

Sea Defence Structures and Sustainable Livelihoods: The Experiences of Urban Coastal Residents of Glefe, Accra

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Resilient infrastructure such as sea defence systems classified as an adaptation strategy to safeguard against climatic change induced risks such as sea level rise leading to coastal erosion have been instrumental in protecting the vulnerable coasts of countries. In Ghana, sea defence walls have been constructed to protect the coast against high tides and coastal erosion owing to negative human induced factors and climate change. The gap however remains in assessing how these structures affect the socio-economic indicators of development, especially livelihood, at the community level. This study assessed the effects of the Dansoman Emergency Sea Defence Project Phase One (DESDP), on the livelihood of residents in Glefe. The study employed the mixed method approach to ensure that the results from the qualitative data were buttressed by the responses garnered from the qualitative results. Data was collected from 120 respondents who were residents of Glefe using questionnaires, with three (3) key informants also interviewed from the municipal assembly and Sidalco Hydro Construction Limited. In a bid to further understand the lived experiences of residents, two (2) focus group discussions (FGDs) were also held.

Table 1.1: Sampled Distribution of Respondents and Instruments used.

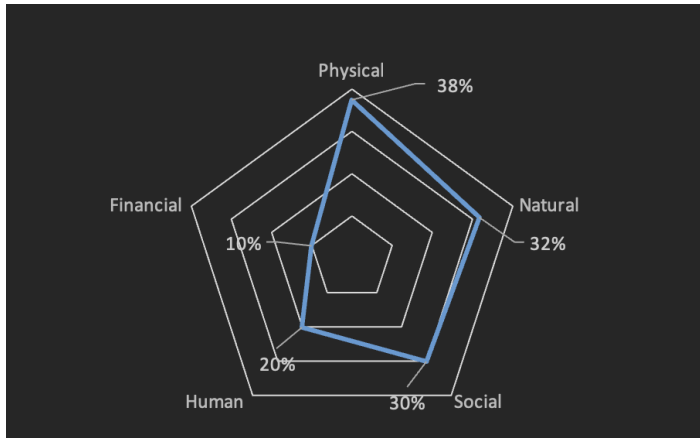
Data Collection Methods	Sample Size	Instrument
Survey	120	Questionnaire
Key-Informant Interview	3	Interview Guide
Focus Group Discussion	2	Focus Group Discussion Guide

Source: Author's Construct, (2021)

The results from the respondents were analysed in line with the DfID sustainable livelihood framework, to ascertain what the effects of the DESDP were on livelihood assets, livelihood outcomes and on livelihood and alternative livelihood strategies were analysed. Evidence

from the study indicates that the most affected assets of sampled residents in Glefe, was physical assets (38%), with the rest being natural capital (32%), then social capital (30%), then human capital (20%) and followed by financial capital (10%), being the least capital affected.

Figure 1.2: Livelihood Assets affected by the construction of the DESDP.

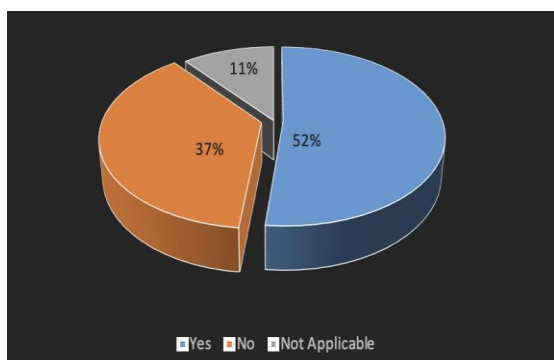


Source: Field data (2022)

n=120

The findings on livelihood outcomes suggest that the Dansoman Emergency Sea Defence Project (DESDP) indirectly affected livelihood outcomes by impacting livelihood assets and strategies. A shop owner participating in a focus group discussion mentioned that although the project required her to initially spend money on replacing work tools, affecting her profits and savings, it ultimately stabilized her income since she no longer needs to replace these tools frequently. She noted, however, that despite this improvement, her overall financial situation hasn't changed significantly.

Figure 1.3: Effect of the DESDP on the attainment of livelihood outcomes of respondents

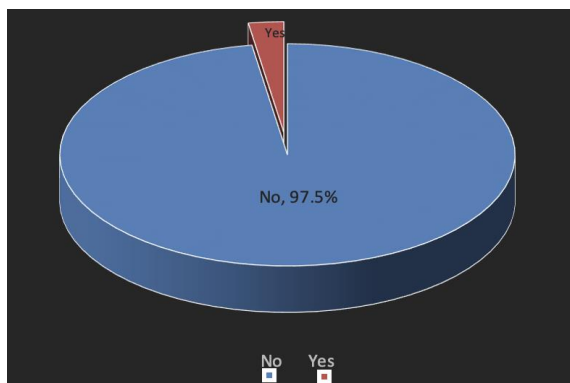


Source: Field data (2022)

n=120

The study, involving 120 people, found that nearly all respondents (97.5%) reported no significant change in their livelihood strategies due to the DESDP, with only a small fraction (2.5%) noting a change. Specifically, among those who did see a change, one shifted from trading to private employment, not solely because of the DESDP, while two others moved from fishing to masonry and trading. This contrasts with previous research indicating significant livelihood shifts due to similar projects. The discussions highlighted varied impacts of the DESDP on livelihood strategies among different community members.

Figure 1.4: Change in Livelihood Strategy of Respondents



Source: Field data (2022)

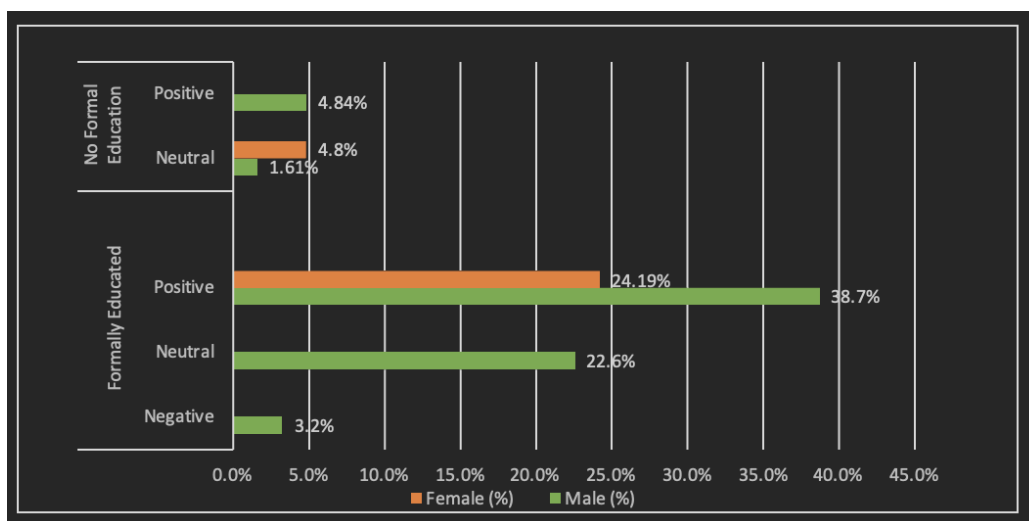
n=120

Further analysis on the effects of the DESDP showed that whilst the DESDP has offered protection against coastal erosion, benefiting traders by safeguarding their businesses from sea water intrusion, it has adversely affected fishermen, disrupted their activities, and necessitated relocation to move their operations from Glefe to neighbouring areas such as Dansoman and Panbros, with some having to move to Cape Coast. This was a key reason for the agitation of the fishermen which led to the call for a change in the initial design from a defence wall to a groyne at the latter stages of implementation. The responses show that the DESDP improved the livelihood of traders, since it prevented the intrusion of sea water into their wares, allowing the traders to set up stalls to run their businesses after the construction.

The DESDP also played a major role in safeguarding life and property, giving them peace of mind, which is relevant in pursuing their livelihood strategies.

A gendered dynamic to the results further shows that there were disparities in how the effects of the construction of the DESDP were felt. For instance, formally educated males experienced a more positive effect of the DESDP on livelihood as compared to formally educated females, whilst persons engaged in fishing-based livelihoods such as fishermen were more negatively affected than the women engaged in fish mongering.

Figure 1.5: Effect of DESDP on Livelihood along gender lines



Source: Field data (2022)

n=62

Based on the results of the study, a shift towards a more holistic, gender-sensitive approach to infrastructure development, emphasizing the need for integrating local knowledge and nature-based solutions to ensure equitable and sustainable livelihood outcomes. It also calls for the minimal or gradual elimination of partisan political interference in the implementation of adaptation related projects, which is key promoting a balance between environmental protection and socio-economic development.