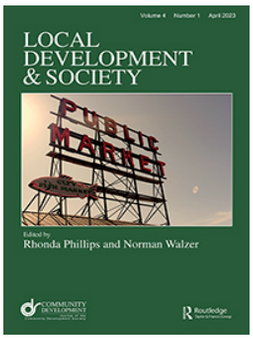

Local Development & Society

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rlds20

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To cite this article: Fatima Eshun & Fatima Denton (2023) City attractions: Enhancing assets adaptation strategies of the urban poor in Accra and Tamale in Ghana, Local Development & Society, 4:1, 193-211, DOI: 10.1080/26883597.2022.2092768

To link to this article: https://doi.org/10.1080/26883597.2022.2092768

Published online: 24 Jun 2022.

LOCAL DEVELOPMENT & SOCIETY
2023, VOL. 4, NO. 1, 193–211
https://doi.org/10.1080/26883597.2022.2092768

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City attractions: Enhancing assets adaptation strategies of the urban poor in Accra and Tamale in Ghana

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ABSTRACT

Populations in African cities are growing rapidly which poses challenges for the urban poor whose assets are poor and require enhancement. Improving the assets adaptation strategies of the urban poor will boost the attractions in the city. However, ways to enhance the assets adaptation strategies of the urban poor have received less attention in the literature. This study employed mixed methods to investigate the phenomenon and found that enhancing assets adaptation strategies for the poor should be linked to the type of vulnerability experienced. The study further found that ways to enhance financial assets include (creating sustainable jobs), physical assets (provision of water storage facilities), human assets (education and skills), social assets (improving the extended family system, providing social support), and natural assets (increasing access to water). These findings enable policymakers to strategize and enhance assets adaptation strategies for the urban poor.

ARTICLE HISTORY
Received 2 December 2021
Accepted 17 June 2022

KEYWORDS
Climate change; resilience; urban poor; vulnerabilities

Introduction

The global population is expected to increase from 7.7 billion in 2019 to 8.5 billion in 2030 and this is further projected to increase to about 9.7 billion in 2050 and 10.9 billion in 2100 (UNDESA, 2019). It has been predicted that over half of the world's population will be residing in cities by 2050 (Nuhu, 2019). Most of the population growth occurred in developing economies and the majority of the population also resides in urban areas, and as of 2019, the urban population has increased to about 55.7% (UNCTAD, 2020). Such growth has implications for the attainment of a sustainable city. A sustainable city promotes the active involvement of its citizens in the planning and development of the city to meet their needs (Khair et al., 2020) and helps in addressing the challenges facing the city.

One of such challenges is climate change which has left devastating effects on many countries. These challenges have been made more pronounced by the emergence of COVID-19 as studies reveal that the poor are the hardest hit (Bukari et al., 2021). The effects of climate change vary from location to location (Destaw & Fenta, 2021). In Ghana, climate variability

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manifests in prolonged seasonal variations. There are high temperatures in the southern and particularly the northern sector of the country (Klutse et al., 2020). Prolonged droughts and excessive rainfall are also observed in these regions. In most cases, the urban poor suffer the most from crises such as the COVID-19 pandemic since they have poor infrastructure (Durizzo et al., 2021) and require enhancement. Assets enhancement implies improving the status of assets (human, social, physical, financial, and natural) to help urban residents become resilient to crises (Eshun & Denton, 2022).

Urban areas in developing countries are expanding however, the structures are mostly informal, unplanned, and have inadequate basic services which make residents prone to risks (Tellman et al., 2021). Poor urban residents are mostly affected at both the household and community levels (Stein et al., 2018) since they are those who usually occupy these unplanned settlements with weak structures. The poor usually settle on dangerous land that is prone to flooding, their settlements are usually overcrowded with poor housing which makes them vulnerable to disaster (Baker, 2013). Such settlements are increasing in sub-Saharan Africa. Having access to various forms of assets could help the urban poor employ different adaptation strategies to become resilient to crises (Eshun & Denton, 2022). Adaptation strategies are a variety of actions such as natural, engineered, and technological choices, social, and organizational strategies employed to reduce challenges or exploit valuable opportunities and wellbeing (Hunter et al., 2020; UNESCO & UN-Water, 2020). When people do not have the needed assets to overcome risks, they become vulnerable to the effects of climate change (Bryan et al., 2015). Enhancing these assets would also enhance the attractiveness of cities and improve the quality of life of residents. The attractiveness of the city would be achieved when all the other assets are enhanced. Enhancing physical and natural assets can boost visual attractions, enhancing social assets could help improve the social cohesion and connectedness and enhance the peace and unity of communities, economic and human assets enhancement could increase the living conditions and the general wellbeing of residents. The urban poor can further apply their knowledge to protect physical, natural, social, and economic assets.

The authors believe that assets are crucial in the livelihoods of everyone and the urban poor, in particular, requires asset enhancement to live a meaningful life. Assets such as human, financial, physical, social, and natural are those that are mostly employed in the daily lives of residents. In pursuing the sustainable city agenda, if the development of the cities is not linked to the asset's improvement of residents particularly the urban poor to enhance their livelihoods, then the achievement of the sustainable development goals would be a mirage. In achieving sustainable development goals, improving the various assets is critical. Cities would be sustainable when various livelihood assets are improved. As cities continue to be hit by the effects of climate change and COVID-19, city planners need to enhance the adaptive strategies of the urban poor (Stein & Moser, 2014; Stein et al., 2018). Enhancing the assets of communities, particularly informal settlements can enhance the general structures of communities and therefore, improve the overall attractions of the city. We put forward that the attractiveness of the city can be seen in the well-planned, enhancement of the physical assets, natural assets, and people are living in peace and harmony and have a connection with their environment and people. It further implies that people know how to apply the requisite knowledge to their assets to become resilient and have sustainable jobs to enhance their livelihoods (Stein & Moser, 2014; Stein et al., 2018).

It is worth noting that, cities can become sustainable only when the well-being of city dwellers particularly the urban poor is taken into consideration (Rostami et al., 2015). In enhancing the assets adaptation strategies of the urban poor, the views of the urban poor must be sought on the types of adaptation strategies that they would want to be enhanced and ways to enhance them to improve their livelihoods and become resilient. It is reported that policymakers regard the urban poor as the "hardest to reach" (Yap & McFarlane, 2020, p. 258), therefore, soliciting their views on matters that concern them can inform policy directions. Asset needs differ from place to place as residents in different geographical areas may experience different shocks and vulnerabilities. Various studies have looked at asset adaptation strategies (Bryan et al., 2015; Hossain & Rahman, 2018). There are studies on adaptation strategies in Africa however, most of them focus on agriculture and food systems (Destaw & Fenta, 2021; Joseph et al., 2021) whereas others look at policy options more than adaptation actions (Hunter et al., 2020).

Moreover, there are research gaps on ways to enhance assets' adaptation strategies to improve the livelihoods and resilience of the urban poor (Stein & Moser, 2014). The Asian Development Bank (ADB) outlines ways to enhance adaptation strategies in the provision of certain services like transportation, agriculture, and human health (ADB, 2014a). However, insight into a broader perspective such as human (education, skills, knowledge), physical (houses, drainage, water facilities, roads, schools, hospitals), social (cohesion, connectedness, family structures, social networks), financial (jobs, loans, financial institutions), and natural (trees, wetlands, grass, water bodies) remain under-researched. It is to address this knowledge gap that this study looks at ways to enhance assets adaptation strategies to improve their livelihoods and make them resilient. It is important to explore ways to enhance assets' adaptation strategies to provide information for policymakers. This can help them to devise good strategies to enhance the resilience of the urban. Resilience has the probability to add to positive consequences (Zolnikov, 2020). The study looks at five aspects of assets derived from the Sustainable Livelihood Framework (SLF) as they capture the various assets required for the survival of mankind (UNDP, 2015).

Materials and methods

Study areas

Four study communities were selected from two regions in Ghana. Thus, two communities from the Greater Accra Region in the southern part and two communities in the northern part of the country in Tamale province. James Town and Chorkor are located in the Accra Metropolitan Assembly in the Greater Accra region whilst Gumani and Jakeriyili are in Sagnarigu and Tamale Metropolitan Assembly respectively all within the Tamale province. The Greater Accra region was chosen because it experiences increased temperature (Wemegah et al., 2020) and faces various environmental challenges. The region experiences perennial floods which leave greater impacts on residents (Mensah & Ahadzie, 2020). The Northern regional capital which is Tamale is also noted for its high temperature and prolonged dry season with a limited wet season (Klutse et al., 2020). Chorkor and James Town were chosen from the Accra Metropolitan Assembly because they are classified as highly poor communities (CHF International, 2010), experience perennial floods, suffer environmental challenges, water shortages, and have poor housing conditions (Bain et al.,

2019; Tutu et al., 2019). James Town for instance has been reported to be one of the cholera endemic areas in the Metropolis (Tutu et al., 2019). Jakeriyili and Gumani in the Tamale province also share similar experiences.

A conversation with the Assemblyman for Gumani revealed that Gumani used to be a rice farm within the city, and pressure on land had resulted in people using this area as their residence. It is low lying and hence prone to floods. Residents in these communities require enhanced assets to overcome shocks and vulnerabilities. Figure 1 depicts the study areas.

Methods

The survey made use of quantitative and qualitative approaches. Quantitative information was retrieved by applying questionnaires to a sample of 440 households in four communities in the northern and southern sectors of Ghana.

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 et al., 2013). A 15% non-response (Isreal, 2013) was added bringing the total to approximately 442. To proportionally distribute this size for the four communities, the sample was rounded to 440. Purposive sampling was used to select the two communities from both regions.

Multi-stage cluster sampling was employed to sample the study communities because of its ability in capturing respondents from diverse geographical areas (Sedgwick, 2015). Each community was divided based on the geography of the area into five clusters. In each cluster, further clusters were formed using the paths and roads within the communities. In all, 11 clusters were selected within each community. In each cluster, 10 houses were selected at random by giving each house a number and picking the numbers at random. In all, 110 houses were selected from each community to participate in the study. Each of the houses visited constituted a household. A household was defined as a group of people living under the same roof and eating from the same pot. In each household, one person was selected to participate in the survey. However, most of the occupants were not around during the time the team visited so the person the research team meets in the house who is aged 18 years and above was engaged in the survey. All the houses in the northern part constituted a household whereas, in the southern part, there were multiple households in a few of the houses visited.

The questionnaire (refer to supplementary information) targeted respondents to provide information on their adaptation strategies and ways to enhance them. Open and closed-ended questions were asked to allow the flexibility of respondents to provide their information and not lose the focus of the study. The questions were explained in the local dialects to the understanding of respondents. Qualitative information was received mainly from interviews (refer to supplementary information) with respondents who participated in the household surveys. A total of twelve (12) interviews were conducted in the study communities and eight (8) FGDs were held two (2) in each community, thus one for males and another one for female groups. Interviewees were drawn from the four study communities and were purposively sampled based on their responses provided during the household survey. Three (3) household interviews were held in each of the communities. Results from quantitative information were analyzed using descriptive

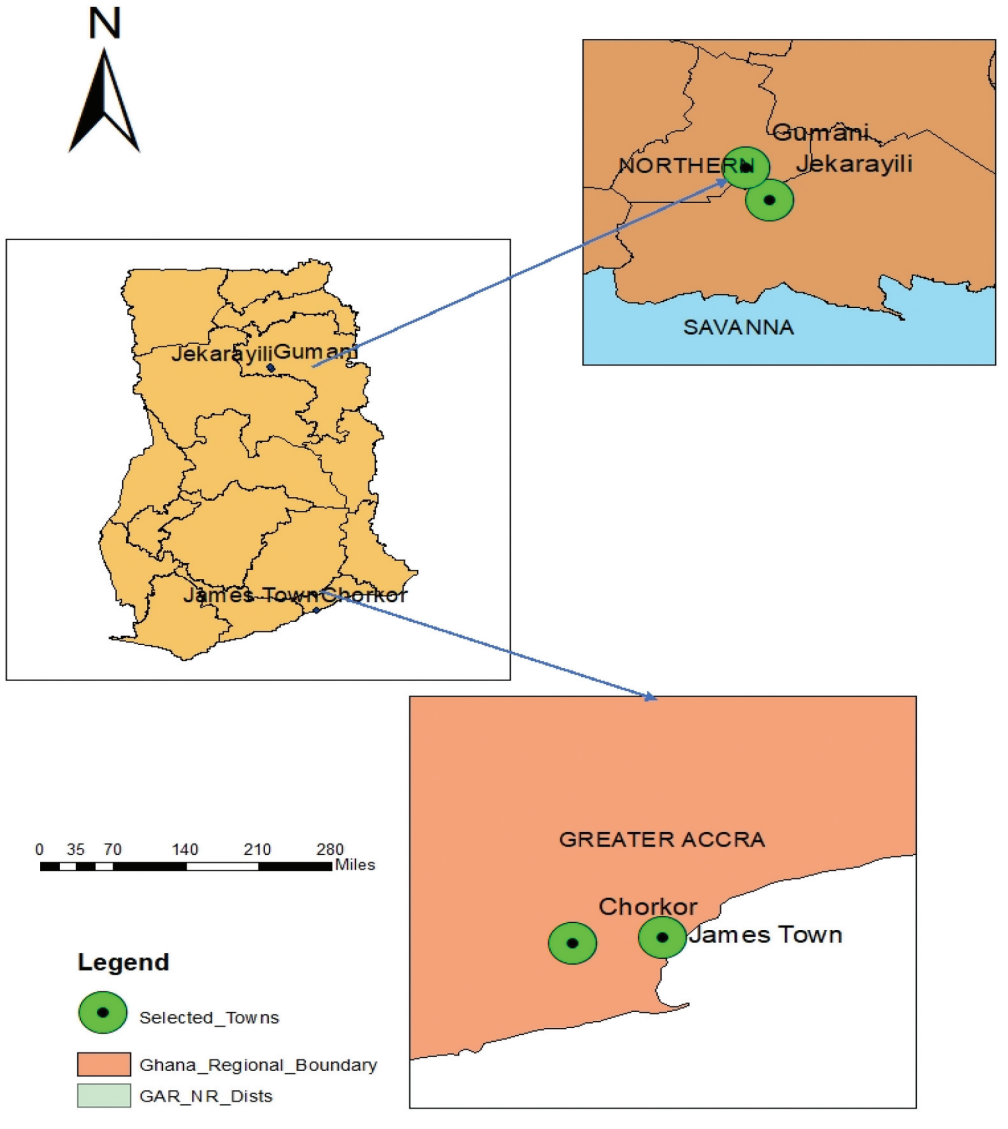

Figure 1. Map of Ghana (left) showing all the regions and map (top) showing study communities in the Tamale province and map (bottom) showing study communities in the Greater Accra region.

statistics from the Statistical Package for Social Sciences (SPSS) software version 21 and interviews which were written in a notebook were transcribed and content analysis was employed. The coding of the interviews was done by grouping similar phrases under various themes and subthemes that correspond to the objectives of the study.

The study followed the ethical guidelines of the University of Ghana and got ethical approval (ECH 06920 21). Subjects were not forced to participate in the study and the study objectives were introduced to them before their consent was sought to be part of the study. The fieldwork was conducted from October 2020 to June 2021.

Results and discussions

This section presents the results on ways to enhance adaptation strategies for the urban poor. Information on the type of climatic stress the various communities face is first presented followed by ways to enhance these assets. The results are presented on all five assets.

Type of climatic stress communities face

The community members reported on different climatic stress that they face. All residents (100%) from Gumani said they experience floods, 93% of those in Chorkor said they experience drought, 86% of those in Jakeriyili experience floods, and 76% of those in James Town experience droughts. Droughts, floods, and temperature increases are major climatic stressors recorded in most African countries forcing residents to explore various means to adapt (Hunter et al., 2020; Klutse et al., 2020; Mwinkom et al., 2021). The type of climatic stress experienced determines the adaptation strategies that are employed. People require different forms of assets to adapt to crises. Where assets are deplorable, adapting to climate stress becomes a challenge. Studies have unveiled that the adaptive capacities of urban residents in informal settlements are less than those in informal settlements (Hunter et al., 2020) and the need for government to support vulnerable groups to become resilient (Mwinkom et al., 2021).

Different adaptation strategies were employed by residents and this has been cross-tabulated with their occupational status see Table 1. It was revealed that communities that experience droughts purchase water from nearby communities and this cut across all job categories. Those who experience floods also desilt their gutters and also create a temporary path for floods to pass. For communities experiencing floods desilting of gutters is a common adaptation strategy (Odonkor et al., 2020). It is worth mentioning that most respondents irrespective of their employment status depend on their family members including the nuclear and the extended family for different forms of support including accommodation and financial support. Family support is an aspect of social asset or capital that supports poor households to reduce their poverty status (Khosla & Jena, 2020; Xiong et al., 2021). Other adaptation strategies include depending on the National Disaster Management Organization (NADMO) for support, planting trees, and other vegetation covers to provide shade and reduce the heat.

Financial assets adaptation

Respondents were asked to indicate whether they can adapt using their financial assets. Majority disagreed. In Gumani, those who disagree (strongly disagree and disagree) are 66% whereas those who agree (strongly agree and agree) are 30%. In James Town, those who disagree (strongly disagree and disagree) are 61% whilst those who agree (strongly agree and agree) are 31%. Those who disagree in Chorkor are 53% and those who agree are 28%. In Jakeriyili, those who agreed with the statement are 53% and those who agreed are 42%.

Table 1. Occupation and adaptation cross tabulation in percentages.

	Adaptation strategies			
Occupation	Support from family and friends	Buy water from other communities	Desilt gutters	Other
Farmer				
Jakeriyili	65	12	4	19
Gumani	38	0	31	31
Petty trader				
James Town	35	46	19	0
Chorkor	33	48	11	2
Gumani	50	0	28	22
Jakeriyili	57	0	32	11
Public servant				
James Town	13	37	50	
Chorkor	10	80	6	4
Gumani	13	0	80	7
Jakeriyili	10	0	85	5
Beautician				
James Town	20	53	27	0
Chorkor	11	68	22	0
Gumani	12	0	50	38
Jakeriyili	8	0	75	17
Unemployed				
James Town	25	38	37	0
Chorkor	33	67	0	0
Gumani	25	0	63	12
Jakeriyili	33	0	65	2
Other				
James Town	32	37	31	0
Chorkor	18	41	41	0
Gumani	21	0	74	5
Jakeriyili	6	0	82	12

It has been reported that the urban poor suffer the most when there are crises since they have a poor asset base (Durizzo et al., 2021). This study found that the financial assets of the urban poor are inadequate to help them adapt and become resilient to crises and require enhancement. Respondents were again asked whether they get financial support during crises. Most of them disagreed. Most residents in James Town (59%) disagree, whereas 36% agreed, 52% from Chorkor disagree whilst 37% agree, 55% in Gumani disagree while 44% agree, and 50% from Jakeriyili disagree whereas 39 agree. Since most of the urban poor do not get adequate financial support and also have a poor asset base, enhancing their assets is vital. This is important as it can inform policy directions.

Ways to enhance financial assets adaptation strategies

Respondents gave several ways to enhance financial assets adaptation strategies. These include creating sustainable jobs, increasing access to financial services, providing allowances for the poor, and reducing interest on loans. This is shown in Figure 2.

The urban poor requires different forms of financial assets to survive. Every individual is required to work to enhance their living conditions and access to decent jobs is critical for the achievement of sustainable development goals. Most of the urban poor in this study, survive on their informal jobs which are unsustainable and increase their vulnerability to crises. The lack of entitlements which include financial assets makes households and communities vulnerable to climate change (Abdelhak et al., 2012). Most

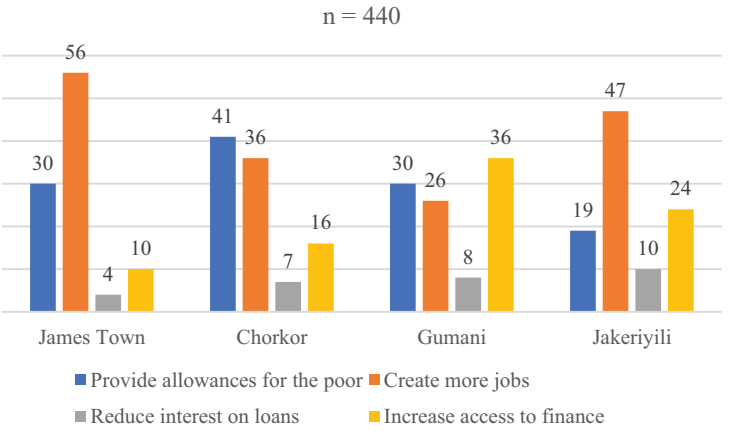

Figure 2. Ways to enhance financial assets.

of them prefer an increase in job opportunities to enhance their financial assets. Providing them with allowances and helping them to get loans were other ways they suggested that could help enhance their financial assets. The men explained during the FGDs that:

> "Creating more sustainable jobs for us will help us to cater better for our family needs and reduce our vulnerability to the effects of climate change and pandemics like the COVID-19. We have lost our jobs because of COVID-19 and surviving is extremely difficult. But if we had a sustainable job, we will not be suffering this way. In today's world, if you do not have a good job, you will live a miserable life"
>
> *(Men's FGDs, James Town)*

The urban poor requires the necessary skills and training that would help them sustain their work and enhance their livelihoods. They also want the government to provide them with allowances as a way of enhancing their financial assets. During the women's FGDs they said that:

> "A lot of aged women in this community are still working taking care of their children and even grandchildren. We experience a high rate of teenage pregnancy so many parents have to take care of their children who are school dropouts and their grandchildren as well increasing their burden. If the government or institutions can support us by providing some allowances, that will help us reduce our burden and frustrations, especially during this COVID-19 period. But whenever we call for support, nobody listens to us, it's as if our voice is not heard"
>
> *(Women's FGD, Chorkor)*

This suggests that the urban poor require another form of asset which is the power of the voice. They want their voices to be heard and their concerns addressed. One of the ways to achieve the sustainable development goals and for that matter, the sustainable cities' agenda is to bring everyone on board. However, if the voice of the urban poor is not heard, it would have a series of psychological implications for them. They would feel inferior and perceive that they are not needed in the developmental process of the nation because they do not have money to influence decisions. Such ideology could impede the

attainment of the sustainable development goals, particularly the sustainable cities agenda since the agenda calls on the participation of residents in matters that concerns them.

Some of the urban poor also showed interest in getting loans to expand their businesses. However, they prefer that the interest on these loans should be reduced to enable them to access them. Studies in Vietnam indicate that loans offered to some urban poor residents support them to withstand disaster (ADB, 2014b). Access to assets can help the poor to overcome poverty and providing financial services can aid in promoting asset ownership for the poor (Kumaraswamy et al., 2020).

Ways to enhance physical assets adaptation strategies

The study results indicate that majority of urban poor from the northern sector want drainage facilities to be constructed whilst those in the southern part prefer water storage facilities. This is shown in Figure 3.

Physical assets are equally crucial in the lives of the urban poor to withstand crises and become resilient. Human livelihoods cannot be complete without physical assets and the urban poor who are most vulnerable require enhancement in these assets. Urban poor communities are mostly deprived of good housing conditions, energy, proper drainage facilities, household water supply, good road networks, health facilities, and storm drainages among others. The urban poor in Chorkor, James Town, and Jakeriyili want water to be extended to their homes because they experience droughts. Most of them lamented that they are required to wash their hands regularly to protect themselves from COVID-19 however, they do not have adequate water to engage in such practices even though the government provided free water during this COVID-19 period in James Town. This, however, provided some form of benefits for those on the national grid but the urban poor who are not on the national grid had to struggle to buy water. Protective and preventive infrastructure should be provided to extremely poor households to serve as

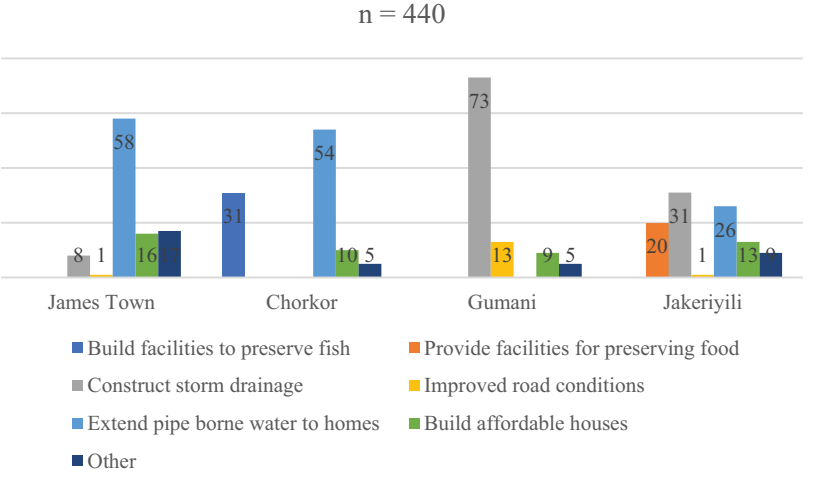

Figure 3. Ways to enhance physical assets.

security during crises (Hossain & Rahman, 2018). These authors add that the construction of drainage and the upgrading of settlements for instance go beyond the capacities of the urban poor.

Residents of Chorkor and James Town are mostly fishermen and fishmongers and require facilities to preserve fish. Residents of James Town mentioned that there is a harbor that is under construction but those from Chorkor cannot boast of such a facility. James Town again has a sea defense wall whilst this is absent in Chorkor. Furthermore, residents want choked gutters to be desilted. The communities had challenges with waste disposal and some of the residents complained that people throw rubbish anyhow and when it rains, it carries the waste into the gutters thereby choking the gutters to causing flooding. This suggests that flooding within the communities could be human-induced as well and require greater attention. Proper sanitation facilities could go a long way to prevent erosion and human-induced floods and help the urban poor to be resilient in times of crisis. Other studies also identified that improving drainage, and physical structures are essential for residents to respond to climatic stress (Hunter et al., 2020).

Ways to enhance human assets adaptation strategies

Some of the urban poor in this study prefer education on crises to be enhanced whereas others prefer skills in diverse areas to be enhanced. This is shown in Figure 4.

Most respondents from Gumani want education on crises, followed by residents in Jakeriyili and then those from Chorkor. Also, most respondents from Chorkor, followed by those from James Town, Jakeriyili, and Gumani prefer improvement in skills in diverse areas. Even though there is a slight difference in the number of respondents who prefer the various human assets enhancements, the respondents from the northern and southern sectors share similar views on the aspects of human assets that should be enhanced.

Human assets comprising knowledge, skills, health, education, and competence are critical for the urban poor to overcome crises. If the urban poor is knowledgeable about what to do in times of crisis, they are likely to be more resilient. The urban poor in Gumani

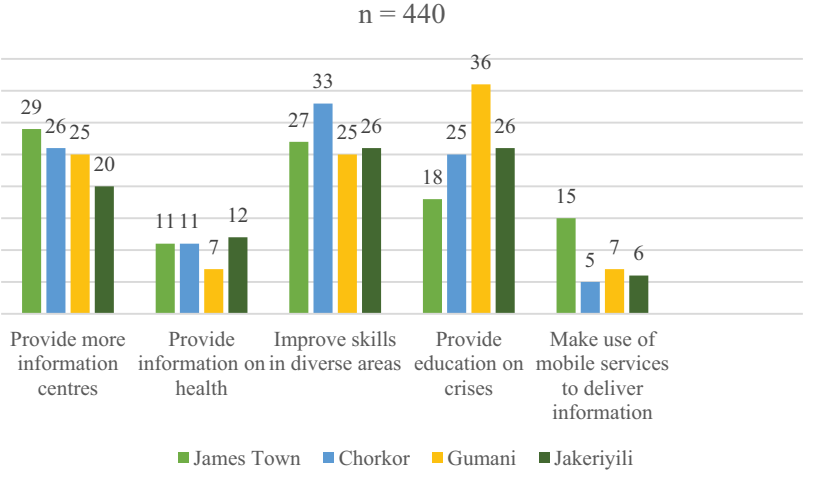

Figure 4. Ways to enhance human assets.

and Jakeriyili for instance believe that one way to enhance their human assets is to provide education on crises. A male respondent from Gumani had this to say during the interviews:

> "I need more education on crises so that I will know what to do during such times. Most often I abandon my home when it gets flooded, but if I know what to do to prevent the floods from entering, then that could help me a lot"
>
> *(RMG2, Gumani)*

Chaudhuri (2015) asserts that most urban poor have limited skills, education, and capital. Acquisition of technical skills is imperative for the urban poor residents to become resilient to shocks and vulnerabilities. Having skills in diverse areas will enable the urban poor to divert their skills to other areas which could be more profitable. Rostami et al. (2015) opine that cities will become sustainable when the well-being of the urban poor is considered and assert that there is a need to intensify efforts toward enhancing the well-being of the urban poor. Enhancing the assets of the urban poor begins with the enhancement of human assets which is necessary for attaining the other forms of assets (Stein & Moser, 2014; Stein et al., 2018).

Sometimes the places to acquire knowledge for the urban poor may also be a challenge. Some of the urban poor want to enhance their human assets, skills, competencies, training, and education by accessing information centers. Health matters so much to everyone particularly the urban poor who according to Chaudhuri (2015) are victims of urban pollution. The urban poor lives in informal settlements with very poor sanitation facilities which have implications on their health. They require health knowledge about living styles to enhance their livelihoods. The use of mobile vans and mobile phones to provide information to the urban poor was suggested by some of the urban poor respondents. The urban poor shared that they can enhance their knowledge when they receive information about crises on time. They believe that early warning signs can help them build their knowledge and act faster. This could be done by using mobile vans with speakers to inform community members and also information can be sent to their mobile phones.

Ways to enhance social assets adaptation strategies

The results indicate that ways to enhance the social assets of the urban poor include improving social support, community connectedness, and cohesion. This is shown in Figure 5

Social assets are crucial for the urban poor. Friends, families, and relations are the immediate people one is likely to contact in times of shock. Most urban poor believe in the family system and opine that one way to enhance social assets is to strengthen family ties, community ties, and relationships. Everyone at least is born into a family that is supposed to provide the basic support for the person. The poverty situation of the family could have implications on the type of help that may be offered to the person. It is believed that the urban poor in developing countries depends on the family systems for support, however, such support may not be the same in times of shock (Mpanje et al., 2018). In this study, the urban poor shared that the family is a bond that provides a sense of belonging to the individual. The single-unit family consists of the husband, wife, and

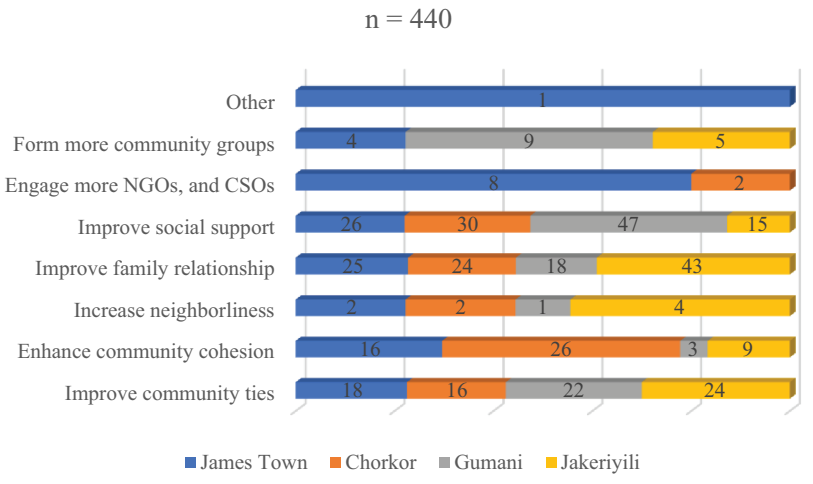

Figure 5. Ways to enhance social assets adaptation strategies.

children whereas the extended family is made of cousins, grandparents, grandchildren, aunties, and uncles among others and the support is usually strong at the single-unit family level than at the extended family level. One way to enhance social assets is to improve the extended family system. Respondents acknowledged the fact that each extended family is made up of a single-unit family and the families have their challenges so the kind of support may depend on the type of relationship that one family unit may have with the other seeking help. The type of support ranges from financial, labor, skills support, counseling, housing support, support for medical care, and many more.

Some urban poor also believe that one way to enhance social assets is to provide social support for the needy in society. Social support has been reported in other studies as one of the adaptation strategies employed by residents in Africa (Hunter et al., 2020). The urban poor wants support from institutions in times of shock. They prefer financial support from institutions for those who are needy in society. The respondents also believe that enhancing community cohesion and improving community ties will help build their social assets. The effects of climate change and pandemics such as COVID-19 are not limited to one family unit or an extended family but affect all members of society. When there are floods, the entire community would be affected, and tackling such a menace requires bonding that goes beyond the single-family unit. In a similar way. COVID-19 affects all categories of people and overcoming it requires a stronger network that goes beyond the single-family or even the extended family unit. The entire community needs to be united to pursue a common goal. The respondents also want educational campaigns to be carried out to sensitize community members about the need to increase neighborliness. This could help to increase community cohesion and relationships and people would be conscious of the need to help one another in times of crisis.

Urban areas consist of scattered family units unrelated by blood and there is the need to form a new family with a common goal and neighbors are nearer to one another in the communities and should interact as such. When there is a crisis like floods, neighbors are those who may be of immediate help and provide support before blood-related family members get to know of the shocks. Social capital is used as a resource to respond to

hazards in poor communities (Bott et al., 2020). The authors also agree that, knowledge in building and maintaining a social network is important and that social networks and communal assistance are mostly germane to disaster recovery.

Respondents also want their social assets enhanced through the engagement of Civil Society Organizations (CSOs) and community groups. Community members noted that during crises, the most critical thing is their desire to get help. When their properties are destroyed, they require assistance to get accommodation, temporal or permanent as well as other needs that could help them sustain their livelihoods and become resilient. They believe that if they form community groups, it could facilitate their recovery process. Others also share that CSOs can help them to recover some lost assets and even during the crises provide them with temporal help including financial support, counseling, and education. Cooper (2018) posits that some of the roles of CSOs include giving voice to the voiceless, helping the poor to overcome challenges, advocating and campaigning for civil rights, monitoring government compliance, provide basic community and health care services among others. Enhancing the social assets of the urban poor through improving the creation CSOs would help the urban poor to become resilient to vulnerabilities.

Ways to enhance natural assets adaptation strategies

The study indicates that urban poor in most communities want their natural assets to be enhanced by increasing access to water. The percentage of the urban poor who wants increased access to water is recorded for residents in Chorkor, followed by those in James town, and then Jakeriyili. This is because these areas experience droughts. The majority of respondents from Gumani want more trees to be planted to enhance their natural assets followed by those in Jakeriyili, those in the southern sector feel that they get sea breeze which can cool the air and so do not need to plant trees whereas those in the northern sector believe that planting trees can help them reduce the high temperature they experience. Figure 6 depicts their responses.

Natural assets are the basic assets required for the survival of mankind. Water especially as a natural asset cannot be replaced and everyone needs clean drinking water for healthy living. The urban poor particularly those in Chorkor want their natural assets to be enhanced by increasing their access to water. They complained of a shortage of water as a result of droughts and the available wells are also salty because of their closeness to the sea. They cannot depend on the wells for anything. During the COVID-19 lockdown, most of them were at home, especially the children and they were struggling to get water for their household chores. During the interview, a female respondent from Chorkor said:

> "Hmm, it has been very difficult to get water because it has not rained in a long time. I have a pipe connected to the house but it does not flow so I have to access water from a very distant place. During this COVID period too, the children are at home and we are supposed to be washing our hands under running water. But there is no running water for us to wash our hands. The wells are salty and we cannot use them for household chores. I will be very happy if the government can help us to get good water to use"
>
> *(RFC2, Chorkor)*

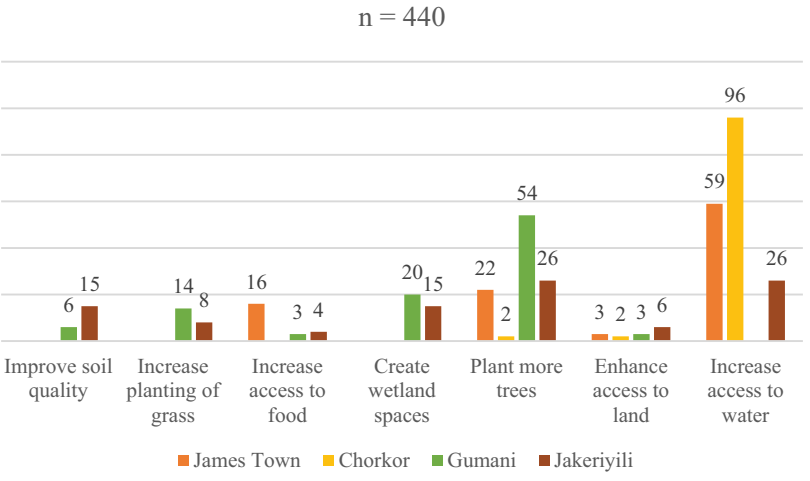

Figure 6. Ways to enhance natural assets adaptation strategies.

Cooper (2020) noted that poor households depend on a variety of sources for their household water supply which include boreholes, standpipes, informal connections, wells, reserve tanks, and relying on informal water vendors. To achieve the sustainable cities agenda and the sustainable development goals, it is imperative to provide good drinking water for all particularly the urban poor who are most affected in diverse ways by the absence or inadequate water supply.

The planting of trees also received more attention from communities in the Northern region than in the Greater Accra region. Urban poor in Gumani and Jakeriyili believe that their natural assets can be enhanced if they plant more trees to provide quality air and protect them from the excessive heat from the sun. During the interview, some of the men remarked that:

> "Here, we have lands to plant trees and the trees help us to get fresh air. During hot weather, we sit under the trees. We need to plant more trees so that we can continue to get fresh air and also reduce erosion of the soil. Another issue is that here the women depend more on firewood for their household cooking so if we plant more trees, they can also get some to use in the home"
>
> *(Men FGDs, Gumani)*

Air pollution is high in urban areas and puts the health of urban dwellers at risk. The presence of trees can help absorb some of the pollutants from the atmosphere. Jones et al. (2019) opine that air pollution is the source of many health problems and premature death which reduces the quality of life. They add that, vegetation cover helps to reduce air pollution in urban areas. Furthermore, planting grass would also serve as a vegetation cover to protect the soil from erosion. Creating wetland spaces within the urban areas was also suggested as one way to enhance the natural assets of the urban poor. Wetlands can also control erosion and floods. Xu et al. (2019) believe that wetlands are very vital and productive ecosystems that help to safeguard the diversity of the ecosystem, protect human wellbeing, and perform direct and indirect benefits for humans. Kumar and Kanaujia (2014) posit that wetlands protect vegetation, decrease stream bank erosion,

and reduce flooding. Improving the quality of soil is also essential especially for the urban farmer to enhance their farm produce. This study found that some urban poor were interested in having increased access to food and land and they mentioned during the interview that land ownership is gradually becoming a problem since the city is gradually expanding. Gumani for instance happens to be rice land because it is a low-lying area and muddy. However, an increase in urban population has led to a change in urban land use where people have sold their farmlands and the entire area is now residential.

> "The entire community used to be a rice farm but pressure for accommodation has led to the sale of this land for residential purposes. Because the place is a low-lying area, it gets flooded easily. Since people have sold this rice farmland, it is difficult to get land to farm on in this area. We have to look for farmlands that are far from here and sometimes the quality of the soil is not good to produce more food as expected. Because food prices have become expensive. If we get farmlands and get help to improve the soil quality, it could help in increasing our produce"
>
> *(RMG1, Gumani)*

Natural assets such as trees, wetland spaces grass provide better environmental quality, and planting and creating these natural assets are ways to enhance the quality of urban spaces. Vegetation cover within the city does not only absorbs the carbon dioxide in the atmosphere but also provides a touristic view of the urban centers that give a sense of environmental quality. Development and expansion of urban areas require proper planning to ensure that the natural assets within the urban areas are not lost. Caballero (2016) argues that a certain percentage of green spaces are essential for urban sustainability and that trees, waterscapes, and urban forests are of great importance for the urban landscape and residents. Moreover, Leach et al. (2019) agree that natural assets offer greater benefits to mankind and help in connecting the natural world, sustainable development, and general well-being.

To enhance the assets of the urban poor, it is crucial to link the various assets since some of the assets share links with others. People adapt by depending on their social assets and require knowledge to apply to the various forms of assets (Stein & Moser, 2014; Stein et al., 2018). Enhancing their knowledge would also enhance their economic opportunities as they become skillful and can engage in alternative forms of livelihood. Mpanje et al. (2018) assert that relationships such as friends and families help with the physical, mental, and economic well-being of the urban poor. If all the various forms of assets are enhanced, it will improve the general attractions of the city. For instance, enhancing physical assets such as roads, buildings, drainages, telephone communication networks, water facilities, and market centers among others, will improve the beauty of the city. Knowing how to use the various physical, social, natural, and financial assets to adapt to crises can help preserve these assets and enhance the attractions in the city.

Conclusions and recommendations

The study found that the urban poor wants their voices to be heard, thus providing them with "political assets" where they can participate in decision-making and their concerns addressed. This can boost their psychological empowerment and be part of the development that concerns them. The study further found that asset enhancements should be linked to the needs of the urban poor. Again, job creation is key to enhancing the financial

assets of the urban poor. Constructing storm drainages, providing water storage facilities in their homes, building facilities to preserve food, and affordable houses, desilting choked gutters, building health facilities, and constructing sea defense walls will enhance their physical assets and reduce their vulnerability to floods.

As social beings, strengthening family ties and relationships, enhancing community cohesion, improving social support, engaging more NGOs and CSOs, and forming more community groups will help the urban poor to be socially empowered. The urban poor natural assets can also be enhanced by increasing access to water, engaging members in tree planting, creating wetland spaces, increasing access to food, improving soil quality, and increasing the planting of grass. The study found that ways to enhance the assets adaptation strategies of the urban poor should be linked to the needs of the urban poor. These needs are related to the type of vulnerability experienced by the urban poor in the various communities. Enhancing the assets of the urban poor will improve the attractions in urban areas and increase the resilience of the urban poor. This requires a holistic approach and commitment to the attainment of the SDGs.

The study recommends that the local government institutions should partner with some financial institutions to provide soft loans to the urban poor to expand their business. Government agencies should expand their social support services to cover more urban poor residents, especially the aged. The district assemblies should not only engage the urban poor in sensitization campaigns but provide sanitation facilities to the urban poor. They should also enhance the human assets of residents through skills provision, education on various issues, the building of information centers, and enhancing information delivery using mobile devices. Portable water and water storage facilities should also be provided to the urban poor. Proper drainage facilities should be built for flood-prone areas. Build affordable houses for the urban poor. The district assemblies should build the political assets of residents by engaging them in decision-making and addressing their concerns. The Ministry of Environment should work with the Local Ministries to engage in the planting and greening of the urban areas. This would go a long way to enhance the livelihoods of the urban poor and build the general attraction of the city.

Disclosure statement

The authors report there are no competing interests to declare

Funding

This work was supported by Robert Bosch Stiftung, grant number 00114395, United Nations University Institute of Natural Resource in Africa (UNU-INRA)

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References

Abdelhak, S., Sulaiman, J., & Mohd, S. (2012). The role of assets in the enhancement of households ' income: A study of poverty alleviation among rural communities of Kelantan and Terengganu. *Asian Social Science*, *8*(11), 145–153. https://doi.org/10.5539/ass.v8n11p145

ADB. (2014a). *Technologies to support climate change adaptation in developing Asia*.

ADB. (2014b). *Urban climate change resilience: A synopsis*. *ADB, Asian Development Bank*.

Bain, L. E., Zweekhorst, M. B. M., Amoakoh-Coleman, M., Muftugil-Yalcin, S., Omolade, A. I. O., Becquet, R., & de Cock Buning, T. (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), 1-322. https://doi.org/10.5860/choice.50-2769

Bott, L. M., Pritchard, B., & Braun, B. (2020). Translocal social capital as a resource for community-based responses to coastal flooding – Evidence from urban and rural areas on Java, Indonesia. *Geoforum*, *117*(August), 1–12. https://doi.org/10.1016/j.geoforum.2020.08.012

Bryan, S., Behrman, J. A., Bryan, E., Davis, P., Donnelly, A., Gathaara, V., Kone, D., Nganga, T., Ngugi, J., Okoba, B., & Roncoli, C. (2015). Climate change adaptation assets and group-based approaches: Gendered perceptions from Bangladesh, Ethiopia, Mali, and Kenya. *Proteins*, *83*(3), 397–402. Issue January. https://doi.org/10.2139/ssrn.2564556

Bukari, C., Essilfie, G., Aning-Agyei, M. A., Otoo, I. C., Kyeremeh, C., Owusu, A. A., Amuquandoh, K. F., & Bukari, K. I. (2021). Impact of COVID-19 on poverty and living standards in Ghana: A micro-perspective. *Cogent Economics and Finance*, *9*(1), 1-24. https://doi.org/10.1080/23322039.2021.1879716

Caballero, G. V. A. (2016). The role of natural resources in the historic urban landscape approach. *Journal of Cultural Heritage Management and Sustainable Development*, *6*(1), 2–13. https://doi.org/10.1108/JCHMSD-11-2014-0037

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

CHF International. (2010). *Accra Poverty Map: A guide to urban poverty reduction in Accra*.

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*. *K4d*. *helpdesk report*.

Destaw, F., & Fenta, M. M. (2021). Climate change adaptation strategies and their predictors amongst rural farmers in Ambassel district, Northern Ethiopia. *Jamba: Journal of Disaster Risk Studies*, *13*(1), 1–11. https://doi.org/10.4102/JAMBA.V13I1.974

Durizzo, K., Asiedu, E., van der Merwe, A., van Niekerk, A., & Günther, I. (2021). Managing the COVID-19 pandemic in poor urban neighborhoods: The case of Accra and Johannesburg. World Development, 137. https://doi.org/10.1016/j.worlddev.2020.105175.

Eshun, F., & Denton, F. (2022). Institutional roles in enhancing assets adaptation of urban poor. *Urban Governance*. https://doi.org/10.1016/J.UGJ.2022.04.005

Hossain, Z., & Rahman, A. U. (2018). Pro-Poor adaptation for the urban extreme poor in the context of climate change. *International Journal of Climate Change Strategies and Management* . *10*(3), 389–406. https://doi.org/10.1108/IJCCSM-08-2016-0117

Hunter, N. B., North, M. A., Roberts, D. C., & Slotow, R. (2020). A systematic map of responses to climate impacts in Urban Africa. *Environmental Research Letters*, *15*(10). https://doi.org/10.1088/1748-9326/ab9d00

Isreal, G. D. (2013). *Determining sample size*. University of Florida. https://doi.org/10.4039/Ent85108-3

Jones, L., Vieno, M., Fitch, A., Carnell, E., Steadman, C., Cryle, P., Holland, M., Nemitz, E., Morton, D., Hall, J., Mills, G., Dickie, I., & Reis, S. (2019). Urban natural capital accounts: Developing a novel approach to quantify air pollution removal by vegetation. *Journal of Environmental Economics and Policy*, *8*(4), 413–428. https://doi.org/10.1080/21606544.2019.1597772

Joseph, S., Antwi, A. M., Chagwiza, C., & Rubhara, T. T. (2021). Climate change adaptation strategies and production efficiency: The case of citrus farmers in the Limpopo province, South Africa. *Jàmbá - Journal of Disaster Risk Studies*, *13*(1), 1–7. https://doi.org/10.4102/jamba.v13i1.109

Khair, N. K. M., Lee, K. E., & Mokhtar, M. (2020). Sustainable city and community empowerment through the implementation of community-based monitoring: A conceptual approach. *Sustainability (Switzerland)*, *12*(22), 1–16. https://doi.org/10.3390/su12229583

Khosla, S., & Jena, P. R. (2020). Switch in Livelihood Strategies and Social Capital Have a Role to Play in Deciding Rural Poverty Dynamics: Evidence from Panel Data Analysis from Eastern India. *Journal of Asian and African Studies*, *55*(1), 76–94. https://doi.org/10.1177/0021909619868243

Klutse, A. N. B., Owusu, K., & Boafo, A. Y. (2020). Projected temperature increases over Northern Ghana. *SN Applied Sciences*, *2*(1339), 1-14. https://doi.org/10.1007/s42452-020-3095-3

Kumar, A., & Kanaujia, A. (2014). Wetlands: Significance, threats and their conservation. *Envis Center*, *7*(March), 1–25. https://www.researchgate.net/publication/327816889_Wetlands_Significance_Threats_and_their_Conservation

Kumaraswamy, S. K., Mattern, M., & Hernandez, E. (2020). *Assets matter to the poor*, CGAP/World Bank, February, 1–36.

Leach, K., Grigg, A., O'Connor, B., Brown, C., Vause, J., Gheyssens, J., Weatherdon, L., Halle, M., Burgess, N. D., Fletcher, R., Bekker, S., King, S., & Jones, M. (2019). A common framework of natural capital assets for use in public and private sector decision making. *Ecosystem Services*, *36*(January), 100899. https://doi.org/10.1016/j.ecoser.2019.100899

Mensah, H., & Ahadzie, D. K. (2020). Causes, impacts and coping strategies of floods in Ghana: A systematic review. *SN Applied Sciences*, *2*(5), 1-13. https://doi.org/10.1007/S42452-020-2548-Z

Mpanje, D., Gibbons, P., & McDermott, R. (2018). Social capital in vulnerable urban settings: An analytical framework. *Journal of International Humanitarian Action*, *3*(1), 1-14. https://doi.org/10.1186/s41018-018-0032-9

Mwinkom, F. X. K., Damnyag, L., Abugre, S., & Alhassan, S. I. (2021). Factors influencing climate change adaptation strategies in North-Western Ghana: Evidence of farmers in the Black Volta Basin in Upper West region. *SN Applied Sciences*, *3*(5), 1-20. https://doi.org/10.1007/s42452-021-04503-w

Nuhu, S. (2019). Peri-Urban land governance in developing countries: Understanding the role, interaction and power relation among actors in Tanzania. *Urban Forum*, *30*(1), 1–16. https://doi.org/10.1007/s12132-018-9339-2

Odonkor, S. T., Dei, E. N., Sallar, A. M., & Nikinmaa, M. (2020). Knowledge, attitude, and adaptation to climate change in Ghana. *Scientific World Journal*, *2020*, 1–9. https://doi.org/10.1155/2020/3167317

Pourhoseingholi, M. A., Vahedi, M., & Rahimzadeh, M. (2013). Sample size calculation in medical studies. *Gastroenterology and Hepatology from Bed to Bench*, *6*(1), 14-17. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4017493/

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*(10), 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* (Inter-American Development Bank).

Tellman, B., Eakin, H., Janssen, M. A., de Alba, F., & Turner, B. L., II. (2021). The role of institutional entrepreneurs and informal land transactions in Mexico City's urban expansion. *World Development*, *140*, 105374. https://doi.org/10.1016/j.worlddev.2020.105374

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

UNCTAD. (2020). *UNCTAD handbook of statistics 2020 - Population*.

UNDESA. (2019). *World population prospects 2019: Highlights (ST/ESA/SER.A/423)*.

UNDP. (2015). *Application of the sustainable livelihoods framework in development projects*.

UNESCO, & UN-Water. (2020). *United Nations World Water Development Report 2020: Water and climate change*. UNESCO.

Wemegah, C. S., Yamba, E. I., Aryee, J. N. A., Sam, F., & Amekudzi, L. K. (2020). Assessment of urban heat island warming in the greater accra region. *Scientific African*, *8*(2020), e00426. https://doi.org/10.1016/J.SCIAF.2020.E00426

Xiong, F., Zhu, S., Xiao, H., Kang, X., & Xie, F. (2021). Does social capital benefit the improvement of rural households' sustainable livelihood ability? Based on the survey data of Jiangxi province, China. *Sustainability*, *13*(19), 10995. https://doi.org/10.3390/su131910995

Xu, T., Weng, B., Yan, D., Wang, K., Li, X., Bi, W., Li, M., Cheng, X., & Liu, Y. (2019). Wetlands of international importance: Status, threats, and future protection. *International Journal of Environmental Research and Public Health*, *16*(1818), 1-23. https://doi.org/10.3390/ijerph16101818

Yap, C., & McFarlane, C. (2020). Understanding and researching urban extreme poverty: A conceptual–methodological approach. *Environment and Urbanization*, *32*(1), 254–274. https://doi.org/10.1177/0956247819890829

Zolnikov, T. R. (2020). Global adaptation and resilience to climate change. In R. C. Brears Ed., *Palgrave studies in climate resilient societies*. (February). https://doi.org/10.1007/978-3-030-01213-7