

Institutional roles in enhancing assets adaptation of urban poor

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ABSTRACT

Population growth has increased the number of informal settlements and unplanned structures within the urban areas. Most often, the urban poor suffer since they are found within urban slums with poor facilities. Even though government institutions are expected to develop assets within the urban areas, other institutions such as the Civil Society Organizations, Faith-Based Organizations, and traditional authorities can play certain roles to complement government efforts in this direction. However, studies into the roles of these institutions in enhancing the assets of the urban poor such as human, social, physical, financial, and natural have received less attention. To address this literature gap, this study employed the explanatory mixed-method approach to investigate the topic in the Greater Accra Metropolitan Assembly, the Tamale Metropolitan Assembly, and Sagnerigu Municipality in Ghana. The study reveals that the roles played by the government and other institutions are inadequate and target different assets whilst the urban poor are interested in other assets. The urban poor believe that they are vulnerable and need support from various institutions to enhance their assets. Traditional authorities' roles are by mere consultation which can impede the development of assets for the urban poor. The study recommends that these institutions increase their commitment and collaborate with urban residents to enhance the assets adaptation to achieve the sustainable cities agenda. The study provides guidelines for policymakers, public and private institutions towards assets enhancement and adds to the limited literature on assets adaptation for the urban poor.

1. Introduction

Cities can become hearts of economic growth and drive social and human development and can also become centers for social deprivation (te Lintelo, Gupta, McGregor, Lakshman & Jahan, 2018). To overcome these challenges, adequate policies and proper planning are required to enhance the status of assets for urban poor residents to become resilient. However, sustainable city development cannot be achieved without the participation of government institutions, NGOs, and traditional authorities. Development of the cities including the policy, planning, monitoring, and implementation is mostly undertaken by government institutions. However, city development goes beyond the capacity of the central government and requires institutions such as the private sector to contribute their quota to the development of urban areas. The private sector here includes institutions that exist to engage in businesses for-profit and those that are not for profit such as NGOs, Faith-Based Organizations (FBOs), and Civil Society Organizations (CSOs). All these groups have duties to play to ensure that the assets of the urban

poor are enhanced (Vaes & Huyse, 2016). Livelihood assets are the resource base of the individual, households, and communities (UNDP, 2015). It is essential to know the livelihoods assets that are critical to be enhanced for the urban poor.

Urban residents particularly the poor reside in informal settlements with inadequate facilities to sustain their livelihoods (Stein, Moser & Vance, 2018). Their weak assets base makes them vulnerable to climate change and pandemics such as COVID-19. Their adaptation practices are based on traditional methods as they have limited assets and knowledge to apply to their assets to adapt and become resilient. To advance the sustainable cities agenda, progress the smart cities concept, and achieve the sustainable development goals, all institutions should be involved. As cities continue to grow the number of urban poor also increases and there is pressure on the little public assets within the cities. There is an increase in urban slums, inadequate water, housing, health facilities, and other personal assets that can help the urban poor to adapt and become resilient. These assets fall within the core mandate of public institutions (UNFCCC, 2006). Others believe that the central

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government alone cannot handle the complex nature of developing the cities ((Franco-Torres, Kvålshaugen & Ugarelli, 2021).

The private sector can employ about 90% of people in developing countries (Avis, 2016) and it is envisaged that the private sector will undertake more activities in the future (Venables, 2015). CSOs can also play their part in enhancing the assets of the urban poor in various ways by giving voice to the voiceless, helping the poor to overcome challenges, advocating and campaigning for civil rights, monitoring government compliance, providing basic community and health care services among others (Cooper, 2018). NGOs are good at organizing the poor and those in remote areas, promoting the welfare of households, providing education, basic skills, empowering poor residents to gain control of their lives, working with local institutions, efficiently implementing projects at lower costs as compared with governments institution, and promote sustainable development (Nikkhah & Redzuan, 2010). Traditional authorities are those who live with the community members and are the custodian of the land. They also have authority over the people and can equally affect changes in their communities. Support from traditional authorities is also important (Abanyam & Otioku, 2019).

The roles of institutions in enhancing the assets of the urban poor have been outlined in the literature. However, the plight of the urban poor continues to worsen. Increasing population growth is reflected in the growth in urban population and urban poor (Rana & Piracha, 2020), and assets enhancement for the urban poor is critical. In enhancing the assets adaptation of the urban poor, institutions should be conversant with the aspects of assets adaptation that are critical for the urban poor. Different forms of assets are required for the urban poor to enhance their livelihoods and become resilient. These are social, human, physical, financial, and natural assets. Yet studies on institutional roles in assets adaptation have focused on a few aspects of assets (Archer, Marome, Natakun & Phanthuwongpakdee, 2019; Hossain & Rahman, 2018). This study looks at the roles of institutions in enhancing all the five aspects of assets of the urban poor. It highlights some of the institutional challenges that require attention. This will help broaden our understanding of the specific aspects of assets that require enhancement to inform policymakers and other institutions about the asset's enhancement needs of the urban poor to pursue the sustainable cities agenda.

2. Conceptual framework for enhanced assets and their effects on livelihoods

This study combines the sustainable livelihood framework (SLF) and the sustainable 'smart' cities' concepts to analyze the roles of institutions in enhancing the assets adaptation of the urban poor. The sustainable cities and the SLF share similar characteristics in that, they reflect on the sustainable development agenda. The SLF is made up of five parts which are the vulnerability context, livelihood assets, transforming structures and processes, livelihood strategies, and livelihood outcomes. The SLF has been applied in various fields of study and has proved successful in explaining and analyzing issues on sustainable development as a goal. The sustainable cities concept has also gained global attention and (Trindade et al., 2017) believe that sustainable cities represent a commitment to sustainable urban development. Sustainable urban areas combine indicators of sustainability, with a focus on environmental, social, and economic sustainability issues (Rostami et al., 2015; Trindade et al., 2017; Yigitcanlar & Kamruzzaman, 2015).

The livelihood assets in the SLF consist of human, social, physical, natural, and financial capital which the urban poor require enhancement to adapt and be resilient to stress and shocks. The introduction of technology in the concept of sustainable cities as 'smart' cities is necessary for enhancing assets for urban dwellers, particularly the urban poor. Public institutions are those that operate for government and are not for profit whilst private institutions include NGOs, CSOs, FBOs, and traditional authorities. Combining the SLF and the sustainable cities concepts would strengthen our understanding of asset adaptation

strategies in urban areas.

The framework for enhancing assets adaptation of the urban poor explains the various forms of assets and how these could be enhanced to ensure improved livelihoods of the urban poor. The assets of the urban poor are affected by vulnerabilities including stress, shocks, health crises, and economic shocks which affect the livelihoods of the urban poor. Enhancing the assets of the urban poor requires certain structures and processes to be put in place to mitigate the effects of crises on the urban poor. Governments and the private sector need to enact laws and policies and come out with strategies to assist the urban poor to enhance their livelihoods. The strategies could include the application of technologies that could be modern and advanced, to enhance the assets of the urban poor and progress the sustainable cities agenda. By doing so the assets of the urban poor would be enhanced which would help them to improve their livelihoods and become resilient. The framework is shown in Fig. 2.1.

The framework recognizes the specific aspects of assets. Human assets include skills, knowledge, education, health, and competence of residents. Social includes kinship networks, group membership, socio-political associations, the relationship of support and trust, voice and influence. Physical assets include houses, roads, power lines, energy, water, sanitation facilities, transport facilities, and machinery. Natural assets include the availability of water, land, forest, vegetation, biodiversity, and natural resources. Financial assets are jobs, savings, income, access to credit facilities, pensions, and insurance. These forms of assets are required by city dwellers to enhance their livelihoods, particularly the urban poor. It is crucial to apply smart technologies in enhancing city assets to progress the attainment of sustainable cities. However, if the basic assets of the urban poor are not enhanced, smart city approaches can only benefit the minority of urban dwellers.

Studies on smart cities agree that smart cities employ advanced forms of technology such as Information and Communication Technology (ICT) to make the city resilient, solve problems, and increase comfort and convenience means of living (Evans et al., 2019; Huang, Luo, Zhang & Li, 2021; Nakano & Washizu, 2021; Trindade et al., 2017). Constructing smart buildings, accommodation facilities, health and educational centers for the urban poor can help enhance their resilience to crises. However, they require the requisite knowledge and skills to use such facilities. Integrated bottom-up strategies are necessary to enhance the assets of the urban poor and build their capacities to become resilient. Public institutions are expected to play lead roles (UNFCCC, 2006) to enact policies and strategies that can attract and motivate other institutions to support the enhancement of assets for the urban poor. This will enhance their livelihood assets and make them resilient.

There is a link between sustainable smart cities and sustainable livelihoods assets. This is because the smart cities concept advances the application of technology to enhance the assets, ease affairs and improve the livelihoods of the urban dwellers. It has been outlined in the literature that sustainable smart cities should enhance the quality of life of the urban resident, ensure that economic there is economic growth, residents have improved jobs, enhance the well-being of the members through the provision of social and community services, ensure that environmental activities are responsible, basic infrastructure such as public transportation, water, drainage among others are provided (Trindade et al., 2017). If these assets are provided to ensure the attainment of sustainable cities, the livelihoods of city dwellers would be enhanced. Providing and enhancing the various livelihood assets such as social, economic, physical, natural, and environmental by applying different forms of technologies to make the city resilient and effective would have implications on the livelihoods of its dwellers. With the appropriate local governance mechanisms and structures in place to make the city smart, the lives of the urban poor would also be enhanced. Hence, sustainable smart cities can contribute to the enhancement of the livelihoods of the urban poor. The linkage between livelihood assets and smart cities is important because when advanced technologies are applied to develop assets such as drainages, and communication

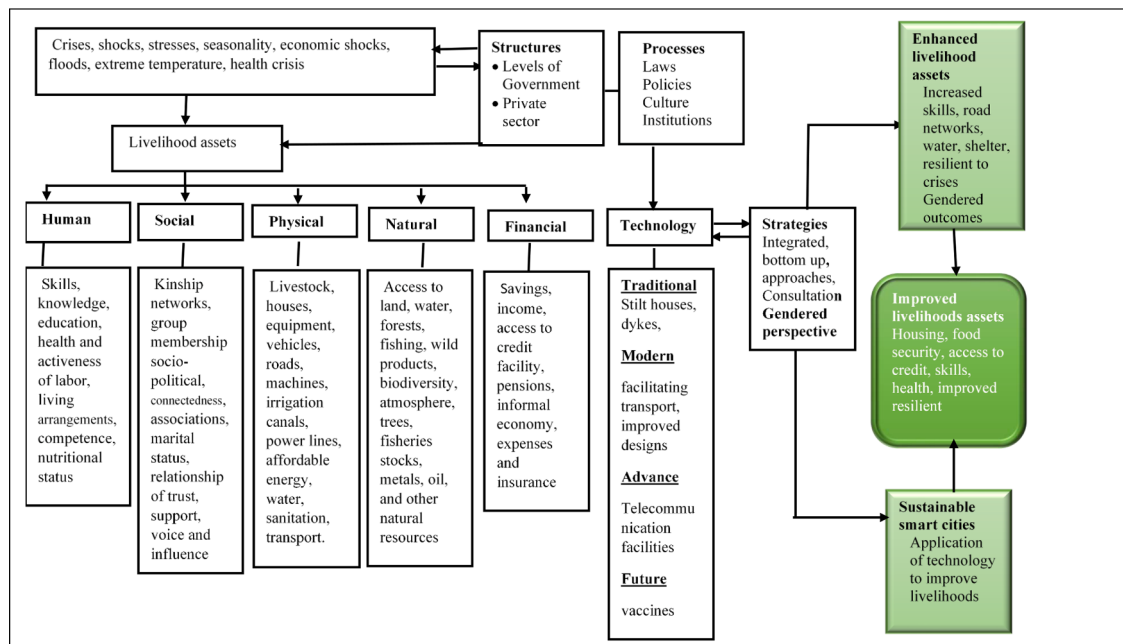


Fig. 2.1. Conceptual framework based on (Rostami et al., 2015; Trindade et al., 2017; Yigitcanlar & Kamruzzaman, 2015).

networks, broaden water accessibilities whilst considering the urban poor, the assets of the urban poor would be enhanced which will have implications on their livelihoods. Government institutions and city developers need to understand that the application of technology in developing the city is essential in achieving the sustainable city agenda.

2.1. Assets of the urban poor

The urban poor depend on different forms of assets for their livelihoods. These include human, social, physical, financial, and natural assets which are usually not the best and make them more vulnerable. The assets that are available to them also determine the type of adaptation capacities they employ (Prowse, 2008). It has been noted that the urban poor has limited assets such as skills, education, capital and has to cope with poor health conditions because of misguided policies (Chaudhuri, 2015). They also lack basic assets such as good housing, potable water, electricity, community health centers, schools, and sewage network ((Stein et al., 2018). Where the access to water, they usually rely on informal supply (Cooper, 2020). These are the same assets that community members use to adapt to climate change and pandemics. Assets are crucial for the survival of mankind. Every individual, household, and community can enjoy their livelihoods based on the availability of assets. Inadequate assets could have diverse implications on people's livelihoods particularly the urban poor who are most vulnerable to seasonality, shocks, and hazards among others. City dwellers are affected by the effects of climate variability and the urban poor are those most affected as they have limited assets to cope with in times of crisis (Bryan et al., 2015; IHC, 2011). This requires institutional support to enhance the assets of the urban poor to progress the smart and sustainable cities agenda.

2.2. Institutional programs to enhance assets adaptation

The roles of urban authorities and city municipal assemblies are relevant in enhancing assets for the urban poor. Government and other private institutions can involve in deep consultation with citizens and communities and engage urban dwellers early in the adaptation planning process (Asayehegn, Iglesias, Triomphe, Pédelahore & Temple, 2017; Thiam et al., 2009). They can ensure that the urban poor has

adequate infrastructure including improving waste collection services from low-income settlements and attending to poor drainage systems. They can support slum and squatter settlements upgrading by constructing houses properly and providing basic facilities (Thiam et al., 2009).

Government institutions can facilitate household coping strategies by sharing forecasted information and providing evacuation services. Government institutions can support sustainable livelihoods, reconsider zoning and planning regulations, ensure appropriate building standards, gather data on the impacts of extreme events, and improve disaster preparedness (Thiam et al., 2009). External supports should be provided at the neighborhood level to enhance the capacity of community institutions to develop community-level infrastructure to reduce the negative effects of climate change (Hossain & Rahman, 2018). In Zimbabwe, for instance, the government ministry advises farmers to reintroduce small grains like sorghum and millet since they can withstand drought (Thiam et al., 2009).

The government could play a role by enacting favorable policies to support the enhancement of assets of the poor to build their adaptive capacities and be resilient (Hossain & Rahman, 2018). Policies that affect access to assets like legal requirements for ownership, access to economic gains, policies to improve earnings on assets such as enhanced infrastructure, and changing the value of assets like institutional reforms can help the poor to become resilient (Archer et al., 2019). They continue that, in the urban realm, local governments play the role of central actors in adaptive urban governance. They take decisions in enhancing and investing in infrastructure as well as financial and technical issues. Educational institutions at the local level can support community-driven initiatives and offer assistance in the provision of knowledge and training at the community level. All these programs could help build the assets adaptation of the urban poor.

In the United Kingdom, a means by which local authorities have been encouraged to assist in the protection against climate change include land use and transportation planning, the need to reduce travel, reduce the length of motorized journeys, and design energy conservation issues including renewable energy which has implications on climate mitigation issues (Bulkeley, Betsill, Bulkeley & Betsill, 2005). Many countries have formed national federations of slum dwellers who have partnered with local governments and private institutions to implement programs

to address housing problems, upgrade slums and enhance basic infrastructure (Hossain & Rahman, 2018).

Climate change affects food security, human health and safety, water, and biodiversity which are the responsibility of the public sector. However, there is the need to engage the various stakeholders in consultation and decision-making that affect their livelihood and enhance adaptation measures. The development of sustainable cities requires the participation of all and the development of assets to enhance the livelihoods of urban dwellers, particularly the urban poor. Technological innovations enhance assets, develop infrastructure, access services, and improve the overall experience of living in urban areas (Asayehegn et al., 2017). These are the roles and responsibilities of the government. Government institutions can undertake community-based programs to engage community members in issues concerning adaptation to climate change, research and promote alternative building infrastructure designs, engage in emergency response to the storm, information sharing on adaptation challenges and strategies, pilot programs, and create incentives for relocation of informal settlements (IHC, 2011).

The private sector can provide goods and services and engage in effective capital flows (Avis, 2016). It is envisaged that the private sector will undertake more activities in the future (Venables, 2015). The private sector leverages the opportunities, reduces the problems associated with rapid urbanization (Avis, 2016), and can participate in urban governance and influence the development of sustainable areas (Haider, 2014). They engage in poverty reduction strategies and address unemployment issues.

Some of the roles of traditional rulers are to mobilize human and natural resources in their immediate surroundings to enhance the quality of life and the general wellbeing of residents within their community. Examples of some of the roles of traditional rulers in Nigeria include ensuring that there is peace and security within their territories, protecting cultural values, promoting peace, settling disputes, sensitizing their people against infectious diseases, mobilizing their people to pay taxes for the maintenance of roads, public schools, and to render other public services. They are also able to engage in the construction of classroom blocks, provide learning materials, provide medical facilities, build health centers, and participate in other community projects such as the building of bridges (Abanyam & Otikwu, 2019). In Zimbabwe, studies have shown that traditional leaders can assist their members in getting jobs from the companies (Chanakira, Mujere & Spiegel, 2019).

3. Study areas and methodology

3.1. Study areas

Four study communities were selected from the Greater Accra Region in the southern part and the Northern region in the northern part of Ghana. In Accra, James Town and Chorkor were selected from the Accra Metropolitan Assembly whilst Gumani and Jakeriyili are in Sagnarigu and Tamale Metropolitan Assembly respectively. Residents at James Town and Chorkor are mostly fishmongers and fishermen (GSS, 2014). These urban communities are cholera endemic areas in the Metropolis, are flood-prone areas, have poor environmental conditions including choked gutters, inadequate refuse dams, improper disposal of waste, overcrowding, inadequate toilet facilities resulting in defecation, and have an unstructured housing system. The communities also have insufficient sources of water (Tutu, Gupta, Elavarthi, Busingye & Boateng, 2019). James Town is the most populated and socioeconomically poor and has one of the lowest illiteracy rates in the Accra Metropolis (Bain et al., 2019). Gumani was once a rice farm within the city and these lands were sold for residential purposes. It is low lying and hence prone to floods. A reconnaissance survey used to ascertain information on the sample trials (Halder, 2013) revealed poor structures, improper drainage facilities, and poor sanitation facilities. Jakeriyili also experiences floods, poor drainage, and sanitation facilities. Such poor

characteristics of communities within the urban centers require the attention of urban planners to come out with strategies to support the development of the city centers to drive the sustainable cities agenda.

3.2. Methodology

The study employed both quantitative and qualitative techniques to investigate the topic. The mixed-method was employed because it provided research flexibility. in-depth understanding of issues and the ability to generalize research findings (Dawadi, Shrestha & Giri, 2021). The study employed the sequential explanatory mixed-method approach (Ivankova, Creswe & Stick, 2006). A total of 440 household heads from the four communities were surveyed, 110 from each community. The sample size was derived by using the formula $n = Z^2(P)(1-P)/d^2$ where n is the sample size, Z is the confidence level (95%), P is the percentage of response (50%) and d is the confidence interval (0.05) (Pourhoseingholi, Vahedi & Rahimzadeh, 2013). A 15% non-response (Isreal, 2013). Multi-stage cluster sampling was employed to sample the study communities because of its ability in capturing respondents from diverse geographical areas (Sedgwick, 2015). The questionnaire sought their views on the roles they expect government and private institutions to play in enhancing their assets adaptation. Six (6) interviews were conducted in each community including three (3) males and three (3) females in each community totaling 24. In addition, 2 FGDs were held in each community. Furthermore, 17 interviews with various institutions were also conducted. These institutions are the Ministry of Environment, Science, Technology, and Innovation (MESTI), the Ministry of Local Government and Rural Development (MLGLD), the People's Dialogue, MARKAZI, Ashiedu Keteke Sub-Metro, Tamale Metropolitan Assembly, Sagnarigu Municipal, National Disaster Management Organization (NADMO) and Traditional authorities. Results from the quantitative studies were coded and entered into the Statistical Package for Social Sciences (SPSS) software and descriptive statistics such as the use of tables and graphs were used to analyze the results. Qualitative information from the field was transcribed, grouped under emerging themes, and analyzed based on their contents.

4. Results and discussions

4.1. Characteristics of respondents

The demographic characteristics of respondents are shown in table 4.1.

There are more female (57%) respondents than males (43%) and 54% of respondents are married. Their religious characteristics are based on the geography of the communities since those in the Northern part (Gumani and Jakeriyili are mostly Muslims and those in the Southern part (Chorkor and James Town) are largely Christians). Similarly, their ethnic background is placed related and those from the Northern part speak mostly Dagbani whereas those in the Southern part speak Ga/Adangbe. The majority of respondents have low levels of education. The percentage of those who have not gone through any form of formal education and those who have just primary education is 32, followed by those with Junior High School (JHS) education (26%), Senior High School (SHS) is 22% and 20% have been through tertiary education. The majority of those who have SHS and tertiary education are from Gumani and Jakeriyili whereas the majority of those from Chorkor and James Town have the lowest forms of education.

Human assets in terms of education, knowledge, and skills acquisition are the first forms of empowerment for residents (Eshun & Asiedu, 2021). When residents have access to information, education, knowledge, and training they can become knowledgeable about risks and prepare against them (Kumaraswamy, Mattern & Hernandez, 2020). For cities to become smart and sustainable, the education and knowledge of residents particularly the urban poor is critical. Knowledge is required to be applied to the various forms of assets to become resilient to crises

Table 4.1
Biodata of respondents.

Item	Communities James Town	Chorkor	Gumani	Jakeriyili	Total
Sex					
Male	42	31	52	66	191
Female	68	79	58	44	249
Total	110	110	110	110	440
Religion					
Christianity	87	103	39	11	240
Islam	19	6	71	99	195
Traditional	1				1
No religion	1				1
Other	2	1			3
Total	110	110	110	110	440
Ethnic groups					
Asante	1	6	13	3	23
Fante	12	7	3	0	22
Other Akan	2	13	1	0	16
Ga/Adangbe	83	62	0	1	146
Ewe	3	17	2	2	24
Dagbani	2	0	59	88	149
Waale	0	1	6	4	11
Hausa	0	1	3	3	7
Kusaasi	0	0	9	3	12
Other	7	3	14	6	30
Total	110	110	110	110	440
Education					
None	9	15	23	45	92
Primary	12	23	12	2	49
JHS	45	46	10	14	115
SHS	34	19	20	23	96
Tertiary	10	7	45	26	88
Total	110	110	110	110	440
Marital status					
Single	56	33	35	30	154
Married	37	57	68	74	236
Divorced	3	8	1	1	13
Separated	1	1	4		6
Widow/widower	13	11	2	5	31
Total	110	110	110	110	440

((Stein & Moser, 2014; Stein et al., 2018). Residents need to be educated on the various technologies that could be used to overcome crises including COVID-19 (Vargo, Zhu, Benwell & Yan, 2020). The urban poor with low levels of education require enhanced human assets to apply to the other forms of assets to become resilient

4.2. Perception of urban poor on roles of institutions

The urban poor shared their views on the roles that public and private institutions should play in enhancing their asset adaptation strategies. Key among them is to provide water, provide education on crises prevention, support during hard times, offer interest-free loans, provide financial support for the needy, build drainage facilities, and build good houses in the community. This is shown in Fig. 4.1.

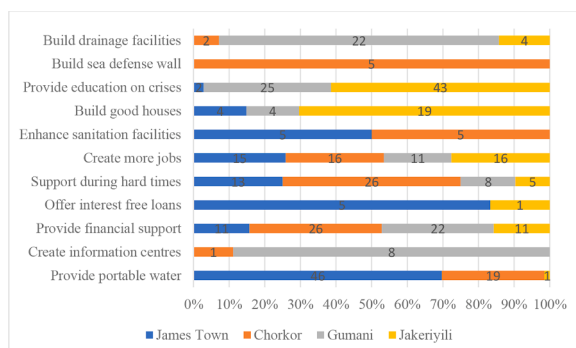


Fig. 4.1. Urban poor's perception of roles of institutions.

The information provided in Fig. 4.1 is crucial for institutions to enhance the assets of the urban poor. Institutions need to factor in the assets needs of the urban poor in the planning of the cities. Most urban poor (77%) prefer education on the prevention of crises. Human assets are crucial in attaining other forms of assets (Stein et al., 2018). From the conceptual framework, human assets include skills, knowledge, health, and the activeness of labor. When people are knowledgeable about issues, they are likely to make informed choices. However, (Chaudhuri, 2015) noted that the urban poor has limited skills, education, and capital and endure poor health due to misguided policies and neglect. Educating the urban poor on crises prevention through informal means can help them to become knowledgeable on what to do to prevent crises and become resilient.

Water crises were seen as a major concern for the urban poor and 73% of them prefer potable water to be provided. Water is a natural asset, however; physical structures are required to extend water to various homes to store and use. Unlike the rural communities where people could use rivers and streams as alternatives, urban residents have to depend on the national grid for water supply. Unfortunately, the urban poor resides in informal structures, and in Ghana, housing documentation is required to be connected to the national grid. Even those who are connected to the grid complain of water challenges and that of the urban poor could be worse. (Franco-Torres et al., 2021) noted that the urban water challenges are linked to governance. Water is life and a basic necessity for human survival. According to the conceptual framework, structures and processes are necessary to provide assets to the urban poor. The government can devise favorable policies and strategies to provide potable water for the urban poor. Communities such as Chokor and James Town are closer to the sea and already constructed wells are salty and cannot be used. Technology can be employed to dig wells and treat salty wells to make them available for the urban poor.

Most of the urban poor believe that it is the responsibility of the government to provide and enhance assets particularly public assets. They share that government and private institutions are established to oversee the enhancement of assets of residents within various municipalities to ease their vulnerabilities and enhance their livelihoods. Some also harbor the idea that government should create an enabling environment for members to access job opportunities. They added that they are financially challenged and so the government can help them with even some personal assets that could enable them to enhance their livelihoods. During the FGDs, the residents shared that:

"When it comes to constructing storm drainages and enhancing existing ones, enhancing sanitation facilities, providing education on crises, and information centers, the government is supposed to play key roles in these. For us, even acquiring the basic personal assets to survive have been challenging, and would like government support as well. We are all humans and need to survive. The government should provide us with jobs, and create an enabling environment to get soft loans to start and expand our businesses. But it seems that the government and other institutions are not doing much to build the various forms of assets that would help us to be resilient. And we cannot do anything but talk about our woes, yet they are not even considered in most cases. We seriously need support" (Men FGDs, Gumani).

"The government should provide water facilities and help us to get water in our homes. They should provide financial support for the needy and the aged and create centers where people can go for support in times of crisis. Education on crisis prevention and support during such times are also things that the government can help with. In all cases, it is important for the government to collaborate with us to see what we need and prefer to be enhanced so that they can support us in such areas" (Women FGDs, Chorkor).

"We cannot make it without the support of government and private institutions. Look at our living conditions here. How can we become resilient"

without government support? The rich are always capitalizing on the best opportunities leaving us the poor to suffer. The government should come to our aid and help us in all areas” (Men FGDs, James Town).

Urban poor in the various communities believe that they can enhance their livelihoods assets with the support of the various public institutions. All forms of assets are critical for the development of individuals and communities. Poor urban communities require assets enhancement in different forms such as enhanced roads, sewage, sanitation facilities, drainage facilities, water, and houses among others. These are basic requirements and enhancing these forms of assets will improve the general conditions of living within the cities. Such activities fall within the central government’s capacity although the private sector can complement them (Franco-Torres et al., 2021), the government institutions should be committed to playing a leading role (UNFCCC, 2006). Their knowledge of which assets require enhancement is also crucial since they experience the challenges in their daily activities.

4.3. Gendered perspective on assets enhancement

The perspectives of men and women on the roles of institutions in assets enhancement are shown in Fig. 4.2.

Both men and women have various interests in the areas of assets enhancement. More females (56) want institutions to provide financial support for the needy than men (21). It has been reported that women are most vulnerable in times of crisis and in such times depend on personal savings and loans from friends and families as they are unable to borrow from banks (Oladokun, Adenegan, Salman & Alawode, 2018; Resurrección et al., 2019). Again, more females (50) as against 23 men want institutions to provide potable water. Women as part of their gender roles in the African and Ghanaian perspectives are supposed to fetch water for cooking, washing, and performing other household chores and water shortage affects women more than men (Mai, Jok & Tiitmamer, 2018). More men (18) compared with women (11) want institutions to build good houses in the communities. Men are also expected to provide shelter for their households and as the urban poor resides in areas with deplorable housing conditions, providing good housing would enhance the physical assets within the communities. Men and women have different perspectives on crises and are affected differently by the effects of crises (Olsson et al., 2015; Stein et al., 2018).

The perspective of men and women on the degree to which they agree or disagree that technology can be used to enhance the assets of the urban poor to improve their living conditions were also assessed. The result is presented in Fig. 4.3.

More women (171) than men (156) strongly agree with the statement and again more women (57) than men (28) agree with the statement. Women are most challenged in times of loss of assets and studies have shown that the gender roles deepen the effects for women more than men (Mai et al., 2018). Moreover, studies have reported that women groups with high social bonding have higher social seclusion,

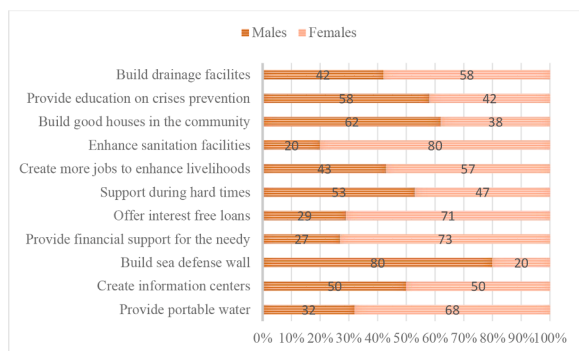


Fig. 4.2. Gendered perspective on the role of institutions in assets enhancement.

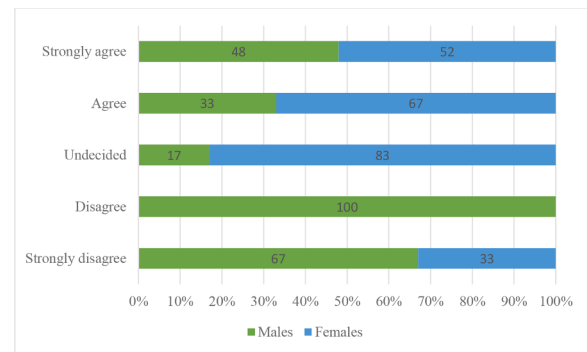


Fig. 4.3. Gendered perspective on the use of technology to enhance assets for the urban poor.

decreased access to novel information, technologies, and other opportunities, and tend to depend more on their male relatives for their diverse needs (Po & Hickey, 2020). Applying technology to improve the assets within the cities and creating smart spaces, can enhance the livelihoods of women.

4.4. Roles of public institutions

Interviews with some government institutions revealed that some of the government institutions undertake certain activities to enhance the assets of the urban poor. These cut across the various forms of assets.

4.4.1. Financial assets

The Sagnerigu municipality offered financial support to some urban poor members who were affected by floods. This was done in 2018 when there was flooding in some flood-prone areas and the municipality identified some of the affected members and paid them GHC 300 (USD 43) per household from an emergency Livelihood Empowerment Against Poverty (LEAP) project fund. Furthermore, money is paid to vulnerable households every two months as part of the LEAP project. The Tamale municipality usually depends on philanthropists for relief items that are given to deprived households during disasters. The community development unit collaborates with other institutions to provide relief support to the vulnerable for instance providing food during COVID-19 lockdown. The financial assistance is received through the COVID-19 relief funds which are administered by the National Board for Small Scale Industries (NBSSI) now known as the Ghana Enterprises Agency (GEA), people are directed to go there for support. Sometimes the municipality receives aid items from NGOs and FBOs which are shared with affected persons in the communities. Whilst the government institutions are engaged in these short-term financial programs, the urban poor wants to be engaged in more sustainable jobs, financial support for the needy to be regularized for a longer period, and at the same time get support whenever there is a crisis.

4.4.2. Physical assets

From time to time the Sagnerigu municipality would dredge the gutters. But have now started construction of drainages, though at a slower pace. The Tamale municipality educates community members on fire prevention, and how to properly use firewood, charcoal, and LPG. They also educate them not to build on waterways, raise the footings of their buildings, and use quality materials to roof their buildings. The Tamale municipality constructs storm drainages and desilt drainages in the communities. They also capture information on infrastructure development in their budget and are working on developing infrastructure within the municipality. The urban poor prefers an increase in sanitation and drainage facilities to reduce floods and increase their health conditions. They also want good houses to be built for them.

4.4.3. Human assets

The Sagnerigu municipality also engages community members in skills training such as the making of batik, tie, and dye as well as soap making and liaises with other NGOs like MARKAZ to assist communities. Tamale municipal assembly also engages community members in sensitization programs on how to live well and prevent disaster. The Community Development Unit of the Ministry of Local Government promotes the welfare of the urban poor communities. The unit has trainers in the various communities who engage community members in sensitization programs. The Unit provides training in soap making and other fast skills training. Community members are also encouraged to send their wards to some of the vocational schools belonging to the Ministry. The Community Development Unit also provides positive behavioral changes within the families in the communities. Community members are educated on COVID-19 and climate change issues. The Tamale metropolitan assembly has a unit that educates community members on health issues by going to the communities and also reaching out to community members using the radio. The Accra metropolitan assembly usually educates community groups such as fishmongers, fishermen groups, and hairdresser associations who in turn educate their peers. Sometimes house-to-house education is done. The National Commission on Civic Education (NCCE) within the Accra Municipal Assembly educates members on the laws of Ghana, duties of a citizen, core values of a citizen, respect for elders in society, rights of children, and how to protect the environment. Although the various institutions are engaging residents in these activities, the urban poor prefer education on crises prevention.

4.4.4. Social assets

Respondents from the Sagnerigu municipality mentioned that they engage the community in sensitization programs, targeting behavioral and attitudinal change in society. They also focus on the family as a unit in society and the best place for everyone to live especially children. The NCCE department within the Accra Metropolitan Assembly also educates community members about the importance of unity in society, family integration, and family systems, and also assists family members to get justice within the family system.

4.4.5. Natural assets

They are sensitized to plant trees, and not to build close to the sea. The Ministry of Environment, Science, Technology, and Innovation (MESTI) has adaptation strategies in its master plan relating to several areas such as water storage, agriculture, land management such as stone bonding which is a technology used to hold moisture content in the soil, and biochar which is burning of agricultural residue and mixing with soil to improve its quality. The ministry is also implementing biodiversity projects, and land reclamation strategies mostly in the northern part of the country. For instance, stone bonding is a project that is been undertaken in the Upper East Region where the land cannot hold water so the farmers can apply this simple technology to hold soil moisture. The farmers are also taught not to plow along slopes and other smart management technologies. MESTI is responsible for the environment and works to ensure that all sector ministries mainstream environmental issues into their activities such that the environment is conducive for everyone. It also helps institutions to transform, and accelerate economic growth in various sectors. The major role in policy formulation at the national level. The ministry is looking at rezoning the city and not allowing people to build in places that are not designated for residential purposes.

It appears the various government institutions are engaging community members in one activity or the other to enhance their assets. However, these activities seem to have their focus in other areas whereas the urban poor is also interested in other forms of assets such as enhancing water provision, building drainages, providing jobs, and social support services. This suggests that there is less interaction with public institutions and the urban poor to understand their assets needs

and adaptation strategies. The roles of the public institutions go beyond what the urban poor perceive yet their assets are poor and in a deplorable state within the cities. This calls for deliberate engagement of public institutions with the urban poor to understand their needs and support the enhancement of assets. In the conceptual framework, public institutions are expected to provide the necessary structures and processes that can drive the private sector and community involvement to enhance their assets adaptation. Such roles are germane to pursuing the sustainable cities agenda.

4.5. Roles of private institutions

Markaz NGO work with community members in Tamale and Sagnerigu municipalities to educate community members on various issues including early child development, training for teachers on new methods of teaching, and community campaigns on current issues. They also train community members on book management and record keeping. They had previously provided support for microenterprise development by giving loans to community members but most of them could not pay them back so they stopped this program. However, they engage community members to form associations where the group members make some financial contributions and they use it to support the group members as loans with interest. Where Markaz also has the capacity, it sometimes financially supports some of the members.

People's dialog is an NGO working with informal communities in urban areas. They look at the urban spaces of such communities where they can use as market places, places for transportation, and how people can freely move within such areas. They believe that it is critical to enhance the assets of the urban poor and upgrade their place of residence to avoid flooding. They also build their capacity to afford clean energy and try to introduce the use of solar energy to them, providing solar lamps to the fishermen and fishmongers to improve their businesses. Over 300 households benefited from the distribution of solar lamps in James Town. This project led to the installation of 51 kilowatts of solar lamps at Ashaiman. People's dialog assisted some of the communities that had challenges with their storage of fish by introducing a fish smoking oven to them. However, these facilities were destroyed by the dredging of James Town and Chorkor lagoon between 2019 and 2020.

The effects of crises such as climate variability and COVID-19 extend beyond just the central government's capabilities and require collaboration and partnership with the private sector. Private sectors invest in and build the human capital of residents, provide financial support, engage in the implementation of projects, and partner with government institutions to enhance the livelihoods of the urban poor (Vaes & Huyse, 2016). The private sector employs more people in the formal and informal sectors and it is positioned to even participate in major development in urban areas in the future (Avis, 2016; Venables, 2015). Furthermore, the private sector can engage in urban governance and the development of sustainable areas, assist with poverty reduction strategies, and address unemployment (Haider, 2014).

Private sector engagements with these communities seem to be on the lower side. Few NGOs, are involved in and helping community members to enhance their assets. The development of the cities especially enhancing the assets of the urban poor requires more hands, particularly from the private sector. Private sectors such as Faith-Based Organizations (FBOs) were completely out of the picture since their activities were not reported by the residents. This suggests that they are not engaging the residents enough to enhance their assets. However, the majority of residents are Christians and Muslims. These institutions could also play certain roles in enhancing the assets of the urban poor by providing skills and capacity training, education on the importance of social assets, and building strong bonds within the communities to promote peace and unity. Some of the residents complain that some of the faith institutions would rather solicit funds from poor residents in the form of offerings to God and care little about the welfare of the poor

members within the communities. This feeling could have implications on the moral qualities of residents which also require critical attention. Involving the urban poor in the development of assets within the cities is crucial.

Citizen participation and bottom-up initiatives in urban governance, and the classification of private institutions as social entrepreneurs have been proposed to enhance the adaptation strategies of the urban poor (Mens, van Bueren, Vrijhoef & Heurkens, 2021). NGOs, FBOs, and CSOs exist to complement the public institutions in providing sustainable development, social services, and programs to community members. Furthermore, NGOs can ensure the equitable distribution of goods and services to the grassroots, the poor, the deprived, and the disadvantaged groups (Nyang, Nyangosi, Oenga & Suleiman, 2016). These groups should be encouraged to engage more with community members to enhance their assets and become resilient to crises.

4.6. Role of traditional authorities

Traditional authorities in the various communities believe that they have to participate in the development of their communities. However, their participation had been a passive type where they are consulted in any developmental programs in the communities. In regards to the enhancement of assets, the traditional authorities believe that physical assets that are publicly owned should be developed with their consultation. They are the rulers of the land and so whenever there is going to be any development, they have to consent to it before that particular project can be carried out. Even when it involves human assets such as capacity building, and skills development among others, the traditional authorities need to be consulted. This role of participation through consultation was experienced by the research team in the James Town community. Before household data could be collected from community members, the chiefs in the various suburbs within James Town had to be consulted before permission was given to the research team. And each of the chiefs had to be given a token as well with some demanding more money before permission would be given for data to be collected. During an interview, one of them remarked that he is always consulted before development programs are carried out in the community. He shared that it is the role of the central government to provide the necessary strategies to enhance the assets of residents in the community.

It is a tradition that when one visits the chief, one has to go with a gift. However, to visit four chiefs within one community before permission would be allowed to collect household data sends a negative signal to the development of the cities. This could mean that there is no unity between the chiefs and that one suburb chief operates independently from the other. This was also revealed during the household survey when some of the residents mentioned that the community is divided by politics and that there is no unity among their traditional rulers. Each one has his political affiliation and incentives are sent to the communities based on political lines according to residents. This revelation indicates that traditional authorities engage in the development process through consultation and participation by incentives. These forms of participation are not likely to produce the results required by traditional authorities to assist in enhancing the assets of the urban poor and progress the sustainable cities agenda.

Traditional authorities occupy crucial positions in the community. They are respected as the landowners, who govern all residents that live within the confines of their lands. They are supposed to ensure that everyone living within such areas is protected and has access to various forms of assets to enhance their well-being. The traditional authorities are supposed to mobilize human and natural resources within their environment to enhance the quality of life of their community members (Abanyam & Otikwu, 2019). Studies have revealed how traditional leaders can play key roles in helping their members to gain jobs in mining areas (Chanakira et al., 2019). Some of the roles of traditional authorities in Nigeria include sensitizing their members on health issues, building classroom blocks, providing learning materials, building health

facilities, engaging community members in the building of bridges, and promoting peace and security within their communities (Abanyam & Otikwu, 2019). Such practices were not found in the study communities where the chiefs mostly participate by mere consultation.

Some of the community members explained that such attitudes have increased as a result of politicians who go to campaign in the communities for votes and make a series of promises where people including the chiefs are made to believe that, they do not need to do anything much, as most of their needs would be catered for when the politician wins power. These ‘political talks’ make the chiefs relax only to be disappointed until the next campaign when incentives are given to them to compensate for the inability of the politician to fulfill their campaign promises. The traditional authorities are somehow becoming too dependent on political parties to develop their communities making them rather redundant. These practices demand immediate attention since it is becoming acceptable in society which could have a series of implications for the attainment of the SDGs. Failure to address this issue could disable the social assets and weaken social, and local structures in the communities.

The government has limited resources to offer in the developmental process (Winters et al., 2009). This requires partnership with private institutions to enhance the assets of the urban poor. The government is expected to play a leading role in organizing the various institutions and enact policies and strategies that would motivate the private sectors to be involved in the enhancement of assets for the urban poor. State institutions need to work hand in hand with the NGOs and help them with their challenges and also bring on board CSOs and FBOs since they do not seem to participate in enhancing the assets of the urban poor even though they engage with the urban poor in their institutions. Forming partnership with these institutions to enhance the assets of the urban poor is crucial in attaining the SDGs.

The summary of the roles of institutions is shown in Table 4.2

4.6. Institutional challenges

The various institutions mentioned their challenges including the communities not complying with rules and regulations, and have been throwing rubbish in the gutters, and making the entire place dirty. There are cases when dustbins were given to community members but they will prefer to use them to store water, soak their food and throw the rubbish in the gutters. Community members sometimes attack the health workers known as samansaman/tankas (sanitation task force). Community members’ engagement in open defecation is also a big challenge. Most community members want quick money so when they are trained in the various skills because that takes time, they do not want to engage in those activities. There are also political interferences, and sometimes work is done along political lines, otherwise one can lose the job. Some of the politicians also influence the community members with money especially, to canvas for votes. Sometimes developmental projects in these communities are hijacked by some politicians and their followers within the communities. Political leaders in the communities will tell where to put a certain project or which group to benefit from a particular project. The district assembly sometimes does not get the necessary support to engage community members in cleaning the environment. One has to pay GHC 0.50 to use the community toilet, yet people are not able to afford so they have to defecate at unapproved places. When people are caught and about to be sanctioned, politicians interfere making the work more difficult.

There is inadequate staff to engage in community monitoring, no logistics to even go with, and no motivation. Community members build waterways which also increases the rate of floods. Officials also engage in corruption since they are not paid well, they rather go to the community to collect money from people and allow them to build anywhere they want. Some workers are paid GHC 200 (\$33.3) as their monthly salary, which is no motivation for them to work diligently. No external officers monitoring the actual work on the ground also encourage people to do their things. Sometimes community members who come to the

Table 4.2

Summary of roles of institutions.

Assets	Institutions Sagnerigu Municipality	Tamale Municipality	MARKAZ (NGO)	Ministry of Local Government	Accra Metropolitan Assembly	MESTI	Peoples' Dialogue (NGO)
Financial	Provided financial support to flood victims	Provide relief items from philanthropists to households during disasters	Engage community members to form associations where the group members make some financial contributions and use it to support the group members as loans with interest				
	Pay vulnerable households every two months	Provided food to vulnerable households during COVID-19 lockdown					
Physical assets	Dredge gutters	Educate community members on fire prevention, proper use of charcoal and LPG					They look at the urban spaces where they can use as a market, transportation and how people can freely move within such areas Provided solar lamps to over 300 households, fishermen, and fishmongers to improve their businesses
	Started drainage construction	Educate them not to build on waterways, raise the footings of their buildings, and use quality materials to roof their buildings. Construction of storm drainage Desilt drainages Capture information on infrastructure development in their budget and are working on developing infrastructure within the municipality					
Human	Engages community members in skills training such as the making of batik, tie, and dye as well as soap making and liaises		Engages community members in skills training such as the making of batik, tie, and dye as well as soap making and liaises with	Provides training in soap making and other fast skills training The Community Development Unit also provides positive behavioral changes within the families in the communities Community members are educated on COVID-19 and climate change issues	NCE educates members on the laws of Ghana, duties of a citizen, core values of a citizen, respect for elders in society, rights of children, and how to protect the environment educates community groups such as fishmongers, fishermen groups, hairdresser associations who in turn educate their peers		
Social	Engage the community in sensitization programs, targeting behavioral and attitudinal change in society.				Educates community members about the importance of unity in society, family integration, and family systems, and also assists family members to get justice within the		

(continued on next page)

Table 4.2 (continued)

Assets	Institutions Sagnerigu Municipality	Tamale Municipality	MARKAZ (NGO)	Ministry of Local Government	Accra Metropolitan Assembly	MESTI	Peoples' Dialogue (NGO)
					family system.		
Natural						Has adaptation strategies in its master plan such as water storage, agriculture, land management such as stone bonding, and biochar. Train farmers on stone bonding and land reclamation	

institution to report a disaster would have to pay for the taxi and logistics that would be used to go with them to solve the problem because the institution does not have the cars and other logistics to work with. Sometimes too, some of the workers in the institution have to contribute from their sources to buy fuel to use when there is a vehicle available.

The various institutions are engaging community members in various asset-building. However, the status of residents' assets still requires enhancement and calls for the need to strengthen and or renew existing structures and processes to help enhance the assets of the urban poor. Most of the institutions that are the implementing bodies of the ministries reported the challenges they are facing which require critical attention if the assets of the urban poor are to be enhanced. Strong institutions devoid of political interferences are required to progress the sustainable cities agenda. The concerns of the urban poor need to be taken on board and institutions need to collaborate with community members to know their needs and help enhance their assets for them. The community members did recognize that the government is doing something, however, they believe it is not enough to enhance their assets to become resilient.

It appears that the government institutions have their focus on other assets, whilst the urban poor is also interested in the enhancement of other assets. Residents, 51% want access to potable water, and 47% want education on crisis prevention to be enhanced. Although educational programs are being undertaken in the communities, there would be the need to team up with the community members and know the specific areas of human empowerment that they require to be enhanced. Little is being done by these institutions as far as the enhancement of potable water to the vulnerable communities is concerned.

It has been outlined in the literature that the assets of the urban poor are mostly limited and require enhancement in the form of external support to become resilient (Stein et al., 2018). This is evident in this study. Government institutions are those who have been given the mandate to enhance assets mostly public assets for the good of mankind. External support should be provided at the neighborhood level to enhance the capacity of community institutions to develop community-level infrastructure to reduce the negative effects of climate change. In enhancing these assets, it is crucial to collaborate with residents (Hossain & Rahman, 2018). Government and other private institutions can involve in deep consultation with citizens and communities and engage urban dwellers early in the adaptation planning process (Asayehegn et al., 2017; Thiam et al., 2009).

For cities to become sustainable and smart, basic infrastructure and services should be provided (Trindade et al., 2017). In advancing the smart city agenda, the development of infrastructure within the entire city is critical. The urban poor who reside in slums, lack potable water, and several social amenities would have their livelihoods improved if technology is applied to develop their housing, construct drainage, and provide water services among others. Where there exist slums, poor environmental conditions, and no or inadequate potable water, the

attainment of sustainable smart cities agenda would be a mirage. Therefore, providing enhanced livelihood assets for the urban poor is very critical in achieving the smart cities agenda (Baker, 2013).

Some of the urban poor said they would prefer that government build good and affordable houses for them. One issue that is of great concern for the urban poor is their housing. Most of them live in informal settlements and in developing and building city infrastructures, good housing, and properly structured settlements are crucial. Social housing is an activity that warrants attention since it is built to meet low- and middle-income groups but is most often sold to those with formal jobs (Tellman, Eakin, Janssen, de Alba & II, 2021). If cities are to become sustainable and smart, it is germane for institutions, particularly public ones to come to the aid of the urban poor. This could be done in several ways. The government could play a role by enacting favorable policies to support the enhancement of assets of the poor to build their adaptive capacities and be resilient (Hossain & Rahman, 2018). Policies that affect access to assets like legal requirements for ownership, access to economic gains, policies to improve earnings on assets such as enhanced infrastructure, and changing the value of assets like institutional reforms can help the poor to become resilient (Archer et al., 2019). Technological innovations enhance assets, develop infrastructure, access services, and improve the overall experience of living in urban areas (Asayehegn et al., 2017). These require policies and strategies which are the mandate of most central governments.

As outlined in the conceptual framework, the government institutions and the private sectors can employ structures and processes to provide and enhance the social, economic, environmental, physical, and natural assets of the urban poor to enhance their livelihoods. The application of technology is essential to enhance the livelihood assets of the urban poor to progress the sustainable cities agenda. The various aspects of these assets, thus provision of jobs, and infrastructure, such as housing, communication networks, and potable water, among others are within the core mandate of government institutions. They are expected to take leading roles in the provision and enhancing of assets of the urban poor and make cities smart. Where the assets of the urban poor remain deplorable, the achievements of the smart city agenda will be a conceptual oxymoron.

Some of the government institutions like the Tamale and Sagnerigu municipalities assist community members by providing them with financial aid during disasters from the LEAP fund. However, the private sector also complements government efforts in this regard. The private institutions usually work with the poor communities and support them in times of crisis. Both private and public institutions provide some form of human assets including training in handicrafts to improve their skills, education on crises prevention, and environmental hygiene. However, with the public institutions, the community members said that they come in once in a while whereas the private institutions will usually ensure the sustainability of the project. Residents from all the study communities preferred the work of the private institutions to that of

public ones because they believe that private institutions do not play politics with their work. Studies have revealed that the private sector can promote the welfare of households, educate and manage projects at a lower cost as compared with the public institutions (Nikkhah & Redzuan, 2010)

However, private institutions have targeted and limited roles to offer. It is the public institutions that are supposed to provide all the basic needs within the cities to make them smart and enhance the livelihoods of residents. Nevertheless, the various public institutions that are supposed to work with the local communities to provide and enhance their assets, work within the funds available to them and are unable to make provisions for enhancing the various forms of assets for the urban poor. The private sector is equally financially challenged even though residents commended their efforts more than the public sector. The residents' perception of the role of the traditional authorities goes beyond just consultations. They expect them to play a key role in lobbying for assets to be developed and enhanced within their communities and being their mouthpiece, but this had not been the case.

The use of both quantitative and qualitative approaches has helped in acquiring information on the roles of institutions in enhancing the assets of the urban poor. The perceptions of the urban poor on the various assets that require enhancement has been acquired which can give institutions ideas on the types of assets the urban poor would prefer to be enhanced. Furthermore, qualitative information had resulted in getting the details of the roles of institutions on all the assets that they are enhancing and those that they are not working on. The conceptual framework requires that all the five assets should be considered in enhancing the assets of the urban poor. The various components of the assets were beneficial in explaining the assets of the urban poor and provides information on the areas that require attention. Investigating all the various aspects of assets together rather than isolating them provides better knowledge and understanding of asset adaptation (Nunes, 2018).

5. Conclusions and recommendations

The urban dwellers expect institutions to engage in a series of activities to enhance their various forms of assets. These include providing potable water, education on crisis prevention, enhancing drainage facilities, supporting during hard times, offering interest-free loans, providing financial support for the needy, building affordable houses, and creating jobs. The study found that public institutions are engaged in some form of activities to enhance the assets of the urban poor. However, these activities are not adequate to enhance the assets of the urban poor to be resilient. Furthermore, the urban poor prefer different assets enhancements adaptation strategies which are not the focus of the institutions. The financial assets, for instance, the LEAP program is unable to support the majority of the urban poor to enhance their livelihoods and make them resilient. The public institutions sometimes collaborate with private ones to provide skills development training for community members and engage in sensitization programs including attitudinal change and education on crises. However, such educational programs are neither frequent nor sufficient to make the urban poor resilient. There are plans by MESTI to enhance the natural assets of rural communities in biochar, land reclamation, and soil bonding in rural communities. These technologies should be expanded to cover the urban poor communities so that they can reduce their vulnerabilities and become resilient.

NGOs also work with some of the community members to provide them with training in various areas and enhance their physical assets. Just like the public institutions, their support to the community members is inadequate for them to become resilient. Few NGOs engage with the communities which could have implications for the enhancement of assets of the urban poor. Traditional authorities who are the custodian of the land are not engaging in any deliberate activities to enhance the assets of the urban poor. Their participation in the development process

had been by incentives, and the traditional authorities depend on politicians and mostly public institutions to develop their communities. Such attitudes can weaken the local social and political structures.

The study recommends the deliberate involvement of the urban poor by institutions in the planning and decision-making process that concern them. Public and private institutions need to double up their efforts in enhancing the assets adaptation of the urban poor. These institutions should be conversant with the aspects of assets adaptation that are critical for the urban poor. Strengthening local political structures is crucial in enhancing the assets of the urban poor. The use of a qualitative approach is seen as a limitation since the findings cannot be generalized. Further studies can employ quantitative approaches. The study provides guidelines for policymakers, public and private institutions towards assets enhancement and adds to the limited literature on assets adaptation for the urban poor. The conceptual framework provides a detailed approach to urban governance

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Declaration on competing interest

None

References

- Abanyam, N. L., & Otikwu, S. (2019). The role of traditional rulers in community development in Nigeria: A theoretical discourse. *International Journal of Social Science*, 13(2), 177–189.
- Archer, D., Marome, W., Natakun, B., & Phanthuwongpakdee, N. (2019). The role of collective and individual assets in building urban community resilience. *International Journal of Urban Sustainable Development*, 1–18. <https://doi.org/10.1080/19463138.2019.1671425>
- Asayehegn, K., Iglesias, A., Triomphe, B., Pédelahore, P., & Temple, L. (2017). The role of systems of innovation in adapting to climate change: The case of the Kenyan coffee and dairy sectors. *Journal of Innovation Economics*, 24(3), 127. <https://doi.org/10.3917/jie.pr1.0015>
- Avis, W. R. (2016). Urban governance (Topic Guide). *Gsdrc (Issue November)*.
- Bain, L. E., Zweekhorst, M. B. M., Amoakoh-Coleman, M., Muftugil-Yalcin, S., Omolade, A. I. O., & Becquet, R. (2019). To keep or not to keep? Decision making in adolescent pregnancies in Jamestown, Ghana. *PloS one*, 14(9), 1–18. <https://doi.org/10.1371/journal.pone.0221789>
- Baker, J. L. (2013). Climate change, disaster risk, and the urban poor: Cities building resilience for a changing world. *Choice Reviews Online*, 50(05). <https://doi.org/10.5860/choice.50-2769>
- Bryan, E., Aberman, N., Ali, S., Behrman, J.A., Bryan, E., Davis, P. et al. (2015). *Climate change adaptation assets and group-based approaches: Gendered perceptions from Bangladesh, Ethiopia, Mali, and Kenya* (Issue January). <https://doi.org/10.2139/ssrn.2564556>.
- Bulkeley, H., Betsill, M., Bulkeley, H., & Betsill, M. M. (2005). Rethinking sustainable cities: Multilevel governance and the “urban” politics of climate change. *Environmental Politics*, 14(1), 42–63. <https://doi.org/10.1080/0964401042000310178>
- Chanakira, D. K., Mujere, J., & Spiegel, S. (2019). Traditional leaders and the politics of labour recruitment in Zimbabwe's platinum mining industry. *Extractive Industries and Society*, 6(4), 1274–1281. <https://doi.org/10.1016/j.exis.2019.09.007>
- Chaudhuri, S. (2015). Urban poor, economic opportunities and sustainable development through traditional knowledge and practices. *Global Bioethics*, 26(2), 86–93. <https://doi.org/10.1080/11287462.2015.1037141>
- Cooper, R. (2018). *What is civil society, its role and value in 2018?* University of Birmingham.
- Cooper, R. (2020). *Water for the urban poor and Covid-19. In K4D helpdesk report.*
- Dawadi, S., Shrestha, S., & Giri, R. A. (2021). Mixed-Methods Research: A Discussion on its Types, Challenges, and Criticisms. *Journal of Practical Studies in Education*, 2(2), 25–36. <https://doi.org/10.46809/jpse.v2i2.20>
- Eshun, F., & Asiedu, A. B. (2021). Residents' empowerment for sustainable ecotourism: Insights from Ghana. *Anatolia*, 1–17. <https://doi.org/10.1080/13032917.2021.1993285>
- Evans, J., Karvonen, A., Luque-Ayala, A., Martin, C., McCormick, K., & Raven, R., & Palgan, Y. V. (2019). Smart and sustainable cities? Pipedreams, practicalities and possibilities. *Local Environment*, 24(7), 557–564. <https://doi.org/10.1080/13549839.2019.1624701>
- Franco-Torres, M., Kvålshaugen, R., & Ugarelli, R. M. (2021). Understanding the governance of urban water services from an institutional logics perspective. *Utilities*

- Policy, 68(February 2020), Article 101159. <https://doi.org/10.1016/j.jup.2020.101159>
- GSS. (2014). *Community Facilities. Ghana Statistical Service, Report. Ghana.*
- Haider, H. (2014). *Conflict sensitivity: Topic guide.*
- Haldar, S. K. (2013). Reconnaissance. *Mineral Exploration*, 1–21. <https://doi.org/10.1016/B978-0-12-416005-7.00001-5>
- Hossain, Z., & Rahman, A.U. (2018). *Pro-poor adaptation for the urban extreme poor in the context of climate change*. 10(3), 389–406. <https://doi.org/10.1108/IJCCSM-08-2016-0117>.
- Huang, K., Luo, W., Zhang, W., & Li, J. (2021). Characteristics and Problems of Smart City Development in China. *Smart Cities*, 4, 1403–1419. <https://doi.org/10.3390/smartcities4040074>
- IHC. (2011). *Adapting to climate change: Cities and the urban poor*(Issue August).
- Isreal, G. D. (2013). *Determining sample size*. University of Florida. <https://doi.org/10.4039/Ent85108-3>
- Ivankova, N.v., Creswe, J. W., & Stick, S. L. (2006). Using Mixed-Methods Sequential Explanatory Design: From Theory to Practice. *Field methods*, 18(1).
- Kumaraswamy, S. K., Mattern, M., & Hernandez, E. (2020). *Assets matter to the poor*, 1–36. February.
- Mai, N. H., Jok, J. M., & Tiitmamer, N. (2018). *Climate change and gender in south sudan*. Sudd Institute.
- Mens, J., van Bueren, E., Vrijhoef, R., & Heurkens, E. (2021). A typology of social entrepreneurs in bottom-up urban development. *Cities (London, England)*, 110 (November 2020), Article 103066. <https://doi.org/10.1016/j.cities.2020.103066>
- Nakano, S., & Washizu, A. (2021). Will smart cities enhance the social capital of residents? The importance of smart neighborhood management. *Cities (London, England)*, 115, Article 103244. <https://doi.org/10.1016/j.cities.2021.103244>
- Nikkhah, H. A., & Redzuan, M. Bin (2010). The role of NGOs in promoting empowerment for sustainable community development. *Journal of Human Ecology*, 30(2), 85–92. <https://doi.org/10.1080/09709274.2010.11906276>
- Nunes, A. R. (2018). The contribution of assets to adaptation to extreme temperatures among older adults. *PloS one*, 13(11), 1–19. <https://doi.org/10.1371/journal.pone.0208121>
- Nyang, S. N., Nyangosi, R., Oenga, J., & Suleiman, A. J. (2016). Role of Non Governmental Organizations (NGOs) in social development in developing nations. *Journal of Economics and Sustainable Development*, 7(11), 93–97.
- Oladokun, Y. O. M., Adenegan, K. O., Salman, K. K., & Alawode, O. O. (2018). Level of asset ownership by women in rural North-East and South-East Nigeria. *Women's Studies International Forum*, 70(June), 68–78. <https://doi.org/10.1016/j.wsif.2018.07.014>
- Olsson, L., Opondo, M., Tschakert, P., Agrawal, A., Eriksen, S. H., Ma, S., Perch, L.N., & Zakiideen, S.A. (2015). Livelihoods and Poverty. In C. B. Field, V. R. Barros, D. J. Dokken, K. J. Mach, M. D. Mastrandrea, T. E. Bilir, M. Chatterjee, K. L. Ebi, Y. O. Estrada, R. C. Genova, B. Girma, E. S. Kissel, A. N. Levy, S. MacCracken, P. R. Mastrandrea, & L. L. White. *Climate change 2014: Impacts, adaptation, and vulnerability. part A: Global and sectoral aspects. contribution of working group ii to the fifth assessment report of the intergovernmental panel on climate change* (pp. 793–832). Cambridge University Press. <https://doi.org/10.1017/CBO9781107415379.018>. Issue May 2017.
- Po, J. Y. T., & Hickey, G. M. (2020). Cross-scale relationships between social capital and women's participation in decision-making on the farm: A multilevel study in semi-arid Kenya. *Journal of Rural Studies*, 78, 333–349. <https://doi.org/10.1016/j.jrurstud.2020.04.024>. May 2017.
- Pourhoseingholi, M. A., Vahedi, M., & Rahimzadeh, M. (2013). Sample size calculation in medical studies. *Gastroenterology and Hepatology From Bed to Bench*, 6(1).
- Prowse, M. (2008). *Opinion 117* (Issue December).
- Rana, M. M. P., & Piracha, A. (2020). Supplying water to the urban poor: Government's roles and challenges of participatory water governance. *Cities (London, England)*, 106 (July), Article 102881. <https://doi.org/10.1016/j.cities.2020.102881>
- Resurrección, B. P., Bee, B. A., Dankelman, I., Park, C. M. Y., Haldar, M., & McMullen, C. P. (2019). Gender-transformative climate change adaptation: Advancing social equity. " Background paper to the 2019 report of the Global Commission on Adaptation. *SEI*. www.gca.org.
- Rostami, R., Lamit, H., Khoshnava, S. M., Rostami, R., Solehin, M., & Rosley, F. (2015). Sustainable cities and the contribution of historical urban green spaces: A case study of historical Persian gardens. *Sustainability*, 7, 13290–13316. <https://doi.org/10.3390/su71013290>
- Sedgwick, P. (2015). Multistage sampling. *BMJ (Online)*, 351(July), 29–31. <https://doi.org/10.1136/bmj.h4155>
- Stein, A., & Moser, C. (2014). Asset planning for climate change adaptation: Lessons from Cartagena, Colombia. *Environment and Urbanization*, 26(1), 166–183. <https://doi.org/10.1177/0956247813519046>
- Stein, A., Moser, C., & Vance, I. (2018). *Asset planning for climate change adaptation in poor neighborhoods of Tegucigalpa, Honduras*.
- te Lintelo, D. J. H., Gupte, J., McGregor, J. A., Lakshman, R., & Jahan, F. (2018). Wellbeing and urban governance: Who fails, survives or thrives in informal settlements in Bangladeshi cities? *Cities (London, England)*, 72(September 2017), 391–402. <https://doi.org/10.1016/j.cities.2017.10.002>
- Tellman, B., Eakin, H., Janssen, M. A., de Alba, F., & II, B. L. T. (2021). The role of institutional entrepreneurs and informal land transactions in Mexico City's urban expansion. *World Development*, 140.
- Thiam, A., Twinomugisha, B., Regmi, B.R., Satterthwaite, D., Eustache, B., Otiende, B. et al. (2009). *Climate change and the urban poor: Risk and resilience in 15 of the world's most vulnerable cities*.
- Trindade, E. P., Hinnig, M. P. F., da Costa, E. M., Marques, J. S., Bastos, R. C., & Yigitcanlar, T. (2017). Sustainable development of smart cities: A systematic review of the literature. *Journal of Open Innovation: Technology, Market, and Complexity*, 3(3). <https://doi.org/10.1186/s40852-017-0063-2>
- Tutu, R. A., Gupta, S., Elavarthi, S., Busingye, J. D., & Boateng, J. K. (2019). Exploring the development of a household cholera-focused health literacy scale in James Town. Accra. *Journal of Infection and Public Health*, 12(1), 62–69. <https://doi.org/10.1016/j.jiph.2018.08.006>
- UNDP. (2015). *Application of the Sustainable Livelihoods Framework in Development Projects*.
- UNFCCC. (2006). Technologies for adaptation to climate change. Brochure. UNFCCC Secretariat. *Climate and development*.
- Vaes, S., & Huyse, H. (2016). *The role of the private sector in development cooperation: Three case studies in south africa sarah vaes*. Huib Huyse. Issue September 2017.
- Vargo, D., Zhu, L., Benwell, B., & Yan, Z. (2020). Digital technology use during COVID-19 pandemic: A rapid review. *Human Behavior and Emerging Technologies*, October 2020, 13–24. <https://doi.org/10.1002/hbe.2.242>.
- Venables, T. (2015). *Making cities work for development* (Issue May). https://www.theigc.org/wp-content/uploads/2015/05/IGCJ3155_Growth_Brief_2_WEB.pdf.
- Winters, P., Davis, B., Carletto, G., Covarrubias, K., Quiñones, E. J., Zezza, A., & Stamoulis, K. (2009). Assets, Activities and Rural Income Generation: Evidence from a Multicountry Analysis. *World Development*, 37(9), 1435–1452. <https://doi.org/10.1016/j.worlddev.2009.01.010>
- Yigitcanlar, T., & Kamruzzaman, M. (2015). Planning, Development and Management of Sustainable Cities: A Commentary from the Guest Editors. *Sustainability*, 7, 14677–14688. <https://doi.org/10.3390/su71114677>