Introduction
Community-based participatory research (CBPR) lies at the heart of the ARISE approach to catalyse a step change in approaches to improving accountability and promoting the wellbeing and health and of urban marginalised people living and working in informal urban spaces. The ARISE approach focuses on harnessing and strengthening the capacities of urban marginalised people to identify, analyse and communicate their experiences of intersecting inequities, well-being, health and governance, and to build alliances for new governance arrangements. ARISE anticipated outcomes focus on achieving changes in relationships, action and understanding.

In all action sites, ARISE has recruited community members as co-researchers, who are partnering with professional researchers and community development organisations across all stages of the research process, including collecting and analysing data from group participatory methods and Geographic Information Systems (GIS) mapping. This Story of Change highlights emerging outcomes of this process in Dhaka, Bangladesh and Freetown, Sierra Leone.

Sierra Leone
Background
Established in 2011, the Centre of Dialogue on Human Settlement and Poverty Alleviation (CODOHSAPA) and the Federation of Urban and Rural Poor (FEDURP) collaborate with poor, urban communities in Sierra Leone to improve the social, economic, and environmental conditions in which these communities live. CODOHSAPA is the NGO that provides technical and financial support to FEDURP, a network comprised of vulnerable people who mobilise around community-driven initiative, such as women-led savings groups or advocacy campaigns targeting pro-poor local and national policies. CODOHSAPA and FEDURP are part of the Slum Dwellers International (SDI) network, a transnational social movement of the urban poor in over 30 countries across Africa, Asia, and Latin America. They are also part of ARISE Sierra Leone.

ARISE Sierra Leone research partners also include the College of Medicine and Allied Health Sciences (COMAHS) based at the University of Sierra Leone and the Sierra Leone Urban Research Centre (SLURC). Collectively, all the research partners’ work activities focus on research and capacity building initiatives that improve the health and well-being of informal settlement residents, whilst also seeking to support the strengthening of urban health systems.

In 2019, CODOHSAPA, FEDURP, COMAHS and SLURC began to work with ARISE to develop a collaborative programme of research designed to ensure responsiveness to the needs and priorities of people living and working in informal urban settlements, whilst drawing on all partners’ capabilities and expertise. Though relationships between different partner organisations within the ARISE coalition pre-date this research, the collaboration between these organisations, facilitated by ARISE, is the first of its kind in Sierra Leone. It aims to bring

Stories of Change
together necessary expertise in community empowerment and engagement, urban development and health systems strengthening to address the intractable challenges faced by marginalised communities living in the informal settlements of Freetown.

**Key activities**

**Expanding engagements with co-researchers**

Throughout programme development and inception, residents of informal settlements (co-researchers) have been involved in idea generation, which is central to ARISE’s focus on the co-production of knowledge and evidence. Since 2019, the ARISE Sierra Leone research partners have worked with the wider consortium to consider how to incorporate co-researchers in research activities (e.g. tool development, data collection, analysis and further problem identification). This involved the strategic inclusion of people who are often marginalised and excluded from research processes, such as people with disabilities and those not already engaged in federation processes, as well as community health volunteers across all three study areas (Cockle Bay, Moyiba, Dwarzack).

Fifteen co-researchers have been trained in qualitative and participatory research methods, supported the development and adaptation of research tools, facilitated data collection, and been involved in participatory analysis and data write up. An example of a research activity which has engaged co-researchers is a Venn diagramming process applied to highlight specific governance actors with whom co-researchers might engage in accountability strategies that promote health and wellbeing. This process was designed in collaboration with FEDURP, as something that they felt could be useful to federation processes beyond the lifetime of ARISE.

ARISE is currently working to ensure that co-researchers are trained and involved in the design and delivery of the quantitative elements of the project, including survey design and development as well as GIS mapping. GIS mapping will build on community mapping conducted in the qualitative part of the project to ensure that community priorities shape what is mapped and how maps are utilised. As ARISE members from SLURC describe, “We collaborate with communities in three informal settlements and have conversations with them about appropriate community health behaviours. They are also engaged to operationalize the concept of accountability to increase their collaboration with government and non-state actors.”

**Bangladesh**

**Background**

In Bangladesh, ARISE partners with the James P Grant School of Public Health, BRAC University. The ARISE Bangladesh team uses a CBPR approach to understand community dynamics and health and wellbeing related vulnerabilities, practices, challenges, needs and priorities. Participatory GIS mapping is one of the methods the ARISE Bangladesh team uses to map and document the layout of slums, infrastructures (e.g. health facilities, religious places, educational institutions, bazars, government offices, water, and electricity supply offices), roads, health facilities, safe/unsafe zones, different important locations/spots to the community, mobility of the community to access different facilities, etc. The team originally intended to create GIS maps through ‘transect walks’, during which researchers systematically inquire about the community with local residents to explore different places of importance by observing, asking, listening, looking, and producing a transect diagram. However, country-wide lockdowns implemented due to COVID-19 prevented the research team from conducting the transect walks.

As a result, the ARISE Bangladesh team opted to apply an innovative remote methodology for GIS mapping while maintaining the commitment to engage co-researchers in this process. These ARISE research activities aim to map social and governance terrain.

**Key Activities**

In June 2020, the ARISE Bangladesh research team conducted a pilot test for the remote participatory GIS mapping approach. They began by producing the outline map of three informal settlement study sites (Dholpur, Shayampur, and Kallayanpur) with the help of available secondary data sources and Google maps. One male youth volunteer living in Dholpur was identified and engaged as a co-researcher for the pilot to test the feasibility of the remote approach. A GIS map of Dholpur was successfully created, which led the team to expand the approach to the other two ARISE Bangladesh study sites.

The ARISE Bangladesh team then organised three separate community inception meetings with community members in the study sites in December 2020. At these meetings, community members validated the previously co-created GIS maps of their respective settlements, which were developed remotely with the co-researcher. Young people who attended these inception meetings were then invited to join the next
Stages of research activities as co-researchers. Their role will be to identify the exact location of the different structures in the GIS maps by using mobile data collection software, which was not previously possible when creating the maps remotely.

As of January 2021, six young people have been trained as co-researchers in the three study sites. Three two-person teams, comprised of one male and one female youth volunteer, have been established. The teams took part in an introductory training session on installing and using GIS software on their phones and have subsequently been trained on how to produce GIS maps.

After the introductory training, the teams took location coordinates of important landmarks and infrastructures in their localities, identified houses of marginalized people, and drew roads. They also (with permission) imported photos of important infrastructures, mostly healthcare facilities, like local drug shops or pharmacies. One ARISE Bangladesh team member regularly provides hands-on personalized training and troubleshooting support, meeting with co-researchers virtually once a week to review the mapping activities and provide feedback. Co-researchers also share their experiences during the weekly feedback sessions, including reflections on what is included in the maps, what is not, and what they learned from the mapping process. Co-researchers and researchers learn more than just the location of structures, as they explore the functionality of the structures, who engages with them and what this means for the informal settlement, adding valuable new co-created knowledge.

ARISE Contributions to Change

In both ARISE partner countries, the activities described above have begun building toward specific aspects of two relevant outcomes described in the ARISE theory of change.

First, ARISE has contributed to increased capabilities of urban marginalised people to inclusively analyse and prioritise their health and wellbeing needs, and identify allies to demand action to promote equity in wellbeing and health.

In Sierra Leone, as a result of collaborative engagements during qualitative and participatory training and analysis activities with all partner organisations, one male co-researcher from Cockle Bay stated, “In our slum, we used to see ordinary documents but now I am happy because I am part of the process of preparing that fine document that will bring change to my community at the end when the policy makers make decisions.” The co-researcher is referring to a social mapping activity that explores existing social groupings and inequities within communities that may influence accountability for health and wellbeing.

A number of co-researchers in Sierra Leone shared the various ways that their capacities have been strengthened to date, including use of computers, and the value they attached to this engagement: “Most of us did not know how to use the computer, but our boss helped us how to do it and now we can use it. It was fun because when we started it was very hard, but by the end of the day we could use the computer and we learned. We would like more training on how to use the computer” (Co-Researcher, Female).

“In our slum, we used to see ordinary documents but now I am happy because I am part of the process of preparing that fine document that will bring change to my community at the end when the policy makers make decisions.”

Other members of the ARISE Sierra Leone research team also explain, “Some co-researchers are students and community activists. With the type of skills gained from work on ARISE, they will be able to either gain employment or use them further in their community activism.”

ARISE work in Bangladesh also contributed to increased capabilities of urban marginalised people. The co-produced GIS map contains the exact location of the different infrastructures such as healthcare facilities, educational institutes, religious places/centres, water stations, toilets, etc. Co-researchers envision using the GIS map in the future to inform other residents of the location of different services and to inform the programme plans of organisations providing services in their communities. As one co-researcher from Kallayanpur explained, “Previously we had a hand-drawn map, but now we get a digital map with a more accurate location. We can easily use it to see the different facilities’ locations and other people who work here can also use it for planning.”

Co-researchers from Dholpur felt that the GIS map will be helpful for navigating the paths and identifying exact locations during emergencies, such as fire incidents, and to identify different service centre locations. One co-researcher stated, “Fire incident is common in our area. When a fire breaks out...
Stories of Change

in our community, different people give different directions to the firemen because of which they often cannot reach the affected area in time. Now, with this map, we can easily direct the firemen to the exact location of fire and hope they are able to reach there sooner.” Another co-researcher said, “This map can be easily used by me or others. Previously, we did not have any idea about how many pharmacies (local drug stores) there are in our area, but now we can easily see on the map where the drug stores are located.”

Co-researchers from Shyampur thought that these maps will also be useful for NGOs and service providers starting new projects or providing new services in their settlement. One co-researcher shared, “If an NGO wants to build a school in our community, they need to walk all over the slum to find a place for establishing the school. As we are creating this map, we are already walking around the community and identifying all the structures. With this map ready, service providers can just look at the map and easily identify where the new school may be required.”

In addition, co-researchers in Dhaka have appreciated being involved in the mapping process. They consider it a learning and capacity strengthening opportunity and feel that the knowledge and skills they gain through their involvement in this research will equip them to obtain better employment. Furthermore, at the community inception meetings, participants prioritised the creation of training and capacity development opportunities for young people in informal settlements as a sustainable option for the wellbeing of their youth.

Second, ARISE has contributed to increased capabilities of researchers to co-produce knowledge with urban marginalised people.

In Sierra Leone, this was through the expansion of co-researcher engagement and the introduction of new methods. As one member of the ARISE Sierra Leone research team explained, “Co-researchers are being involved at the highest level of analysis, we haven’t done this before, we have evolved through this process. There is need to deepen co-researchers’ understandings further on ethics and procedures. We are all learning together. This is a co-learning situation. We all have our weaknesses we all have our strengths - we are getting set for the future.”

ARISE Sierra Leone research staff can also attest to how capabilities of urban marginalised people have been increased, as illustrated by this description from a male researcher from COMAHS, “For me, as a researcher, I saw co-researchers debating and making corrections together, I saw confidence and total participation as they’re part of the research and understanding issues in their own community.”

ARISE supported research activities in Bangladesh have also contributed to increased capabilities of researchers to co-produce knowledge with urban marginalised people through the expansion of co-researcher engagement and the introduction of the new GIS method. Researchers developed facilitation skills and new approaches for training co-researchers in this process. One researcher from the ARISE Bangladesh team said, “Initially I received a complex training on GIS mapping. Later on, when I had to take up the task of training our co-researchers, I was worried about passing this complex technical knowledge on to our co-researchers. I thought about ways to make the sessions simple and engaging for our co-researchers so that it is easier for them to understand.”

Working with co-researchers helped the ARISE Bangladesh research team understand the potential challenges that they might face as they work in the communities. One of them said, “We are constantly in touch with the co-researchers as they are doing the work, and we also have regular follow-up meetings where they share their concerns and we, together with the co-researchers, have to come up with a feasible solution immediately. Lessons learned from co-researchers and the experience of working with them is also helping us identify innovative approaches for strengthening our research methodologies.”

About ARISE

ARISE – Accountability and Responsiveness in Informal Settlements for Equity – is a research consortium launched in January 2019 and funded by UK Research and Innovation’s Global Challenges Research Fund for five years. The research consortium consists of ten partners from a range of backgrounds and disciplines, led by the Liverpool School of Tropical Medicine (LSTM). The vision of ARISE is to catalyse change in approaches to enhancing accountability and improving the health and wellbeing of poor, marginalised people living in informal urban settlements in Bangladesh, India, Kenya and Sierra Leone.