

Gendered Dimensions of Displacement: Impacts of the Mwache Dam Resettlement on Women in Kenya

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Abstract

Currently, in most developed and developing countries, there is a serious need to enhance water security for both domestic, irrigation, and Hydropower purposes, and this prompts the construction of larger dams. The same case applies to Mwache Dam in Kenya, and this led to the displacement of communities to give room for the construction of the dam. The gender impacts of displacement have not been much explored. This study explores the gendered impacts of displacement and resettlement due to the Mwache Dam project in Kenya. The study employed a qualitative research methodology that included observation, in-depth interviews, key informant interviews, and focus group discussions. The study established that women face serious challenges not included in decision making, livelihood loss, and disruption, which increase vulnerability, access to land and resources, compensation, social roles and responsibilities, health, and psychological well-being. Further, the study established that women developed high resilience through various supports from both local and national

governments. The study concluded by recommending gender-sensitive planning and resettlement implementation in large-scale development-induced projects.

Keywords: gender displacement, dam displacement and resettlement, development-induced displacement, women and displacement, Mwache Dam

1. Introduction

Around the globe, development-induced displacement and resettlement (DIDR) projects remain the backbone of any country's development. These projects include dams, industrial parks, roads, mining, and other mega infrastructures (Mandishekwa & Mutenheri, 2020; Oware Twerefoo, 2021; J. Xu et al., 2021). The development-induced displacement and resettlement (DIDR) projects bring about impoverishment and many negative impacts and inflict displaced people with adverse impacts on their lives (Aboda et al., 2021; Cernea, 2021; Evers, 2020). More than 20 million people are affected by development-induced displacement and resettlement (DIDR) projects; according to (A. K. A. Kumar & Chikkala, 2021), every year, about 10 million people are displaced, which could mean these projects have displaced 200 million, also been established that displacement it's in peak between 2001 and 2010 displacing about 15 million people each year which is about 150 million over the decade (Gong et al., 2021; Peng et al., 2022). Further, according to Downing et al. (2021), about 20 million people have been displaced globally.

Dams are constructed for various purposes, more so to enhance water security, that is, water for domestic use, irrigation, hydropower generation, and flood control (Grill et al., 2019; Kuehne et al., 2023; Pakhtigian et al., 2021). Although dams are constructed for positive reasons, they bring unavoidable consequences where the displaced people encounter the loss of land, loss of their social infrastructures, forest water supplies, and other resources (Afzal et al., 2022; Kirui Agnes Cheptoo, 2022; Owusu et al., 2024). Dam-induced displacement has affected indigenous communities where women are most affected (Randell, 2022).

Gendered dimensions of displacement, more so of the dam construction process, are much varied, and women experience more difficulties to overcome displacement impacts (Melketo et al., 2023a; Quy Nghi et al., 2021; Sikka & Mathur, 2018). It brought about various consequences, more so among women. It has been established that women are in lack of water and food, which has serious impacts on their daily life (Adeola et al., 2024). Further dam-induced displacement and resettlement have greatly increased gender inequalities since women suffer from traditional laws and are mostly undermined by their men in communities, hence women experience displacement in a gendered way.

Various studies have elaborated that women are most impacted by displacement and resettlement in many aspects beyond loss of properties, hence putting women at stake. From various scholars, women continue to be marginalized and often excluded from taking part in the planning process, and are not factored into the compensation process. This contributes to negative impacts on their life after resettlement (Asthana & Boone, 2012). Further, women are exposed to various physical violence, low income, and lost social networks, and are forced to depend on their men (Asthana & Boone, 2012).

In most cases, women are not well represented in all levels of life. Women are not included in compensation plans as men since compensation is paid at the household level and the husband is the head of households, so it's even difficult for women to restore their livelihood after displacement and getting new source jobs in new settlement areas (Asthana & Boone, 2012). This study examined gendered dimensions of displacement: impacts on women. Further, the study explores how resettlement frameworks can be incorporated with gender inequities and address the gap where women are left out of crucial decision-making so that the gendered gap is bridged. By so doing, women will be fully part of the displacement and resettlement process and will eliminate vulnerabilities among women.

2. Study Area and Research Methodology

2.1 Study Area

The study was conducted in Kwale County, an area severely impacted by climate change, situated between four significant topographical features: the coastal plain, Nyika plateau, foot plateau, and coastal uplands (Kwale County Government, 2023). Kwale County is one of the 47 counties of Kenya, bordered to the northwest by Taita Taveta County, to the northeast by Kilifi County, to the east by Mombasa County and the Indian Ocean, and to the south by the United Republic of Tanzania. The County is located in the southeastern region of Kenya. Situated between latitudes 3°3' and 4°45' south and longitudes 38°31' and 39°31' east (Kwale County Government, 2023). The county encompasses an area of 8,270.2 km², with 62 km² designated as aquatic territory. The region omits the 200-mile coastal zone recognized for its rapid economic development along the Kenyan coast. The latest census indicates a total population of 209,560, predicted to reach 252,550 in 2019 and 268,758 by 2020, with a poverty rate of 84.5% (Republic of Kenya, 2019). Life expectancy is 51.2 years, and the fertility rate is approximately 5.7 live births per woman (Republic of Kenya, 2019).

The Mwache Multipurpose Dam Project is located along the Mwache River in Kinango Sub-County, within Kenya's coastline region (Government of Kenya & World Bank, 2019). The dam lies inside the drainage system of the Mwache and Mnyenzi rivers and their tributaries. The dam project will provide 80% of Mombasa City's water supply upon completion. For its various uses and 20% of the water is allocated for the intended 100Ha experimental irrigation initiative in Kwale County (Government of Kenya & World Bank, 2019). Mwache Dam was deliberately chosen because of its significance in Kenya's Vision 2030 initiative, which involves the construction of numerous dams, of which Mwache Dam is one. Kwale County comprises three administrative sub-counties: Matuga, Kinango, and Msambweni (Kwale County Government, 2023).

The project site is located in Kinango Sub-County and the Kasemeni division, as shown in Figure 1. The population of the Kasemeni division is predominantly rural, and the area's main economic activity is subsistence farming. According to the 2019 population census (Republic of Kenya, 2019). Kasemeni Division had a population of 78,859, comprising 12,902 households. Kasemeni division is an administrative unit within Kinango Sub-County, and the proposed dam project falls within the areas of Mazeras, Chigato, and Mnyenzi sub-location.

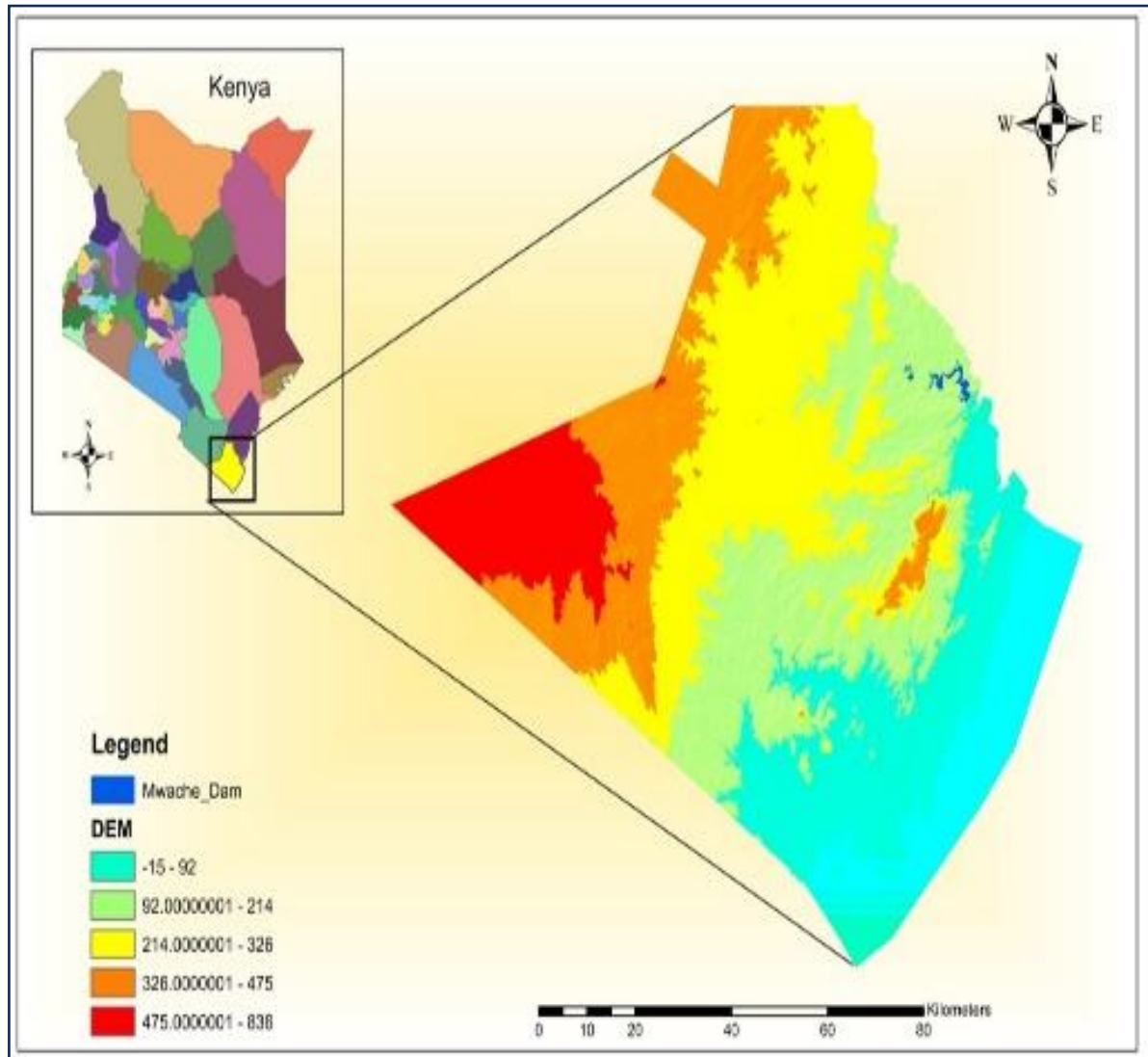


Figure 1. The Study Area

2.2 Research Approach and Data Collection

The research used both secondary and primary data. The secondary data were collected from journals, books, and archival documents. The primary data were collected using a research approach and a cross-sectional descriptive research design, which helped to collect qualitative data and information from the respondents of Kwale County on the impact assessments of resettlement implementation on livelihood after dam-induced displacement and resettlement on locals; a case study of Mwache Dam in Kenya.

In this study, research was guided by the qualitative research method; the qualitative study is an inquiry process of understanding a social or human problem based on building a complex, holistic picture, formed with words, reporting detailed views of informants, and conducted in a natural setting; also it aims to gather a comprehensive understanding of human behaviors

and resources that govern it (Creswell & David Creswell, 2003). Qualitative research methods were used because one could see the impacts brought about by the construction of the Mwache dam and its livelihood impacts on the displaced households.

The fieldwork was conducted between June 2024 and September 2024. Before in-depth interviews, observations, key informants' interviews, and focus group discussions, the researcher conducted a reconnaissance survey technique to ensure that the researchers were familiar with the study area's topography, boundaries, and other physical characteristics where people were displaced from and their new resettled areas. The reconnaissance survey also helped the research team meet the community leaders from the government and county to explain the study's purpose. The administrative leaders connected the researcher and the community, especially those displaced by the Mwache dam.

The target population of this study was the displaced villagers/communities' people from Mazeras, Chigato, Mnyenzeni, and Mwatate sub-locations in Kinango sub-county, Kwale County, who completely lost all their land, trees, and other assets due to the construction of the Mwache dam. The Mwache dam displaced 2,452 households and 7,541 people (Government of Kenya & World Bank, 2019), as shown in Table 1.

Table 1. The Displaced PAHs and PAPs

Target Group(Sub-location)	PAHs	PAPs
Mazeras sub-location	1125	3479
Chigato sub-location	1147	3482
Mnyenzeni sub-location	140	410
Mwatate sub-location	40	170
Total	2452	7541

Source (Mwache Dam RAP, 2019)

The in-depth interview data were collected by interviewing household heads in the selected communities. The study used stratified random sampling as the primary, proportionate, purposive, and snowball sampling. The stratified sampling was used to categories' the households based on the area they were displaced from before resettlement.

The snowball sampling was used to help the researcher identify those who completely lost all their land, trees, and other assets due to the construction of the Mwache dam and their newly resettled areas. The proportionate sampling enabled us to get a specific number of respondents from each stratum depending on their population. Finally, simple random sampling was used to select respondents from the stratum for in-depth interviews. One hundred respondents were interviewed, including males and females, aged between 20 to 70 years old. Table 2 shows the distribution of respondents for in-depth interviews from each

sub-location, and they were as follows: 47 from the Chigato sub-location, 45 from the Mazeras sub-location, 6 from the Mnyenzi sub-location, and 2 from the Mwatate sub-location.

Table 2. Distribution of Respondents

Target Group(Sub-location)	PAHs	Sample Size
Mazeras sub-location	1125	45
Chigato sub-location	1147	47
Mnyenzi sub-location	140	6
Mwatate sub-location	40	2
Total	2452	100

Source: Field In-Depth Interview (2023)

The other qualitative data were collected using observation, key informants, and focus group discussion. Key informants were drawn from displaced team leaders, local leaders, government leaders, county leaders, and the resettlement implementation team. Further, ten focus group discussions were held: 3 from the Chigato sub-location, three from the Mazeras sub-location, two from the Mnyenzi sub-location, and two from the Mwatate sub-location.

The focus group discussions explored the issues discussed in key informant interviews and what was observed during observation. The focus discussion groups were composed of between 12 to 15 people. For in-depth interviews of 100 project-affected households interviewed from the resettled areas, the majority (78%) were male-headed households, which is the case of Duruma people and in Kenya at large, where most of the cultural communities are patriarchal by nature. For 22% of female-headed households, they were either widowed, separated, or divorced. Details in Table 3 show that the majority (82%) of project-affected households were above 31 years.

The literacy levels in Kwale County have been recording an increasing trend over the last few years due to the introduction of free primary education for all and adult classes in the County (Kwale County Government, 2023) ; this was established from in-depth interviews where the majority (68%) of households' heads had attained above secondary level. In matters of religion, the project affected household heads were religious, with Muslims making up 62%.

Table 3. Socio-demographic Characteristics of Field In-Depth Interview of Respondents

Variables	Measure	Percentage
Gender	Male	88
	Female	12
Age	21-30	18
	31-40	30
	41-50	22
	51-60	16
	Above 60	14
Education Level	University	8
	College	12
	Technical	16
	Secondary	32
	Primary	26
	Others	6
Religious Affiliation	Protestant	18
	Catholic	20
	Muslims	62

Source: Field In-Depth Interview (2023)

Note: N=100

For the data analysis, qualitative data were transcribed and analysed using thematic analysis based on the study's objectives. We applied content analysis to examine the interview transcripts. Each interview transcript was examined through hand coding. First, all sections of the transcript were scanned through to have a fair idea of its content. Then, we read each transcript carefully and coded relevant sentences. Following this, the connections between the code sections were grouped into appropriate themes. To enhance the accuracy and validity of the results, the process was repeated until the results became stable.

3. Findings

3.1 Exclusion from Decision- Making during Project Planning and Implementation

The study established that the Duruma people who were displaced due to the Mwache dam are patriarchal by nature and them so strict keepers of their cultures and heritage to date. In this regard, all households are controlled by men who as the final say in their households. From the findings, 88% were male, while 12% female female-headed households as represented in Table 4.

Table 4. Distribution of Household Head

Household Head	Frequency	Percentage
Female	12	12
Male	88	78
Total	100	100

Findings from informants indicated that decision-making during project planning and implementation was a crucial aspect for development-induced displacement and resettlement, and it is supposed to encompass all the project-affected people to take part. Women were busy with their daily activities and knew that attending and participating in project planning and implementation was for their husbands to attend; this is due to the patriarchal way of life for the Duruma people. This excluded women from attending and being part of the process of project planning and implementation. The resettlement implementation leader said:

“We real encouraged women to attend and participate in all meetings we held which was involving them for compensation packages and amount of money they were to receive, even told them to come with their husbands, chiefs and local leader they informed them to attend but during meetings few women attended, they already set their minds that those meetings were the role of their husbands”.

The study indicated that in most cases, women were excluded from attending the stakeholders' meetings on the project planning process, since men believe that they are the ones supposed to attend the meetings, since their matters concern their families and they can handle them better than their wives. These sentiments were echoed by a community leader who was in charge of mobilizing community members to attend the meetings. He said that:

“Our families, we are the ones who are taking care of them and in charge, not our wives, like attending the meetings during planning and implementation of Mwache Mad was our core responsibility, our wives were unable to negotiate many packages since we know they are incapable of doing so”.

This hindered many women from taking part in decision-making during project planning and implementation. During FGDs, women indicated that their participation was limited, and when they attended those meetings was more of a technical appearance to please the government officials. One woman said that, and the same sentiments from many women:

“Our men didn't even mention that those meetings were taking place; they just mentioned were from a meeting, and they didn't even bother to inform us what they discussed. They made decisions without consulting us, we only heard about the meetings much later, when they had already since they don't value our opinions or voice on matters concerning the Mwache Dam project”.

From the findings, exclusion of women from decision making was also experienced when, in some stakeholder meetings, women were attending but were fearing to air their opinions and views, also in most scenarios, women were just observers where they were to be seen but not

to be heard, so that the meetings were gender balanced. One woman from FGDs indicated that:

“We were allowed to attend the meetings, but during the meetings, we were not asked what we thought or had to contribute during discussion sessions; all the decisions were already made for men. We were just observers, and the same happened in a couple of meetings, and this really discouraged most women from participating during the planning and implementation of Mwache Dam projects, leaving the entire process for men.”

The study established that the cultural norms of the Duruma people, which are patriarchal and women are restricted from expressing their concerns or given equal chances with men to participate in any community activities, indicate that their place is in domesticated roles. Men are the heads of households and are those who make decisions that concern their families, and women are there to be guided by men. Due to entrenched cultural norms, women were limited in taking part in project planning and implementation. The role of women is purely to take care of the family, and their core roles were domesticated. During FGDs, one middle-aged woman said that:

“When we were attending the meetings, we were unsettled since our minds was on our children since we are the one who cooking lunch for them, so when we were attending the meetings, we were forced to leave in the middle and we didn’t know what was discussed. This goes hand in hand with our Duruma culture, where is that it’s our roles as women to perform all domestic chores.”

From the findings, the study established that in Duruma communities, women do not hold the right to properties like land and other properties, even if they are the ones who bought them. Land belongs to men, which leads to excluding women them project planning and implementation, and other compensation consultation. Further from the customary tenures, they marginalize women who own land and other properties. This really influenced the meetings' participation during the planning and implementation process since women know that the men are the owners of the family properties, hence have a say and responsibilities to take part in those stakeholder meetings. One woman who was KI said that:

“In the Duruma communities, all properties belong to men. Some women here are very hardworking and have acquired some properties, but since they are married, those properties belong to their husbands. This really affected women from attending the community meetings since they knew that the meetings didn’t concern them, but their husbands.”

3.2 Women and Land Ownership Challenges

The study established that land ownership influenced the compensation and resettlement outcomes for those households that were displaced by the Mwache Dam. The most households, women were not registered landowners; instead, men did. Land in the Duruma community was passed down through male lineage, and women were supposed to get married

and go to their husbands' homes. One KI lands officer said that:

“According to the Kenyan constitution 2010, all children have the right to inherit their fathers' properties regardless of whether they are boys or girls. The constitutional rights are not practiced in the Duruma community since it just in the book, not in the actual situation. So even if it's difficult to get women who want to inherit their father's land, if one tries to claim their father's land, she will even end up divorced by her husband. So here women are left out completely from compensation packages.”

From the findings, the study established that from those displaced households, land was male-dominated land ownership structures since the Duruma communities are patriarchal and ancestral lands belong to men, which was passed down through male lineage, hence land titles are customarily and legally issued in the names of men, which excludes women in the compensation framework. Even in the case where customary women inherited land, these rights were not documented, so they were not compensated. This cultural practice left many women landless. This affected widows mostly when their brothers-in-law were in control. One woman said in FGDs, and this concurs with various sentiments from FGDs:

“Before our father died, he allocated us land with my sisters but during displacement period our own brothers said that we are married women and we belong to our husbands they didn't gave us compensation money, the worst case is that my husband had died too four years ago, we worked hard together and acquired many properties together including lands before displacement, my brothers in-law had all tittle deeds so were the one who were compensated, they just gave some portion of money and I feared reporting them was to cost my marriage.”

Another married woman said that:

“The implementation team tried to help us use the money wisely with our husbands, but when my husband withdrew the money, he became violent to the point that he wanted to beat me up and warned me that the moment I tried to tell him how we use compensation money, he would divorce and get another wife. This made me fear, since if he divorces me, where was I to take my five children, so mine was just watch him and follow his instructions, mine was to accompany him to the bank to get money, give me money to buy household stuff, and that was over.”

From the findings, the study established that Women were excluded from direct compensation since they were not listed as the title holders, regardless women were the ones who had been taking care of their lands for many years. All compensation packages were directed to men. Women were using land for farming and selling vegetables and farm produce, which was the main source of income for their households, and were not compensated for the same, and this weakened their living standard. One woman in FGDs said that:

“What I know, which we agreed among all women who are here, is that the lands are in our husbands' name, even if we are the ones doing farming year in year out. When they are registering our lands, which were inherited by their fathers, they exclude our names out so in the end we don't have any say about the land. Many women have suffered a lot

when their husbands die; they end up losing everything. They even lack awareness of where they can start from; they just assume so that peace can reign with her in-laws."

From the findings, the study established that women were discriminated against by various customary practices, where most cases involving land rights, community leaders wanted to solve it locally, not involving courts. Here, they upheld the traditional norms that they always support and favor men. They reason that women are the property of husbands and hinders women from participating in any community matters without their husbands. Another reason is that even women themselves know that if they start demanding land will create conflict within their families, and this will put their marriages in big trouble. Also, the community people believe that once women own properties, they become economically independent and despise their husbands. One woman in FGDs said that:

"There is a time I wanted to buy land to plant mango trees, the owners insisted they wanted my husband to be there, and they agreed when my husband came, and actually, in agreement, the land was sold to him, even if I was the one who paid the money. I feared that if I stopped buying the land, there would be a serious conflict since my husband would demand that I give him the money, and if my in-laws came to learn about the conflict would bring a lot of problems in my marriage. Even my brother called me and warned me about buying land in my name when my husband is there."

3.3 Livelihood Loss and Disruption

From the findings, the study established that women were the major stakeholders for farming, they lost their agricultural land and substantial farming, women were growing food crops, cash crops, and vegetables, which sustained the community, and were selling surplus to Mombasa, and in return they made a lot of money. Before displacement, they had huge lands and farming was easy; they were growing vegetables which were done along the river Mwache, and their yield was good and used to get good money. Crop farming was their backbone and main income-generating activity before displacement. They grew various crops, ranging from food, cash, and vegetable crops, along the banks of the Mwache River. In the resettled area, the land was too small to be just for house construction, so women were unable to practice farming as they had in their previous communities. One woman from FGDs said that:

"Before displacement, we had large farming land where we grew maize, beans, cassava, sweet potato, green grams, peas, and sugarcane for food crops. We also grew various vegetables along the river banks of the Mwache River. The food crops were grown for family consumption and selling in the nearby towns. We harvested a good yield since the land was fertile and big; around the year, most families enjoyed good food security since they had enough food and sold the surplus to get income. But where we were resettled, we acquired a small piece of land which was just for the construction of homesteads, hence we lost our livelihood in a big way, and now we are poor."

From the findings, the study established that displacement leads to the collapse of various commercial businesses. Women were engaging in vegetable selling, cloth selling, food selling, and many other small businesses. The business they lost due to the displacement in their local market was booming, and in the new settlement areas, they were unable to rehabilitate it since those local people also had their already established business with their customers, so it was difficult to catch up. They lost customers and the nature of business; new settlement areas were new without any business links, hence they were economically poor. The losses they encountered made the lives of the women miserable since they were really dependent on those kinds of business and were helping them to have a good living standard and sustain their households. Some children dropped out of school since their mothers were the main supporters of their school fees. During FGDs, one woman said that:

“I had huge business enterprises where I had both wholesale and retail business chains, was running a hotel which was the main eatery joint in our community, and was running a cereal store with all kinds of food. When we were displaced, I lost everything, and it was such a big shock that I haven’t recovered till now. From a big, respected businesswoman to a housewife now. The business I tried to establish in a new settlement area didn’t pick it collapsed with first four months. Now I depend on my husband for my human needs.”

From the findings, the study established that before the construction of the Mwache dam, women were involved in many livelihood negotiation activities. These activities were much favored by the large portion of the land-displaced community that had been displaced before the construction of the Mwache dam. After displacement, there was a lot of poverty since women lost about of 98% their livelihood, which is difficult to rehabilitate in new settlement areas. One old woman in the FGD said that:

“We were living good lives, and our livelihood was stable due to the various livelihood activities we were engaging in that generated good income for our households. Compared to after resettlement, we lost everything due to the Mwache Dam, and now we are working hand to mouth; even paying school fees to our children is a major problem. The dam project was a curse to our families and us.”

From the findings, the study established that the displaced household, men and women, were specialized in specific traditional occupations like fishing and fish selling, palm wine selling for women, vegetable farming, sand harvesting, and were much attached to those occupations. When they were displaced from their original homes, they really suffered a lot since it was very difficult to adjust to new occupations, since they had settled into their old lifestyle. One woman in the FGD said that:

“We had a smooth life before this whole thing of dam construction. We used to do farming for food crops and vegetables, which gave us a good income, and in the afternoon, we were selling fish, palm wine, which was a smooth business. Our

husbands were tapping palm wine for us, and others were going fishing, and our task was selling them. They were bringing the good to our comfort places. When we were displaced, where we are at the moment, we lost all of these livelihood activities, and we have to struggle, and even it's a challenge getting a meal one day."

From the findings, the study established that women were promised alternative means to establish new livelihood activities in their new settlement areas, but since they were resettled, they haven't received any help, and the training programs they attended have not been fulfilled. Further, there is no follow-up to assess how these women are doing since they were resettled in their current areas. This has made their life to be pathetic, and since women are the ones contributing to family well-being, most households are suffering a lot. One woman in the FGD said that:

"We were promised a lot of good things before we were displaced. The government wanted to sweet-talk us so that we could agree to relocate. The government, not through those implementing officers, said they will give us starting money, which they called livelihood compensation, but till now we haven't received any coins. We can't trust the government anymore."

3.4 Loss of Social Ties and Networks

From the findings, the study established that displacement due to the Mwche Dam led to loss of social ties and networks among many families. The findings show that Women had the strongest bond in their communities, even than men, since their daily life revolves around women in every aspect. So displacement from ancestral lands to give room for the construction of Mwache Dam affected women so much since they lost the communal support, which made women lose their direct and daily support was with neighbors, relatives, and friends who formed informal caregiving networks, child-sharing arrangements, and emotional support. Before displacement the households were living in harmony and good unity, where they were embracing all extended family members together and were supporting each other in various social aspects from wedding, burial ceremony, farming and other family celebrations, but after displacement were scattered everywhere in various communities and this break social ties and networks, each household was looking land in a place was cheap. One elderly woman in the FGD said that:

"My husband, his brothers, and their wives were staying in the same compound, and we were happy as one family. We were taking care of our children together as one family, even when I was not around, I knew my children were well catered for. When we had celebrations, we were helping each other, and events were conducted smoothly. After displacement, we resettled in different areas, and now I am a lonely ranger without my family members."

Another woman indicted:

“I was in four different strong women groups in my previous community, each group was championing different goals. There was a church group, a family group, and two financial groups. Each group has been there for me, like when my daughter was getting married, they helped me in fold. The backbone of the groups was financial groups, which were helping with loans, and since I was a widow, the money helped me to pay school fees for my children. But here in our new settlement community, I don’t have any group at the moment, I am on my own and really suffering.”

From the findings, the study established that displacement due to the Mwache Dam disrupted many women's lives completely. Women stated from various findings that they experienced loneliness and emotional dislocations since they were separated from their families and community people, and where they were settled, the host community was not friendly to them since they indicated that those people we to bring some changes in their communities as they were regarded as rich people due to the compensation money they received. Displacement really affected the mutual aspect of the communities where women. We were really enjoying life, like having in common markets, religious places like churches and mosques. One woman in the FGD said that:

“When we were displaced I was in darkness, been staying in Fulugani for 54 years when moved leaving behind our land and everything was the worst thing happened to me in my age, we were living as one big family but now my sons are allover, I am alone with my last born, I miss the company of my grandkids and our sweet laughter. So even now I wish to rest in peace since nothing is remaining in my life.”

4. Discussion

In this paper, we present the new findings on gendered dimensions of displacement: impacts of the Mwache dam resettlement on women in Kenya. Displacement and resettlement can contribute to positive or negative impacts on women who were affected by the Mwache Dam. The displacement and resettlement process involves many aspects; to understand the gendered dimensions of displacement: impacts of displacement and resettlement on women in their new settlement areas, this paper relates its findings from the new settlement areas to the existing body of literature on the gendered dimensions of displacement in displacement and resettlement due to dam-induced projects. The literature indicated the various outcomes of resettlement projects for which gendered dimensions of displacement are key to guiding and regulating their conclusion and recommendations. This study on gendered dimensions of displacement: impacts of the Mwache dam resettlement on women in Kenya establishes these particular arguments in resettlement studies.

The study established that the Duruma community is patriarchal by nature and they are strict keeper of their cultures and heritage to date. The land ownership and all other related family properties belong to men, where women were greatly undermined without any value when it comes to matters and issues related to land. These findings resonate with (Meth et al., 2019), who established that women’s rights to and housing can be undermined by local cultural

interpretations. This excluded women from taking part participating in project planning and implementation, since men intend that they are the ones supposed to attend those meetings, since it concerns their families and they can handle them better than their wives. The women are supposed to be there to be guided by men. Its men who have a say in all community matters. This hindered many women from taking part in decision-making during project planning and implementation, hence making women more vulnerable and marginalized. These findings agree with (Melketo et al., 2023b), who established that women suffer more compared to their male counterparts since they don't have access to land, housing, and they lack the capacity for decision making. Their participation was limited, and when they attended those meetings was more of a technical appearance to please the government officials. Even so, when women were attending those meetings, they were fearing to air out their opinions and views, also in most scenarios, women were just observers who were there to be seen but not to be heard, so that the meetings were gender balanced. This hinders women from coping during the resettlement period since they were not involved and participate fully in project planning and implementation. These findings agree with (Quy Nghi et al., 2021), who established that women situations and life deteriorate if there is no mechanism for affected households to enjoy meaningful participation and consultation in the resettlement process.

Further, the cultural norms of the Duruma people, which are patriarchal and women are restricted from expressing their concerns or given equal chances with men to participate in any community activities, it is known that their place is in domestic roles. Men are the heads of households and are the one who make decisions that concerns their families, and women are segregated and controlled by their men. These findings agree with (Dinoop K and Simi Joseph, 2021), who established that women suffer most since resettlement policies and programs are gender-segregated, failing to address women's issues and rendering them various challenges. Due to entrenched cultural norms, women were limited in taking part in project planning and implementation. The role of women is purely to take care of the family, and their core roles were domesticated.

From the findings, the study established that in Duruma communities, women do not hold the right to properties like land and other properties, even if they are the ones who bought them. Land belongs to men, which leads to excluding women them project planning and implementation, and other compensation consultation. These findings agree with (Asthana & Boone, 2012), who established that compensation money is paid to the family head, who is the man, and men control family money, and this renders women at higher risk of impoverishment. Also, the findings agree with (Quy Nghi et al., 2021), who established that women are not compensated and are constrained in getting back to their initial lifestyle.

Further from the customary tenures, they marginalize women who own land and other properties, and during compensation, their husbands or brother in-laws for the widows were compensated. This is a clear indication that, like many cases, the Mwache dam project brought about serious impoverishment, which was political. Social, economic, cultural, and psychological. These findings agree with (K Hamalatha, 2019), who established that development-induced displacements are usually accompanied by a downward spiral of

impoverishment, which spreads psychological and socio-cultural impacts among women. This really influenced the meetings' participation during the planning and implementation process since women know that men are the owners of the family properties, hence have a say and responsibilities to take part in those stakeholder meetings.

The findings established that women were excluded from land ownership in the Duruma community since land was passed down through male lineage. This made men rightful owners of the land in all households in Duruma communities, and women were supposed to get married and go to their husbands' homes. This agrees with (Sikka & Carol, 2022), who established that in patriarchal societies, most cultures favor men and boys over women and girls. Also, these findings agree with (Daley & Englert, 2010), who established that in most rural communities, men are recognized as the rightful landowners.

The most households, women are the majority using the land for agricultural purposes, but are not registered landowners; instead, men are. This was against the Kenyan Constitution (2010), which allows equal inheritance rights for both sons and daughters. Since men were legally the owners of land, this excludes women from the compensation framework. All compensation packages were directed to men. Women were using land for farming and selling vegetables and farm produce, which was the main source of income for their households, and they were not compensated for the same. And this weakened their living standard. Even in the case where customary women inherited land, these rights were not documented, and there was no resettlement policy on the same, so they were not compensated, and this left many women landless. These findings agree with (S. Kumar & Mishra, 2018), who established that displaced women are not elaborated in the rehabilitation policy since they are known to be dependent family members. This affected widows mostly when their brothers-in-law were in control.

From the findings, the study established that women were discriminated against by various customary practices, where most cases involving land rights, community leaders wanted to solve it locally, not involving courts. These findings agree with (Jayasiri et al., 2018), who established that the patriarchal way of land reallocation marginalizes women within their families. Here, they upheld the traditional norms, which they always support and favor men. They reason that women are the property of husbands and are hindered from participating in any community matters without their husbands. Another reason is that even women themselves know that if they start demanding land will create conflict within their families, and this will put their marriages in big trouble. Also, the community people believe that once women own properties, they become economically independent and despise their husbands.

The findings established that Women were greatly affected by livelihood losses due to the Mwache dam. Before displacement, women were the major stakeholders for farming; they lost their agricultural land and substantial farming, they were growing food crops, cash crops, and vegetables, which sustained the community, and were selling surplus to Mombasa, and in return, they made a lot of money. They had huge lands and farming was easy, they were growing vegetables which were done along the river Mwache, and their yield was good, and they used to get good crop farming was their backbone and main income-generating activity

before displacement. Before displacement, they had enough land and grew various crops, ranging from food, cash, and vegetable crops along the banks of the Mwache River. Displacement, however, disrupted all these farming activities since it made them lose their agricultural land, and since most of their livelihood activities depended on land, the moment they lost their land, they lost about 98% of their livelihood.

These findings agree with (K Hamalatha, 2019), who established that women bear unfavorable economic conditions after displacement and their livelihood suffers from the inability to contribute to the household income as it was before. Also, these findings disagree with (Singkham Lueyeevang, 2018), who established that after resettlement, women were found to have greater opportunities to benefit from home-based business, employment, and wage labor.

Further, the study established that women experienced a lot of challenges in restoring their livelihood since negotiating another type of livelihood was not easy, since they were new in the area, they didn't know many people, and this led to their source of income being low without enough land to create more income. These findings agree with (Kirui Agnes Cheptoo, 2022), who established that the loss of agricultural land, and grazing land led to an overall loss of their livelihood for those who are displaced by induced development projects. In the resettled area, the land was too small for house construction, so women were unable to practice farming as they were doing in their previous communities, rendering women more vulnerable since the loss of land greatly affected the productive systems, commercial activities, residences, livelihoods of households, and employment. These findings agree with (Manjula et al., 2013; Ridwan et al., 2024), who established that land acquisition resulted in displacement, which affected the commercial activities and employment rates of the affected population.

Further displacement leads to the collapse of various commercial businesses, and women were engaging in vegetable selling, cloth selling, food selling, and many more small businesses. The business they lost due to the displacement in their local market was booming, and in the new settlement areas were unable to rehabilitate it since those local people also had their already established business with their customers, so it was difficult to catch up. These findings agree with Gong et al. (2021), who established that when people leave their original homes, they face many challenges, including settling their families into a new life and finding jobs or new ways to make a living. The losses they encountered made their lives miserable since they were really dependent on those kinds of business and were helping them to have a good living standard and sustain their households. Some children dropped out of school because their mothers were the main supporters of their school fees. Finally, the findings established that women were promised alternative means to establish new livelihood activities in their new settlement areas, but since they were resettled, they haven't received any help, and the training programs they attended have not been fulfilled. These findings agree with (Wilmsen & Adjarkey, 2020), who established that displacement and resettlement are mostly linked to impoverishment and suffering in their new settlement areas.

Furthermore, there is no follow-up to assess how these women are doing since they were

resettled in their current areas, and this made their lives in resettled communities very much deprived and affected their living standard, making them poor. This hinders livelihood restoration in their new settlement areas, hence causing a lot of challenges and impoverishment for displaced and resettled households. These findings agree with (Kabra & Drydyk, 2018; Sikka & Mathur, 2018), who established that the livelihood of the displaced communities was not restored in their post-displacement period, causing impoverishment for most of the resettled communities. Also, these findings agree with (Y. Xu et al., 2022), who found that in new settlement areas, households are deprived and poor.

From the findings, the study established that displacement due to the Mwche Dam led to loss of social ties and networks among many families. The findings show that Women had the strongest bond among themselves. These findings agree with (Kanwalpreet Kaur, 2024), who established that displacement made women experience disturbances of their socio-cultural identities and deterioration of traditional knowledge systems, which led to marginalization and poverty. Before displacement, the households were living in harmony and good unity, where they were embracing all extended family members together and were supporting each other in various social aspects from wedding, burial ceremony, farming and other family celebrations, but after displacement were scattered everywhere in various communities and this break social ties and networks, this contributed to psychological and social-cultural impacts to women. These findings agree with (K Hemalatha, 2019), who established that there are impoverishments that brought about psychological and socio-cultural impacts among women and children who are marginalized.

From the findings, the study established that displacement due to the Mwache Dam disrupted many women's groups, these groups were for saving groups, table banking credit groups, and cooperative societies. These groups promoted the well-being of women by empowering them financially, also enabling women to have strong bonds among women in com groups played vital roles in making women come together and helping each other easily. The women's groups promote women's leadership, where, during displacement, these leadership roles were disrupted, since, where they resettled, they were scattered and without any women's groups. The disruption of women's groups and leadership leads to emotional stress, loneliness. This leads to disconnection and vulnerability since they lost their communal ties.

Finally, women stated from various findings that they experienced loneliness and emotional dislocations since they were separated from their families and community people, and where they were settled, the host community was not friendly to them since they indicated that those people we to bring some changes in their communities as they were regarded as rich people due to the compensation money they received. Displacement really affected the mutual aspect of the communities where women lived. We were really enjoying life, like having in common markets, religious places like churches and mosques. During various functions like weddings and funerals, these communities, was helping them grow socially and economically. Also, the groups promoted community trust and mutual support.

5. Conclusion

From the study, was clearly established that the gendered impacts of displacement and

resettlement due to Mwache Dam project were well noted. The study show that entire displacement and resettlement process doesn't favor women but it is much root on existing social structures, cultural norms and other disparities in community which doesn't favor and women vulnerable. The findings indicated that women affected by Mwache Dam project faced various challenges and problems. Firstly women were completely excluded from decision –making process during project planning and implementation of Mwache dam project. This was due the cultural norms of Duruma people which is patriarchal society by nature and women are restricted for expressing their concerns or given equally chances as men to participate in any community activities. Men are the heads of households and are one who make decisions which concerns their families and this excluded women from compensation packages hence rendering them more vulnerable. Secondly, the study established that land was owned by men and land in Duruma community was passed down through male lineage and women were supposed to get married and go to their husbands homes, households land was male –dominated land ownership structures and ancestral lands belong to men. This exclude women from direct compensation since they were not listed as the tittle holders regardless women were the one who had been taking care of their lands for many years. Thirdly there a lot of livelihood loss and disruption since women were the major stakeholders for farming, they lost their agriculture land and substantial farming, women were growing food crops, cash crops, vegetable which was sustain their life and the community at large. They lost a lot of business and in new settlement areas were unable to rehabiliate it since those local people also had their already established business with their customers so was difficult to catch up hence they become more vulnerable. Finally the displacement due to Mwche Dam lead to loss of social ties and networks among many families since women had the strongest bond in their communities even than men. They lost the communal support, disrupted many women's groups. These groups promoted well-being of women by empowering them financially and helping them in growing social and economically. The disruption of women's groups and leaderships leads to emotional stress, loneliness.

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Authors contributions

Mr. Alexander Otwori Nyagetia was responsible for study design, data collection and drafted manuscript. Prof Shi Guoqing and Prof Edward Gisemba Ontita revised and fine-tuned to the final manuscript. All authors read and approved the final manuscript and they contributed equally to the study.

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References

- Aboda, C., Vedeld, P., Byakagaba, P., Mugagga, F., Nabanoga, G., Ruguma, T. F., & Mukwaya, P. (2021). Socio-economic Consequences of Displacement and Resettlement: A Case on the Planned Oil-refinery-development Project in the Albertine Region of Uganda. *Journal of Refugee Studies*, 34(1), 851–873. <https://doi.org/10.1093/jrs/fez066>
- Adeola, O., Evans, O., & Ngare, I. (2024). *Explaining Gendered Vulnerability to Climate Change: The Contextual Conditions* (pp. 59–79). https://doi.org/10.1007/978-3-031-40124-4_3
- Afzal, J., Yihong, Z., Qayum, M., Afzal, U., & Aslam, M. (2022). Effects of dam on temperature, humidity and precipitation of surrounding area: a case study of Gomal Zam Dam in Pakistan. *Environmental Science and Pollution Research*, 30(6), 14592–14603. <https://doi.org/10.1007/s11356-022-23112-7>
- Asthana, S. C., & Boone, J. P. (2012). Abnormal Audit Fee and Audit Quality. *AUDITING: A Journal of Practice & Theory*, 31(3), 1–22. <https://doi.org/10.2308/ajpt-10294>
- Cernea, M. M. (2021). The risks and reconstruction model for resettling displaced populations. In *Social Development in the World Bank: Essays in Honor of Michael M. Cernea* (pp. 235–264). Springer International Publishing. https://doi.org/10.1007/978-3-030-57426-0_16
- Creswell, J. W., & David Creswell, J. (n.d.). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*.
- Daley, E., & Englert, B. (2010). Securing land rights for women. *Journal of Eastern African Studies*, 4(1), 91–113. <https://doi.org/10.1080/17531050903556675>
- Dinoop K and Simi Joseph. (2021). Dam Development Induced Displacement in India: A Humanitarian Approach. . *Turkish Online Journal of Qualitative Inquiry* , 12(9).

Downing, T. E., Shi, G., Zaman, M., & Garcia-Downing, C. (2021). Improving Post-Relocation Support for People Resettled by Infrastructure Development. In *Impact Assessment and Project Appraisal* (Vol. 39, Issue 5, pp. 357–365). Taylor and Francis Ltd. <https://doi.org/10.1080/14615517.2021.1980277>

Evers, B. (2020). *Mining and its Long-term Impacts on Local Livelihoods A Case Study of Expected Mine Closure in Kwale county, Kenya*.

Gong, Y., Yao, K., Zhang, R., Liu, B., & Wang, F. (2021). Rethinking livelihood resilience after development-induced displacement and resettlement: a case study of Qianping Reservoir. *International Journal of Water Resources Development*, 37(5), 841–864. <https://doi.org/10.1080/07900627.2020.1790340>

Government of Kenya, & World Bank. (2019). *Mwache Multipurpose Dam Project RAP 1*.

Grill, G., Lehner, B., Thieme, M., Geenen, B., Tickner, D., Antonelli, F., Babu, S., Borrelli, P., Cheng, L., Crochetiere, H., Ehalt Macedo, H., Filgueiras, R., Goichot, M., Higgins, J., Hogan, Z., Lip, B., McClain, M. E., Meng, J., Mulligan, M., ... Zarfl, C. (2019). Mapping the world's free-flowing rivers. *Nature*, 569(7755), 215–221. <https://doi.org/10.1038/s41586-019-1111-9>

Jayasiri, M. M. J. G. C. N., Diyawadana, D. M. N., Samarakoon, S. M. L. D., Pathmarajah, S., & Dayawansa, N. D. K. (2018). A gendered analysis on adaptation to resettlement stress: case studies from Deduru Oya reservoir project in Sri Lanka. *Tropical Agricultural Research*, 29(4), 348. <https://doi.org/10.4038/tar.v29i4.8262>

K, H. (2019). Women, Displacement and Exclusion: Narratives of Women Affected by Development-Induced Displacement. *Artha - Journal of Social Sciences*, 18(2), 65–80. <https://doi.org/10.12724/ajss.49.5>

Kabra, A., & Drydyk, J. (2018). Displacement. In *Routledge Handbook of Development Ethics* (pp. 200–205). Routledge. <https://doi.org/10.4324/9781315626796-23>

Kanwalpreet Kaur, R. O. D. H. (2024). Balancing Development and Displacement: A Study on the Impact of Dams and Infrastructure Projects in India. *MZUJHSS*.

Kirui Agnes Cheptoo. (2022). Displacement for development: The nature of oil-induced displacement of households in Turkana County. *Journal of Humanities and Social Sciences (JHSS)*, 4(1). <https://doi.org/10.51317/jhss.v4i1.208>

Kuehne, L. M., Dickens, C., Tickner, D., Messenger, M. L., Olden, J. D., O'Brien, G., Lehner, B., & Eriyagama, N. (2023). The future of global river health monitoring. *PLOS Water*, 2(9), e0000101. <https://doi.org/10.1371/journal.pwat.0000101>

Kumar, A. K. A., & Chikkala, N. (2021). Impact of Dam-Induced Displacement and Resettlement: A Case Study of Indira Sagar Project Polavaram. In *Antrocom Online Journal of Anthropology* (Vol. 17, Issue 1). <http://www.antrocom.net>

Kumar, S., & Mishra, A. J. (2018). Development-Induced Displacement in India: An Indigenous Perspective. *Journal of Management and Public Policy*, 10(1), 25. <https://doi.org/10.5958/0976-0148.2018.00008.2>

Kwale County Government. (2023). *Kwale County Assembly Integrated Development Plan 2023-2027*.

Mandishekwa, R., & Mutenheri, E. (2020). Mining-Induced Displacement and Resettlement: An analytical Review. *Ghana Journal of Development Studies*, 17(1), 114–140. <https://doi.org/10.4314/gjds.v17i1.6>

Manjula, K. ;, Kumar, A., & Aneesh, K. A. (2013). IMPACT OF DEVELOPMENT INDUCED DISPLACEMENT IN KERALA, INDIA. In *Journal of Internal Displacement* (Vol. 3).

Melketo, T. A., Seiber, S., & Bonatti, M. (2023a). Gendered analysis of development induced displacement in the Global South: A systematic review. *European Journal of Sustainable Development Research*, 7(3), em0222. <https://doi.org/10.29333/ejosdr/13296>

Melketo, T. A., Seiber, S., & Bonatti, M. (2023b). Gendered analysis of development induced displacement in the Global South: A systematic review. *European Journal of Sustainable Development Research*, 7(3), em0222. <https://doi.org/10.29333/ejosdr/13296>

Meth, P., Buthelezi, S., & Rajasekhar, S. (2019). Gendered il/legalities of housing formalisation in India and South Africa. *Environment and Planning A: Economy and Space*, 51(5), 1068–1088. <https://doi.org/10.1177/0308518X18792898>

Oware Twerefoo, P. (2021). Mining-induced displacement and resettlement policies and local people's livelihoods in Ghana. *Development in Practice*, 31(6), 816–827. <https://doi.org/10.1080/09614524.2020.1867065>

Owusu, K., Obour, P. B., Asiedu, A. B., & Dye, B. J. (2024). Post-dam construction and livelihood revitalization of affected communities at Ghana's Bui dam. *Natural Resources Forum*, 48(4), 1299–1315. <https://doi.org/10.1111/1477-8947.12365>

Pakhtigian, E. L., Jeuland, M., Bharati, L., & Pandey, V. P. (2021). The role of hydropower in visions of water resources development for rivers of Western Nepal. *International Journal of Water Resources Development*, 37(3), 531–558. <https://doi.org/10.1080/07900627.2019.1600474>

Peng, Z., Xiao, X., Lv, Y., Guan, X., & Wang, W. (2022). A Large-Scale Investigation of the Status of Out-Resettlers from the Three Gorges Area Based on the Production–Living–Social Security–Social Integration–Satisfaction Perspective. *Sustainability*, 14(23), 15613. <https://doi.org/10.3390/su142315613>

Quy Nghi, N., Thi Minh Phuong, N., & Le Hang, D. T. (2021). Gender biases in resettlement processes in Vietnam: examining women's participation and implications for impact assessment. *Impact Assessment and Project Appraisal*, 39(3), 206–217. <https://doi.org/10.1080/14615517.2021.1904376>

Randell, H. (2022). The challenges of dam-induced displacement: Reducing risks and rethinking hydropower. In *One Earth* (Vol. 5, Issue 8, pp. 849–852). Cell Press. <https://doi.org/10.1016/j.oneear.2022.07.002>

Republic of Kenya. (2019). *2019 Kenya Population and Housing Census*.

Ridwan, E., Karimi, S., Andrianus, F., Putriana, V. T., & Uspri, B. (2024). Displacement-induced inequalities in Koto Panjang resettlement villages of Indonesia. *International Journal of Water Resources Development*, 40(5), 871–884. <https://doi.org/10.1080/07900627.2024.2341268>

Sikka, G., & Carol, Y. O. L. (2022). Dam-induced displacement and resettlement and masculinities: the case of India and Malaysia. *Gender, Place & Culture*, 29(10), 1353–1375. <https://doi.org/10.1080/0966369X.2021.1931047>

Sikka, G., & Mathur, V. (2018). Gender Analysis of Post Resettlement Transformation in Livelihood Opportunities at Sardar Sarovar Project Resettlement Sites, India. *Journal of Land and Rural Studies*, 6(1), 1–14. <https://doi.org/10.1177/2321024917731839>

Singkham Lueyeevang. (2018). *Exploring the Impact of Resettlement on Women: A Case Study of the Nam Mang 3 Hydropower Dam in Central Laos*. Victoria University of Wellington.

Wilmsen, B., & Adjartey, D. (2020). Precarious resettlement at the Bui Dam, Ghana—Unmaking the teleological. *Geographical Research*, 58(4), 331–343. <https://doi.org/10.1111/1745-5871.12411>

Xu, J., Shi, G., Li, B., Fischer, T. B., Zhang, R., Yan, D., Jiang, J., Yang, Q., & Sun, Z. (2021). Skills' sets and shared benefits: perceptions of resettled people from the Yangtze-Huai River Diversion Project in China. *Impact Assessment and Project Appraisal*, 39(5), 429–438. <https://doi.org/10.1080/14615517.2020.1848242>

Xu, Y., Shi, G., & Dong, Y. (2022). Effects of the Post-Relocation Support Policy on Livelihood Capital of the Reservoir Resettlers and Its Implications—A Study in Wujiang Sub-Stream of Yangtze River of China. *Sustainability*, 14(5), 2488. <https://doi.org/10.3390/su14052488>