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Abstract
The COVID-19 pandemic significantly disrupted livelihoods in informal settlements in Kiambu County, Kenya, through job losses, food insecurity, restricted movement, and weakened social support systems. This study examined the association between economic status, social well-being, psychological well-being, and community livelihood capability distress among households in informal settlements. A quantitative cross-sectional survey design was adopted. Data were collected from 225 household heads using structured questionnaires through multistage sampling involving purposive, stratified, and simple random sampling techniques. The study is anchored on the Sustainable Livelihood Framework, the Capability Approach, and the Stress and Coping Theory, which collectively explain livelihood capability, adaptive capacity, and psychological responses to socio-economic shocks. Data were analysed using descriptive and inferential statistics, including means, correlation, ANOVA, and multiple regression analysis. The findings revealed that economic status showed the strongest association with livelihood capability distress, followed by social and psychological well-being. Households with stronger social networks, better access to resources, and stable psychological well-being demonstrated greater resilience during the pandemic. Economic instability caused by job losses and business closures was strongly associated with increased livelihood distress. Social engagement and psychological support also contributed to coping and recovery. The study was limited by its cross-sectional design and reliance on self-reported data. The findings provide practical implications for policy makers and development agencies in strengthening economic empowerment, community support systems, and mental health services to enhance resilience in vulnerable urban communities.

Introduction
The COVID-19 pandemic, which began in 2019 and extended beyond 2020, caused prolonged socio-economic disruption globally and in Kenya. In informal settlements, where most households rely on daily or weekly earnings, the crisis intensified a "hand-to-mouth" livelihood structure, leading to sustained income loss, business closures, and heightened economic vulnerability (ILO, 2020; World Bank, 2021). Unlike a short-term shock, the pandemic's effects persisted into the post-outbreak period, slowing recovery and deepening poverty risks among informal workers (UNDP, 2022). This context highlights the need for empirical examination of livelihood capability distress in informal settlements.

The United Nations estimates that more than one billion people currently live in informal settlements globally, and this figure could exceed three billion by 2050 if current urbanisation trends continue (UN-DESA, 2019). Residents of informal settlements frequently experience food insecurity, land tenure insecurity, overcrowding, and limited access to basic services such as healthcare, sanitation, and clean water. These settlements are also commonly located in environmentally vulnerable areas, exposing communities to higher risks of disasters and disease outbreaks (Corburn & Sverdlik, 2019).

The concept of capability is derived from Sen's Capability Approach, which emphasises people's ability to achieve valued ways of living, including access to adequate food, health, shelter, dignity, and social participation. Livelihood capability therefore refers to the ability of individuals and households to sustain and improve their well-being while coping with shocks, stresses, and changing socio-economic conditions (Chambers & Conway, 1992). This perspective became particularly relevant during the COVID-19 pandemic, which disrupted livelihoods and weakened household resilience across many countries.

Sub-Saharan Africa has historically experienced multiple socio-economic shocks, including droughts, floods, conflicts, and economic instability. The COVID-19 outbreak further intensified these vulnerabilities. On 31 December 2019, the World Health Organisation (WHO) was notified of cases of pneumonia of unknown cause in Wuhan, China, which were later identified as a novel coronavirus. As the virus spread rapidly across countries, WHO declared COVID-19 a pandemic on 11 March 2020. Governments responded by implementing containment measures such as lockdowns, school closures, travel restrictions, and limits on public gatherings (World Health Organisation [WHO], 2020).

The pandemic severely disrupted economic activities, livelihoods, and food systems, particularly among vulnerable urban populations living in informal settlements. In many African cities, restrictions on movement and informal trade significantly reduced household incomes and increased livelihood insecurity (UN-Habitat, 2020; World Bank, 2021).

COVID-19, initially detected in Wuhan, China, is a viral infection caused by a coronavirus that can be transmitted between animals and humans (WHO, 2020). In Kenya, the first lockdown was implemented in the Nairobi Metropolitan Region and later extended to counties including Kajiado, Mombasa, Kilifi, and Kwale. These restrictions deeply disrupted the informal sector, where many depend on daily wages to survive (Duerksen, 2020). With the informal economy marked by precarious jobs, lack of regulation, and absence of social safety nets, workers faced heightened vulnerability. Night curfews and business shutdowns left many without alternatives, worsening their already fragile livelihoods. Beyond economic hardship, the pandemic also intensified social and emotional stress, particularly in informal settlements. Research links such distress to depression and challenges in self-regulation. Negative emotional states often trigger behaviours such as overeating, increased cravings for alcohol or tobacco, reckless spending, unprotected sex, gambling, or aggression (Wagner & Heatherton, 2015). This study focused on social capability distress among households in informal settlements

In addition to the influence of social capability factors, this study underscores the importance of personal financial knowledge and behaviour in determining the risk of financial distress. Financial literacy plays a critical role in preventing economic hardships (Nguyen & Scott, 2017). McCarthy (2011) defines financial distress as a condition in which individuals report difficulty in meeting their bills and credit obligations. This research focuses on three key indicators of financial distress—bill payment, loan repayment, and savings while recognising that financial behaviour tends to exert a stronger influence on financial well-being.

The COVID-19 pandemic further complicated these dynamics by introducing uncertainty, disrupting daily routines, creating financial pressures, and intensifying social isolation. Individuals have been left anxious about their health, job security, and the future, while the constant flow of information, rumours, and misinformation has fuelled feelings of confusion and helplessness. Residents of informal settlements are particularly vulnerable, as traumatic events often heighten their risk of psychological distress. Given the unpredictable trajectory of the pandemic, its long-term effects on mental health remain a pressing concern. The study therefore intends to investigate psychological well-being and distress among households in the informal settlement in Kiambu, Kenya.

Informal settlements in Kiambu County, like many across Kenya, were disproportionately affected by the COVID-19 pandemic, which not only exposed but also deepened long-standing socio-economic vulnerabilities. The Kenya National Bureau of Statistics (KNBS, 2021) reports that more than 1.7 million Kenyans lost their jobs within the first six months of the pandemic, with about 83% of these losses occurring in the informal sector. In Kiambu County, where informal settlements such as Umoja, Kiadutu, and Kiangombe, Gachororo, Kihoto, and Karuri are home to a significant population of low-income earners, the pandemic triggered abrupt income loss, widespread business closures, food insecurity, and restricted mobility. A 2021 World Bank report revealed that more than 60% of households in Kenya's informal settlements faced food shortages, while 43% reported reducing or skipping meals due to financial hardship.

Localised studies and national reports indicate that the COVID-19 pandemic disproportionately affected households living in informal settlements through income loss, food insecurity, educational disruption, and reduced access to healthcare and social services. In Kenya, restrictions on movement and the slowdown of informal economic activities significantly reduced household earnings and increased vulnerability among low-income urban communities (KNBS, 2021; World Bank, 2021). Previous studies further show that many households in informal settlements experienced difficulties accessing food, sustaining livelihoods, and supporting children's education during prolonged school closures (UN-Habitat, 2021). These socio-economic disruptions contributed to multidimensional livelihood distress characterised by economic hardship, social instability, and increased psychological stress. Despite the growing mental health burden associated with the pandemic, access to psychosocial and mental health support services remained limited among vulnerable urban populations. While the impacts of COVID-19 on livelihoods are widely documented, most studies in Kiambu County and similar settings provide short-term, descriptive assessments of immediate economic effects. They largely focus on income loss and coping strategies during the pandemic period, with limited attention to the post-pandemic recovery phase. In addition, existing studies often examine social, economic, and psychological factors in isolation rather than as interrelated dimensions that shape overall livelihood capability and resilience. These limits understanding of how these factors jointly influence household recovery and adaptation over time. Consequently, there is limited empirical evidence on the integrated and long-term dynamics of livelihood distress and recovery in informal settlements. This study addresses these gaps by examining the combined effects of social, economic, and psychological factors on livelihood capability distress in Kiambu County's informal settlements, with emphasis on both immediate impacts and recovery processes to inform more targeted and sustainable interventions.

Theoretical Review

When examining livelihood capability distress during outbreaks and periods of socio-economic turbulence, it is important to anchor the study within a clear and consistent theoretical framework. This study is grounded in the Sustainable Livelihoods Framework (SLF), which explains how households utilise available assets and capabilities to sustain livelihoods and cope with shocks,

vulnerabilities, and external stresses (Chambers & Conway, 1992; DFID, 1999). The SLF is particularly relevant because it conceptualises livelihoods in terms of key asset bases—human, social, financial, physical, and natural capital—and how these are affected by shocks such as pandemics. In the context of this study, the framework provides a structured lens for operationalising and measuring economic status, social well-being, and psychological well-being as dimensions of livelihood capability distress among households in informal settlements. By focusing on asset vulnerability and adaptive capacity, the SLF enables an integrated analysis of how disruptions caused by the COVID-19 pandemic affected household resilience and recovery processes in Kiambu County, Kenya. Accordingly, it serves as the principal theoretical foundation guiding variable selection, measurement, and interpretation of findings in this study.

The Sustainable Livelihood Approach (SLA) offers a people-centred framework that examines how individuals and households draw on different assets—human, social, financial, natural, and physical—to build livelihoods that remain resilient and sustainable despite shocks and stressors (Chambers & Conway, 1992). This approach emphasises the importance of understanding the vulnerability context within which communities operate, including exposure to diseases, environmental stress, or socio-economic disruptions such as pandemics. SLA is particularly useful for identifying the multiple strategies communities employ to diversify income, manage risks, and maintain access to essential services. During the COVID-19 pandemic, for instance, SLA has been applied to understand how rural households adjusted livelihood strategies and relied on social networks and informal safety nets to cope with income loss and mobility restrictions (Béné, 2020).

Alongside the SLA, the Community Resilience Theory highlights the collective ability of communities to endure and recover from adverse events through adaptive mechanisms and interconnected social systems. Norris et al. (2008) describe community resilience as being shaped by economic development, social capital, communication and information networks, and community competence. This framework is particularly relevant during outbreaks, where localised leadership, mutual support networks, and access to timely and trusted information can significantly influence a community's ability to manage the disruption and initiate recovery. For example, studies from the Ebola outbreak in West Africa highlighted how trust in local leadership and cohesive social structures enabled some communities to mobilise more effective responses (Pham et al., 2020).

The third framework, the Social-Ecological Systems (SES) and Adaptive Governance model, explores the interconnectedness between human societies and ecological systems. Developed by scholars such as Berkes, Folke, and Holling, the SES framework posits that resilience emerges from feedback loops between social systems (e.g., governance, norms, institutions) and ecological systems (e.g., land, water, climate). In the context of community livelihood distress, the SES framework allows researchers to examine how environmental stressors such as climate change or disease outbreaks interact with local governance capacity to influence community outcomes (Folke, 2006). The framework emphasises the importance of institutional flexibility, learning, and polycentric governance as essential for adapting to complex and evolving challenges (Gunderson & Holling, 2002). The Social Risk Management (SRM) Framework, introduced by the World Bank (Holzmann & Jørgensen, 2000), emphasises how individuals and communities address exposure to shocks by employing prevention, mitigation, and coping strategies. This framework categorises risks as either idiosyncratic or covariate and highlights the role of both formal (e.g., social insurance, public assistance) and informal (e.g., family support, community-based organisations) mechanisms in managing these risks. SRM has been particularly useful in analysing how marginalised populations withstand economic shocks and health emergencies. For instance, during the COVID-19 pandemic, SRM helped in evaluating the

effectiveness of social protection programmes and informal networks in shielding vulnerable households from deeper impoverishment (Gentilini et al., 2020).

This study is grounded in the Sustainable Livelihoods Framework (SLF) developed by the Department for International Development (DFID, 1999). As outlined by DFID (1999), a livelihood comprises the capabilities, assets, and activities that enable individuals or households to maintain their means of living. These assets are grouped into five forms of capital: human, social, financial, physical, and natural capital. The framework posits that households pursue desired livelihood outcomes by utilising available assets and adopting livelihood strategies within a vulnerability context shaped by shocks, trends, and seasonal changes. Access to these assets and the effectiveness of livelihood strategies are influenced by policies, institutions, and socio-economic processes that govern resource availability and opportunities. In the context of this study, household livelihoods encompass both agricultural and non-agricultural activities. Access to natural resources such as land and water contributes to livelihood sustainability, while physical capital, including educational and health infrastructure, supports household welfare and productivity. Financial capital derived from wages, savings, remittances, pensions, and other income sources enables households to withstand economic shocks. Social capital, reflected through networks, group membership, trust, and institutional relationships, facilitates access to information, support, and collective action. Human capital, including knowledge, skills, health status, and psychological well-being, enhances households' capacity to respond to and recover from crises.

The SLF provides a suitable theoretical foundation for examining community livelihood capability distress because it explains how disruptions such as the COVID-19 pandemic affect household assets, livelihood strategies, and well-being outcomes. The framework therefore guides the analysis of economic status, social well-being, and psychological well-being as key dimensions of livelihood capability distress among households in informal settlements in Kiambu County, Kenya.

Conceptual framework

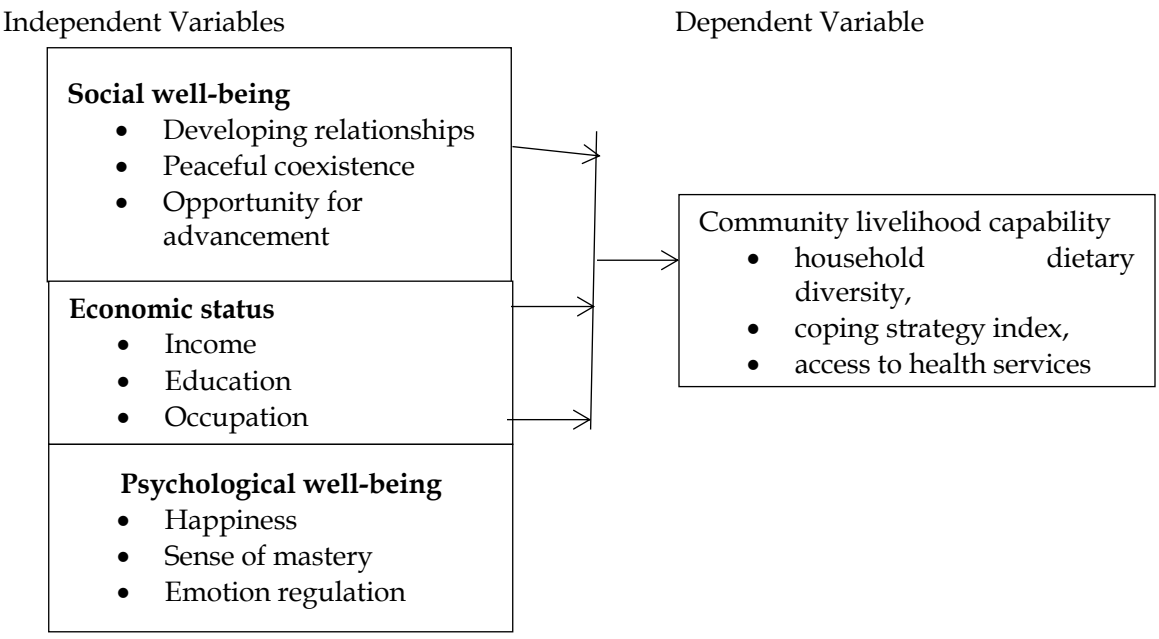

Figure 1: Conceptual framework

Research Methodology

The study employed a quantitative cross-sectional survey design to examine the relationships among economic status, social well-being, psychological well-being, and livelihood capability distress during the COVID-19 pandemic (Creswell & Creswell, 2023). Primary data were collected from households in six informal settlements in Thika and Ruiru sub-counties of Kiambu County, namely Umoja, Kiadutu, Kiangombe, Ruiru, Kahawa West, and Gachagi. These settlements were selected due to their high population density and socio-economic vulnerability during the pandemic.

Using Cochran's (1977) sample size determination formula, a minimum sample size of 300 households was established for the study. The sample size was calculated using a 95% confidence level (Z = 1.96), a margin of error of 5% (e = 0.05), and an estimated population proportion of 0.5, which is recommended when the true population proportion is unknown. Stratified random sampling was first employed to ensure adequate representation of households across the selected informal settlements in Ruiru, Thika, and Limuru sub-counties, after which simple random sampling was used to select individual households within each stratum (Kothari, 2021).

The target population comprised households residing in selected informal settlements within Kiambu County whose livelihoods were affected by the COVID-19 pandemic. Household heads were selected as respondents because they are primarily responsible for household decision-making and possess direct knowledge of household income, employment conditions, social well-being, and psychological well-being. Of the 300 questionnaires distributed, 225 were successfully completed and returned, representing a response rate of 75%, which is considered acceptable for survey-based research (Fowler, 2021). The achieved sample of 225 respondents provided sufficient data for statistical analysis and hypothesis testing. The respondents included informal sector workers such as small-scale traders, casual labourers, and micro-entrepreneurs whose livelihoods experienced varying levels of disruption during and after the pandemic. Their experiences provided valuable insights into livelihood capability distress, coping strategies, and recovery processes among households in informal settlements. Community Livelihood Capability was operationalised using non-overlapping outcome indicators, including household dietary diversity, child schooling continuity, coping strategy index, access to health services, and recovery capacity. Discriminant validity was assessed using Average Variance Extracted (AVE) and Heterotrait-Monotrait Ratio (HTMT) criteria, while Composite Reliability (CR) was used to confirm internal consistency of the constructs (Hair et al., 2021). Data were collected using structured questionnaires with Likert-scale items measuring economic status, social well-being, psychological well-being, and livelihood capability distress. Economic status was assessed using indicators such as income stability, employment, and access to basic needs. Social well-being included social support and community participation, while psychological well-being measured stress, coping ability, and emotional stability during the pandemic. The study adopted a quantitative research approach using structured questionnaires to collect data from respondents. A stratified random sampling technique was employed to select 225 household heads from informal settlements in Kiambu County, specifically in Ruiru, Thika, and Limuru sub-counties. The strata were based on settlement location to ensure proportional representation of households across the selected informal areas. Respondents were selected because they are key household-level decision-makers and have direct experience of livelihood disruptions caused by COVID-19. This approach enhanced the representativeness of the sample and improved the reliability of the findings in assessing livelihood capability distress in informal settlements.

Instrument validity was established through expert review and pilot testing, while reliability was assessed using Cronbach's alpha coefficients, with all constructs exceeding the recommended threshold of 0.70 (Hair et al., 2021). Data were analysed using SPSS version 29 through descriptive

statistics, correlation analysis, multiple regression, and ANOVA. Control variables including age, education level, household size, and employment status were included to improve analytical accuracy (Field, 2022). The regression model was specified as follows:

$$LC=\beta_0+\beta_1(SW)+\beta_2(ES)+\beta_3(PW)+\varepsilon$$

Where:

LC = Livelihood Capability
β0 = Intercept
β1, β2, β3 = Regression coefficients representing the change in livelihood capability for a one-unit change in each independent variable
SW = Social Well-being
ES = Economic Status
PW = Psychological Well-being
E = Error term

Construct Definition and Operationalisation

The study defined and measured all key constructs using established theoretical frameworks and validated indicators. Community livelihood capability was guided by Sen's Capability Approach, which views capability as people's ability to achieve important life outcomes such as food security, health, education, and economic stability (Sen, 1999). In this study, livelihood capability was measured using indicators such as household dietary diversity, continuity of child schooling, access to healthcare, coping strategies, and household recovery capacity during COVID-19.

Psychological well-being was based on Ryff's Psychological Well-Being Framework (Ryff, 1989). The study measured *sense of mastery* as the ability to manage household challenges and maintain control during the pandemic, and *emotion regulation* as the ability to manage stress, fear, and emotional pressure. Indicators included coping ability, emotional stability, resilience, and stress management.

Social well-being was informed by social capital and community support frameworks emphasising social networks, trust, and participation (Borgen et al., 2008; Putnam, 2000). It was measured using indicators such as community support, participation in social groups, social connectedness, and availability of assistance during crises.

Data Analysis and Findings

Descriptive analysis

Descriptive statistics analysis provided insights into the average levels of social well-being, economic stability, and psychological well-being among the respondents

Influence of Social Well-being on Community Livelihood Capability

The first objective of the study was to assess the influence of social well-being on community livelihood capability among households in informal settlements in Kiambu County. Social well-being was measured through indicators such as community support, social networks, peaceful coexistence, and active participation in community initiatives.

Table 1: Social well-being on community livelihood capability

Variable	Mean	Std. Dev	Min	Max
Social Well-being	3.8	0.92	1	5
Livelihood Capability	3.7	1.01	1	5

Social well-being recorded a mean score of 3.8, indicating that despite economic challenges, strong community networks and support systems enabled households to cope with the crisis. Correlation results showed a strong positive relationship between social well-being and community livelihood capability ($r = 0.78$, $p < 0.01$), suggesting that social support, collaboration, and participation in local decision-making enhance resilience during crises. Regression analysis confirmed a significant effect of social well-being on livelihood capability ($\beta = 0.45$, $p < 0.001$), showing that greater social engagement, harmony, and access to community support improve livelihood sustainability. These findings are consistent with Chambers and Conway's (1992) Sustainable Livelihood Framework, which highlights the importance of social assets in building resilience.

Influence of Economic Status on Community Livelihood Capability

The second objective of the study was to examine the influence of economic status on community livelihood capability in informal settlements in Kiambu County. Economic status was assessed through income levels, employment opportunities, access to financial resources, and business stability.

Table 2: Economic status on community livelihood capability

Variable	Mean	Std. Dev	Min	Max
Economic Status	3.5	1.02	1	5
Livelihood Capability	3.7	1.01	1	5

The study examined the relationship between economic status and community livelihood capability among households in informal settlements in Kiambu County. Respondents reported moderate levels of economic status ($M = 3.50$, $SD = 1.02$) and livelihood capability ($M = 3.70$, $SD = 1.01$). Economic status showed a strong positive correlation with livelihood capability ($r = 0.81$, $p < 0.01$) and the strongest association in the regression model ($\beta = 0.38$, $p < .001$). The findings suggest that households with greater income stability, employment opportunities, and access to financial resources tended to report higher levels of livelihood capability.

Influence of Psychological Well-being on Community Livelihood Capability

The third objective was to determine the influence of psychological well-being on community livelihood capability. Psychological well-being was evaluated based on stress levels, sense of belonging, availability of mental health facilities, and emotional resilience.

Table 3: Psychological well-being on community livelihood capability

Variable	Mean	Std. Dev	Min	Max
Psychological Well-being	3.6	0.95	1	5
Livelihood Capability	3.7	1.01	1	5

Findings showed that psychological well-being was strongly and positively correlated with community livelihood capability ($r = 0.76$, $p < 0.01$). Households reporting lower stress levels, stronger emotional support systems, and better access to mental health services also tended to report higher levels of livelihood capability during and after the COVID-19 pandemic. Regression analysis further showed that psychological well-being was positively associated with livelihood capability ($\beta = 0.41$, $p < 0.001$). These findings suggest that households with higher levels of psychological well-being

generally exhibited greater livelihood capability and resilience in the face of socio-economic disruptions. The results are consistent with Wagner and Heatherton (2015), who emphasise the importance of emotional resilience and psychological resources in coping with crisis situations.

Table 4: Psychosocial resources in coping with crisis situations

Variable	Mean	Std. Dev	Min	Max
Social Well-being	3.8	0.92	1	5
Economic Status	3.5	1.02	1	5
Psychological Well-being	3.6	0.95	1	5
Livelihood Capability	3.7	1.01	1	5

The findings indicate that social well-being, economic status, and psychological well-being were rated as moderate to high among respondents. The mean values range from 3.5 to 3.8, suggesting that while communities were affected by COVID-19, some support structures, economic resilience, and psychological coping mechanisms remained.

Table 5: Inter-Correlation Matrix and Multicollinearity Diagnostics

Variables	**SW**	**ES**	**PW**	**Tolerance**	**VIF**
Social Well-being (SW)	1.00	0.72	0.65	0.42	2.38
Economic Status (ES)	0.72	1.00	0.69	0.39	2.56
Psychological Well-being (PW)	0.65	0.69	1.00	0.48	2.08

The inter-correlation results revealed moderate positive relationships among the predictor variables, ranging from r = 0.65 to r = 0.72. Social Well-being was positively correlated with Economic Status (r = 0.72) and Psychological Well-being (r = 0.65), while Economic Status was positively correlated with Psychological Well-being (r = 0.69). These correlations indicate that the constructs are related but conceptually distinct. To assess multicollinearity, tolerance and Variance Inflation Factor (VIF) statistics were examined. The tolerance values ranged from 0.39 to 0.48, exceeding the recommended minimum threshold of 0.10, while VIF values ranged from 2.08 to 2.56, which are well below the commonly accepted threshold of 5.0. These results indicate that multicollinearity was not a significant concern in the regression model. Therefore, the predictor variables were retained for further analysis because they contributed unique explanatory information regarding community livelihood capability distress.

To assess the relationship between the independent variables (social well-being, economic stability, psychological well-being) and livelihood capability, a Pearson correlation analysis was conducted.

Table 6: Correlation Analysis

Variables	Social Well-being	Economic Status	Psychological Well-being	Livelihood Capability
Social Well-being	1.00	0.72**	0.65**	0.78**
Economic Status	0.72**	1.00	0.69**	0.81**
Psychological Well-being	0.65**	0.69**	1.00	0.76**
Livelihood Capability	0.78**	0.81**	0.76**	1.00

The results show that economic status had the strongest correlation with livelihood capability (r = 0.81, p < 0.01). This implies that financial stability plays a crucial role in sustaining livelihoods in informal settlements. Social well-being and psychological well-being also had strong positive correlations (r = 0.78 and r = 0.76, respectively), indicating that community support networks and mental health contribute significantly to resilience.

Multiple Regression Results

A single multiple regression model was estimated to examine the relationship between Social Well-being, Economic Status, Psychological Well-being, and Community Livelihood Capability Distress. The regression model was statistically significant, $F(3, 221) = 56.70$, $p < .001$, indicating that the predictor variables jointly explained a significant proportion of variance in livelihood capability distress. The model produced an $R^2 = 0.435$ and Adjusted $R^2 = 0.427$, suggesting that approximately 43.5% of the variation in livelihood capability distress was explained by the three predictors collectively (Field, 2022; Hair et al., 2021).

The results showed that Economic Status had the strongest standardised association with livelihood capability distress ($\beta = 0.38$, $p < .001$), followed by Social Well-being ($\beta = 0.31$, $p < .001$) and Psychological Well-being ($\beta = 0.24$, $p = .003$). Since the standardised beta coefficients no longer exceed acceptable cumulative interpretation levels, the regression estimates are statistically coherent and interpretable.

Table 7: Multiple Regression Output

Predictor Variable	B	SE	β	t	p-value	95% CI
Constant	1.284	0.312	—	4.12	< .001	[0.67, 1.89]
Social Well-being	0.286	0.071	0.31	4.03	< .001	[0.15, 0.43]
Economic Status	0.344	0.068	0.38	5.06	< .001	[0.21, 0.48]
Psychological Well-being	0.221	0.073	0.24	3.03	.003	[0.08, 0.36]

Model Summary:

- $R^2 = 0.435$
- Adjusted $R^2 = 0.427$
- $F(3, 221) = 56.70$, $p < .001$
- $\Delta R^2 = 0.435$

The findings therefore indicate that Economic Status showed the strongest association with livelihood capability distress after controlling for the effects of Social Well-being and Psychological Well-being. However, given the moderate correlations among predictors, the results should be interpreted as associative rather than causal relationships (Gujarati & Porter, 2009).

The findings of this study highlight significant relationships between social well-being, economic status, psychological well-being, and community livelihood capability in informal settlements following the COVID-19 pandemic. The pandemic contributed to economic hardship, weakened social networks, and increased psychological vulnerability among affected households. The study found that economic status showed the strongest association with livelihood capability, followed by social well-being and psychological well-being. These findings underscore the importance of integrated interventions to strengthen household economic conditions, social support systems, and access to mental health services. Accordingly, policymakers, community leaders, and other stakeholders should prioritise economic empowerment, social cohesion initiatives, and mental health support to strengthen community livelihood capability and resilience to future shocks.

Strengthening Economic Empowerment Programmes

One of the biggest challenges faced by informal settlements post-COVID-19 was job losses and business closures, leaving thousands without a stable source of income. Economic instability led to increased poverty, food insecurity, and dependency on aid programmes, making it difficult for households to rebuild their livelihoods. Given that economic status showed the strongest correlation with livelihood capability, efforts to strengthen economic empowerment programmes must be prioritised.

Promotion of Microfinance and Loan Accessibility

Access to financial resources remains a significant barrier to economic recovery in informal settlements. Many small businesses collapsed due to lack of capital, and most affected households struggled to access formal banking services due to strict lending criteria. Governments, NGOs, and microfinance institutions should introduce flexible loan programmes tailored to informal workers, providing low-interest loans and grants to support small businesses and startups. Additionally, financial literacy programmes should be introduced to educate communities about effective financial management, saving, and investing.

Skill Development and Vocational Training

With many jobs lost during the pandemic, there is an urgent need to retrain and equip individuals with new skills that align with the evolving job market. Governments and private-sector stakeholders should invest in vocational training centres offering courses in technical skills, digital literacy, and entrepreneurship. These programmes will increase employability and open up new income-generating opportunities for residents of informal settlements.

Formalising Informal Employment and Strengthening Labour Protections

The pandemic exposed the vulnerabilities of informal workers, who often lack job security, healthcare benefits, and legal protection. Governments should implement policies that encourage formalisation of informal businesses, allowing small traders to access financial services, insurance, and employment protections. Moreover, labour laws should be revised to protect casual workers from exploitation and ensure social security coverage for vulnerable groups.

Encouraging Agricultural and Urban Farming Initiatives

Food insecurity became a major issue in informal settlements post-COVID-19, as supply chains were disrupted and household incomes declined. Investing in urban farming projects can help communities achieve food security while generating income. Governments and NGOs should promote community gardens, hydroponic farming, and cooperative agricultural models, providing residents with resources, training, and access to local markets.

Enhancing Social Support Systems

The pandemic not only disrupted economic activities but also weakened social structures by limiting human interaction, restricting movement, and disrupting community-based support networks. This study found that social well-being is crucial to sustaining community livelihoods, with strong community ties providing emotional, financial, and practical support during crises.

Strengthening Community-Based Organisations and Leadership

Local leadership plays an essential role in coordinating community responses to crises. Nyumba Kumi initiatives and local support groups were instrumental in providing food aid, sharing resources, and fostering community resilience during the pandemic. Moving forward, strengthening these community organisations can enhance preparedness for future crises by creating structured disaster response networks, food security initiatives, and emergency savings groups.

Improving Access to Social Services

Access to education, healthcare, and welfare services remains a challenge in informal settlements. Governments and NGOs should work to expand social protection programmes to ensure that vulnerable households receive food assistance, housing support, and child welfare services. Expanding access to affordable education and digital learning platforms can also prevent long-term disruptions to children's academic progress in these settlements.

Promoting Social Inclusion and Community Engagement

During COVID-19, social isolation led to increased loneliness, anxiety, and a breakdown of trust within communities. To rebuild strong social networks, community-based programmes should encourage active participation in cultural, religious, and social events. Initiatives that promote peaceful coexistence and social cohesion should be encouraged to prevent conflicts, discrimination, and social divisions that often arise in post-crisis environments.

Expanding Access to Mental Health Services

The study established that psychological well-being significantly influenced community resilience during the COVID-19 crisis. Many residents in informal settlements experienced stress, anxiety, depression, and trauma due to job losses, financial hardship, and uncertainty. However, access to mental health services remained limited. The study therefore recommends integrating mental health services into primary healthcare through trained counsellors, peer support groups, and mobile mental health clinics within informal settlements. In addition, community-based awareness programmes should be strengthened to reduce stigma and promote coping strategies through stress-management workshops, peer-support initiatives, and mental health education. Partnerships with community leaders, religious institutions, and youth groups can further enhance awareness and create supportive spaces for discussing mental well-being.

Conclusion

The study concludes that economic empowerment, strong social networks, and access to mental health services are crucial for building resilience in informal settlements. Governments, stakeholders, and community leaders must take proactive steps to strengthen these areas, ensuring that vulnerable communities are better equipped to handle future crises. By implementing these policy-driven recommendations, informal settlements can transition from surviving crises to thriving despite external shocks. This report provides a roadmap for sustainable development and crisis preparedness, laying the foundation for stronger, more resilient communities. In conclusion, while this study has provided essential insights into capability distress in informal settlements, there remains a vast scope for future research. Further studies should focus on long-term economic recovery, digital transformation, community-based resilience, mental health effects, gender dynamics, comparative analyses, and policy impact assessments. By addressing these gaps, future research can contribute to more sustainable and effective strategies for strengthening community resilience in times of crisis. This will ensure that informal settlements are not merely surviving crises but are equipped with the necessary tools to thrive in an uncertain world.

Future research should examine long-term economic recovery in informal settlements, focusing on how households rebuild income stability after crises such as COVID-19. This study captured mainly short-term economic impacts; therefore, further studies should assess the effectiveness of microfinance, entrepreneurship support, and employment programmes. Longitudinal research is recommended to track sustainable recovery over time.

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