over 70 per cent of all identified poorly-lit areas in public spaces were equipped with better lighting. The project also encouraged a more inclusive planning process, as the local government now regularly convenes assessment and monitoring meetings with key stakeholders and Safetipin.
- In Bogotá, the local government integrated Safetipin data within its own data platforms, informing the prioritisation of municipal investments in infrastructure, such as lighting in parks and CCTV cameras. As Bogotá is a city of bikers, Safetipin methodology was expanded to collect data on the city's 400 km of bike paths.
- In Nairobi, Safetipin data and consultation of women' priorities led to the improvement of the main market road through better lighting, cleared up pavements and a market restructuring.

What challenges did the initiative face, and how were they met?

Safetipin's experience demonstrates that collaboration with local government is crucial for guaranteeing that the collected data is used to promote more gender-responsive public spaces and services. However, working with a city administration also proved to be challenging. Safetipin experienced that changes in officials and priorities, for instance through elections, demanded constant reengagement with government and affected the project's timeline.

The engagement of citizens posed another challenge to the project, since crowdsourced data relies on the input from users. It was particularly difficult to reach marginalised communities with limited access to and knowledge of computers or smart phones. To overcome this challenge, Safetipin partnered with NGOs that provided women with access to tablets for data collection. For stakeholder engagement and advocacy, the project combined online with offline meetings to guarantee inclusiveness.

> "Safetipin started in 2013, in India, to cope with the issue of safety in cities, with gender as the entry point. Really the access of women to cities, to public spaces, and to opportunities that the city has to offer. We felt that the lack of safety and the violence actually played a role in limiting women´s ability to equally access the city and their right to citizenship."
>
> *- Kalpana Viswanath, Co-Founder, Safetipin*

[15] Using Data to Build Safer Cities: http://safetipin.com/resources/files/Report%20Cities%20Alliance.pdf

B. RedACTES - Citizens Action Network for Safe and Efficient Public Transportation

DESCRIPTION:
A platform for reporting corruption, safety threats, and poor service delivery on public transportation, by SMS, phone or web

IMPLEMENTING PARTNERS:
Acción Ciudadana, the local chapter of Transparency International, Guatemala's Human Rights Ombudsman and other civil society organizations, including Transparency International's headquarters

More than two million people in Guatemala City use public transportation every day. The system is known for its poor coverage, overcrowding, as well as high crime rates, assaults, and robbery. These poor and unsafe conditions are partly due to a lack of public supervision, and they particularly affect the city's most vulnerable populations, including women, who often face sexual assault and harassment.

The project RedACTES works towards a safer and more efficient public transport service for all citizens, and women in particular. The project developed a web-based platform and SMS service for users to report incidents, such as crime, harassment, or overcharging. The project monitored the user reports and analysed them in order to advocate with service providers and local governments for improvements of the identified problems.

How has the initiative contributed to gender-responsive public service delivery and improved governance in cities?

In a context where sexual harassment and assault are a rather common cultural practice, it is essential to raise awareness of the gravity of the problem. The project encouraged women to raise their voices and report problems they face on public transportation. RedACTES conducted a survey on harassment on buses, accompanied by a complaint protocol, which enabled the project to provide legal aid to women and take legal action. In addition, the project made direct engagement sessions as accessible as possible through gender mainstreaming in project planning. For example, to ensure that mothers with children could attend, RedACTES provided child-care facilities during the community meetings.

The project was successful in collaborating with civil society and governmental organisations to establish platforms and partnerships for a wider transformation towards a gender-sensitive city. To ensure that the collected data was actually used to improve the public transport system, RedACTES collaborated closely with the Human Rights Attorney and reached an agreement with the Municipality of Guatemala, in which the city government committed to using the collected data and taking action accordingly. RedACTES also supports a review of the Congress Transport Commission's laws on gender responsiveness, ensuring evidence-based decision-making processes and a promotion of gender equality.

> "For us, it is very important that women take part in capacity-building sessions, so we have to ensure childcare services and that the children have something to eat. These are extra needs we need to communicate with our donors regarding the budget."
>
> *- Gabriela Ayerdi, Project Manager, RedACTES*

What challenges did the initiative face, and how were they met?

The RedACTES project demonstrates that technology can create more direct communication channels between citizens and authorities. Similar to the Safetipin experience, however, RedACTES faced the challenge of mobilising users for the application and reaching women in marginalised communities whose access to technology is often limited. In response, RedACTES developed various strategies to receive citizen feedback, such as online messages, free-of-charge SMS, toll-free calls, and a web-based platform. Simple and illustrative printed materials made the service accessible to all public transportation users, including the illiterate.

3. MAKING THE INVISIBLE VISIBLE

Through collaborative and innovative approaches, data and information initiatives can provide quality data on the whole city, including informal settlements, which are often excluded from official data sets. Their data can empower citizens to advocate for their rights and inform the government's decision-making processes for more inclusive urban planning.

While the data revolution has great potential to inform inclusive development, there is a danger of leaving some of the most vulnerable groups invisible in data sets.[16] This is particularly the case for populations in informal settlements; while governments tend to have records of formal housing, they lack information for up to 60 per cent of the urban poor living in informal areas.[17] In these settlements – which frequently lack services, adequate infrastructure and land tenure security – such data gaps limit the government's ability for evidence-based planning and inclusive service delivery.

There are several reasons for gaps in data sets. Most often, they stem from a lack of capacity among local governments to collect their own data. Local authorities typically do not have enough financial, human and technical resources to establish their own data sets, especially in secondary cities in low and middle-income countries. The exclusion of informal settlements from official data sets can also be a deliberate political choice. Denying acknowledgement to certain groups, or downsizing their real dimension, assets and economic contribution to the city, makes it easier for governments to justify discriminatory practices that limit access to public services and goods.

At the same time, people in informal settlements are frequently suspicious of government-led data-gathering efforts because they are often associated with official control, risk of eviction, and collection of taxes. For these reasons, many people in these areas try to stay invisible. Others refuse to cooperate or provide false information.[18] As a result, official data-gathering efforts such as cadastres, surveys and mapping often fail to obtain the information needed for successful urban management, upgrading, and development of informal settlements.

Against this backdrop, new approaches to build trust and engage both government officials and citizens are urgently required. Innovative and collaborative data-gathering initiatives can produce the necessary information on previously invisible populations and create meaningful involvement and trust by the people.

How can innovative and collaborative data and information initiatives support the inclusion of informal settlements in a city's data universe and planning processes?

Innovative and collaborative data-gathering initiatives have been developed worldwide to increase the quality and legitimacy of data, debunk stigma, and strengthen advocacy efforts. They employ context-sensitive technology and strategies to engage citizens, civil society and governments to collaboratively design, collect, understand and use data sets.

If implemented well, these initiatives have the potential to 'make the invisible visible' and transform cities, particularly informal settlements, in many ways. First, they can raise their visibility in official data sets. The collaborative approach of different stakeholders allows information to be collected in the sensitive setting of informal settlements, increasing the accuracy of data such as the number of residents and housing units, the coverage of services and infrastructure, economic activities, and living conditions. Second, engaging stakeholders in the data collection can lead to wider transformation and mobilisation. Field experience shows that community-led mapping and enumeration in informal settlements has supported communities in finding a common identity and establishing joint development priorities.[19] The ownership of accurate data empowers populations in informal settlements to express their voices and engage with their local governments in an inclusive planning process for their communities. This contributes to new perspectives on informal areas that may lead to their better social, economic and political integration into the city. In doing so, it can foster a policy shift away from forced evictions towards more participatory approaches.

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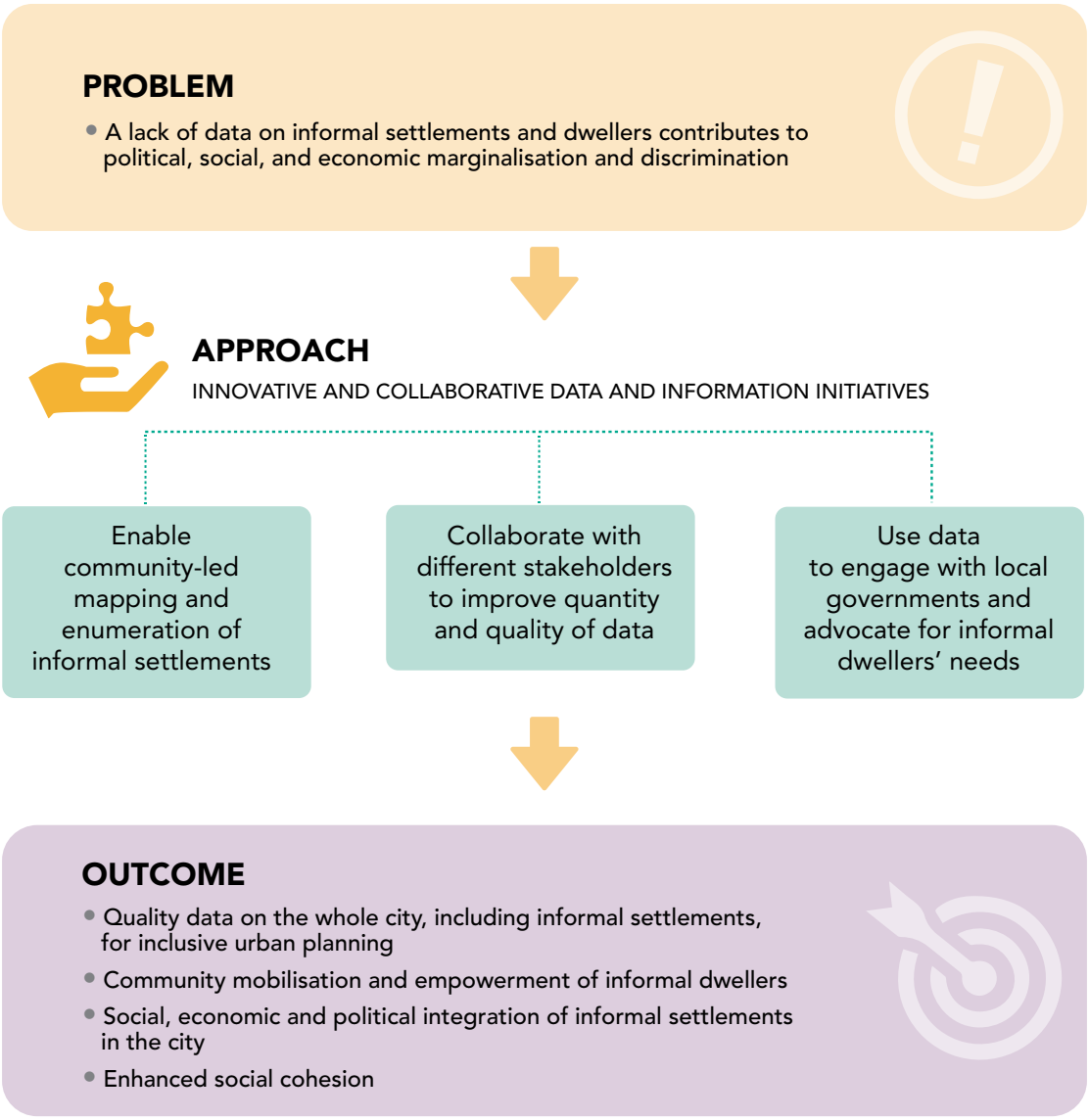
[16] OECD (2017).

[17] Patel, S. Baptist and C. D'cruz (2012). "Knowledge is power – informal communities assert their right to the city through SDI and community-led enumerations." *Environment & Urbanization* vol 24(1): 13-26.

[18] UN-Habitat (2010). *Count me in: Surveying for tenure security and urban land management.* Nairobi: UN-Habitat.

[19] Patel and D'cruz (2012).

FIGURE 3: How can innovative and collaborative data initiatives support the inclusion of informal settlements in a city's data universe and planning processes?



CASE STUDIES

These three innovative initiatives from Nigeria, Myanmar and Palestine are engaging slum dwellers, local governments, international organisations and NGOs to increase visibility of disadvantaged populations and their needs in data sets and public agendas.

C. Human City Project

DESCRIPTION:
Youth media trainings and participatory mapping of waterfront slums for advocacy and empowerment

IMPLEMENTING PARTNER:
The Collaborative Media Advocacy Platform (CMAP)

In 2009, the government of Rivers State, Nigeria began a programme to demolish informal waterfront settlements in the state capital Port Harcourt that were home to approximately 480,000 people. The Human City Project is building the strategic and technical capacity of these excluded communities to participate meaningfully in their own development and the shaping of their city. It is a community-driven media, architecture, urban planning and human rights movement that empowers youth in Port Harcourt's slums to make their voices heard, advocate for their rights and engage with local authorities on inclusive urban planning.

How did the project contribute to making invisible parts of the city visible?

The Human City Project works through a range of different approaches. It offers media training and a community radio channel as a platform for the youth to discuss their vision for the city. It has set up local and international advocacy campaigns to increase government accountability and raise awareness of the precarious living conditions in these settlements. Additionally, the youth are trained in participatory mapping and planning so they can produce detailed maps of their settlements. Today, the young residents are making their voices heard and are literally putting themselves on the map.

©CMAP

How has the project improved government responsiveness and public service delivery to disadvantaged groups?

The Human City Project has provided at-risk youth with the platform to advocate for their rights and the capacities to plan their own communities. In addition, the project has set up partnerships and dialogues between Port Harcourt's youth and local and multilateral stakeholders to promote inclusive development and the upgrading of waterfront slums. Since the beginning of the project, Port Harcourt has seen a decrease in the number of forced evictions, and some waterfront slums have received improved water and sanitation services.

Which challenges did the initiative face and how were they met?

While the project created a lot of momentum with its anti-eviction advocacy work, it was challenging to mobilise communities for less polarising and urgent topics, such as numbering electricity posts or other small infrastructure investments. Therefore, the project shifted its narrative to include the benefits of community upgrading initiatives and built the capacities of slum dwellers to engage in such initiatives. CMAP demonstrated to the communities that tangible changes can be achieved, even with small steps.

> "Mapping and any kind of inquiry is an intervention, disturbs the status quo, and raises expectations. If you are telling a story about participatory mapping, you really need to promote empowerment. People need to feel the relationship between what they are sharing and the change in their lives. It is difficult, but there needs to be some impact. Mapping has to lead to tangible change."
>
> *- Michael Uwemedimo, Co-founder and Director of CMAP*

D. Mapping Yangon – The untapped communities

DESCRIPTION:
Data collection and mapping of informal settlements for advocacy and policy development

IMPLEMENTING PARTNERS:
UN-Habitat and Yangon City Development Committee

In the context of Myanmar's rapid urbanisation process, the city of Yangon has experienced massive growth of informal settlements, to which the government has historically responded with forced displacements. While it is known that these settlements lack tenure security, access to infrastructure, and basic services, there is no accurate data available on their geographic, demographic or socio-economic conditions.

In response to these data gaps, a multi-stakeholder project conducted the first extensive mapping, enumeration and surveying of Yangon's informal settlements. The results are being used to advocate for improved living conditions in these settlements and to roll back the practice of forced evictions.

©UN-Habitat

How did the project contribute to making invisible parts of the city visible?

Trained municipal officers mapped a total of 423 informal settlements that are home to approximately 6-8 per cent of Yangon's population. The project conducted a household survey on socioeconomic, housing, livelihood and employment conditions in the settlements. This qualitative research allowed a better understanding of the causes of slum formation and assessment of residents' priority needs.

How has the project improved government responsiveness and public service delivery to disadvantaged groups?

The project has provided a strong tool to advocate for improved living conditions in informal settlements and against eviction practices. It has succeeded in convincing the municipality to reconsider planned forced relocations and to use participatory approaches instead. Through its thorough research on the scale and potential of previously invisible settlements, the project was able to put the rights of Yangon's slum dwellers on the public agenda and demonstrate the problems associated with forced evictions.

At the same time, the data collection created new channels of dialogue between the government and communities in informal settlements. It mobilised local associations and empowered populations in informal settlements to speak up for their needs, while encouraging the government to engage in collaborative and evidence-based initiatives to improve living conditions in those neighbourhoods.

What challenges did the initiative face, and how were they met?

Due to the long tradition of carrying out forced evictions, collaboration with the municipal government was not self-evident. To prevent misuse of information, the project focused on raising the awareness of municipal officials on the benefits of participatory and inclusive processes of in-situ upgrading and relocation.

> "We wanted to produce information that was unprecedented at that time. When data and facts speak, it becomes easier to convince authorities that many people are not on their radar."
>
> *- Bijay Karmacharya, UN-Habitat Myanmar Country Manager*

E. Grassroots mobilisation towards improved emergency responsiveness and slum upgrading in East Jerusalem

DESCRIPTION:
Urban database to facilitate access to neighbourhood data for advocacy on marginalised areas affected by the separation wall

IMPLEMENTING PARTNERS:
UN-Habitat and the Arab Thought Forum

Since the construction of a separation wall in 2002, more than 100,000 Palestinian residents of East Jerusalem have become isolated between the wall and the city boundaries. These communities fall outside the legal responsibilities of the Palestinian authorities. At the same time, they are left without access to the services of Jerusalem municipality, to which they officially belong. With exclusively informal growth and urban development, the communities lack access to basic services, infrastructure, and any kind of official representative body.

Since there is no reliable data on these neighbourhoods, the project mobilised and trained stakeholders in four neighbourhoods to develop an urban database, which serves as an advocacy tool to engage decision makers and donors on the transformation of these underprivileged areas.

How did the project contribute to making invisible parts of the city visible?

The project gathered data on the four neighbourhoods for the first time, including socio-economic information, infrastructure and public services. The collected information was analysed and reflected in assessment reports, maps, infographics and an atlas for each neighbourhood, which are all publicly accessible through an online data platform.

©UN-Habitat

How has the project improved government responsiveness and public service delivery to disadvantaged groups?

The project has empowered communities through mobilisation and capacity building for data collection and advocacy. The collected information has been an important tool for the Palestinian residents to advocate with local governments to recognise and address their needs. In addition, participatory strategic frameworks to upgrade the four informal neighbourhoods and a position paper with recommendations for urgent interventions were developed to support advocacy efforts.

What challenges did the initiative face, and how were they met?

The complex and sensitive political situation required innovative and flexible approaches. Building the confidence of residents was key to making sure they trusted that the data collected would benefit them and not be used against them. To achieve that, the project worked with local committees to identify common priorities regarding emergency and developmental needs. Linking the project with tangible incentives reinforced residents' engagement and confidence that beneficial changes would come.

The project also needed to demonstrate flexibility and change plans according to political circumstances. From the beginning, it was evident that the political constraints and pressures facing the communities living in the four neighbourhoods had many risks. In order not to expose sensitive personal information and jeopardise the anonymity of people, the project decided not to collect household information. Instead, it employed alternative means of data collection, such as analysis of the amount of household waste to estimate the size of the neighbourhood's population.

> "We tried to collect as much data as possible to show the actual conditions on the ground with factual information that reflects the size of the problem facing these neighbourhoods. There is a huge discrepancy between the actual numbers and information collected from the field and the figures used by the Israeli authorities … The number of people living there is much higher than what is published in the Israeli authorities' statistics."
>
> *- Lubna Shaheen, UN-Habitat Project Manager and Senior Urban Planner in Palestine*

4. BRIDGING ACCOUNTABILITY, TRANSPARENCY AND TRUST GAPS THROUGH A MORE DYNAMIC ENGAGEMENT BETWEEN GOVERNMENT AND CITIZENS

Innovative and collaborative data initiatives can provide openly accessible information and create new communication channels between government and citizens. Their collaborative approach fosters more dynamic engagement between citizens and governments, which when combined with data initiatives, can lead to higher levels of trust, transparency and accountability.

In a context where municipal capacity and resources for data management are limited, participatory approaches to data collection and use are often not prioritised. Many local authorities, particularly in secondary cities in low- and middle-income countries, lack communication channels to share information with citizens and do not include local stakeholders in data collection, management, use and dissemination.

Without citizen engagement in these processes, governments miss the opportunity to design their policies according to people's priorities. As discussed in the previous chapter, "invisible populations" – such as people living in informal settlements – are often excluded from official data sets, and their needs are not reflected in city planning. Information from and participation of citizens is essential for authorities to develop evidence-based policies and offer more inclusive services. Citizen engagement can range from mere consultative and feedback mechanisms, to providing inputs to local government planning, and to citizen involvement in data collection, management, use and dissemination.

The lack of citizen participation and of transparency can lead to mistrust towards government officials and democratic representation. Without evidence in hand, citizens have no means to hold their governments accountable. It is only through the provision of relevant information and a more dynamic engagement between citizens and governments that these accountability, transparency and trust gaps can be bridged.

How can innovative and collaborative data and information initiatives improve engagement and build trust between government and citizens?

Innovative data initiatives of both civil society organisations and authorities are increasingly collecting and publishing open data sets on public service delivery and public institutions. This allows citizens to better understand their city's governance. Data can be an important accountability mechanism for civil society to keep their leadership in check and demand change on issues that affect them.[20]

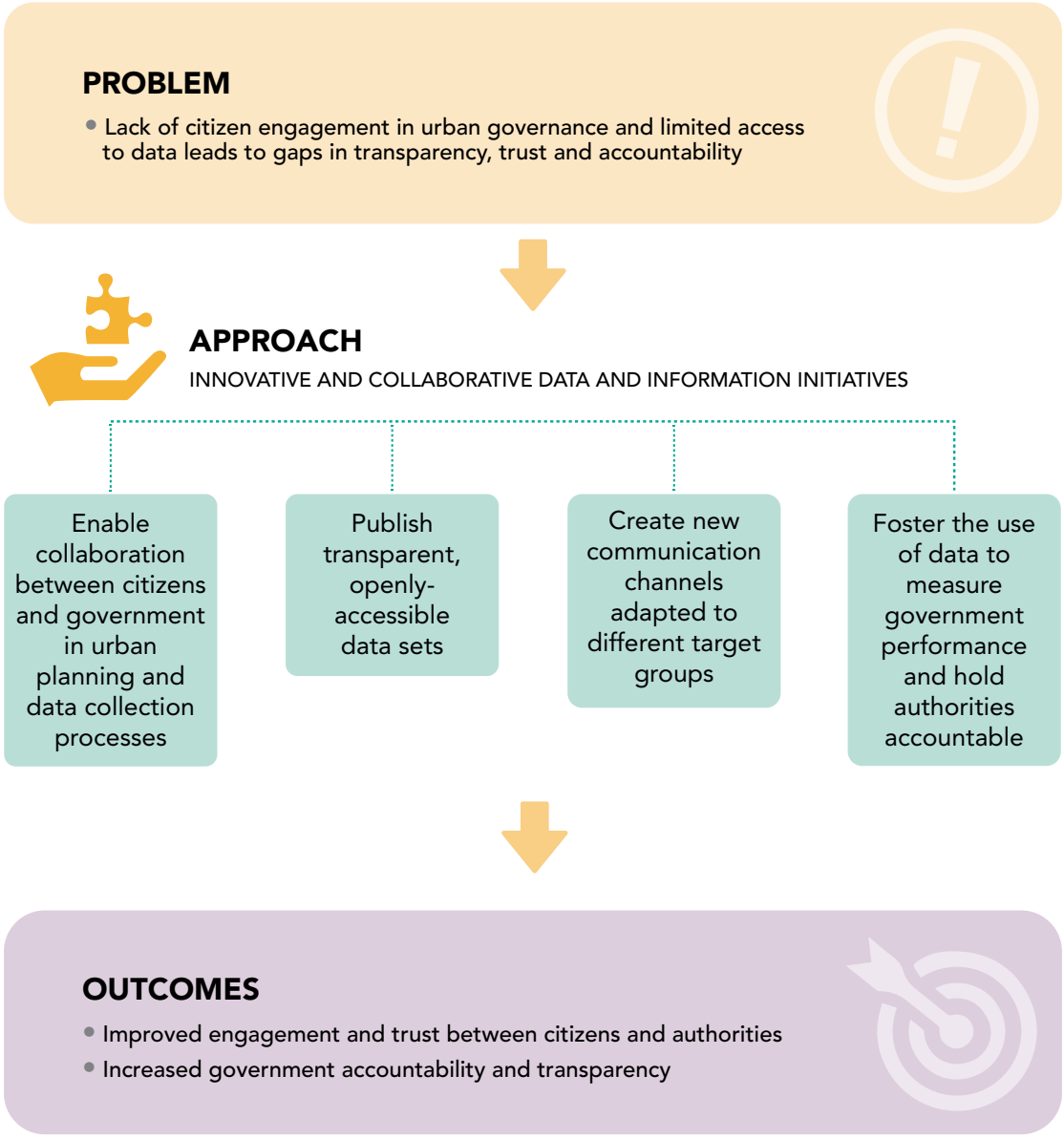
While civil society organisations are at the forefront of gathering such information, authorities are also increasingly publishing open data sets to better inform citizens of their services and actions. New digital tools such as web platforms or apps can establish faster, cheaper and more transparent communication channels between governments and citizens. By offering more transparency, governments aim to build citizens' trust.

Digital tools can also facilitate the crowdsourcing of information, building on information directly provided by citizens. Such information can enable authorities and civil society to better measure policy performance, detect fraud and waste of resources, and carry out evidence-based decision-making processes and service delivery. It is essential to adapt digital tools to the local context – for example, by including local languages – so that they are inclusive for all community members.

> "The new notion of citizen-government partnership is what will enable the world to deal with rising urban problems. Now, when you go to a slum in Africa, the community often has its own data set and a plan. This enables communities to access the official information that they need to become an active part of this process."
>
> *- Julian Baskin, Cities Alliance Special Advisor*

[20] Patel and D'cruz (2012). Farouk, B and M. Owusu (2012). "If in doubt, count: the role of community-driven enumerations in blocking eviction in Old Fadama, Accra." *Environment & Urbanization*, vol 24(1): 47-57.

FIGURE 4: How can collaborative and innovative data initiatives improve engagement and build trust between governments and citizens?



CASE STUDIES

These three projects in Liberia, Peru and Sub-Saharan Africa are using innovative and collaborative data collection approaches to improve engagement between citizens and government to bridge gaps in accountability, transparency and trust.

F. Barrio Digital

DESCRIPTION:
Web-Platform and SMS service for citizen feedback to the municipality on public services and infrastructures in upgraded neighbourhoods

IMPLEMENTING PARTNERS:
The World Bank and the Municipality of La Paz

The municipality of La Paz, with the support of the World Bank, started this project as a follow-up to the implementation of an informal settlement upgrading initiative. Authorities were looking for better ways to receive feedback on the performance of their upgrading process. They developed a web-based platform called *Barrio Digital* (Digital Neighbourhood), designed to allow residents of the upgraded neighbourhoods to send real-time feedback, suggestions and assistance requests, both online or by SMS, on municipal services.

Barrio Digital was piloted in four of the 100 upgraded neighbourhoods in the municipality of La Paz, and due to its success, it will be up-scaled to include other neighbourhoods.

How has the project contributed to improving engagement and building trust between government and citizens?

After the urban upgrading initiative was implemented, the municipality of La Paz struggled to create effective communication channels with its residents. When citizens had requests, feedback or demands regarding public services and infrastructure in the upgraded neighbourhoods, they had to spend a considerable amount of money and time to travel to the municipality's offices. With the introduction of Barrio Digital, citizens now have a direct communication channel with the municipality. They can send real-time feedback, complaints and suggestions free of charge, for instance when a public streetlight is broken.

Today, the government is more aware of people's needs and able to provide fast answers and solutions to their demands. The maintenance of infrastructure in the upgraded settlements improved, and service delivery became more efficient. The project achieved a high rate of responsiveness: 95 per cent of queries were resolved in due time. All citizen requests and government responses remain available online, including the date and time that the intervention took place or is scheduled to happen. This improved transparency and the tangible results have significantly increased citizens' trust in the municipality of La Paz.

> "At first, there were many people who had never seen a cell phone. We had capacity building workshops for the neighbours that taught, for instance, how to send a SMS text … After the training process, people began to interact."
>
> *- Rodrigo Ricardo Soliz Bonilla, Municipal Secretary of Public Infrastructure, La Paz Municipal Government*

What challenges did the project face, and how were they met?

The project was challenged to develop a platform that would be accessible to residents with little access to or knowledge of technologies. The municipality therefore held information sessions with the communities to raise public awareness of the programme, build capacities in technology literacy, and receive feedback on the use of the platform. Following these sessions, the project better understood the target groups' needs and integrated a SMS channel to include a wide range of users, particularly the elderly and those without access to smartphones.

G. Creating Momentum for Change

DESCRIPTION:
Slum dwellers, planning schools and local authorities partnering for inclusive informal settlement mapping and upgrading

IMPLEMENTING PARTNERS:
Shack/Slum Dwellers International (SDI), SDI Namibia, and the Association of African Planning Schools

In Kenya, Namibia, Uganda, and Zambia, large parts of the urban population live in informal settlements. The lack of accurate data makes planning for inclusive cities and upgrading initiatives a challenging task. This project has built partnerships between local planning schools, slum dwellers and local governments in four secondary cities. Its main strategy was based on learning studios, where urban planning students and slum dwellers work together to collect data, plan, and identify the priorities for urban development in their neighbourhoods.

How has the project contributed to improving engagement and building trust between government and citizens?

The project design builds on an innovative partnership between slum dwellers, planning schools and the municipalities. The outcomes of the learning studios are presented at city workshops to inform the municipality on the needs and investment priorities of informal neighbourhoods.

The project has generated transformative results in all four cities. In Gobabis, Namibia, the community worked together with government officials on data collection and management, settlement upgrading, providing land titles and basic services. Infrastructure improvements were built in partnership with the communities. While the authorities financed the extension of service coverage, such as sewage collection and water provision, community members were responsible for construction works.

The project is considered a big success in terms of bridging the trust gap and improving local urban governance, and its experiences fed into the design of a national strategy to up-scale informal settlement upgrading employing a partnership approach.

©SDI

What challenges did the project face, and how were they met?

Since slum dwellers carried out the data collection, it was essential to ensure that the local authorities would use that information. In Gobabis, slum dwellers signed a memorandum of understanding (MoU) with the city government to incorporate their data into municipal data sets. The project demonstrated that community-led data collection can gather information that is more accurate than that of official censuses, particularly in informal settlements.

However, such community data initiatives often face criticism for poor methodological rigueur and weak or imprecise definitions. In such cases, it can be very useful to be associated with international initiatives, such as the Know Your City campaign SDI, which promotes standardisation of citizen-generated data.[21]

> "It is important to include community to participate in planning because they are the ones who know the area and how it is living there. If you plan with the community from the beginning, they will learn the process and be part of it. They will go along the process if they understand why and feel part of the project, with their needs being respected."
>
> *- Inga Taatsu Boye, Regional facilitator, SDI-Namibia Chapter*

H. More information for more security

DESCRIPTION:
Data collection and analysis to provide accurate information on public safety for advocacy purposes

IMPLEMENTING PARTNER:
The Instituto de Defensa Legal (IDL)

Public safety is a main concern in Peru. However, the lack of data on the topic undermines the efforts of local governments and the police to design and implement evidence-based policies. Implemented in Lima and Callão, which together comprise a third of Peru's population, this project aims to improve the effectiveness of the government's public security policy by collecting and disseminating accurate and disaggregated data.

How has the project contributed to improving engagement and building trust between government and citizens?

The project collected data on local security risks and prevention through landscape surveys in 50 districts in Lima and Callão over the period of two years. It was the first initiative to integrate a range of fragmented sources of information from different government institutions, districts and the police into comprehensive data sets. These findings were fed into annual citizen security reports and interactive maps on safety risks, which are openly accessible online.[22] Data was also disseminated through community campaigns and different media channels at the local and national level, raising awareness among the population on public safety.

The project had a strong capacity-building component to enable citizens to use these data sets for holding their governments accountable. It organised Leaders Schools for more than 100 community members to raise awareness and increase engagement with the issue of public safety. In some of the most marginalised areas

[21] Beukes, A. (2012). "Know your City: community profiling of informal settlements." *IIED Briefing*, June 2014 http://pubs.iied.org/pdfs/17244IIED.pdf.

[22] For more information, see https://seguridadidl.org.pe.

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with high levels of security concerns, the project introduced additional activities to strengthen neighbourhood associations by increasing their access, understanding and use of data.

The project organised regular trainings and accountability meetings to bridge the trust gap among the three main groups of stakeholders in the local management of public safety policies: citizens, municipalities and police officers. It created a long-term partnership that continues to mobilise for discussions on public safety policies, even after the end of the project.

What challenges did the initiative face, and how were they met?

Despite a regulatory framework that guarantees access to public information, the project struggled to have access to official data sets. Public institutions would not respond to requests or deny access on the grounds of confidentiality. These attitudes can be contextualised in the country's traditional lack of government transparency, so overcoming it required great effort. IDL used multiple strategies to cope with such difficulties. After sending formal information requests, IDL staff made numerous phone calls and visits to the municipalities and police offices, even contacting city councillors for support.

"We did not want to just disseminate information. We wanted citizens to understand, use, and take ownership of that data to start communicating with their authorities and ask for clarification about the plans for their municipality, so they could make their own diagnoses and proposals."

- Fabiola Franceza, Researcher on Public Safety, IDL

5. IMPROVING SERVICE DELIVERY AND LOCAL GOVERNMENT RESPONSIVENESS

Innovative and collaborative data initiatives can collect and analyse information on quality, accessibility and affordability of public services. This data is essential to inform government decision making, as well as to provide citizens with the necessary information to advocate for more equitable service delivery.

Deficient and inequitable access to public services and goods is a persistent problem in many municipalities[23] around the world, particularly in secondary cities of low and middle-income countries. Local governments are often unable to meet the rising demands for services of their growing populations[24] due to a lack of technical and financial capacities. This is aggravated by the fact that most countries carry out data collection at the national level, which makes data disaggregated at the city or community level very scarce. The lack of adequate data management systems at the local level reinforces unequal conditions of access, quality and affordability of public goods and services. Without reliable data on issues such as the quality of the services delivered, the dimension and location of the underserved population, or their informal strategies to find access, municipalities struggle to address these issues.

Disadvantaged communities, such as populations in informal settlements, are the most acutely affected by poor access, quality, and limited affordability of public services. For example, they need to dedicate more time to collecting water from clean sources, travel longer hours on crowded buses, or cope with health problems caused by deficient sanitation systems.

Disaggregated, citizen-focused data that captures the disparities in access and quality of services in cities is needed to provide policy makers with an evidence base for improving public goods and services.

How can innovative and collaborative data and information initiatives improve service delivery and local government responsiveness?

Innovative and collaborative ways of collecting, managing and using data and information can contribute to a more accurate understanding of the formal and informal provision of public services in cities in terms of access, quality and affordability. Learning directly from citizens can provide opportunities for assessing how adequate government responses are. Analysing and evaluating such data can also determine the effectiveness of the provided services[25] and raise awareness of persisting inequalities.

This information is essential for governments to develop evidence-based policies that respond to citizens' demands and put smarter service delivery models in place. It also provides citizens with knowledge on how to access public services and the necessary data to advocate for their rights.

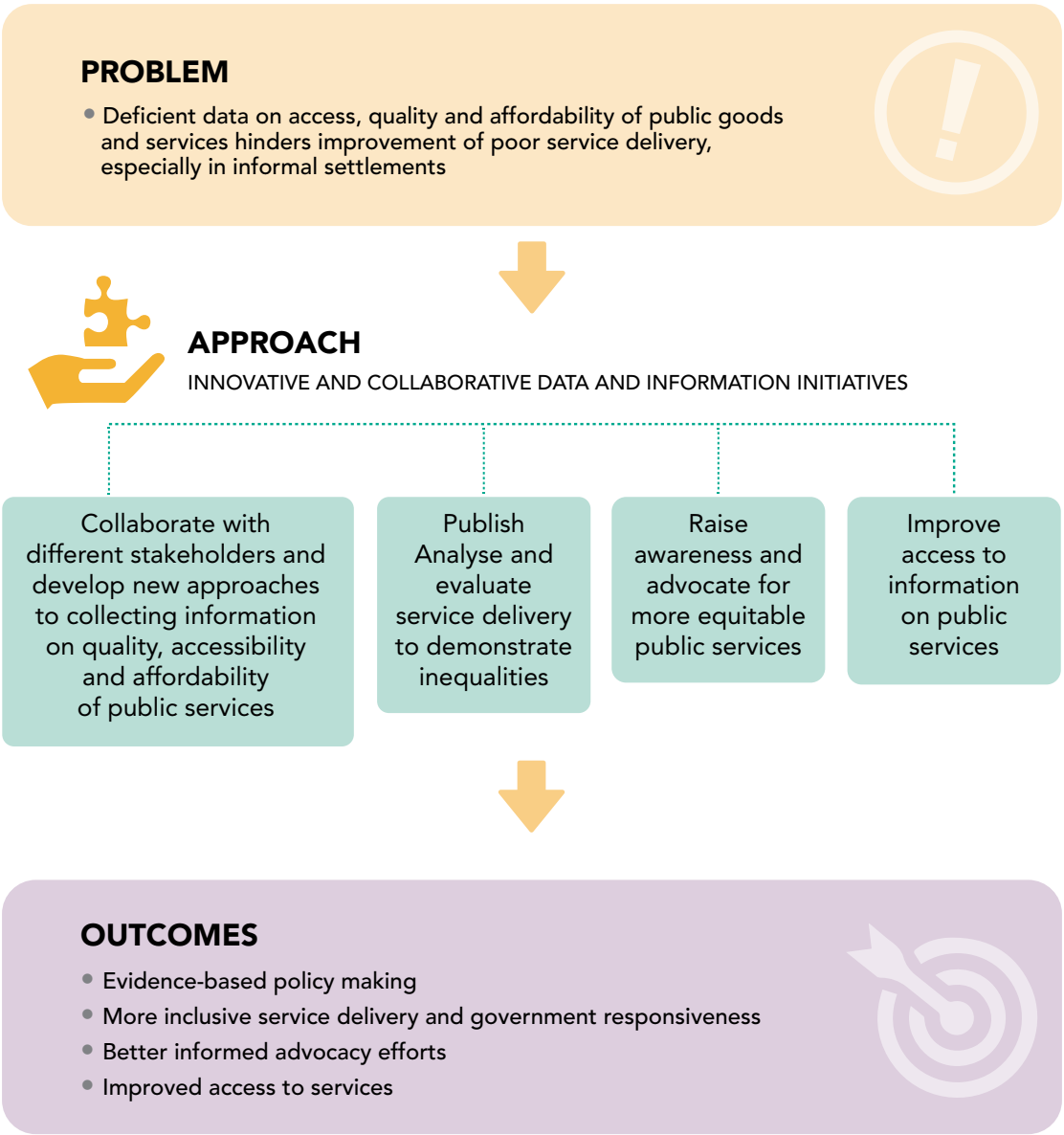
> Often the poorest and the lower- middle class pay more for services of lesser quality. As a result, they cannot reap the benefits of the urban economy and agglomeration, in turn preventing economic development. (Cities Alliance, 2016)

[23] OECD (2013). Workshop Note "Accessibility to Services in Regions and Cities: Measures and Policies," June 18, 2013 http://www.oecd.org/cfe/regional-policy/Workshop%20notes.pdf.

[24] UN-Habitat (2016). *World Cities Report 2016, Urbanization and Development: Emerging Futures.* Nairobi: UN-Habitat http://wcr.unhabitat.org/.

[25] Datashift Global Gender Thematic Forum (2017). "Exploring the global coverage, credibility and complementarity of civil society data and citizen-generated data," http://civicus.org/thedatashift/wp-content/uploads/2017/03/GTF_Report-1.pdf.

FIGURE 5: How can innovative and collaborative data initiatives improve service delivery and local government responsiveness?



CASE STUDIES

These three innovative initiatives – two led by civil society groups, and a third by a local government – gather data to inform better public service delivery and improve government responsiveness.

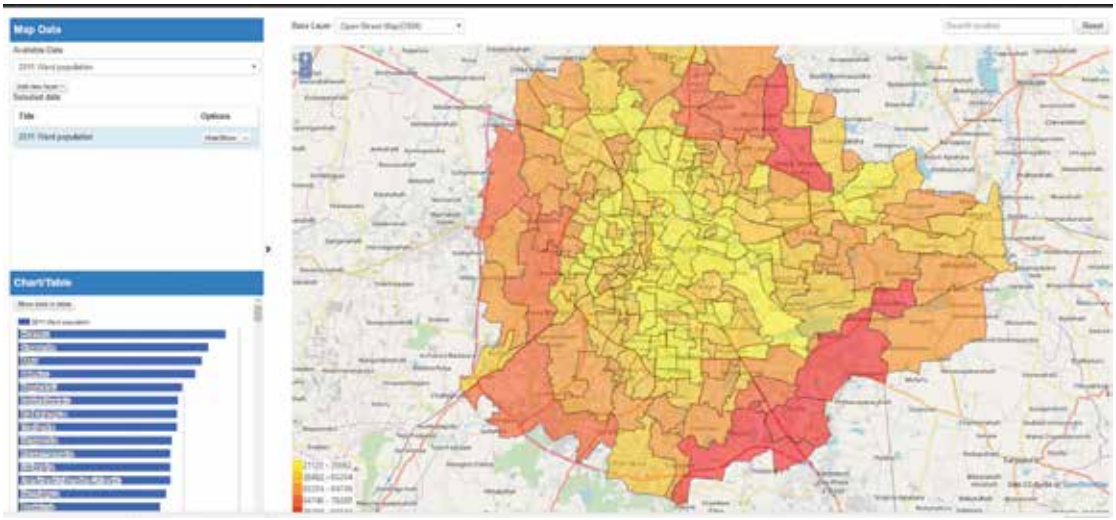
I. BUMP – Bangalore Urban Metabolism Project

DESCRIPTION:
Groundwater mapping and analysis published on an open data platform to improve water resources management

IMPLEMENTATION PARTNERS:
The Stockholm Environment Institute, the Indian Institute of Science, and the Centre for Public Policy at the Indian Institute of Management

The city of Bangalore is experiencing a water crisis. Population growth has outstripped water supply, water collection from rivers has reached a legal limit, and groundwater resources are depleting. In the peripheral areas of the city, conservative estimates place the extraction rate of groundwater at almost 2.7 times greater than the rate of recharge. The current water resource management lacks an evidence base; information on water provision, consumption and costs is available for only 8 per cent of Bangalore's 3 million household[26].

BUMP was conceived to fill this knowledge gap on Bangalore's water supply and demand. The project undertook a domestic water survey of 1,500 households and monitored groundwater levels at more than 150 locations over the course of almost two years. With this information, Bangalore's first high-resolution groundwater map was developed, providing an evidence base for improved water resource management. The project's findings were translated into practical toolkits, which are available on an online information geoportal with a scenario explorer that allows users to interact with different aspects of water resource management in the city.



[26] Interview with Vishal K. Mehta, Senior Scientist and Principal Investigator at BUMP, carried out in November 2017.

How has the initiative improved service delivery and local government responsiveness?

BUMP has filled important knowledge gaps on water use and provision, for example, how different parts of society have access to water, prices and the factors that affect users' choices. It advocated for integrated resources management with the authorities in order to make water provision more sustainable, efficient and equitable. It also raised awareness of more sustainable water usage among civil society organisations. Because of the project, the government acknowledged the importance of finer groundwater mapping in India, leading to investment in further research at a larger scale. Questions from the BUMP survey on water demand were included in the official infrastructure census, ensuring that information is collected on a regular basis for informed policy making on water management [27]. Another achievement was the fact that BUMP's data highlights the need for more inclusive water service delivery by the government agency in charge of sewerage disposal and water supply.

What challenges did the initiative face, and how were they met?

The project faced several challenges with data collection. Official data from governmental institutions was difficult to obtain, the city's intense traffic made manual readings of groundwater levels challenging, and the survey of more than 1,500 households – the largest of its kind in Bangalore – was time consuming. Yet, it was only through this data triangulation that the project succeeded in producing the necessary information. Another challenge was ensuring that the collected data was turned into action and actually used for evidence-based policy making. Disseminating primary and secondary data and information publicly and in visually appealing and intuitive ways allowed the project to raise awareness amongst civil society groups and local government actors, and also stimulated their interest for using the data.

> "From the survey analysis, we had a very good understanding of how much water is available. It depends on what kind of household you are, what kind of access you have for infrastructure, what your household assets are, and so on… Through our work, now we understand the inequity in water access and the cost of that water in Bangalore."
>
> *- Vishal K. Mehta, Senior Scientist and Principal Investigator for BUMP*

[27] Mehta, V, D.S. Spivak, M. Sekhar, and D. Malghan, (2017). "Urban Groundwater in India: The Role of Information in Effective Governance." http://bangalore.urbanmetabolism.asia/wp-content/uploads/2017/10/Governance-v7.pdf

J. Knowing each other better to build Bissau's future

DESCRIPTION:
One-stop-shops and "City Days" that provide access to information on basic services and contact with local authorities

IMPLEMENTING PARTNERS:
The NGOs ESSOR and ANADEC (Acção Nacional para o Desenvolvimento Comunitária) and the Guinean Association for Studies and Alternatives (ALTERNAG)

In a context of increasing urbanisation, Guinea-Bissau is experiencing a combination of an unstable political landscape and low human development, leaving a growing share of the urban population without access to basic goods and services. The problem is especially acute in the capital Bissau, where many parts of the city lack public services. In addition, most vulnerable neighbourhoods have no information on how to access services such as child registration or vaccination.

The French NGO ESSOR created partnerships between public authorities, private stakeholders, and citizens in order to improve access to information on public services, better understand community needs, and improve service delivery.

How has the initiative improved service delivery and local government responsiveness?

The project focused on collecting and disseminating information on public and private services in Bissau. As a first step, it carried out an extensive needs assessment on basic services in the community by mapping information on public and private service providers. The findings were compiled into a toolkit to provide guidance on how to access basic services. In order for this information to reach a large number of citizens, the project created three one-stop-shops in underprivileged neighbourhoods and trained 23 social workers from NGOs, community associations and public institutions.

These centres provide information to vulnerable individuals and families on how to access educational and health services, vocational training, and economic opportunities. Overall, nearly 7,200 people benefitted directly from the one-stop-shop's activities; 3,520 received individual guidance to access basic services, while 3,670 participated in information sessions and community activities at the one-stop shops. Both the concept of one-stop-shops and data digitalisation were a novelty in Bissau, and they greatly boosted awareness of service availability as well as citizens' rights and responsibilities.

In addition, the project conducted City Days – thematic events that created spaces of dialogue between communities, public and private stakeholders. These events enabled citizens to be in direct contact and express their needs to government officials. The authorities, in turn, could develop a better understanding of citizens' needs and investment priorities in deprived neighbourhoods. At the City Days, governments and the civil society started working together to jointly find solutions to concrete issues.

> "Government officials who participate in our meetings are progressively adopting the tools we share, especially those related to data collection. The Ministry was very interested in our Excel database of existing services and conditions of access that is about to be valued into an official publication."
>
> *- Mathilde Bullot, ESSOR Head Office*

© ESSOR

What challenges did the initiative face, and how were they met?

Lack of official data, poor access, and limited systematisation of information on public services were considerable barriers to the project. On the flip side, this meant that simple activities, such as the digitalisation of data sets, had an even greater effect.

As the project advanced, another challenge for its long-term sustainability became evident: the more people became aware of their rights and availability of basic services, the more the demand for these services increased. Therefore, it was essential for the project to work in close collaboration with the public and private sectors and to advocate for adequate, inclusive service delivery.

K. Imagine Monrovia

DESCRIPTION:
Data collection and capacity building for improved local government planning and service delivery

IMPLEMENTING PARTNERS:
The Monrovia City Corporation (MCC) and the Liberia Institute for Statistics & Geo-Information Services (LISGIS)

In Monrovia, Liberia's capital, the lack of local resources and skills to produce data at the city level affects the planning capacities of municipal officials. It also undermines their capacity to take evidence-based decisions, set development priorities, and monitor policy progress. Rapid urbanisation aggravates the problem, with a growing demand for public services particularly in informal settlements.

To address these problems, the Imagine Monrovia initiative had five main components: a data landscape survey, GIS training of municipal staff for improved data management capacity, a public participation methodology to improve citizen engagement, a citywide business survey to improve municipal tax collection, and a land use mapping process to reveal investment potential within the municipality.

How has the initiative improved service delivery and local government responsiveness?

In a context where municipal staff had little capacity to work with data and new technologies, it was urgent to introduce new equipment and build technical skills. The project provided GIS training to improve municipal data management capacities, local government decision making and development planning.

> "In some cities, it is necessary to start with the basics by building staff capacities, data landscaping, and carrying out a business survey; then more informed policies can be developed."
>
> *- Fole Sherman, MCC Project Manager*

In addition, the project succeeded in collecting new data and compiling previously fragmented information on the city's businesses and land use. While the project's implementation was delayed due to changes in the city administration, it is expected that the local government will build on these new databases to improve decision making on land use, revenue collection and the delivery of public services and goods.

©Monrovia City Corporation (MCC)

6. TRANSFORMING INFORMATION INTO POSITIVE CHANGE IN CITIES

Transforming data into positive changes in cities is both promising and challenging. Data alone does not automatically lead to action or better local governance. Change depends on whether data is well understood and used in line with local governments' needs and capacities.

The 11 case studies outlined in the previous chapters document innovative approaches that have produced disaggregated, reliable and accurate data and information sets that support good governance and inclusive planning processes. They show how a better knowledge of cities – and innovative and collaborative ways to generate such information – can help advance gender-sensitive policies and initiatives, include marginalised residents in city life, improve how citizens interact with their government and hold them accountable, and increase service delivery.

Advance gender mainstreaming

Gender mainstreaming in planning, policies and projects is essential to respond to the needs of all, including women and girls. However, gender biases in data sets often hinder equitable policy-making and service delivery. The two case studies shown in Chapter 2, Safetipin and RedACTES, demonstrate how innovative and collaborative data and information initiatives can fill gender data gaps by providing sex-disaggregated data and information which reflects the realities of all population groups.

With the help of crowdsourcing technology, Safetipin has engaged women in data collection, use and advocacy. Its intel is informing local authorities' investments towards more gender-responsive public spaces. RedACTES has empowered women to report on sexual harassment incidents and encouraged the government towards more gender-sensitive planning of public transportation. Both projects used a variety of approaches to make their projects accessible to all women, regardless of their social, economic or educational background, such as collaboration with local women's associations, visual communication material, or fee-free services.

Make the invisible visible

The exclusion of disadvantaged groups, such as residents of informal settlements, in official data sets is a major challenge for inclusive city planning, governance, and service delivery. While this can mostly be attributed to a lack of government capacity and resources, it can also be a deliberate political choice.

The three case studies in Chapter 3 demonstrate how innovative and collaborative data initiatives can contribute to bridging this information gap. The projects employed enumeration, mapping, and household surveys to collect accurate information on socio-economic and demographic conditions of the settlements. They also engaged slum dwellers and empowered them to advocate for their rights and engage with local governments in community planning. The resulting data sets are strong advocacy tools for raising awareness, holding governments accountable and stopping discriminatory practices. They contribute to a better social, economic and political integration of the informal settlements into the city. The case study experiences also highlight the lesson that dialogue and trust building are key to overcoming preconceptions, improving people's involvement, and ensuring that the jointly collected information will be used in the interest of the disadvantaged groups.

Bridge gaps in accountability, transparency and trust

In many cities, citizens are not dynamically engaged in the planning and policy processes, and there is little (if any) openly accessible data. This leads to a lack of transparency, reduced trust in government action, and makes it more difficult for citizens to hold their leadership accountable.

The three case studies in Chapter 4 give concrete examples of how citizens and governments can collaborate in initiatives to collect and publish data. With the support of new technologies, data can be easily collected and disseminated for use in advocacy and improved decision making. In all three projects, citizens worked with their local authorities and other stakeholders to collect and publish previously unknown information, providing the municipalities with more accurate and relevant data sets for evidence-based planning and more equitable service delivery. In the Peruvian case, the neighbourhood associations are now working jointly with the municipality on policies related to public safety. In Namibia, slum dwellers collaborated with local authorities to use their collected data for settlement upgrading. In La Paz, the municipality created a new online communication channel to receive direct feedback from residents in informal settlements on service delivery. All three projects have increased citizen engagement in data collection and use, resulting in improved trust levels between citizens and authorities.

Improve service delivery and government responsiveness

As urban populations grow, cities around the world are struggling with the increasing demand for public goods and services. A big challenge is the lack of city-disaggregated data on the access, quality and affordability of public goods and services. The three case studies in Chapter 5 demonstrated how innovative data methodologies can fill these data gaps and support local governments in improving their service delivery and responsiveness to citizens' needs.

In Liberia, the project built the capacities of municipal staff in data management for evidence-based policy making and equitable service-delivery. In India, BUMP filled essential data gaps on water supply and demand, and the data analysis has informed the advocacy efforts of civil society and enabled the municipality to tackle its water crisis. In Bissau, the project informed citizens on the availability of basic services and achieved commitments from the municipality to improve delivery. All three projects used a multi-stakeholder approach to achieve more inclusive service delivery and government responsiveness through better data collection, management, use, and dissemination.

Turning data into action

Transforming data into positive changes in cities is both promising and challenging. Data alone does not automatically lead to action or better local governance.[28] Change depends on whether data is well understood and used in line with local governments' needs and capacities. It requires strong political leadership, as well as citizen mobilisation and participation.[29] Data collection and use also must be adapted to local capacities and needs to successfully spark change.

Capacity-building components and training for both civil society and municipal staff are essential. Authorities need to be trained on how data can be used to inform their service delivery and policy-making processes. For city dwellers, particularly vulnerable groups, training can help them become aware of their rights and how to use data to advocate for their concerns and needs.

To realise the anticipated changes, data initiatives need to leverage a close engagement between civil society and authorities. Official statisticians often question the methodological rigor, data quality and standards of citizen-generated data,[30] which can make it challenging for civil society data initiatives to impact the government's policy agenda. Ultimately, the success of programmes to leverage transparency and accountability relies on reinforcing public trust in the quality and accuracy of the data and the information collected and published. Achieving real transformation in cities will require dialogue, engagement, and trust building between government officials and other players to address these challenges.

[28] Cities Alliance & UK Aid (2017). *An Innovative Data Toolkit for City Management*. http://www.citiesalliance.org/sites/citiesalliance.org/files/DataToolkit_WEB.pdf

[29] OECD (2017).

[30] Development Initiatives (2017). *Citizen-generated data and sustainable development: evidence from case studies in Kenya and Uganda*. http://devinit.org/wp-content/uploads/2017/03/citizen-generated-data-and-sustainable-development-evidence-from-case-studies-in-Kenya-and-Uganda.pdf

ANNEXES: CASE STUDY PROFILES

A. Using Safetipin to Build Safer Communities (Chapter 2)

Location	Delhi (India), Nairobi (Kenya) and Bogotá (Colombia)
Project lead	Active Learning Solutions Pvt. Ltd. (Safetipin)
Project partners	Secretary of Women of the Municipality of Bogotá, City Planning Department of the Municipality of Nairobi and Municipality of New Delhi.
Context and challenges	While violence and fear affect a city's population overall, some groups, such as women or the urban poor, are even more vulnerable to such threats. The fear of violence in public spaces directly impacts the lives of women in cities, as it restricts their freedom to move, study, work, and enjoy leisure activities. A systemic lack of data on women's perception of safety in cities hinders the formulation of specific policies in the three cities in this project and worldwide.
Objectives	The mobile app and online platform Safetipin aims at filling the data gap on women's perception of safety and raise authorities' awareness of this issue, contributing to safer and more inclusive cities for women and everyone.
Approaches	Safetipin is a tool that seeks to enable cities to become safer. Its main strategies are: 1. *Data collection:* Safetipin collects information about public spaces from users (crowdsourcing) through safety audits, which can be done by any person, in any city of the world. These safety audits measure 9 qualitative parameters: lighting, openness, visibility, people density, security, walk path, transportation, and the presence of people and specifically women, on the streets. Once the audit is made, a pin with a colour shows a Safety Score for that location, allowing comparisons across neighbourhoods and cities. Safetipin also collects night-time pictures of cities to assess the safety audit parameters. 2. *Turning data into action:* Safetipin publicises and disseminates information about factors that affect women's' safety to citizens and relevant urban stakeholders. It generates reports and maps with specific recommendations for various stakeholders, such as transport and lighting departments, the police, etc. This helps them to engage with local government and civil society, creating partnership to make cities safer.

Innovation	*Technology:* The project developed a software that codes data and a mobile phone application to collect and share crowdsourced data. *Social:* Safetipin relies on crowdsourced data, building on the active participation of large numbers of women through the app and online platform. It actively engaged with NGOs and women's groups to produce audits and draw collective strategies in online and offline activities. *Urban Planning:* The data collected through crowdsourcing has been used as basis for urban planning decisions in the three municipalities. *Diverse application:* Safetipin's innovative technology can be used in various settings. In Bogotá, for example, safety audits were conducted by bikes instead of cars.
Transformative Change	Safetipin achieved different transformations. It actively engaged residents with gender mainstreaming and with the topic of public safety, as they identified and became aware of problem areas. It also created strong partnerships with local authorities, who started using the crowdsourced data for prioritising municipal infrastructure investment. • *Delhi:* Safetipin data was incorporated into the city's official GIS platform, making it available to inform safety policies by several departments. Achievements include: (i) the police increased patrolling in areas where the safety score was low; (ii) over 70 per cent of the dark spots identified were improved; and (iii) by using the data, women from a low-income community managed to improve street lighting, security and a community hall. • *Bogotá:* Safetipin data was integrated into official data sets and informed new investments in infrastructure, such as lighting in parks, cameras, and pathway renewal. It has also supported gender mainstreaming by helping the formulation of a Local Plan for the Security of Women in each neighbourhood. • *Nairobi:* data and community prioritisation informed investments in lighting of a main road and in the organisation of an important market. Safetipin data collection was also integrated into the Safe Nairobi Initiative of the City County. Additionally, all three cities are trying to raise funds to be able to continue the project.
Learn more	Final Report Safety Audits Bogotá, Delhi, Nairobi [http://safetipin.com/resources/files/Report%20Cities%20Alliance.pdf] Video on Bogotá safety audit [https://www.youtube.com/watch?v=z9KDTD-9xcQ] Safetipin website [http://www.safetipin.com/]

B. Redactes - Citizens Action Network for Safe and Efficient Public Transportation (Chapter 2)

Location	Guatemala City, Guatemala
Project lead	Acción Ciudadana, the local chapter of Transparency International
Project partners	Guatemala's Human Rights Ombudsman and other civil society organisations, including Transparency International's headquarters.
Context and challenges	In Guatemala City, every day over 2 million people use the public bus system, which is notorious for high levels of violence (sexual violence and harassment), overcrowding, and inadequate coverage. In the past 6 years, more than 1,500 people have been murdered in public transport in Guatemala. This affects mainly the city's most vulnerable population, the main users of public transport: the poor, who live far from work and school, and especially women and girls. Corruption and weak public oversight have worsened the problem and although it is widely known, a general culture of apathy and the lack of hard data are obstacles to mobilisation and change.
Objectives	Contribute to the provision of safe and efficient public transportation for disadvantaged communities and combat corruption in the city's public transportation sector.
Approaches	The project's main strategies are: 1) Raise public awareness of users' rights; 2) Create an online platform to monitor and denounce incidents in service delivery; 3) Engage with public authorities; and 4) Engage in broader advocacy for policy change. 1. An increased awareness of users' rights can increase the pressure for better service delivery. The project's communication strategy also targets illiterate users through daily reports on the radio as well as on social media and the distribution of flyers in buses; 2. The platform allows users to send online or SMS messages and follow-up on their cases, even when they choose to remain anonymous. The online platform gathers users' reports, which are in turn filtered before taken to authorities' attention. 3. Raw data from users' reports is transformed into information that can provide concrete solutions to the problems encountered; for instance, the penalisation of private companies who overcharge or do not deliver as agreed on service contracts, and the proposition of new bus routes. 4. Engagement and advocacy with authorities and NGOS have been strategies to push for strengthened accountability and more efficient and safer public transportation.
Innovation	*Inclusive technology:* An online platform to anonymously report incidents on public transport services through a smartphone application or text message. The latter option makes it more inclusive for those who do not have or fear using smartphones inside the buses.

Transformative Change	• The project has engaged with organisations from areas other than transport, such as women's rights, to explore intersections and propose changes in national transportation legislation for the benefit of specific vulnerable groups. • The reports through the platform were used to take legal steps and issue formal complaints to both the government and private bus companies, which have led to sanctions and reforms. • The platform has opened up a communication channel with the municipality of Guatemala City, allowing suggestions to influence improvements of existing infrastructure in the transport system, such as new routes, accessibility equipment for the blind, priority routes for the elderly and pregnant women, etc. • Commitment was ensured from the municipality of Guatemala City to continue addressing reports on the online platform after the end of Acción Ciudadana's project.
Learn more	Story on RedACTES [http://www.citiesalliance.org/Acción-ciudadana] Acción Ciudadana Website [http://Acciónciudadana.org.gt/] Transparency International Website [https://www.transparency.org/whatwedo/activity/redactes_citizen_action_network_for_safe_and_efficient_transportation]

C. Human City Project (Chapter 3)

Location	Port Harcourt, Nigeria
Project lead	Collaborative Media Advocacy Platform (CMAP)
Project partners	Guatemala's Human Rights Ombudsman and other civil society organisations, including Transparency International's headquarters.
Context and challenges	A large portion of urban dwellers in Nigeria live in informal settlements, on which no accurate official data exists. In 2009, the Rivers State government set out to evict 49 waterfront communities in its capital, Port Harcourt, a measure that would displace 480,000 people who were already living in inadequate conditions. Even though the policy faced court injunctions, the first demolitions were carried out with the support of the police and 19,000 people lost their homes and businesses in August 2009. Thousands more have been forcibly evicted since.
Objectives	The Human City Project aims to empower youth in Port Harcourt's slums to make their voices heard, advocate for their rights and engage with the local authorities for inclusive urban planning
Approaches	The Human City Project is a community-driven media, architecture, urban planning and human rights movement Its approach is based on the following key pillars: 1. Media training to empower local youth, transforming them into journalists, radio presenters, editors, performers and photographers; 2. Strategic litigation and local and international campaigning to increase Government accountability; 3. Participatory mapping and planning, which comprises research, surveying and data bases to produce detailed maps as basis for inclusive urban planning; 4. Collaborative planning and construction of local facilities and pilot projects; 5. Partnership and dialogue with local and multilateral stakeholders to promote a citywide and shared urban vision for the future.
Innovation	One of the most important project innovations has been to facilitate strategic interactions between different spheres of urban representation– photographic and cinematic; architectural and cartographic; judicial and legislative – to give under-represented communities the tools and platforms to give voice to their visions of the city.

Transformative Change	• The project has built up strategic and technical capacities of these excluded communities to "make their voices heard," helping them develop the confidence to advocate for their rights, breaking the political invisibility cycle. • It has contributed to decrease government's forced evictions in the city's informal settlements, improving dwellers' sense of security. • Participatory mapping and planning have increased community capacity to plan and demand improvements, and provision of public services and goods that are more responsive to their needs.
Learn More	Video on project [https://www.youtube.com/watch?v=p2w5jUwyB4A] Story on project [http://www.citiesalliance.org/node/4822] CMAP Website [http://www.cmapping.net/]

D. Mapping Yangon- The Untapped Communities (Chapter 3)

Location	Yangon, Myanmar
Project lead	UN-Habitat, Myanmar office
Project partners	Yangon City Development Committee
Context and challenges	The population living in Myanmar's cities is expected to double by 2030. Yangon, the country's largest city, is particularly struggling with this rapid urbanisation. This has increasingly led to the establishment of informal settlements in this city, where citizens are often undocumented, lack security of tenure and have no access to infrastructure or basic services. The municipality has little knowledge or data on the size, location, origin and living conditions in these settlements.
Objectives	The project's main objective is to fill the data gap on informal settlements in Yangon through a comprehensive mapping, enumeration and surveying of the city's informal settlements. By establishing a knowledge base on the scale and location of these settlements, as well as the dwellers' living conditions, origins and livelihoods, the project aims to influence policy making and particularly to counter the government's practice of forced evictions
Approaches	"Mapping Yangon" generates data on the city's informal settlements to provide the basis for further policy development and research, through the following approach: 1. *Data collection:* a. identification and mapping of informal settlements through trained municipal officers; b. survey on socioeconomic, housing, livelihood and employment conditions in the settlements; high-level overview of land and tenure arrangements; qualitative research to assess the priority needs of residents in the community 2. *Advocacy and awareness:* c. *Data to improve living conditions:* solid knowledge on informal settlements is a necessary step for improving living conditions in these areas to allow for a future regularisation of tenure, provision of basic services and infrastructure d Anti-forced eviction advocacy: The information collected through the project is used to promote alternatives to forced evictions, such as participatory approaches when resettlement is inevitable; e Data collection to engage: city government uses data production to engage with all their constituents, including the poor and vulnerable groups, and it can mobilise and strengthen local associations of dwellers in informal settlements. This makes it easier for communities to raise their voices and for governments to engage in collaborative and evidence-based initiatives for improving informal settlements.

Innovation	Research on rural poverty had been pursued previously in Myanmar, but this is the first time a large-scale and participatory database is being produced in an urban setting, opening up new perspectives for policy-making and action.
Transformative Change	Some of the project's main achievements are: • Identification of 423 informal settlements in Yangon with an estimated 365,000 people living without piped water, sanitation or solid waste management collection. • Data collected generated valuable insights and helped to fight some preconceptions on urban poverty. For instance, many of the informal residents are not migrants, but impoverished urban dwellers who were previously home owners or tenants in other parts of the city. • The outputs of the project have created a strong knowledge base for designing future interventions, including projects around slum upgrading and urban poverty alleviation. • UN-Habitat uses the data sets as advocacy tools to influence the local authority's decision making. By demonstrating pro-poor approaches to settlement upgrading, the project has succeeded in influencing the government to defer from the practice of forced evictions.
Learn more	UN-Habitat project information [http://unhabitat.org.mm/projects/active-projects/mapping-yangon-the-untapped-communities/]

E. Grassroots Mobilization towards Improved Emergency Responsiveness and Slum Upgrading in East Jerusalem (Chapter 3)

Location	The project targeted four pilot areas: Al Ram, Kufur Aqab, Anata and Al Zaiem, all Palestinian communities located in East Jerusalem within the municipal boundaries of Jerusalem Municipality.
Project lead	UN-Habitat, Palestine office
Project partners	The Arab Thought Forum
Context and challenges	In a highly sensitive and complex political context, more than 100,000 Palestinian residents of East Jerusalem were physically separated from the city through the construction of the Separation Wall in 2002. These communities are left outside the legal responsibility of the Palestinian Authority in the West Bank, and at the same time are left with no access to basic services to which they are entitled as residents living within the borders of Jerusalem Municipality. As a result, these communities lack basic urban services –education, healthcare, infrastructure etc. , and suffer from increased informality and uncontrolled urban development. Lack of reliable data on the population and the living conditions in these neighbourhoods is a critical obstacle for change.
Objectives	The project's main objective is to develop a reliable and accurate urban database on the four pilot areas, which covers four marginalised Palestinian communities. The resulting data set can serve as an advocacy tool, allowing residents and NGOs to proactively engage decision-makers and donors to support the improvement of their living conditions.
Approaches	The project's main activities are: 1. Local stakeholder mapping and engagement in order to generate link and trust; 2. Collection of data on the population and existing socioeconomic and physical conditions in the four targeted communities; 3. Production and dissemination of databases, graphic materials and assessment reports to illustrate the living conditions and needs of the local population; 4. Engagement with local stakeholders to identify common priorities regarding emergency and developmental needs and develop strategic frameworks; and 5. Through local committees and partners, advocate for better provision of social services and physical infrastructure with authorities and external parties.

Innovation	*Social innovation:* The project formed local committees in each neighbourhood to work as a "living system," where citizens act as sensors and report on concrete daily problems. By doing so, the local committees became a base for improving and giving sustainability to citizen engagement in urban governance. *Technology:* It developed an online platform containing data and information about each neighbourhood, for which staff of the local committees were trained to operate and update. In addition, it produced easy-to-read factsheets and infographics to communicate concrete challenges faced daily by residents, using the power of information to foster social engagement.
Transformative Change	• The project produced and disseminated an extensive online data platform, assessment reports, several fact sheets and infographics, and an atlas with information on the socio-economic and physical conditions in each neighbourhood. • Dwellers were empowered to mobilise themselves, form local committees, and take lead on specific issues, contributing to the sustainability of the project's outcomes; • Local committees were provided with reliable data and tools to help them identify their priority needs and advocate for improvements. • A participatory strategic framework for upgrading the four informal neighbourhoods and a Position Paper with recommendations for urgent interventions were developed. • GIS, Remote Sensing and Electronic Data Bases training programs were conducted for more than 30 participants.
Learn more	Arab Thought Forum's website [http://www.multaqa.org/] UN-Habitat project information [http://open.unhabitat.org/project/41120-2951/]

F. BARRIO DIGITAL (Chapter 4)

Location	La Paz, Bolivia
Project lead	World Bank
Project partners	Municipality of La Paz (Bolivia)
Context and challenges	The project stems from the Programa Barrios y Comunidades de Verdad (PBCV), an urban upgrading programme that provides better services and living conditions to people in poor neighbourhoods in La Paz. One of the challenges faced by the Municipality of La Paz after upgrading these communities was to engage their dwellers to provide feedback on the performance of PBCV.
Objectives	The project aims to improve the service delivery of the municipality by facilitating communication channels with their citizens through an online platform.
Approaches	Barrio Digital is a web and SMS-based platform, which improves the efficiency of the communication between the municipality and citizens living in areas that fall within PBCV. Citizens from PBCV neighbourhoods can send real-time and cost-free feedback, grievances and requests for assistance to the municipality. The platform builds upon the following approaches: 1. *Engaging the people:* Barrio Digital developed consultation sessions and workshops in PBCV neighbourhoods with close to 300 participants (i) to raise public awareness of the program, (ii) to receive feedback on the design of the platform, which resulted in the inclusion of an SMS function to provide feedback, and (iii) to promote citizens' engagement, e.g. through a special session on technology literacy. 2. *Building capacities:* the project provided workshops to the municipality to use ICT tools for better service provision and maintenance, as well as for citizen engagement. 3. *Turning data into action:* The municipality directly reacts to the citizens' requests through providing feedback and/or delivering the requested services. 4. *Promoting transparency:* citizens who submit a feedback in Barrio Digital can report and follow-up on their requests, and any person can access the reports made, as well as information on the PBCV projects.

Innovation	*Adjusting to people's needs:* Understanding the target audience's needs and its use of different communication channels has led to a multi-channel platform with integrated SMS technology tailored to include a wide range of users, particularly the elderly and those without access to smartphones.
Transformative Change	• Barrio Digital has been implemented in four neighbourhoods, and initial results show high usage frequency by citizens and a significant reduction in the municipality's processing time for requests. The Municipality plans to expand the project to 20 neighbourhoods. • The platform has increased local government accountability and its capacity for planning and implementing service maintenance in PBCV communities. • It has also made it easier for citizens of all backgrounds and ages to engage and communicate with their local authority.
Learn more	Barrio Digital website [http://barriodigital.lapaz.bo] Article on project [https://blogs.worldbank.org/sustainablecities/speak-citizens-la-paz-barrios-de-verdad-listening]

G. Creating Momentum for Change through Innovative Information Generation and Engagement at the City Level in Africa (Chapter 4)

Location	Kenya, Namibia (Gobabis), Uganda, Zambia
Project lead	Shack/Slum Dwellers International (SDI)
Project partners	Association of African Planning Schools (AAPS)
Context and challenges	In Kenya, Namibia, Uganda, and Zambia, a large part of the urban population lives in informal settlements. A lack of accurate data makes the planning for inclusive cities and slum upgrading a challenging task.
Objectives	The project's main goals are to build partnerships between slum dwellers, local planning schools, and the municipality in four secondary cities in Namibia, Kenya, Uganda and Zambia, and to improve the living conditions in informal settlements in these municipalities.
Approaches	The following approach guide the project's work in all four cities: • *Slum dwellers as drivers of the settlement enumeration process:* the project implements tools that facilitate community participation and ownership of the process. • *Learning studios:* the main vehicle for developing the project's partnerships are the "learning studios," where planning students work with communities to collect data, identify and address the priority needs of the communities and develop capacity to design and implement pro-poor land development layout plans and strategies. • *Government* – citizen engagement: results from the different communities are compiled in city workshops together with municipalities to allow the community engagement to move from data gathering to planning interventions in partnership with local governments, such as local infrastructure and service delivery as well as land titling. • *Scaling up:* the project creates knowledge that can inform national and local strategies to improve access to land for low-income families and informal settlement upgrading.

Innovation	*Citizen-university-government engagement:* the project has demonstrated an innovative engagement between slum dwellers, local planning schools and local authorities to informal settlement upgrading, bridging data, transparency and trust gaps. *Transparency:* All data produced is publicly available, providing citizens and government with information for future planning efforts. *Slum dwellers and students as central stakeholders:* When spearheading data collection, planning and settlement upgrading, slum dwellers have become visible, empowered and committed to engaging in upgrading processes in partnership with local governments. The students from local planning schools, on their turn, have learned about local realities and got practical experience in participatory urban planning.
Transformative Change	The project has generated transformative results in all cities. The different communities have gained valuable skills in community organisation, urban planning, mapping and GPS usage, and are better equipped to talk to authorities and advocate for their rights. The planning students learned "hands-on" the concept of promoting inclusive cities, while public authorities gained awareness on the importance of participatory urban planning. In Namibia, the following results were achieved: • 3,429 informal structures enumerated in the city; as a result, Freedom Square, the city's oldest informal settlement, became a pilot for community-driven upgrading that led to improved access to basic services and security of tenure. • The lessons learned fed into the preparation for a national strategy to up-scale informal settlement upgrading in a partnership approach.
Learn more	Academic report on the role of the learning studios [http://ilmi.nust.na/sites/default/files/ILMI-DN-The-role-of-universities-in-participatory-slum-upgrading-Namibia-Kenya-Uganda-Zambia-WEB.pdf] SDI website [http://sdinet.org/] Association of African Planning Schools Website [https://www.africanplanningschools.org.za/]

H. More Information for more Security (Chapter 4)

Location	Lima and Callão, Peru
Project lead	Instituto de Defensa Legal
Context and Challenges	High rates of crime and violence make public safety a major concern for Peruvian citizens. However, the lack of data on the topic undermines the efforts of local governments and the police in designing and implementing effective policies. Additionally, there is no citizen participation in local safety management.
Objectives	The general objective of the project is to provide accurate information on public safety in the cities of Lima and Callão, home to more than a third of Peruvians. With publicly available databases, it aims to enable greater citizen involvement in public safety issues and to contribute to more efficient, participatory, informed and integrated conditions and strategies for local policy management among its three key stakeholders: municipalities, the police and citizens.
Approach	The project seeks to address this information gap through three pillars: 1. *Data collection on local security risks and prevention:* This includes e.g. a data landscape survey and integration of data sets to tackle data fragmentation between different government institutions and improve data accessibility. 2. *Data dissemination:* The collected data is analysed and organised through interactive maps, annual citizen security reports and studies on neighbourhoods and crime. Results are disseminated in community campaigns and through different media channels. 3. *Using Data:* The project organised Leaders Schools, which intend to increase community leaders' and citizens' awareness on and engagement with the issue of public safety. In some of the most marginalised areas with high levels of security concerns, the project introduced additional activities to strengthen neighbourhood associations by increasing their access, understanding and use of data.

Innovation	*Increasing transparency:* in a context where data on public safety is scarce, the project provides information in an unprecedented way – for the first time, integrated data sets on citizen security are publicly available and presented visually to a large audience. *Bridging trust gaps:* The project has built an innovative partnership between the municipality, the police and citizens on public security, promoting better and more integrated locally managed public safety policies.
Transformative Change	• The project's data and publications continue to inform the actions of those responsible for managing public safety, namely the municipal governments, the police and neighbourhood communities. • The access, understanding and use of information has strengthened citizenship, enabling people to actively participate in public safety management. Of the 123 community leaders trained and community groups formed, many continue to advocate on and provide training in public security beyond project closure. • A long-term partnership on public security was created between the three stakeholder groups. In Lima, for example, IDL continues to conduct neighbourhood leader courses in collaboration with the local police. The project was able to generate new information of public relevance: The data revealed a very unequal distribution of municipal resources spent on public safety: For example, only 5 out of 50 districts in Lima and Callão have an adequate number of police officers.
Learn More	Annual Safety Report 2016 [https://www.seguridadidl.org.pe/sites/default/files/Informe%20Anual%20de%20Seguridad%20Ciudadana%202016.pdf] Annual Safety Report 2015 [https://www.seguridadidl.org.pe/sites/default/files/INFORME%20ANUAL%202015_%20IDL-SC.pdf] IDL website [http://www.seguridadidl.org.pe/]

I. Bump - Bangalore Urban Metabolism Project: Informing Better Governance for Urban Sustainability (Chapter 5)

Location	Bangalore, India
Project lead	Stockholm Environment Institute
Project Partners	Indian Institute of Science and Centre for Public Policy at the Indian Institute of Management
Context and Challenges	India's urban population of more than 370 million people suffers from chronic shortage of water supply. And even those who live in areas covered by water utilities often need to resort to alternative water sources such as bottled water, bore wells, etc. In Bangalore, a real water crisis is unfolding as water demand has outstripped water supply, the collection of water from rivers has reached a legal limit, and groundwater is being depleted. The current urban water planning in Bangalore is not informed by science, because the knowledge base is weak to non-existent, and there is no robust science-policy institutional mechanism.
Objectives	The project's main objectives are: 1. To fill key knowledge gaps on water demand and supply in Bangalore; 2. To develop practical toolkits for integrated water resources management; and 3. To provide policy insights that allow future integrated resource planning and policy making in Bangalore.
Approach	BUMP's interdisciplinary team has developed a formal framework, called urban metabolism, to address sustainability and equity challenges associated with rapid urbanisation. In this specific project, they focus on water flows in Bangalore, building on previous work that identified knowledge gaps in both water demand and supply. The project's approach was implemented through the following activities: 1. Production of information on water supply in the city through groundwater mapping and resource assessment, including 22 months of groundwater measurements at 150 locations; 2. Development of a water demand function based on household surveys and secondary data that drew patterns and explained drivers of water consumption; and 3. Support to policy making and civil society outreach: publications and presentations on findings; establishment of an online information geoportal and scenario explorer that allow users to interact with different aspects of water resource management in the city and provides data on the spatial distribution of resource use across the city (http://bangalore.urbanmetabolism.asia/).

Innovation	*Methodological innovation:* The project's innovative methodological approach combines information on water supply and demand in the city, with a modelling framework to inform policy makers and citizens on the relevance of integrated water resources management. *Transparency*: In the Indian context, where open data is limited, an online platform that made these data and findings available to the wider public is a novelty.
Transformative Change	• The project undertook the city's largest and most complex domestic water survey of more than 1,500 households. • The project established Bangalore's first groundwater map in a good resolution. • It compiled data and released publications on the water supply and demand functions in Bangalore, making the inequity in water access and cost explicit. Primary and secondary data and information was disseminated to the public in visually appealing and intuitive ways. • Showcasing this best practice of integrated water resources management to different government departments at local, state and national levels, the project was able to inform policy making. The project's data is for example now used by Bangalore Water Supply and Sewerage Board, the governmental agency responsible for sewerage disposal and water supply. It also achieved that several questions from the BUMP survey on water demand were included into the official infrastructure census, ensuring that this information is collected on a regular basis for informed decision-making on water management.
Learn more	Watch a four-part film on BUMP [https://www.youtube.com/watch?v=6Iu4DTMoIQI&list=PLoJ3pxCzMP1vRpJDVisemDjFh0rOogdED] BUMP online geoportal [http://bangalore.urbanmetabolism.asia/] Stockholm Environment Institute of Management Website [https://www.sei.org/projects-and-tools/projects/bump/]

J. Knowing Each Other Better to Build Bissau's Future (Chapter 5)

Location	Bissau, Guinea-Bissau
Project lead	ESSOR
Project Partners	ALTERNAG, ANADEC
Context and Challenges	In a context of increasing urbanisation, Guinea-Bissau experiences a combination of an unstable political landscape and low human development, leaving an increasingly urban population without access to basic goods and services. In the capital Bissau, many parts of the city are left without a proper coverage by public services, such as garbage collection. Additionally, information on how to access services, such as child registration or vaccination, remain unknown to most of the vulnerable neighbourhoods.
Objectives	This project aims to support citizens in Bissau's underprivileged neighbourhoods to access information on basic services and goods. It also seeks to create dialogue and partnerships between public authorities, private stakeholders and citizens to better understand the needs of the communities and improve service delivery.
Approach	To achieve its goals, this multi-stakeholder initiative has two main approaches: • *Access to information:* The project has established one-stop-shops (BIOSP) in Community Development Centres in underprivileged areas of the capital city. These aim at providing information and guidance to the poor for improved access to basic services, such as education, health care, vocational training and economic opportunities. Based on the outcomes of a needs assessment on basic services, the project has (i) mapped information on existing public and private service providers; (ii) established toolkits for guidance on access to basic services; (iii) created partnerships between civil society and authorities through public-private partnership agreements; and (iv) trained social workers to provide guidance to vulnerable individuals and families to access the basic services that respond to their needs. • *Bridging accountability and trust gaps:* The project has created spaces for dialogue and consultation and conducted "City Days" on different themes. These bring together communities, public and private stakeholders, in order to facilitate mutual understanding, and joint solutions to concrete issues, e.g. the garbage collection in a neighbourhood. These dialogues also aim to inform basic service and goods provision and public policies. The outcomes of these sessions have been broadcasted on national radio for even wider reach.

Innovation	*Multi-stakeholder proximity:* BIOSPs are a novelty in Bissau, and they are recognised as innovative ways to enable citizens to connect with public and private stakeholders for improving access to basic services. *Basic data:* systematisation and digitalisation of data on the social situation in disadvantaged neighbourhoods, and on available public and private services has also been an innovation in the context of social services in Bissau.
Transformative Change	• Creation of 3 BIOSPs with the support of civil society organisations and national and municipal institutions through public-private partnership agreements. These have provided information services to 3,520 people, of which 1,751 were guided towards public and private services, and another 3,670 people have taken part in 118 community activities organised by the BIOSPs; of the 7,190 persons reached, 45 % were female • Conducting technical training sessions for 187 staff from various organisations, including 23 persons from CSOs and local authorities trained on social action; • Establishment of 19 thematic spaces for dialogue and consultation, as well as 5 "City Days" that mobilised 184 community dwellers; • Signed agreements with local authorities for improving access to basic services, e.g. guaranteeing financial contribution to garbage collection initiatives • Increased engagement of local authorities in City Days, spaces for dialogue and consultation, radio programs and trainings organised by the project; • Awareness of citizens' rights and duties was boosted. • Through the success of the project, ESSOR was able to secure follow-up funding from the European Union to continue the project and explore the possibility of establishing additional BIOSPs in new neighbourhoods.
Learn more	ESSOR website [http://www.essor-ong.org/] Video on project results [https://www.youtube.com/watch?v=sGr77I6qHFs] ESSOR website [http://www.essor-ong.org/en/where-we-work/guinee-bissau.html]

K. Imagine Monrovia - Using Innovative Data Resources to Manage Monrovia's Development (Chapter 5)

Location	Monrovia, Liberia
Project lead	Monrovia City Corporation (MCC)
Project Partners	Liberia Institute for Statistics & Geo-Information Services (LISGIS)
Context and Challenges	As in many countries, much of the data collection in Liberia is carried out at the national level and data disaggregated at the city level is scarce. In Monrovia, the country's capital, the lack of local resources and skills to produce city-level data affects the planning capacities of municipal officials and undermines their capacity to make evidence-based decisions, set development priorities, and monitor policy progress. This accounts for a serious service delivery backlog in the city, a loss of investment and tax-collection potential, and the authorities' poor capacity to improve dwellers living conditions.
Objectives	The project's overall objective is to develop and use innovative data collection methods to improve local government decision making and development planning.
Approach	The approach to achieve this objective is: 1. Development of a public participation methodology to improve urban governance and accountability; 2. Conduction of a municipal business survey to improve business registration and tax collection, which can increase municipal investment capacity; 3. Capacity building for city staff: training on GIS and implementation of a municipal GIS Unit; 4. Carrying out a data landscape survey to provide an assessment of data availability and needs in the municipality; and 5. Implementing a land use mapping to determine investment potentials for the city.

Innovation	*Social innovation:* "Imagine Monrovia" pioneers with its participation methodology to improve urban governance and accountability. For the first time, city officials present the municipality's plans and budget to citizens. *Technology:* The project uses innovative technologies that are new to the Liberian context; notably, the database system on business information to increase tax revenue, and land use mapping to promote private investment opportunities in urban redevelopment.
Transformative Change	Due to changes in the city administration, the project's implementation was delayed. Preliminary assessments have indicated that: • The project has managed to organise previously fragmented or inexistent information and data on the city's businesses and land use. • A key achievement was the Municipal Business Survey, which covered 4,025 businesses with a successful 94.2% respondent rate. • City staff were trained and are now better equipped for data collection and updates. • With the collected data, city officials can improve decision making on land use, revenue collection and the delivery of public services and goods, as well as the engagement strategies with citizens.
Learn more	Liberia Institute for Statistics & Geo-Information Services Website [https://www.lisgis.net/]