



Green Social Work and Climate Change Adaptation: A Community-Based Approach in the Mekong Delta

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ABSTRACT

Climate change poses significant challenges to sustainable development, particularly in highly vulnerable regions such as the Mekong Delta of Vietnam. Increasing salinity intrusion, droughts, and environmental degradation have not only disrupted agricultural production but also intensified socio-economic vulnerabilities and livelihood instability among rural communities. While existing studies have largely focused on environmental and technological adaptation, limited attention has been paid to the social dimensions of climate change, especially the role of social work in supporting community adaptation.

This study examines the role of social work in promoting social adaptation to climate change in Tan Xuan commune, Vinh Long province. Drawing on the theoretical perspectives of Green Social Work and community-based adaptation, the study analyzes the social impacts of salinity intrusion on livelihoods, explores local adaptive strategies, and evaluates the potential of social work interventions in strengthening community resilience.

The findings suggest that social work can play a critical role in enhancing adaptive capacity through community development, social support, and policy advocacy. By facilitating social learning and strengthening local networks, social work contributes to building inclusive and sustainable adaptation pathways. The study highlights the need to integrate social work into climate change policies and underscores its role as a key factor in promoting socially responsive and sustainable development in climate-vulnerable regions.

Keywords: *Salinity intrusion; livelihood vulnerability; community resilience; green social work; Mekong Delta*

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1. Introduction

1.1. Global and regional context

Climate change has emerged as one of the most pressing global challenges affecting sustainable development, particularly in regions that are highly vulnerable to environmental change. Among these regions, the Mekong Delta in Vietnam is widely recognized as one of the areas most severely affected due to its low elevation, dense population, and strong dependence on agriculture-based livelihoods. In recent decades, the region has experienced increasing environmental pressures, including sea-level rise, prolonged droughts, and salinity intrusion, which have not only altered natural ecosystems but also generated significant socio-economic consequences for local communities (IPCC, 2023).

A growing body of research highlights the impacts of salinity intrusion on agricultural production and rural livelihoods. Salinity intrusion reduces crop productivity, disrupts freshwater availability, and forces farmers to adjust production systems or shift to alternative livelihoods (Nguyen & Nguyen, 2024). As agricultural income declines, households face increasing economic vulnerability, leading to livelihood diversification and migration. Consequently, climate change is closely associated with livelihood transformation, rural outmigration, and rising social vulnerability among marginalized populations.

1.2. Social dimensions and community-based adaptation

Beyond economic impacts, climate change also generates complex social challenges. Rural communities in coastal and low-lying areas are increasingly exposed to environmental risks such as drought, water scarcity, and salinity intrusion, contributing to livelihood instability, poverty risks, and unequal access to resources (Tran et al., 2021). Addressing these challenges requires not only technical solutions but also socially oriented adaptation strategies.

Recent studies emphasize the importance of community-based adaptation, which focuses on strengthening local knowledge, social networks, and collective action. Social learning and community collaboration are key mechanisms that enable communities to develop adaptive strategies and promote sustainable development (Phuong et al., 2019). These approaches highlight



the critical role of social institutions and participation in shaping adaptive responses to climate-related risks.

1.3. Theoretical grounding: Green Social Work

Within this context, social work has the potential to play a crucial role in addressing climate-related social challenges. As a profession committed to social justice, well-being, and community empowerment, social work contributes to strengthening community resilience and supporting vulnerable populations.

The concept of *Green Social Work* (Dominelli, 2012) emphasizes the interconnectedness between environmental sustainability and social justice, highlighting that environmental crises disproportionately affect marginalized groups. This perspective is further developed through environmental social work (Gray, Coates, & Hetherington, 2013), which integrates ecological considerations into social work practice, and ecological justice (Besthorn, 2012), which links environmental protection with social equity.

Scholars have also examined the role of social work in addressing climate vulnerabilities. Alston (2015) highlights the social impacts of climate change on rural communities, particularly gender inequalities, while Matthies and Nārhi (2017) propose the concept of eco-social transition, advocating the integration of environmental sustainability into social policy systems.

1.4. Research Gap

Despite these advances, existing literature on climate change in the Mekong Delta remains largely dominated by environmental, agricultural, and technological perspectives. While these studies provide valuable insights into ecological and economic impacts, they pay limited attention to the social dimensions of adaptation, particularly the role of social work and social support systems in enhancing community adaptive capacity. Moreover, there is a lack of empirically grounded frameworks that explain how social work interventions can translate into tangible adaptation outcomes at the community level. This gap is especially significant in developing contexts, where social vulnerabilities intersect with environmental risks (Adger, 2006). Therefore, there is a need for interdisciplinary research that integrates social work perspectives into climate change adaptation and sustainable development.

1.5. Study context and objectives



This study focuses on Tan Xuan commune in Vinh Long province, located in the Mekong Delta region of Vietnam. The area is characterized by an extensive river and canal system supporting agricultural production, particularly rice and fruit farming. However, increasing salinity intrusion during the dry season has significantly affected local agricultural systems and rural livelihoods. Against this background, this study aims to analyze the role of social work in promoting social adaptation to climate change within the framework of sustainable development. Specifically, the study seeks to:

- 1) examine the social impacts of climate change and salinity intrusion on community livelihoods;
- 2) clarify the concept of social adaptation in the context of sustainable development;
- 3) analyze the role of social work in strengthening community adaptive capacity; and
- 4) propose a conceptual framework for social work interventions supporting climate change adaptation.

1.6. Contribution of the study

This study contributes to the literature in three main ways. First, it expands the understanding of climate change adaptation by incorporating social work perspectives into existing environmental and economic approaches. Second, it provides empirical insights into the social dimensions of adaptation in the Mekong Delta. Third, it proposes a conceptual framework that positions social work as a key intermediary in strengthening community resilience and promoting sustainable development in climate-vulnerable regions.

2. Literature Review and Theoretical Framework

Climate change has been widely recognized as a multidimensional challenge that affects not only environmental systems but also socio-economic structures and human well-being. In vulnerable regions such as the Mekong Delta, climate-related stressors “including salinity intrusion, drought, and environmental degradation” have increasingly disrupted agricultural systems and rural livelihoods (IPCC, 2023). These stressors are particularly significant in delta regions characterized by low elevation, high population density, and strong dependence on natural resources.

2.1 Climate Change, Livelihood Impacts, and Social Vulnerability



A growing body of literature highlights the direct relationship between climate change stressors and livelihood impacts. Salinity intrusion, for instance, reduces crop productivity, limits freshwater access, and forces households to modify agricultural practices or shift to alternative income sources (Nguyen & Nguyen, 2024). As a result, many rural households experience declining income, livelihood instability, and increased pressure to migrate. These changes not only affect economic outcomes but also reshape social structures and community dynamics.

From a theoretical perspective, these processes can be understood through the concept of social vulnerability, which emphasizes the susceptibility of individuals and communities to external shocks due to structural inequalities and limited access to resources (Adger, 2006). Climate change, therefore, acts as a stressor that amplifies existing inequalities, particularly among marginalized and resource-dependent populations. Previous studies in the Mekong Delta have shown that environmental risks such as drought and salinity intrusion are closely associated with poverty risks, unequal resource distribution, and reduced adaptive capacity (Tran et al., 2021).

2.2 Community-Based Adaptation and Social Dimensions

In response to these challenges, research on climate change adaptation has increasingly emphasized the importance of community-based approaches. Community-based adaptation focuses on strengthening local knowledge, social networks, and collective action to enhance communities' ability to cope with environmental changes (Phuong et al., 2019). These approaches highlight that adaptation is not merely a technical process but also a social process shaped by participation, cooperation, and institutional support.

However, existing studies often prioritize environmental management and technological solutions while paying limited attention to the broader social dimensions of adaptation. In particular, the role of social institutions and social services in mediating adaptation processes remains underexplored. This gap suggests the need for interdisciplinary frameworks that integrate social, economic, and environmental perspectives.

2.3 Green Social Work and Theoretical Contributions

Within this context, Green Social Work provides a relevant theoretical lens for understanding the intersection between environmental change and social justice. Lena Dominelli (2012) argues that environmental crises disproportionately affect vulnerable populations, thereby reinforcing social



inequalities. Green Social Work emphasizes the role of social workers in addressing these challenges through community development, advocacy, and empowerment strategies.

Building on this perspective, Mel Gray, John Coates, and Hetherington (2013) introduce the concept of environmental social work, which highlights the interdependence between human well-being and ecological systems. Similarly, Fred Besthorn (2012) emphasizes ecological justice, arguing that environmental sustainability must be closely linked to social justice and community well-being.

In addition, studies by Margaret Alston (2015) and Aila-Leena Matthies (Matthies & Närhi, 2017) highlight the importance of integrating environmental concerns into social policy and welfare systems. These perspectives suggest that social work can play a crucial role not only in addressing immediate social needs but also in supporting long-term adaptation and resilience.

2.4 Conceptual Framework

Based on the above literature, this study proposes a conceptual framework that links climate change, social vulnerability, and social work interventions within a unified analytical model.

At the first level, climate change stressors including salinity intrusion, drought, and environmental degradation act as external drivers that disrupt local ecological and economic systems. These stressors lead to livelihood impacts, such as income decline, production loss, and increased migration, particularly among households dependent on agriculture.

At the core of the framework are social work interventions, which function as a key mechanism for facilitating adaptation. These interventions include: community development to strengthen collective action, social support services to assist vulnerable groups, capacity building to enhance skills and knowledge, policy advocacy to improve institutional responsiveness. Through these roles, social work acts as an intermediary linking communities with formal institutions and policy systems.

The effectiveness of these interventions is mediated by social factors, particularly social capital, social networks, and social learning processes. These mediating factors influence how communities



access resources, share knowledge, and coordinate collective responses to environmental challenges (Putnam, 2000; Phuong et al., 2019).

Finally, the framework identifies key outcomes of the adaptation process, including enhanced community resilience, improved adaptive capacity, and progress toward sustainable development. These outcomes reflect the ability of communities not only to cope with environmental stressors but also to transform their livelihoods and social systems in response to changing conditions.

Overall, this framework conceptualizes climate change adaptation as a socially mediated process, in which environmental stressors interact with socio-economic conditions and institutional responses. By positioning social work as a central mechanism within this process, the study highlights its potential to transform fragmented individual responses into coordinated, inclusive, and sustainable adaptation strategies.

3. Methodology and Key Findings

This study adopts a mixed-methods approach to examine the role of social work in climate change adaptation in the Mekong Delta. The integration of quantitative and qualitative data enables triangulation, thereby enhancing the validity and robustness of findings through the combination of statistical analysis and contextual interpretation (John W. Creswell & Plano Clark, 2018; Abbas Tashakkori & Teddlie, 2010; Norman K. Denzin, 2012).

The quantitative component is based on a survey of 300 households in Tan Xuan commune using stratified sampling by livelihood groups. Key variables include livelihood vulnerability (income instability, production loss, and water access), adaptation strategies, social support, and community participation. A multiple regression model is applied to assess the determinants of adaptive capacity. The qualitative component consists of in-depth interviews with 5 local officials and 5 highly affected households, providing insights into lived experiences, institutional responses, and community-level adaptation practices.

Findings show that climate change significantly increases livelihood vulnerability among agriculture-dependent households, consistent with Adger (2006). Although households adopt strategies such as diversification and migration, these responses remain largely fragmented. Social



support and community participation emerge as key determinants of adaptive capacity, highlighting the importance of social relations and institutional engagement (Gray et al., 2013).

From a Green Social Work perspective, the limited presence of structured interventions represents a critical gap in enabling collective adaptation (Dominelli, 2012). Weak participation also reflects low social capital, constraining collective action (Putnam, 2000). These findings suggest that social work can act as a bridging mechanism linking policy, community needs, and adaptive practices, thereby strengthening resilience and advancing eco-social transitions (Matthies & Närhi, 2017).

4. Results

This section presents the empirical findings based on a mixed-methods design combining a household survey (n = 300) and in-depth interviews with local officials and affected households in Tan Xuan commune. The results are structured along a logical progression from environmental stressors to livelihood impacts, vulnerability outcomes, and adaptive responses, thereby reflecting the multidimensional nature of climate change impacts in the Mekong Delta.

4.1 Impacts of Salinity Intrusion

The findings indicate that salinity intrusion has become a significant environmental stressor affecting multiple dimensions of rural livelihoods in the Mekong Delta. Three major areas of impact are identified: agricultural loss, water scarcity, and income decline.

Agricultural Loss

Survey results show that approximately 68.3% of households reported a decline in agricultural productivity over the past three years due to salinity intrusion. Among these, 42.7% experienced severe crop loss (defined as a reduction of more than 30% in yield), particularly among rice and fruit farming households. Regression analysis further confirms that salinity exposure is significantly associated with production loss ($\beta = 0.41$, $p < 0.01$), indicating that households in high-salinity zones are more likely to experience substantial agricultural damage.

Qualitative evidence further illustrates the differentiated impacts of salinity intrusion across zones. Households in high-salinity areas reported severe production losses, with rice farmers noting significant yield reductions due to empty grains, soil degradation, and saline irrigation water. In moderately affected areas, households experienced increased production costs, particularly from



purchasing freshwater and soil treatment, which reduced overall profitability. In contrast, households in low-salinity zones reported relatively stable production, with only minor declines mainly attributed to weather variability.

Farmers reported that increased salinity levels during the dry season have altered soil quality and reduced the viability of traditional crops. One respondent noted:

“Before, we could grow rice twice a year, but now the soil is too salty. Even fruit trees are affected, and yields are much lower.”

Local agricultural officers also highlighted that salinity intrusion has forced farmers to shift from rice cultivation to more salt-tolerant crops or aquaculture. However, such transitions require capital, technical knowledge, and market access, which are not equally available to all households. As a result, agricultural loss disproportionately affects small-scale and resource-constrained farmers, reinforcing patterns of vulnerability.

Water Scarcity

Water scarcity emerges as another critical impact of salinity intrusion. Survey data indicate that 57.6% of households reported difficulties in accessing freshwater for domestic and agricultural use during the dry season. Among them, 23.4% relied on purchased water, increasing household expenditures and financial pressure.

Regression results show that limited water access is a significant predictor of livelihood vulnerability ($\beta = 0.36$, $p < 0.05$). Households with unstable water sources are more likely to experience both production disruptions and reduced living standards.

Qualitative findings reveal uneven impacts of water scarcity on livelihoods. In severely affected areas, households face high physical and time burdens in accessing water, while others incur significant costs—up to 300,000 VND per month—reducing their ability to invest in production.

Unstable water supply also disrupts farming cycles, forcing households to ration water between domestic use and irrigation, often leading to crop failure. In contrast, households with more stable access (e.g., rainwater storage) experience fewer immediate impacts but remain vulnerable to prolonged drought.



As one local official noted, “Not everyone can afford storage systems, so poorer households are more affected,” highlighting how structural inequality shapes vulnerability to environmental stress. This highlights the role of structural inequality in shaping vulnerability to environmental stressors, consistent with the concept of social vulnerability (Adger, 2006).

Income Decline

The combined effects of agricultural loss and water scarcity have led to significant income decline among rural households. Survey results show that 61.2% of respondents reported a decrease in household income, with an average reduction of approximately 18–25% compared to pre-salinity periods. Regression analysis indicates that both production loss ($\beta = 0.44$, $p < 0.01$) and water scarcity ($\beta = 0.29$, $p < 0.05$) are significant predictors of income decline. These findings suggest that environmental stressors translate directly into economic vulnerability.

Qualitative evidence shows that salinity intrusion and water scarcity jointly reduce household income. Households facing both crop loss and water shortages experience significant declines, driven by lower yields and higher freshwater costs, sometimes leading to debt, reduced essential spending, or reliance on child labor. In severe cases, cultivation is abandoned altogether.

Households with more stable water access face smaller income losses, though adaptation investments still reduce net returns. Common coping strategies include livelihood diversification, seasonal migration, and cutting expenses, but these remain short-term and unstable. Migration, especially among youth, is also weakening family and community structures.

Overall, salinity intrusion acts as a cascading stressor, disrupting production, water access, and income simultaneously, thereby deepening vulnerability. While households respond actively, limited resources and weak institutional support constrain their adaptive capacity, highlighting the need for more coordinated, community-based interventions.

4.2 Livelihood Vulnerability

The findings indicate that salinity intrusion not only affects agricultural production but also intensifies broader dimensions of livelihood vulnerability, particularly in terms of migration, household debt, and social inequality. These dimensions reflect the cumulative and cascading effects of environmental stressors on rural socio-economic systems in the Mekong Delta.



Migration

Survey results show that 41.7% of households reported at least one member engaging in temporary or seasonal migration over the past three years. Among these, 26.5% identified climate-related livelihood pressures, such as crop failure and income declines as the primary driver of migration.

Regression analysis indicates that livelihood vulnerability is a strong predictor of migration decisions ($\beta = 0.38$, $p < 0.01$). Households experiencing higher levels of income instability and production loss are significantly more likely to send members to urban areas for employment.

Qualitative evidence shows that migration is a key coping strategy shaped by vulnerability and resources. Households facing severe production loss often send members to cities for temporary work, while those with moderate losses adopt seasonal or rotational migration.

In contrast, better-off households can adapt locally by investing in water infrastructure and shifting livelihoods, maintaining stable income without migrating.

Overall, migration reflects unequal adaptive capacity—providing short-term support for vulnerable households but remaining a reactive strategy with potential social costs, whereas resource-rich households pursue more stable, in-place adaptation.

Qualitative findings suggest that migration is often a coping strategy rather than a long-term adaptation solution. While it provides short-term income support, it also generates social consequences such as family separation and reduced community cohesion. One respondent noted: “When farming is no longer reliable, young people have to leave. But this affects family life and the village.”

Local officials also observed that migration trends are increasing, particularly among younger populations, which may weaken local labor availability and community resilience over time.

Household Debt

Another critical dimension of livelihood vulnerability is the rising level of household debt. Survey data indicate that 52.3% of households reported borrowing money to cope with climate-related losses, with 34.1% experiencing difficulty in repayment.



Regression results show that production loss ($\beta = 0.41$, $p < 0.01$) and water scarcity ($\beta = 0.27$, $p < 0.05$) are significant predictors of indebtedness. Households facing repeated environmental shocks are more likely to rely on loans to sustain production or meet daily expenses.

Qualitative evidence highlights indebtedness as a key coping strategy shaped by the combined effects of production loss and water scarcity. Households experiencing severe crop failure due to salinity intrusion often rely on loans to reinvest in agriculture; however, persistently low yields make repayment increasingly difficult. In other cases, declining income and rising water costs force households to borrow for basic needs such as education and healthcare, indicating that climate impacts extend beyond production into everyday life.

In more vulnerable situations, repeated exposure to environmental shocks leads to cumulative borrowing across seasons, where new loans are used to repay existing debts, creating a cycle of financial pressure and increasing risk of asset loss. By contrast, households less affected by salinity and water scarcity tend to borrow smaller amounts primarily for preventive investments, maintaining relatively stable repayment capacity despite growing uncertainty.

Overall, these findings suggest that indebtedness functions as a differentiated but risky adaptation strategy. While it provides short-term relief, it can also reinforce a cycle of vulnerability, where environmental stress, income loss, and debt accumulation interact to deepen long-term livelihood insecurity.

Inequality

The impacts of salinity intrusion are not evenly distributed, leading to increased social and economic inequality within the community. Survey results show that households with higher income and assets are significantly more likely to adopt effective adaptation strategies, such as investing in water infrastructure or transitioning to new production models.

Regression analysis confirms that household income ($\beta = -0.33$, $p < 0.01$) is negatively associated with vulnerability, indicating that better-off households are less exposed to climate risks and more capable of adapting.

Qualitative findings confirm that wealthier households can invest in water infrastructure, access knowledge and markets, and diversify livelihoods, even turning risks into opportunities. Middle-



income households adapt only partially, while poorer households lack the resources to respond, suffer severe losses, and fall into debt.

Overall, adaptive capacity is strongly shaped by access to capital and resources, reinforcing existing inequalities, where poorer households remain the most vulnerable. This reinforces the argument that climate change acts as a multiplier of existing inequalities, disproportionately affecting already vulnerable groups (Adger, 2006).

Overall, the findings demonstrate that livelihood vulnerability in the study area is multidimensional and interconnected. Migration, debt, and inequality are not isolated phenomena but are closely linked to environmental stressors and structural constraints. While households actively adopt coping strategies, these responses often remain short-term and insufficient to address long-term risks.

These results highlight the need for integrated interventions that address not only economic impacts but also the underlying social conditions shaping vulnerability. In this context, strengthening social support systems and promoting inclusive community-based approaches are essential for reducing vulnerability and enhancing adaptive capacity.

4.3 Community adaptation strategies

The survey results indicate that households in Tan Xuan commune have adopted a range of adaptation strategies in response to salinity intrusion. However, these strategies vary significantly in terms of effectiveness, accessibility, and sustainability.

Types of Adaptation Strategies

Table 1 summarizes the main adaptation strategies reported by surveyed households (n = 300).

Table 1. Household Adaptation Strategies

Adaptation Strategy	Percentage (%)
Livelihood diversification	54.7
Crop transformation (salt-tolerant)	46.3
Seasonal migration	38.5



Adaptation Strategy	Percentage (%)
Water storage investment	31.2
Reduced agricultural production	27.8
No clear adaptation	15.6

The most common strategy is livelihood diversification (54.7%), including engagement in non-farm activities such as wage labor and small-scale trading. Crop transformation (46.3%), particularly shifting to salt-tolerant crops or aquaculture, is also widely adopted. However, these strategies often require financial resources and technical knowledge, limiting accessibility for poorer households.

Determinants of Adaptive Capacity

A multiple regression model was applied to assess the determinants of household adaptive capacity. The dependent variable is an index of adaptive capacity (constructed from adaptation diversity, stability, and effectiveness), while independent variables include livelihood vulnerability, social support access, and community participation.

Table 2. Regression Results on Adaptive Capacity

Variable	Coefficient (β)	Significance
Livelihood vulnerability	-0.39	$p < 0.01$
Social support access	+0.42	$p < 0.01$
Community participation	+0.35	$p < 0.05$
Education level	+0.21	$p < 0.05$
Household income	+0.27	$p < 0.05$

The results show that livelihood vulnerability negatively affects adaptive capacity, indicating that households experiencing higher levels of income instability, production loss, and water insecurity are less able to implement effective adaptation strategies. In contrast, social support access ($\beta = 0.42$) emerges as the strongest positive predictor, followed by community participation ($\beta = 0.35$). These findings highlight that adaptation is not solely an individual or economic process but is strongly shaped by social and institutional factors.



Interview data further reveal that adaptation strategies are often short-term and reactive rather than strategic. While some households successfully diversify livelihoods, others face barriers such as lack of capital, limited information, and weak institutional support.

A local official noted:

“People are adapting, but mostly on their own. There is no coordinated support, so the effectiveness is still limited.”

Similarly, households emphasized the importance of community support:

“If we share information and help each other, it’s easier. But now, everyone is trying to manage on their own.”

These findings suggest that while adaptation strategies exist, they remain fragmented and constrained by limited social coordination and support systems. Households in Tan Xuan commune adopt a range of adaptation strategies in response to salinity intrusion, with three dominant patterns emerging: crop switching, livelihood diversification, and reliance on informal networks. Crop switching is widely observed among farming households, particularly the transition from traditional rice cultivation to salt-tolerant crops or aquaculture. While this strategy helps mitigate production losses, it requires financial investment and technical knowledge, which are not equally accessible to all households.

Livelihood diversification represents another key adaptive response, with households engaging in non-farm activities such as wage labor, small-scale trading, or seasonal migration. This strategy reduces dependence on climate-sensitive agriculture and provides alternative income sources. However, diversification is often reactive and short-term, reflecting limited planning capacity and structural constraints.

In addition, informal networks play a crucial role in supporting adaptation. Households frequently rely on family ties, neighbors, and community relationships to access information, share resources, and cope with shocks. These networks function as an important form of social capital, particularly in contexts where formal support systems are limited. Nevertheless, the effectiveness of informal networks varies, and their reliance may reinforce inequalities, as households with stronger social connections are better positioned to adapt.



Overall, these findings suggest that while households actively respond to climate stressors, their adaptation strategies remain uneven and socially differentiated, highlighting the need for more structured and inclusive support mechanisms.

4.4 Role of social work

The findings highlight a critical gap between existing adaptation needs and the current level of institutional and social support. In this context, social work has significant potential to play a transformative role in strengthening community-based adaptation.

Current Limitations

Both survey and interview data indicate that formal social work interventions in climate adaptation remain limited. Only 28.4% of households reported access to any form of organized social support (e.g., local programs, training, or assistance schemes). Moreover, such support is often irregular and not specifically designed to address climate-related challenges.

Local officials acknowledged that climate change is primarily addressed through agricultural or technical programs, with limited integration of social services:

“Most programs focus on farming techniques. Social support for adaptation is still lacking.”

This reflects a broader gap in linking social policy, community needs, and environmental challenges.

Potential Roles of Social Work

Drawing on both empirical findings and the framework of Green Social Work, several key roles of social work in climate change adaptation can be identified:

(1) Community Development

Social workers can facilitate collective action by strengthening community organization and participation. Given that community participation significantly enhances adaptive capacity, social work interventions can promote collaboration, shared learning, and local problem-solving.

(2) Social Support Services



Access to social support is identified as the strongest predictor of adaptive capacity. Social workers can provide targeted support to vulnerable households, including information dissemination, resource linkage, and psychosocial assistance.

(3) Capacity Building

Social work can enhance adaptive capacity by improving knowledge, skills, and awareness related to climate risks and adaptation strategies. This includes training programs, community education, and participatory learning approaches.

(4) Policy Advocacy

Social workers can act as intermediaries between communities and policymakers, advocating for inclusive and context-sensitive climate policies. This role is particularly important in ensuring that vulnerable groups are not excluded from adaptation planning.

5. Discussion

The findings reinforce the conceptualization of climate change as a socially mediated process that both generates and amplifies vulnerability. Consistent with vulnerability theory (Adger, 2006), salinity intrusion functions as a primary exposure factor, while dependence on climate-sensitive livelihoods increases sensitivity. At the same time, constrained access to resources and institutional support limits adaptive capacity, producing differentiated outcomes across households.

A key contribution of this study lies in demonstrating that adaptive capacity is not solely resource-dependent but fundamentally shaped by social structures. The strong effects of social support and community participation suggest that social capital plays a pivotal role in facilitating adaptation. However, the predominance of individual and fragmented responses indicates that such social resources remain underdeveloped or unevenly distributed.

From a Green Social Work perspective, these findings highlight a critical institutional gap. While environmental and technical interventions dominate current adaptation efforts, the absence of socially oriented mechanisms limits the potential for coordinated and inclusive responses. Social work, therefore, emerges as a bridging system capable of linking community needs, social networks, and policy frameworks.



Furthermore, the results support the notion of an eco-social transition (Matthies & Närhi, 2017), where adaptation requires integrated approaches that connect environmental sustainability with social welfare. In this sense, strengthening community-based adaptation is not merely a matter of technical adjustment but a process of social transformation.

Overall, the findings extend existing theoretical frameworks in three important ways:

First, they provide empirical support for vulnerability theory by demonstrating how environmental stressors interact with social and economic conditions to produce differentiated outcomes.

Second, they highlight the conditional nature of social capital, showing that while it is critical for adaptation, it is often unevenly distributed and requires institutional support to be effective.

Third, they reinforce the relevance of Green Social Work as an interdisciplinary framework that bridges environmental and social dimensions of climate change.

From a practical perspective, the study suggests that strengthening adaptive capacity requires not only economic or technological interventions but also investments in social systems, including: - community organization, - social support networks, - participatory governance.

A comparative perspective further situates the Mekong Delta within broader global patterns of climate vulnerability. Similar to the Ganges–Brahmaputra Delta in Bangladesh, the Mekong Delta faces intensifying salinity intrusion, sea-level rise, and livelihood disruption in agriculture-dependent communities. Studies in Bangladesh show that environmental stressors drive migration, income instability, and increasing reliance on informal adaptation strategies among vulnerable households (Ayers & Forsyth, 2009; Rahman et al., 2015). Likewise, research on rural adaptation in Sub-Saharan Africa demonstrates that climate change disproportionately affects resource-dependent populations, where limited institutional support and weak social protection systems constrain adaptive capacity (Niang et al., 2014; Eriksen et al., 2015).

However, the Mekong Delta represents a particularly critical case. While sharing common features with other deltaic and rural systems, it is characterized by a unique combination of high population density, intensive agricultural production, and rapid environmental transformation, which amplifies both exposure and sensitivity to climate risks (IPCC, 2023). At the same time, adaptation responses remain fragmented and insufficiently supported by integrated social systems.



These characteristics position the Mekong Delta as a global climate hotspot, where environmental stressors intersect with socio-economic vulnerability and institutional gaps. Unlike contexts where adaptation is supported by more structured governance frameworks, the Mekong Delta highlights the urgent need to integrate socially oriented interventions, particularly social work, into climate adaptation strategies.

By situating the Mekong Delta within a comparative global context, this study demonstrates that while climate vulnerability is widespread, the Delta represents an intensified convergence of risks, making it a critical site for advancing both theoretical insights and practice-oriented solutions in community-based adaptation.

6. Conclusion and Policy Implications

6.1 Conclusion

This study provides empirical evidence on the social dimensions of climate change adaptation in the Mekong Delta, demonstrating that salinity intrusion acts as a cascading stressor that simultaneously disrupts production, water access, and income stability. These impacts are interconnected and contribute to broader processes of livelihood vulnerability, including migration, indebtedness, and inequality.

While households actively adopt coping strategies, these responses remain largely reactive and constrained by limited resources and weak institutional support. The findings highlight that social support and community participation are central to adaptive capacity, underscoring the importance of socially embedded approaches to climate adaptation.

By integrating empirical analysis with Green Social Work theory, the study argues that effective adaptation requires a shift from fragmented individual responses toward coordinated, community-based, and institutionally supported strategies. Positioning social work as a bridging mechanism offers a pathway for enhancing resilience and promoting more inclusive and sustainable adaptation in climate-vulnerable contexts.

6.2 Policy Implications



Based on the findings, several key policy implications emerge for strengthening climate change adaptation in vulnerable rural regions:

(1) Integrating Social Work into Climate Policy Frameworks

Climate adaptation policies should move beyond technical and infrastructural solutions to incorporate social dimensions. Social work should be formally integrated into climate change programs as a core mechanism for: identifying vulnerable groups, facilitating community participation, delivering social support services. This would enable more inclusive and context-sensitive adaptation strategies aligned with the principles of Green Social Work (Dominelli, 2012).

(2) Strengthening Community-Based Adaptation

Given the strong role of community participation, policies should prioritize community-based adaptation approaches by: supporting local organizations and grassroots initiatives, promoting participatory planning processes, enhancing collective decision-making mechanisms

Such approaches can help transform fragmented individual responses into coordinated community action, thereby improving long-term resilience.

(3) Expanding Social Support Systems

The limited access to social support identified in this study highlights the need to expand and institutionalize support systems, particularly for vulnerable households. This includes: financial assistance and livelihood support programs, access to information and training on adaptive practices, targeted support for households facing high levels of debt and income instability. Strengthening social protection systems is essential to reducing vulnerability and enabling sustainable adaptation.

(4) Addressing Structural Inequality in Adaptation

Policies must explicitly address the unequal distribution of adaptive capacity. This requires: prioritizing resource allocation for disadvantaged groups, improving equitable access to water, credit, and technology, integrating social equity considerations into climate adaptation planning. Without addressing structural inequalities, adaptation efforts risk reinforcing existing disparities.

(5) Promoting Eco-Social Transition in Governance



In line with the concept of eco-social transition (Matthies & Närhi, 2017), climate change responses should be embedded within broader development strategies that integrate environmental sustainability and social welfare. This involves: cross-sectoral coordination between environmental, agricultural, and social policy domains, long-term planning that links climate adaptation with sustainable development goals, institutional reforms that support inclusive and resilient governance systems

From a practice-oriented perspective, the findings highlight three core roles through which social work can strengthen climate change adaptation at the community level. First, case management enables targeted support for vulnerable households by assessing needs, coordinating services, and linking individuals to available resources such as financial assistance, water access programs, and livelihood support. This approach is particularly important in contexts where vulnerability is unevenly distributed and households face multiple, overlapping risks.

Second, community mobilization plays a critical role in transforming individual and fragmented adaptation efforts into collective action. By facilitating participation, strengthening local organizations, and promoting shared decision-making, social workers can enhance community cohesion and foster coordinated responses to environmental challenges.

Third, social support networks function as a key mechanism for resilience by enabling information sharing, mutual assistance, and resource exchange among community members. Strengthening these networks-both formal and informal-can improve access to support systems and reduce the isolation of vulnerable groups.

Taken together, these roles position social work as a linking and enabling system that bridges households, communities, and institutions, thereby enhancing adaptive capacity and promoting more inclusive and sustainable climate change adaptation.

7. Limitations and Future Research

7.1 Limitations

Despite its contributions, this study has several limitations. First, the single-case design in Tan Xuan commune may limit generalizability to other contexts with different socio-ecological conditions. Second, the cross-sectional survey (n = 300) captures adaptation at one point in time



and does not reflect its dynamic nature. Third, the relatively small qualitative sample (10 interviews) may not fully represent diverse or marginalized perspectives. Finally, the regression model focuses on observable variables and may overlook more complex institutional and cultural factors shaping adaptation.

7.2 Future Research

Future research should expand comparative studies across regions to enhance generalizability and examine context-specific adaptation dynamics. Longitudinal approaches are needed to capture changes in vulnerability and adaptive capacity over time. Further research should also evaluate the effectiveness of social work interventions through applied or experimental designs. In addition, deeper exploration of social capital, governance, and cultural factors—particularly through qualitative or ethnographic methods—is recommended. Finally, interdisciplinary approaches are essential to advance Green Social Work and support more integrated climate adaptation frameworks.

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