

Youth-Led Visual Storytelling as a Qualitative Participatory Approach to Understanding Urban Vulnerability and Resilience in Kariobangi, Nairobi

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Abstract

Conventional measures of urban vulnerability, including housing, infrastructure, and poverty, provide important insights into conditions in informal settlements. However, they often overlook how young people experience, interpret, and respond to these realities in everyday life. This paper examines how youth-led visual storytelling reveals lived experiences of urban vulnerability and resilience in Kariobangi, Nairobi. The study adopted a qualitative participatory visual storytelling approach involving 30 young people aged 18–25 years recruited from Kariobangi, neighbouring Eastlands communities, and broader youth engagement platforms. Peer-to-peer engagement activities involving approximately 120 young people further enriched the research process. Participant-generated visual stories served as the primary analytical evidence for interpreting experiences of vulnerability and resilience. The findings reveal vulnerability as a layered experience shaped by economic uncertainty, insecure housing, environmental pressures, emotional wellbeing, political exclusion, and disrupted aspirations, while resilience emerged through rebuilding, shared care, creative expression, collective action, and hope. The study demonstrates that positioning participant-generated visuals as primary research evidence advances design research and strengthens participatory urban design, planning, and community engagement responsive to young people's lived realities and aspirations.

Keywords: Youth-led visual storytelling, design research, qualitative research, community engagement, urban vulnerability, resilience, informal settlements, Kariobangi

INTRODUCTION

Design research has increasingly shifted beyond the design of products and artefacts. Today, design research engages with lived experiences, everyday realities, and the ways people make sense of the environments they inhabit (Pink, 2013; Rose, 2022). Participatory visual approaches have gained recognition as valuable ways for people to communicate experiences through drawings, symbols, photographs, and visual stories, particularly where spoken or written accounts alone may not fully capture personal meanings and perspectives (Mitchell, 2011; Literat, 2013).

These approaches are especially relevant in informal urban settlements, where young people negotiate interconnected social, economic, environmental, and political challenges. In Kariobangi, Nairobi,

unemployment, inadequate infrastructure, insecure livelihoods, and environmental pressures continue to shape everyday life and influence how young people experience and interpret their surroundings (UN-Habitat, 2020). Although these realities have been widely documented, research has largely relied on interviews and other verbal methods, leaving limited space for understanding how young people construct meaning through visual expression (Clark, 2011).

Growing interest in participatory visual storytelling responds to this limitation by creating opportunities for participants to communicate experiences that might otherwise remain difficult to articulate. Yet participant-generated visuals are still frequently treated as supporting illustrations

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rather than as analytical evidence capable of generating new knowledge (Literat, 2013; Rose, 2022; Lomax et al., 2011). This represents an important gap within design research, where interpretation, representation, and meaning-making remain central concerns.

Guided by a meaning-making perspective, this study addresses the following research questions:

How does youth-led visual storytelling reveal experiences of urban vulnerability and resilience in Kariobangi?

How do participant-generated visuals contribute to design research?

By analysing drawings and reflections as primary research evidence, the study demonstrates how youth-led visual storytelling can deepen understanding of lived urban experiences while informing more contextually responsive participatory design, planning, and community engagement.

THEORY

Urban Vulnerability in African Informal Settlements

Rapid urbanisation has transformed the spatial and social fabric of many African cities. While urban growth has created new opportunities for economic development and social interaction, it has also accelerated the expansion of informal settlements characterised by inadequate housing, insecure land tenure, limited infrastructure and restricted access to essential services. Today, these settlements are home to millions of urban residents whose everyday lives are shaped by environmental hazards, economic uncertainty and unequal access to opportunities (UN-Habitat, 2022).

Earlier discussions of informal settlements often focused on deficits in housing and infrastructure as the primary indicators of urban vulnerability. More recent scholarship, however, argues that vulnerability extends beyond material conditions. Corburn and Sverdlik (2017) contend that vulnerability is produced through the interaction of social, economic, environmental, and political processes that influence how people experience, negotiate, and respond to everyday urban life. This perspective shifts attention from isolated urban

problems to the interconnected realities through which vulnerability is lived and understood. While earlier scholarship largely conceptualised vulnerability through physical deprivation and inadequate infrastructure, Corburn and Sverdlik (2017) argue that vulnerability is better understood as a multidimensional process shaped by interconnected social, economic, environmental, and political realities. This broader perspective aligns with more recent African studies that emphasise inequality, governance, and lived experience as equally important dimensions of urban vulnerability.

These broader patterns are reflected in Nairobi's informal settlements, including Kariobangi, where recurrent flooding, inadequate drainage, overcrowding, insecure livelihoods and limited public services continue to shape residents' daily experiences. Studies conducted in Nairobi similarly argue that vulnerability cannot be explained solely by exposure to environmental hazards or inadequate infrastructure. Instead, it is closely linked to wider questions of inequality, governance, health, livelihoods and social inclusion (Kimani-Murage et al., 2022; Karuga et al., 2023). Together, these studies suggest that urban vulnerability is not only a characteristic of place but also a lived condition shaped by the relationships, experiences, and meanings through which residents understand and navigate their environments. Recognising these lived experiences provides an important foundation for participatory design approaches that seek to respond to local realities rather than relying solely on physical indicators of urban conditions.

Youth Vulnerability and Urban Resilience

Urban vulnerability is not experienced uniformly across populations. For young people, it is shaped by the transition to adulthood, a period often marked by expectations of education, employment, independence, and social participation. Honwana (2012) describes this prolonged uncertainty as *waithood*, where many African youth remain unable to achieve socially recognised markers of adulthood despite actively pursuing opportunities for meaningful participation. Within informal settlements, these transitions become even more complex as insecure livelihoods, limited social mobility and precarious living conditions intersect with broader structural inequalities. Consequently, youth vulnerability

extends beyond economic deprivation to include emotional wellbeing, belonging, hope and perceptions of future possibility (UNICEF, 2021; UNDP, 2021). While Honwana (2012) explains youth vulnerability through prolonged transitions to adulthood, UNICEF (2021) and UNDP (2021) broaden this perspective by highlighting how structural inequalities, limited opportunities and social exclusion collectively shape young people's lived experiences. Together, these perspectives demonstrate that youth vulnerability is both a developmental and structural condition requiring multidimensional responses.

At the same time, contemporary scholarship increasingly challenges deficit-oriented portrayals of informal settlements. While earlier narratives frequently emphasised poverty and deprivation, more recent studies argue that these communities are also characterised by creativity, adaptation and collective resilience (Corburn & Sverdlik, 2017; UN-Habitat, 2022). Rather than viewing resilience as recovery after crisis, these scholars conceptualise it as an ongoing process through which individuals and communities negotiate uncertainty using local knowledge, social networks and everyday adaptive practices. This perspective recognises that resilience and vulnerability are not opposing conditions but often coexist within the same lived realities. This shift from deficit-based perspectives to strengths-based interpretations is particularly significant for design research because it encourages designers to recognise communities as active contributors to locally appropriate solutions rather than passive recipients of external interventions.

For young people, resilience is therefore expressed not only through survival but also through maintaining hope, strengthening relationships, developing skills and imagining alternative futures. These experiences are rarely captured through conventional urban indicators, which primarily measure physical conditions such as housing, infrastructure or income. Understanding how young people interpret resilience requires approaches that engage with the meanings they attach to their everyday experiences. From a design research perspective, this shift is significant because it positions lived experience as a source of knowledge that can inform more contextually responsive and participatory approaches to urban design and community

engagement. By foregrounding young people's own interpretations of resilience, participatory visual approaches provide designers and planners with deeper insights into local priorities, enabling interventions that are responsive to both everyday challenges and community aspirations.

Participatory Visual Methods in Design Research

Participatory visual methods have become increasingly influential across qualitative and design research because they expand how people communicate knowledge about their lived experiences. Early work by Wang and Burris (1997) established the value of participant-produced images as a means of documenting community concerns and encouraging collective reflection. Building on this foundation, researchers in education, health, community development and design have shown that drawings, photographs, mapping and visual storytelling enable participants to express experiences that may remain difficult to articulate through conventional interviews alone (Mitchell, 2011; Pink, 2013; Rose, 2022). Rather than replacing verbal accounts, these approaches recognise that visual expression contributes additional layers of meaning by communicating emotions, memories, relationships and symbolic understandings that words alone may not fully convey. While Wang and Burris (1997) primarily emphasise participation and empowerment, more recent scholars such as Pink (2013) and Rose (2022) further demonstrate that visual methods also generate rich analytical insights into how people interpret and experience their social worlds. This progression reflects an important shift from viewing visual methods primarily as participatory tools to recognising them as valuable approaches for knowledge production within design research.

At the same time, participatory visual methods have reshaped how participants are understood within the research process. Rather than positioning individuals as respondents who simply answer researchers' questions, Clark (2011) and Literat (2019) argue that participants actively construct knowledge by deciding what to represent, how to represent it, and which experiences they consider meaningful. This shift reflects a broader movement within participatory research towards recognising participants as knowledgeable contributors rather than passive sources of information. Consequently, the researcher is no longer viewed solely as the

interpreter of participants' experiences but as a collaborator who facilitates the co-construction of knowledge through dialogue and reflection.

For design research, this distinction is particularly significant. Designers increasingly seek to understand how people experience and interpret their environments before proposing interventions. Participatory visual methods therefore offer more than alternative techniques for data collection; they create opportunities to access situated knowledge, lived experience and local meaning-making in ways that support more contextually responsive design processes. Their value lies not only in encouraging participation but also in revealing perspectives that conventional research methods may overlook.

For design practitioners, understanding how communities interpret vulnerability and resilience provides evidence that can inform context-responsive interventions. Rather than relying exclusively on physical indicators, participatory visual methods enable designers to incorporate lived experiences into planning and decision-making. In this way, visual methods contribute not only to more inclusive research processes but also to the development of design responses that reflect local priorities, everyday experiences, and community aspirations.

Participant-Generated Visual Narratives as Analytical Knowledge

A growing body of scholarship argues that participant-generated visuals should be understood as more than supporting illustrations of research findings. Rose (2022), for example, contends that visual materials constitute meaningful sources of evidence because they reveal how people interpret and make sense of their lived realities. Rather than documenting physical conditions alone, drawings, photographs, and other visual stories communicate emotions, memories, relationships, and symbolic understandings that might remain only partially expressed through spoken or written accounts. Their analytical value therefore lies not simply in what they depict, but in how participants choose to represent and interpret their experiences. While earlier applications of visual methods frequently treated participant-generated images as tools for illustration or participant engagement, more recent scholarship increasingly recognises their capacity to generate analytical

insights into how people construct meaning and understand their lived environments. This shift reflects an important development in design research, where visual narratives are increasingly valued as sources of knowledge rather than merely supporting evidence.

Although participatory visual methods have gained increasing recognition within African research, much of this work has emphasised their value for participation, community engagement and advocacy. Studies conducted in Nairobi, for example, have successfully used visual methods to explore health inequalities, food insecurity, environmental challenges and community resilience while foregrounding residents' perspectives (Karuga et al., 2023). These studies demonstrate the importance of visual approaches for creating more inclusive research processes. At the same time, they also reveal an emerging opportunity. Comparatively less attention has been given to the analytical potential of participant-generated visual narratives as evidence capable of generating design knowledge about urban environments. This contrast highlights an important gap within the literature: although visual methods are widely recognised for facilitating participation, their contribution to generating design knowledge remains comparatively underexplored, particularly within African informal settlement contexts.

This distinction is particularly important for design research. While participatory visual methods support dialogue between researchers and communities, participant-generated visuals also provide access to how people perceive, interpret, and negotiate the places they inhabit. Symbols, spatial relationships, composition and metaphor communicate experiences of vulnerability, resilience, identity and aspiration in ways that extend beyond descriptive accounts of the physical environment. Treating these visual narratives as primary analytical evidence therefore shifts attention from participation alone towards understanding how lived experience itself becomes a source of design knowledge. By positioning participant-generated visual narratives as analytical evidence, design researchers are better able to develop interventions that respond to how communities experience, interpret and assign meaning to their environments, rather than relying exclusively on externally defined indicators

of urban conditions. This perspective provides the conceptual foundation for the present study, which analyses youth-generated visual stories not as supplementary material but as the primary basis for interpreting everyday experiences of urban vulnerability and resilience.

Conceptual Perspective

This study is informed by a meaning-making perspective that understands participant-generated visual stories as more than creative expressions or records of lived experience. They are viewed as ways through which individuals interpret, communicate, and negotiate the realities of their everyday lives. Within this perspective, meaning emerges through the interaction between participants' visual stories, their own interpretations of those stories, and the social contexts in which they are created and discussed. Rather than assuming that visual narratives have fixed or universal meanings, this perspective recognises that their significance is shaped by participants' own experiences, interactions and cultural contexts. Consequently, interpretation becomes a collaborative process through which participants and researchers jointly construct understanding.

From this perspective, drawings, symbols, and visual stories do more than document urban conditions. They reveal how participants interpret vulnerability, resilience, belonging and future possibility by expressing relationships, emotions and experiences that may remain only partially articulated through words alone. Their analytical value therefore lies not only in what they depict but also in how participants explain and reflect upon them during the research process, recognising that visual narratives do not carry fixed meanings but are understood through the experiences of those who create them. This emphasis on interpretation reinforces the view that participant-generated visual stories constitute meaningful forms of qualitative evidence capable of revealing dimensions of urban life that conventional data collection approaches may overlook.

This perspective reflects a growing recognition within contemporary design research that lived experience constitutes an important source of knowledge for understanding complex social realities (Pink, 2013; Rose, 2022). Accordingly, participant-generated visuals are treated not

as supplementary illustrations but as primary analytical evidence through which locally situated understandings of urban life can be interpreted. By foregrounding participants' own interpretations, this perspective supports participatory design processes that are responsive to local knowledge, lived realities and community aspirations rather than relying solely on externally defined understandings of urban vulnerability. This conceptual perspective guides the analysis of how young people in Kariobangi understand and communicate experiences of urban vulnerability and resilience through youth-led visual storytelling.

Conceptual Framework

This study is guided by a meaning-making perspective that positions participant-generated visual storytelling as the central mechanism through which young people's lived experiences of urban vulnerability and resilience are understood. Rather than treating visual stories as supplementary illustrations, the framework conceptualises them as primary analytical evidence capable of generating design knowledge. The framework begins with the lived realities of young people in Kariobangi, where experiences of urban vulnerability and resilience are shaped by everyday interactions with social, economic, environmental, and spatial conditions. These lived experiences provide the context within which participants create visual narratives that express their interpretations of place, identity, belonging, aspiration, and everyday challenges.

Participant-generated visual storytelling functions as the primary methodological process through which these experiences are documented and interpreted. Through a meaning-making perspective, visual narratives are analysed alongside participants' own explanations, recognising that meanings emerge through the interaction between visual representation, personal interpretation, and social context. This approach enables the study to move beyond documenting physical conditions towards understanding how young people construct and communicate knowledge about their environments.

The analytical process generates situated design knowledge by revealing locally grounded understandings of urban vulnerability and resilience. Rather than relying solely on

conventional indicators of housing, infrastructure, or poverty, the framework demonstrates how participant-generated visual narratives provide insights into relationships, emotions, aspirations, and everyday adaptive practices that are often overlooked by traditional approaches. These insights ultimately inform participatory design, urban planning, and community engagement by supporting interventions that respond to lived experiences and locally situated priorities. The conceptual framework therefore illustrates the logical relationship between the study context, the meaning-making perspective, participant-generated visual storytelling, analytical interpretation, and the generation of contextually responsive design knowledge.

Figure 1 presents the conceptual framework that illustrates the relationships among urban vulnerability and resilience, youth-led visual storytelling, the meaning-making perspective, and the generation of design knowledge that informs participatory design, planning, and community engagement.

Research Gap and Study Contribution

The literature demonstrates growing recognition

of participatory visual methods as valuable approaches for engaging communities and documenting lived experiences within informal urban contexts. Recent studies have expanded their application across health, education, community development, and design while highlighting their potential to foreground participants' perspectives and support more inclusive forms of knowledge production. Despite these advances, participant-generated visual stories continue to be used primarily to support or illustrate findings derived from interviews and other verbal methods. Comparatively less attention has been given to their analytical value as primary evidence capable of generating design knowledge about urban life. Although existing studies have demonstrated the participatory and communicative value of visual methods, relatively few have examined how participant-generated visual narratives can serve as the primary analytical basis for understanding urban vulnerability and resilience, particularly within African informal settlements.

This study responds to that gap by examining youth-generated visual stories as the principal source of analysis rather than as supplementary material. Through a meaning-making perspective,

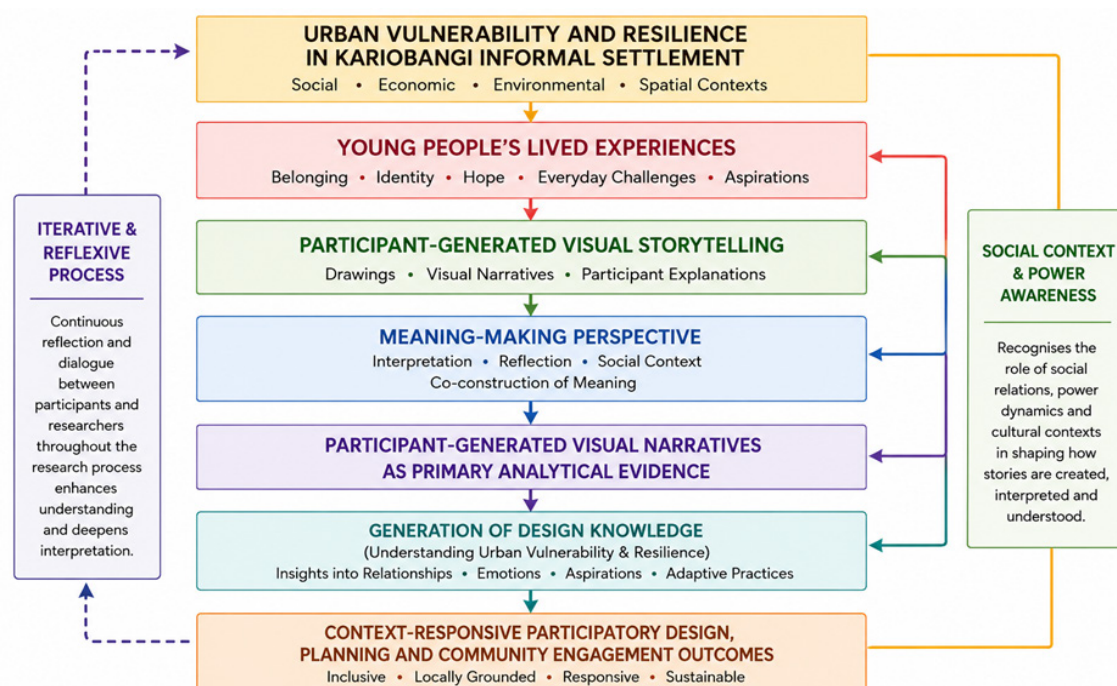


Figure 1: Conceptual framework illustrating youth-led visual storytelling research process.

Source: Author's conceptualisation (2026).

FIGURE 1

Conceptual framework illustrating youth-led visual storytelling research process

Source: Author's conceptualisation (2026)

it explores how young people in Kariobangi interpret and communicate experiences of urban vulnerability and resilience through their own visual representations. In doing so, the study contributes to design research by demonstrating how participant-generated visual storytelling can deepen understanding of lived urban experiences while informing more contextually responsive participatory design, planning and community engagement. Beyond its empirical contribution, the study also advances methodological discussions within design research by demonstrating that participant-generated visual narratives can function not only as participatory tools but also as robust sources of analytical knowledge for understanding complex urban realities.

RESEARCH METHODS

The study was conducted in Kariobangi, Nairobi, an informal urban settlement characterised by dense housing, limited infrastructure, environmental pressures, and ongoing social and economic uncertainty. Kariobangi provided a relevant setting for examining how young people represent and communicate everyday experiences of vulnerability and resilience through visual narratives.

The study adopted a qualitative, design-led participatory visual storytelling approach guided by an interpretivist paradigm, which recognises that reality is socially constructed and that people create meaning through their lived experiences and the ways they represent and explain those experiences (Creswell & Poth, 2019). This paradigm was appropriate because the study sought to understand how young people interpreted and communicated experiences of urban vulnerability and resilience rather than to measure or generalise those experiences statistically.

The primary participants comprised 30 young people aged 18–25 years, purposively selected based on their lived experience, willingness to participate in visual storytelling activities, and availability for reflection and discussion. Eighteen participants were drawn from Kariobangi and neighbouring Eastlands communities, while twelve were recruited through broader youth engagement platforms involving university students, young professionals, and youth advocates. Two practitioners working in youth-centred community

initiatives contributed contextual insights throughout the study. In addition, approximately 120 young people from participants' wider peer and community networks participated in peer-to-peer engagement activities that enabled emerging interpretations to be affirmed, challenged, and refined. Participant recruitment continued until sufficient analytical depth had been achieved, with recurring patterns, meanings, and symbolic representations consistently emerging across the visual narratives and discussions, indicating that additional data collection was unlikely to generate substantially new insights.

Participants generated data through drawings, sketches, symbols, annotations, written reflections, group discussions, peer engagement sessions, and practitioner conversations. Artistic skill did not determine the value of a contribution because the study focused on the meanings participants attached to their visual narratives rather than artistic quality. Combining multiple sources of evidence enabled methodological triangulation, allowing interpretations to be compared across visual narratives, participant explanations, written reflections, and group discussions, thereby strengthening the credibility of the findings.

Analysis followed an interpretive visual-narrative approach informed by the study's meaning-making perspective. Each participant-generated visual narrative was first examined alongside the participant's own explanation before undergoing open coding to identify recurring symbols, metaphors, visual elements, emotions, and narrative ideas. Related codes were then grouped into broader thematic categories through constant comparison across drawings, written reflections, and group discussions. Themes were subsequently refined through iterative interpretation to ensure that they accurately reflected participants' own meanings and experiences. This process enabled both individual narratives and shared understandings of urban vulnerability and resilience to emerge.

To enhance the trustworthiness of the findings, the study applied established qualitative quality criteria. Credibility was strengthened through methodological triangulation, prolonged participant engagement, and peer discussions that enabled participants to affirm or challenge emerging interpretations. Transferability was

supported through rich contextual descriptions of Kariobangi and participant experiences. Dependability was enhanced by maintaining a transparent account of data generation and analytical procedures, while confirmability was strengthened through continuous reflexive interpretation grounded in participants' visual narratives and explanations rather than researcher assumptions.

Ethical approval was obtained from the National Commission for Science, Technology and Innovation (NACOSTI) before data collection. All participants provided informed consent before participating in the study. Participants were informed of the study's purpose, their right to withdraw at any stage without consequence, and the intended use of their visual materials. The research protected participant anonymity, respected participants' ownership of their visual narratives, and presented sensitive lived experiences with care and confidentiality throughout the research process.

RESULTS

Urban Vulnerability as a Layered Everyday Condition

Analysis of the visual narratives revealed that participants understood urban vulnerability as a lived everyday condition shaped by interconnected pressures rather than isolated crises. Economic hardship, environmental challenges, emotional wellbeing and political frustration appeared together across the drawings, revealing how these realities shaped participants' everyday lives and future aspirations.

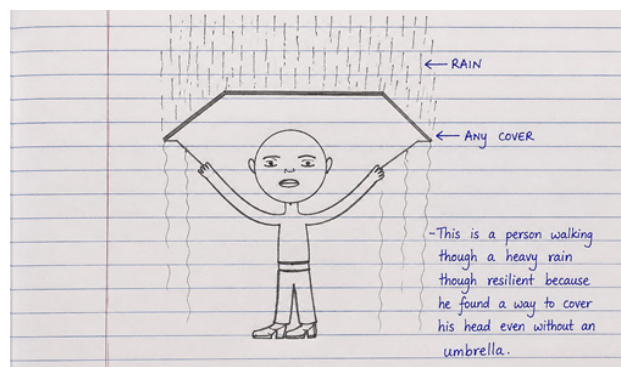


FIGURE 2

Participant visual narrative depicting everyday vulnerability, rainfall, and adaptive coping

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

One participant reflected on the responsibilities she carried as the eldest child in her family:

"Mimi ni firstborn kwetu, na sasa mimi ndio hubeba mzigo wa kwetu."

(I am the firstborn in my family, and I carry my family's responsibilities.)

She explained that caring for her siblings and supporting her family had taken priority over her own aspirations. Her reflection showed that vulnerability extended beyond economic hardship to include family responsibility, interrupted opportunities and the emotional weight of adult roles at a young age.

Dark shading, rain, confined spaces, broken forms, and solitary figures appeared repeatedly as expressions of uncertainty and pressure. Rather than depicting difficult circumstances alone, they communicated emotional and psychological experiences. One participant illustrated a figure standing in heavy rain beneath a makeshift shelter, where rainfall represented continuous hardship, and the shelter symbolised the determination to keep moving despite limited protection. **Figure 2** presents a participant-generated visual narrative illustrating how everyday experiences of rainfall, exposure, and improvised shelter symbolise the interconnected realities of urban vulnerability and adaptation.

Rain emerged as a recurring visual metaphor for flooding, insecurity, and unstable living conditions, while improvised shelters represented everyday strategies for coping. Rather than presenting vulnerability and resilience as opposites, the drawings showed them existing

together. Participants acknowledged hardship while illustrating their ability to adapt and continue with everyday life.

Other drawings shifted attention to wider structural conditions. Participants linked vulnerability to corruption, poor leadership, tribalism, political exclusion, and limited employment opportunities. Protest scenes, collective action and messages calling for a better future suggested that these challenges extended beyond individual control, positioning resilience as both personal endurance and collective responsibility. **Figure 3** presents participant-generated illustrations demonstrating how young people linked governance, political exclusion, protest, and structural inequalities to their everyday experiences and aspirations for social change.

One participant questioned the choices young people face when confronting political and economic hardship:

"Si ni heri nikufe kwa streets juu ya risasi kuliko niuliwe na njaa?"

(Isn't it better to die from a bullet in the streets than to die of hunger?)

Rather than supporting violence, the statement reflected the economic desperation experienced by some young people. It showed that political

protest, unemployment and economic insecurity were understood as interconnected realities shaping everyday survival. For this participant, protest became both an act of resistance and a response to conditions that threatened survival.

Economic vulnerability also featured prominently across the visual narratives. Graduation caps, certificates, empty pockets, downward arrows and unfinished pathways symbolised unemployment, financial insecurity and interrupted aspirations. Education emerged as both a source of hope and a reminder of uncertain futures, revealing the tension between aspiration and limited opportunity for many young people. **Figure 4** presents participant-generated illustrations showing how unemployment, financial insecurity, and limited economic opportunities disrupted young people's aspirations and everyday livelihoods.

One participant described the difficult choices that economic hardship can create:

"Mimi kwangu ni matter of life and death. Sijakula siku mbili ama tatu, sijalipa nyumba, then niambiwe naweza uza kura yangu nipate 5,000. Si nitaanza kulipa rent na kununua food?"

(For me, it's a matter of life and death. I haven't eaten for two or three days, I haven't paid my rent, and then someone tells me I can sell my vote for

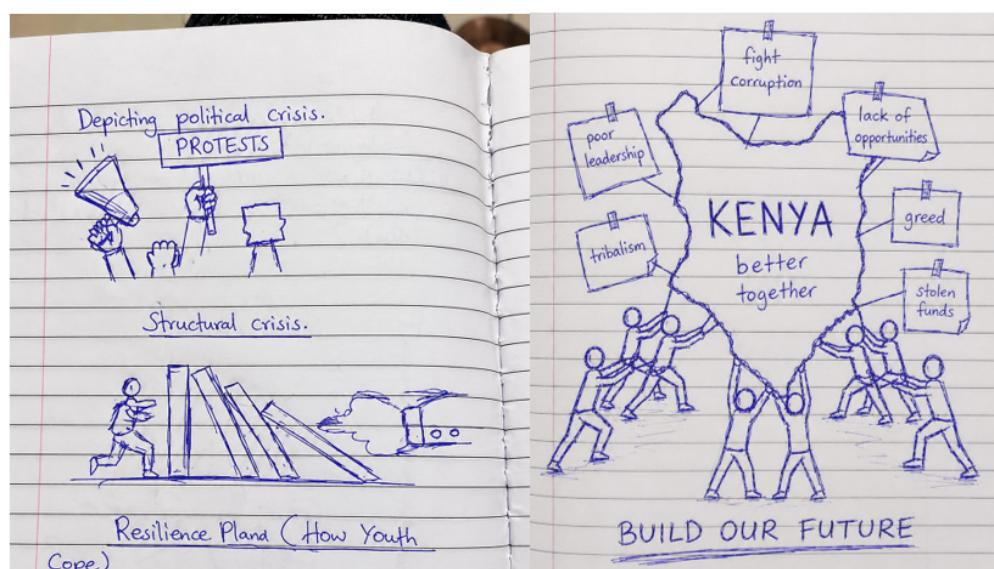
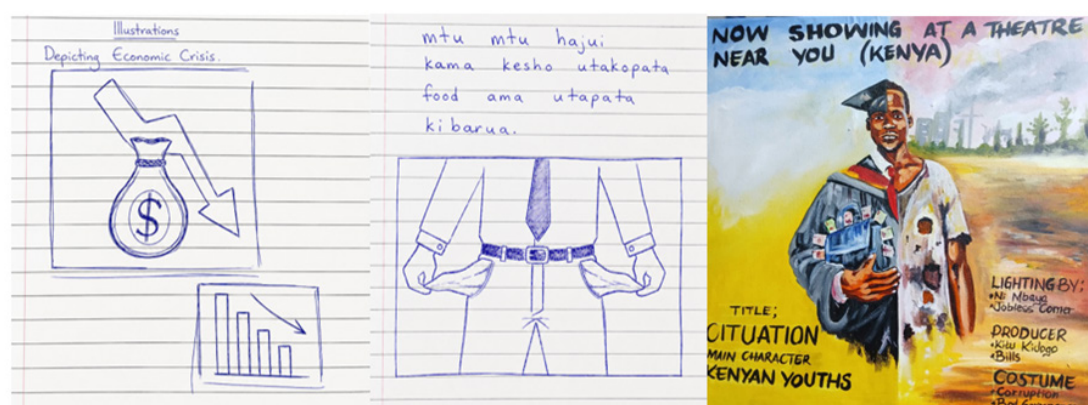


FIGURE 3

Participant illustrations depicting structural inequalities, protest, and aspirations for social change

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

**FIGURE 4**

Participant illustrations portraying unemployment, financial insecurity, and interrupted life aspirations

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

KES 5,000. Wouldn't I first pay my rent and buy food?)

This reflection showed how participants understood political participation through everyday survival. Rather than presenting vote buying as a moral choice alone, the participant described it as a decision shaped by hunger, housing insecurity and economic hardship. The statement illustrates how political vulnerability, financial insecurity and limited opportunities intersected, making civic responsibility difficult to separate from the immediate need to survive.

Across both participant groups, vulnerability was understood as interconnected rather than isolated. Kariobangi participants more frequently illustrated flooding and insecure housing, while those from broader youth platforms emphasised governance, employment and future aspirations. Despite these differences, both groups understood urban vulnerability through the interaction of place, identity, opportunity and everyday experience.

Together, these visual narratives show that vulnerability in Kariobangi extends beyond physical infrastructure and environmental conditions. Participants described it as a layered experience where place, identity, economic uncertainty, emotional wellbeing and future aspirations intersected. The visual narratives reveal not only the conditions young people faced but also how they interpreted and negotiated them in everyday life.

Housing, Security, and the Meaning of Home

Participants portrayed home as more than physical shelter. Their drawings linked housing insecurity with flooding, displacement, eviction, and the uncertainty of everyday life in informal settlements. A safe home represented not only protection from environmental risks but also dignity, stability, family life, and the possibility of a better future. These narratives showed that housing insecurity extended beyond inadequate structures to include the fear of losing security, belonging, and opportunity. **Figure 5** presents participant-generated illustrations demonstrating how participants understood home as both a physical place of shelter and an emotional space associated with safety, dignity, stability, and belonging.

The drawings revealed that participants understood housing as closely connected to wider urban inequalities. Discussions around the images described flooding, displacement, and insecure living conditions as experiences shaped by broader environmental and political realities rather than isolated household problems. Home therefore emerged as both a physical and emotional space, where insecurity was experienced through fear, uncertainty, and the constant risk of disruption.

Security also appeared through symbolic rather than literal representations. Enclosed figures, covered faces, tears, and fragmented bodies communicated fear, isolation, and restricted voice. Instead of depicting housing conditions directly, these images revealed the emotional effects of living in uncertain environments, showing how insecurity became embodied in participants'

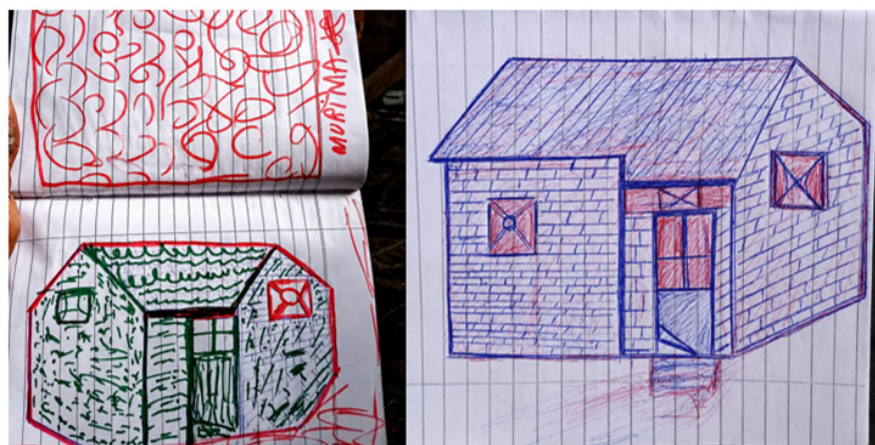


FIGURE 5

Participant illustrations portraying home, safety, dignity, and housing insecurity

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

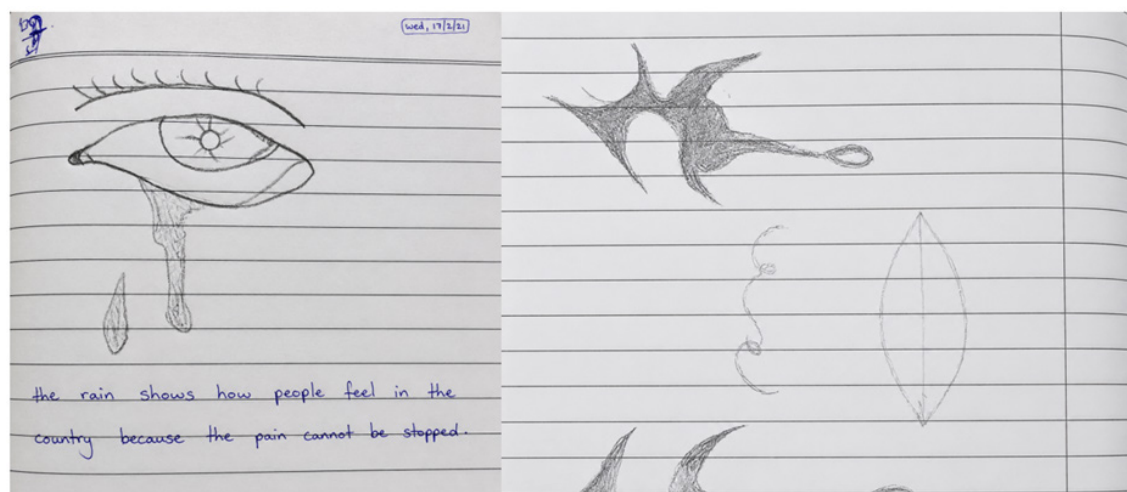


FIGURE 6

Participant-generated sketches expressing fear, emotional pressure, and restricted voice through symbolic body imagery

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

everyday lives. **Figure 6** presents participant-generated sketches illustrating how symbolic representations of the human body communicated fear, emotional pressure, insecurity, and the struggle for recognition and voice within the settlement.

Rather than depicting housing or infrastructure directly, these drawings communicated the emotional consequences of living in uncertain urban environments. Tears, enlarged eyes, fragmented facial features and abstract forms symbolised fear, emotional strain, silence and the struggle to be seen and heard. The body itself became a way of expressing the pressures created

by everyday life within the settlement.

Together, these visual narratives broadened the meaning of home beyond physical shelter. Participants understood settlement life not only through buildings and infrastructure but also through feelings of safety, recognition, belonging and voice. The findings suggest that home is experienced as both a physical environment and an emotional space where identity, wellbeing and security continuously intersect.

Resilience through Adaptation and Everyday Survival

Although many drawings represented hardship,

they rarely ended with helplessness. Participants also illustrated survival, recovery, movement, and adaptation. Trees, shelter, light, rebuilding, roads, and groups of people appeared repeatedly as symbols of resilience, showing that participants viewed resilience as an ongoing process rather than a final outcome. One recurring symbol was the tree. Participants used trees to represent endurance, growth, and the ability to withstand difficult circumstances. A tree bending under pressure suggested that resilience was not the absence of hardship but the capacity to remain rooted while adapting to changing conditions.

Figure 7 presents participant-generated visual narratives illustrating resilience through symbols of endurance, recovery, and adaptation. The recurring imagery of trees, shelter, light, and movement demonstrates how participants understood resilience as an active process of responding to adversity rather than simply overcoming it.

The tree, together with the recurring image of a person walking through heavy rain beneath an improvised shelter, reflected resilience as something ordinary and practical. Rather than depicting dramatic acts of survival, these drawings showed young people responding to everyday challenges with the resources available to them. Adaptation emerged through small but meaningful actions, including learning new skills, supporting others, pursuing education, engaging in creative work, and continuing to move forward despite uncertainty.

Participants also linked resilience to creativity, entrepreneurship, digital work, carpentry, and

other practical skills that created opportunities for self-reliance. These visual narratives suggested that resilience involved more than emotional endurance; it also meant building the knowledge, confidence, and capacities needed to navigate uncertain futures. At the same time, participants cautioned against romanticising resilience by presenting adaptation as a necessary response to difficult circumstances rather than evidence that existing conditions were acceptable.

However, participants did not portray resilience as a substitute for improved housing, essential services, responsive governance, or meaningful employment opportunities. Instead, their drawings recognised adaptation as a way of navigating hardship while continuing to aspire to broader structural change. Collectively, these visual narratives demonstrate that participants understood resilience not as the absence of vulnerability but as an ongoing process shaped by individual agency, everyday adaptive practices, and persistent structural inequalities.

Collective Support, Protest and Shared Meaning

Participants frequently understood resilience as a collective rather than an individual experience. Their drawings portrayed groups of people, shared spaces, rebuilding efforts, and acts of mutual support, suggesting that survival in Kariobangi depended on relationships and shared responsibility. These visual narratives presented change as something achieved through cooperation rather than individual effort.

Protest also emerged as a recurring visual theme. Crowds, placards, raised hands, and slogans linked governance, unemployment, inequality,

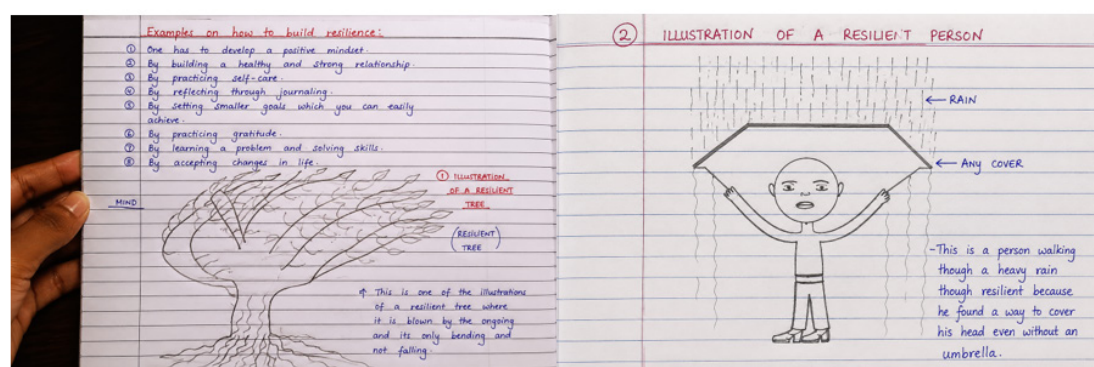


FIGURE 7

Participant illustrations communicating endurance and resilience under pressure

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

and exclusion to participants' everyday lives. Rather than portraying protest as an isolated political event, the drawings showed it as part of young people's lived experience and their hope for a more just future. **Figure 8** presents participant-generated illustrations depicting collective rebuilding, public protest, and shared responsibility as interconnected expressions of community resilience and aspirations for social change.

One participant captured this connection by asking, *"Si ni heri nikufe kwa streets juu ya risasi kuliko niuliwe na njaa?"* (Isn't it better to die from a bullet in the streets than to die of hunger?) The statement reflected the difficult choices some young people associated with economic hardship. Rather than separating politics from everyday life, participants understood governance, unemployment, and poverty as interconnected realities that shaped both survival and future opportunities. Protest therefore emerged not only as an expression of political dissatisfaction but also as a response to everyday conditions that threatened dignity, security, and future aspirations.

The discussions that followed the drawing activities further strengthened these shared meanings. Participants interpreted one another's drawings, asked questions, and reflected on

similar experiences, allowing individual stories to become collective conversations. This process showed that visual storytelling supported not only self-expression but also dialogue, shared understanding, and community learning, offering an alternative way for young people to contribute their knowledge and lived experiences to design research. Collectively, these findings demonstrate that resilience was understood as a shared social process constructed through dialogue, mutual support, and collective action, reinforcing the value of participatory visual storytelling as both a research approach and a means of generating community knowledge.

Identity, Belonging and the Emotional Life of Place

The visual narratives showed that participants understood Kariobangi as more than a place of hardship. Alongside poverty and insecurity, they portrayed it as a place of memory, relationships, belonging, and aspiration. Through their drawings, participants reflected on who they were, how they were perceived, and the futures they hoped to build. Other drawings expressed emotional struggle through fragmented faces, masks, tears, and distorted features. Rather than illustrating physical conditions, these images revealed anxiety, identity pressure, and the emotional demands of growing up in an environment shaped by

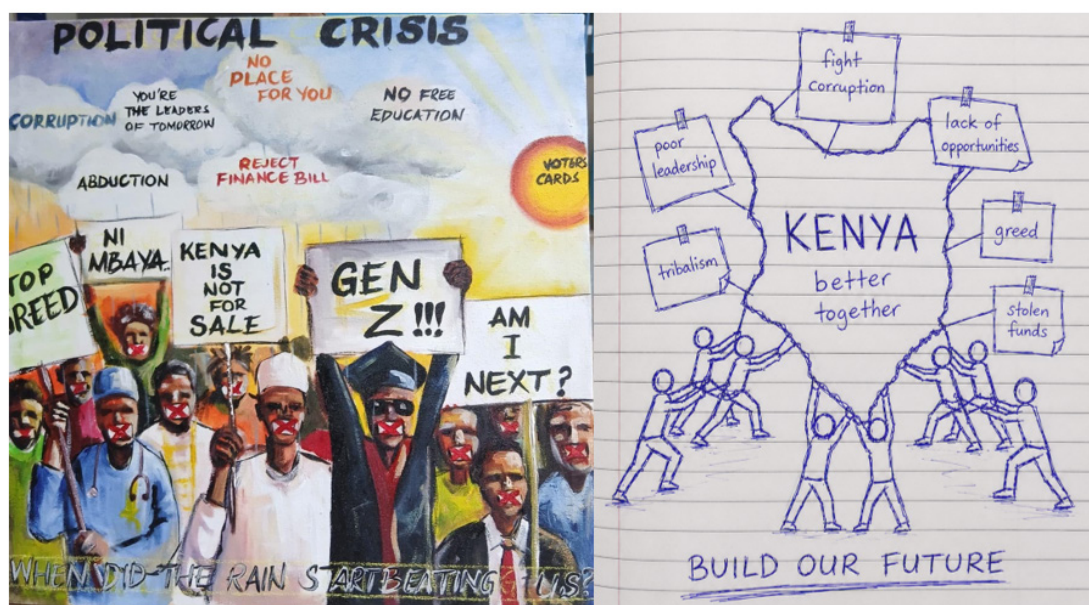


FIGURE 8

Participant illustration showing collective rebuilding and shared responsibility as forms of community resilience

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

uncertainty.

Figure 9 presents participant-generated visual narratives that express emotional struggle, identity pressure, and inner conflict through symbolic representations of the human face and body. Rather than documenting the physical environment directly, these drawings communicate how participants experienced uncertainty emotionally and psychologically.

These visual narratives suggest that urban vulnerability extends beyond physical conditions

to influence how young people see themselves, relate to others, and imagine their futures. Participants experienced the settlement not only through roads, housing, and services but also through self-image, belonging, hope, and the pressure to succeed despite limited opportunities.

Participants also illustrated hope, peace, growth, and transformation through symbols such as sunlight, open roads, plants, and emerging forms. These images showed that young people were not only documenting present challenges but also imagining different futures. **Figure 10** illustrates

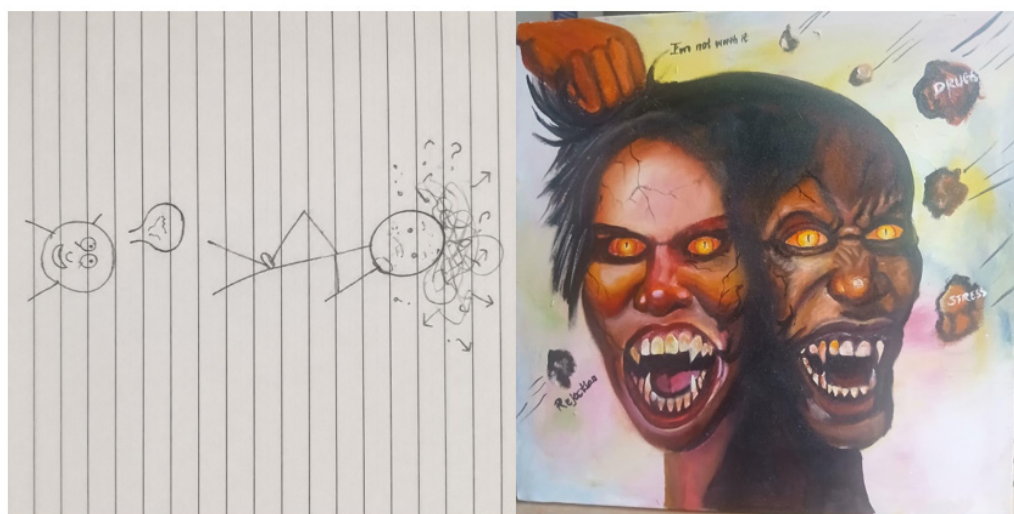


FIGURE 9

Participant-generated visual narratives showing emotional struggle, identity pressure and inner conflict

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

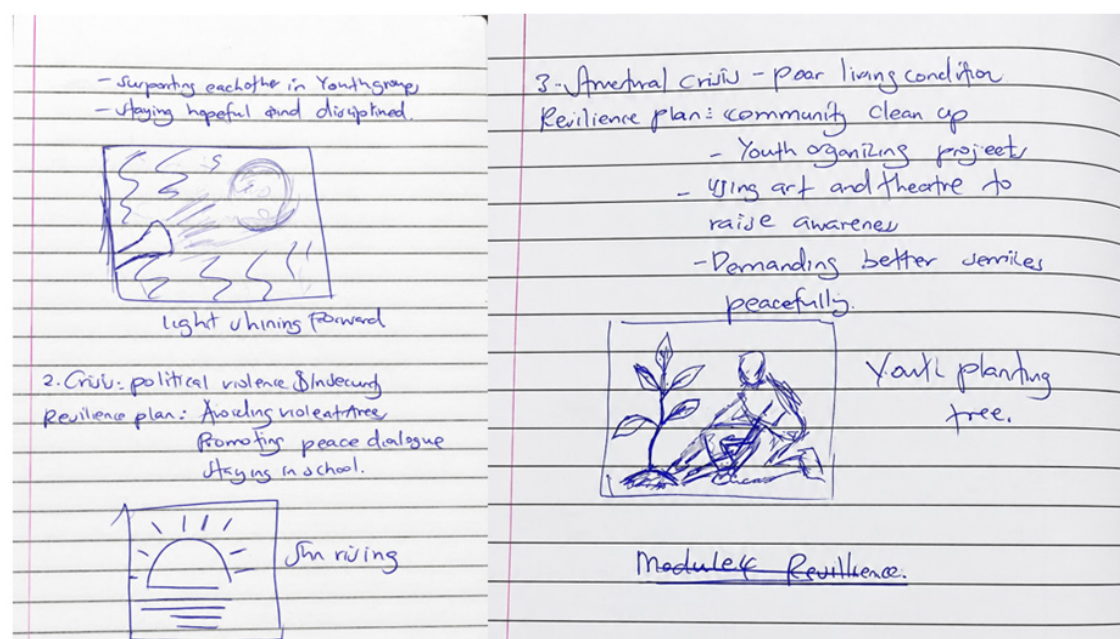


FIGURE 10

Participant illustrations showing hope, growth and future possibility through light and natural imagery

Source: Participant-generated visual storytelling workshop, Kariobangi, (2026)

these aspirations through visual symbols associated with growth, renewal, and future possibility, demonstrating that hope remained closely connected to participants' understandings of resilience.

Hope was closely linked to education, meaningful work, peace, community wellbeing, and more secure living conditions. Participants acknowledged present challenges while continuing to imagine positive change, suggesting that hope formed an important part of how they understood resilience.

Taken together, the visual narratives challenge one-dimensional representations of informal settlements. Kariobangi emerged not only as a place of struggle but also as a place where young people construct identity, nurture relationships, critique their circumstances, and imagine alternative futures. Collectively, these findings demonstrate that place was experienced not only as a physical environment but also as an emotional and symbolic landscape through which young people negotiated identity, belonging, resilience, and aspirations for the future. This finding reinforces the value of participant-generated visual narratives in revealing the emotional and symbolic dimensions of urban life that are often overlooked by conventional approaches.

DISCUSSION

The findings show that young people experience urban vulnerability as an interconnected everyday reality rather than a collection of separate environmental, economic, or political challenges. Previous studies have described informal settlements primarily through indicators such as inadequate housing, limited infrastructure, and socio-economic inequality (UN-Habitat, 2022; Corburn & Sverdlik, 2017). The present study extends these perspectives by demonstrating how young people interpret and communicate these conditions through participant-generated visual narratives.

Rather than documenting physical circumstances alone, the drawings revealed how flooding, insecure housing, unemployment, political exclusion, and uncertainty shaped identity, belonging, and future aspirations. Similar observations have emerged from participatory studies in Nairobi, where

vulnerability, resilience, and lived experience are understood as interconnected realities (Karuga et al., 2023; Kimani-Murage et al., 2022). However, unlike many previous studies that use participant-generated visuals to complement verbal data, this study demonstrates that visual narratives can function as primary analytical evidence for understanding young people's lived experiences.

The findings also contribute to current understandings of resilience. Existing scholarship increasingly describes resilience as an ongoing process of adaptation rather than recovery after crisis (Corburn & Sverdlik, 2017). Participants expressed a similar understanding through drawings that portrayed resilience as learning new skills, supporting one another, rebuilding, adapting, and continuing despite uncertainty. At the same time, the visual narratives challenged the tendency to romanticise resilience. Participants did not present adaptation as an acceptable substitute for improved housing, employment opportunities, or responsive governance. Instead, they viewed resilience as evidence of agency while recognising the continued need for structural change. This finding extends existing scholarship by demonstrating that young people understand resilience as a dynamic process that combines everyday adaptation with aspirations for greater social justice and opportunity.

A central contribution of this study lies in the way participant-generated visual narratives were analysed. Many participatory visual studies use drawings and photographs to support interviews or encourage community engagement (Mitchell, 2011; Rose, 2022). In contrast, this study treated the visual narratives themselves as primary analytical material. Meaning emerged through the relationship between participants' drawings, their explanations, and the collective interpretation process. These findings suggest that visual storytelling is not only a participatory technique but also a rigorous design research methodology capable of generating situated knowledge about lived urban experiences. The study therefore contributes to participatory design by demonstrating how visual narratives reveal emotional, symbolic, and relational dimensions of urban life that conventional verbal methods may overlook.

Although this study focused on Kariobangi,

similar patterns have been reported in informal settlements across Africa and the Global South, where young people navigate everyday uncertainty through collective support, adaptation, and local knowledge while continuing to face structural inequalities. The Kariobangi findings therefore reinforce broader discussions on participatory design and urban research while highlighting the importance of interpreting these experiences within their specific social, cultural, and political contexts rather than through universal assumptions about informal settlements.

The findings also have practical implications for participatory design, urban planning, and community engagement. Planning processes often prioritise physical infrastructure and service delivery, yet the visual narratives showed that young people also associated place with dignity, identity, belonging, safety, and future opportunity. Integrating participant-generated visual storytelling into design and planning processes can therefore enable practitioners to identify priorities that conventional consultation methods may overlook while creating meaningful opportunities for young people to contribute their own knowledge and lived experiences to decision-making.

Overall, this study demonstrates that youth-led visual storytelling extends beyond participation as a means of engagement. By treating participant-generated visual narratives as primary research evidence, the study shows how visual storytelling can generate richer understandings of urban vulnerability, resilience, and meaning-making. In doing so, it advances design research by positioning young people not simply as research participants but as active producers of knowledge capable of informing more contextually responsive participatory design, urban planning, and community engagement.

CONCLUSION

This study explored how young people in Kariobangi use visual narratives to communicate experiences of urban vulnerability and resilience. The findings show that participants understood vulnerability as a layered everyday experience shaped by housing insecurity, environmental stress, economic uncertainty, political exclusion, identity, and future aspirations. At the same

time, their visual narratives revealed resilience through adaptation, creativity, collective support, belonging, and hope.

The study contributes to design research by demonstrating that participant-generated visual narratives are more than participatory outputs or illustrative materials. When analysed alongside participants' own explanations and reflections, they become valuable sources of design knowledge that reveal how young people interpret and make meaning of their environments. In doing so, the study demonstrates the value of visual storytelling as a design research methodology for understanding lived experiences in complex urban contexts.

Although this study focused on Kariobangi, the approach has relevance for other informal settlements in Kenya and across Africa where young people experience similar forms of urban uncertainty. Overall, the study demonstrates that youth-led visual storytelling offers more than a creative means of documenting lived experience. By positioning participant-generated visual narratives as primary analytical evidence, the study advances design research and provides a contextually grounded approach for understanding urban vulnerability, resilience, and meaning-making. It also positions young people not simply as research participants but as active producers of knowledge capable of informing more inclusive and responsive participatory design, urban planning, and community engagement.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed:

- *Urban planners and designers* should integrate participatory visual storytelling into planning and design processes to better understand young people's lived experiences, priorities, and aspirations within informal settlements.
- *County governments and community development agencies* should create structured opportunities for young people to contribute their visual narratives and local knowledge to urban upgrading and community development initiatives.
- *Design researchers and academic institutions* should recognise participant-generated visual narratives as valuable sources of analytical

evidence capable of generating design knowledge rather than using them solely as illustrative materials.

- *Community organisations and youth programmes* should adopt visual storytelling approaches to strengthen youth participation, community dialogue, and collaborative problem-solving around local urban challenges.
- *Future research* should apply youth-led visual storytelling in other informal settlements and urban contexts to examine how local social, cultural, and environmental conditions shape experiences of vulnerability, resilience, and community aspirations.

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