

Adapting to Urban planning contradictions in community-led initiatives in growing African Cities: A case study of Sinza D, Dar es Salaam

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ABSTRACT

This study demonstrates how grassroots and extended planners navigate urban governance contradictions by turning conflict into opportunities for learning and collaboration. Using a contested green space project in Sinza D, Dar es Salaam, as a case, it applies Cultural-Historical Activity Theory (CHAT), expansive learning, and the ChangeLab framework to trace how shifting roles, fractured alliances, and cycles of reflection produced four distinct learning trajectories.

After more than a year of mobilisation, a four-month Extended ChangeLab was carried out through a series of structured activities, including resident consultations, negotiation meetings, reflection sessions, and a dissemination campaign. These engaged grassroots leaders, a community-established Green Space Committee (GSC), residents, and adjacent actors. Within a Participatory Action Research (PAR) design, the researcher combined facilitation with participant observation while systematically documenting interactions and artefacts such as minutes, maps, and letters.

Findings show that documentation, initially fragmented and contested, became a shared artefact that fostered transparency, legitimacy, and accountability, while reshaping relationships and supporting collective decision-making. The study reconceptualises the ChangeLab as a mobile, embedded learning infrastructure suited to hybrid governance contexts where formal authority and informal practices intersect. It advances methodological and practical insights for strengthening participatory urban governance in rapidly growing African cities.

1. Introduction

Across the globe, communities mobilise to fill persistent gaps left by state institutions, creating alternative forms of everyday governance (Apostolopoulou et al., 2022; Horelli et al., 2015). This phenomenon, referred to as community-led urban governance, describes the ways residents collectively organise to address service and infrastructure deficits through informal or semi-formal practices rooted in daily life (Huybrechts et al., 2024; Kaufman & Dilla Alfonso, 1997). Grounded at the grassroots, such practices draw on local agency, situated knowledge, and communal organisation (Apostolopoulou et al., 2022; Smith et al., 2014).

In Tanzania, community-led initiatives include informal infrastructure repairs and the reclamation of public spaces, emerging as important forms of everyday governance (Huybrechts et al., 2024; JamiiForums, 2025). Similar dynamics are evident across Africa: neighbourhood-level actions secure access to housing and services in Senegal, Uganda, and Zimbabwe (Varnai et al., 2019); *umudugudu* residents in Rwanda maintain local infrastructure (Ono & Adrien, 2024);

and informal settlements in South Africa sustain participatory upgrading through communal effort and social solidarity (Georgiadou et al., 2021). Taken together, these initiatives respond to persistent gaps in service delivery while also expressing local agency and self-organisation (Andrew & Issa, 2025; Smith et al., 2014; Zapata Campos, 2019). Yet despite their transformative potential, they remain largely outside formal planning frameworks, often dismissed as temporary or informal, and overlooked in both policy and academic discourse (Apostolopoulou et al., 2022; Smith et al., 2014).

This challenge became evident in the Sinza D green space initiative, where a community-led project stalled for nearly four months after adjacent residents rejected the proposed design. In the absence of effective documentation, such as plans, records, and agreements that could stabilise shared meaning, the initiative fractured, roles became contested, and negotiations stalled. What appeared as a local conflict reflected a broader challenge in community-led governance: without systematic documentation, visibility, legitimacy, and coordination remain constrained (Botero & Saad-Sulonen, 2018; Majogoro et al., 2025). Documentation in this context is not merely administrative: it is a polit-

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ical and relational tool that legitimises action, stabilises shared meaning, and facilitates accountability among diverse actors (Botero & Saad-Sulonen, 2018; Majogoro et al., 2025). Its absence obscures roles and responsibilities, allowing contradictions and disputes to persist unresolved.

To interrogate how such contradictions are surfaced and navigated in participatory urban initiatives, this study draws on Cultural-Historical Activity Theory (CHAT), a framework for analysing collective activity systems and the tensions that drive their transformation (Engeström, 2001; Engeström & Sannino, 2010). CHAT highlights how contradictions within an activity system act as drivers of change and innovation, disrupting routines and opening possibilities for reconfiguration. Expansive learning theory, closely linked to CHAT, explains how new practices emerge through cycles of questioning, modelling, implementing, and reflecting, particularly when contradictions demand collective problem solving (Virkkunen & Newnham, 2013). While typically applied in more bounded institutional settings, this study adapts expansive learning theory to the fragmented governance context of Tanzanian urban sub-wards, where authority is dispersed, alliances are fragile, and documentation practices are weak.

In this setting, represented by the *Mtaa* government office, grassroots leaders often act as extended planners, performing tasks similar to professional urban planners but embedded within local political and administrative structures (Majogoro et al., 2025). Extended planners mediate disputes, facilitate upgrading, and connect residents to higher-level institutions, effectively bridging the gap between formal planning logics and everyday community practices. Yet their role is increasingly unsettled by the entry of urban entrepreneurs, actors with greater institutional resources and market-driven logics, which introduces new power asymmetries and shifts the balance of grassroots-led governance (Apostolopoulou et al., 2022; Smith et al., 2014).

To respond to these tensions, this study employs the ChangeLab method, a dialogical approach developed within expansive learning theory that enables participants to collaboratively examine practices, renegotiate roles, and co-develop responses to shared challenges (Engeström, 2001; Virkkunen & Newnham, 2013). Here, it is operationalised as an adapted, context-sensitive application of the ChangeLab method, the extended ChangeLab, tailored to the realities of sub-ward governance. Unlike conventional workshop-based ChangeLabs, the extended ChangeLab unfolds in situ, embedded within everyday governance practices, and emphasises documentation as a shared artefact for accountability and institutional memory.

This study makes two interrelated contributions. First, it critically reflects on the evolving position of the extended planner in the context of increasing entrepreneurial influence within urban governance. Second, it demonstrates the extended ChangeLab as an adapted, context-sensitive application of the ChangeLab method, reinterpreted here as a flexible intervention for facilitating expansive learning in contested and institutionally fluid settings (Apostolopoulou et al., 2022; Huybrechts et al., 2024; Kaufman & Dilla Alfonso, 1997). Together, these contributions offer a framework for understanding and navigating the complex, often unstable dynamics of community-led planning in rapidly transforming African cities.

The remainder of the paper is structured as follows: Section 2 reviews literature on grassroots planning, documentation, and learning-based approaches, including CHAT and the ChangeLab. Section 3 outlines the methodology and introduces the case context. Section 4 presents and discusses the findings across four learning trajectories, focusing on fragmentation, evolving leadership, and documentation. Section 5 reflects on the implications of the extended ChangeLab for grassroots learning and planning.

2. Grassroots urban planning and the role of extended planners

Grassroots actors have long been recognised as central to urban planning in contexts where formal state-led service delivery is weak or frag-

mented (Apostolopoulou et al., 2022; Kaufman & Dilla Alfonso, 1997; Smith et al., 2014). In Tanzania, such actors include both community members and *Mtaa* government leaders, who mediate between residents and municipal authorities (Magina et al., 2020; Manara & Pani, 2023; Ngowi et al., 2022). Majogoro et al. (2025) conceptualise *Mtaa* leaders as extended planners: figures who, though not professionally trained, perform essential planning functions such as mobilising resources, facilitating dialogue, and coordinating neighbourhood-level upgrading (Huybrechts et al., 2024; Manara & Pani, 2023).

What distinguishes extended planners from professional planners is not technical expertise but the source of their authority. As Kaufman and Dilla Alfonso (1997) and Smith et al. (2014) demonstrate, grassroots leaders draw their legitimacy directly from community members. Their ability to act rests on trust, embedded knowledge, and responsiveness to local needs, which allows them to mobilise collective action and frame development priorities from below (Huybrechts et al., 2024; Smith et al., 2014). Through these collaborations, communities begin to question existing practices and reimagine their own trajectories of development.

This hybridity makes extended planners vital intermediaries, operating within formal administrative structures while enacting planning practices that are relational, situated, and often perceived as informal (Majogoro et al., 2025; Huybrechts et al., 2024). Yet, as Majogoro et al. (2025) note, these practices are also limited by weak documentation and record-keeping, which constrain transparency and accountability. Moreover, the growing presence of urban entrepreneurs, politically connected developers, and NGOs introduces new dynamics of power, often challenging or co-opting grassroots-led processes (Huybrechts et al., 2024).

Against this backdrop, it becomes crucial to embrace and critically reflect on the practices of extended planners, not as peripheral or temporary, but as central to understanding how urban change is negotiated at the grassroots through community-led urban governance. Doing so requires questioning conventional planning practices and recognising grassroots planning as a dynamic site of collaboration, contestation, and learning. This study advances this perspective by examining how extended planners navigate contradictions and external disruptions, using CHAT, expansive learning theory, and the Extended ChangeLab as conceptual tools.

2.1. Theoretical framework: CHAT, expansive learning theory, and the changelab

CHAT provides a conceptual foundation for understanding human activity as historically situated, collectively organised, and mediated by tools, rules, and social relationships (Engeström, 2001; Yamagata-Lynch, 2010). Central to CHAT is the notion that activity systems are not static but develop through contradictions, systemic tensions that emerge within or between the components of a system (Cong-Lem, 2022; Engeström, 2001). These contradictions serve as engines of change, prompting reflection, conflict, and ultimately, transformation when actors engage with them collectively (Antoniadou, 2011; Engeström, 2001; Yamagata-Lynch, 2010).

A key aspect of CHAT is the role of mediating artefacts, instruments such as maps, documents, diagrams, or visual models, that help participants make sense of problems, coordinate action, and stabilise meaning (Engeström, 2001; Yamagata-Lynch, 2010). Importantly, artefacts are not inherently meaningful; they become tools through a process of re-mediation, whereby users appropriate and adapt them for purposeful action (Engeström & Sannino, 2010; Virkkunen & Newnham, 2013). This process unfolds through what is known as double stimulation: individuals or groups face a challenging situation (the first stimulus) and are presented with an external artefact (the second stimulus) that helps them reinterpret and respond to the contradiction (Virkkunen & Newnham, 2013). In this study, artefacts such as public posters and meeting notes were not merely representations of planning; through repeated

cycles of use, they were transformed into instruments for learning, negotiation, and collective decision-making.

Building on CHAT, expansive learning theory offers a model of how transformation occurs not through knowledge transmission but through the collective redefinition of shared activity in response to contradictions (Engeström & Sannino, 2010). The learning process is structured through a series of actions: questioning, analysing, modelling, examining, implementing, reflecting, and consolidating (Engeström, 2001; Engeström & Sannino, 2010). These actions are presented as ideal-typical stages; however, in practice, whether in formal ChangeLabs or informal settings, they often emerge non-linearly and iteratively, shaped by local contingencies, relationships, and shifting power dynamics (Virkkunen & Newnham, 2013). Expansive learning thus unfolds not in smooth trajectories, but in cycles of disruption and reconstruction, often mediated by the introduction and adaptation of tools that support new forms of collaboration (Engeström & Sannino, 2010; Sannino et al., 2016).

To support such learning processes, Engeström and colleagues developed the Change Laboratory (ChangeLab) as a formative intervention methodology providing a structured, dialogical space for participants to surface contradictions and co-design new practices (Virkkunen & Newnham, 2013). Traditionally applied in bounded institutional settings such as schools and hospitals, ChangeLabs utilise tools such as mirror-data, historical timelines, and conceptual models to facilitate collaborative reflection and experimentation (Boni, 2023; Virkkunen & Newnham, 2013). Mirror-data, as Virkkunen and Newnham (2013) note, functions explicitly as a mediating tool that supports the reflective, dialogical process by rendering practice problems and systemic contradictions visible. Such artefacts help stabilise shared understanding, mediate interaction, and support the evolution of new roles and rules (Kris & Ellen, 2017; Virkkunen & Newnham, 2013).

In complex urban contexts characterised by polycentric governance, institutional fragmentation, and informal agency, the ChangeLab method developed by Engeström and colleagues requires adaptation. While Urban Living Labs (ULLs) offer valuable frameworks for co-creation and experimentation by convening diverse stakeholders to address urban challenges (Boni, 2023; Bulkeley et al., 2016; Kris & Ellen, 2017), they often presuppose stable governance structures, resource continuity, and clearly defined institutional roles, conditions rarely present in more fluid or contested urban environments (Ersoy & Van Bueren, 2020; Voytenko et al., 2016). As a result, both ChangeLabs and ULLs risk becoming bounded interventions that do not evolve with the realities of the communities they engage with.

This study advances the notion of an Extended ChangeLab, one that shifts the locus of learning from external facilitation to the lived contradictions and reorganisations of grassroots actors themselves. Rather than treating learning as something orchestrated within fixed participatory spaces, the Extended ChangeLab embraces learning as a socially and historically situated process, unfolding through everyday struggles over land, legitimacy, and collective action. Here, learning is not injected into the system from outside but emerges from within, shaped by the very practices, alliances, and realignments that community members generate in response to structural tensions. In this way, the lab becomes not a container but a living trajectory, more attuned to the rhythms and uncertainties of urban transformation.

3. Methodology to set up an extended change lab

The study was conducted in Sinza D, a sub-ward of Dar es Salaam, Tanzania, where a residual green space, originally protected as a river buffer zone, became the focus of a community-led planning initiative. After more than a year of mobilisation and participatory design (Bødker et al., 2022), the process reached an impasse when adjacent residents rejected the proposed plans, exposing a contradiction between collective aspirations and individual land-use claims. In response, local stakeholders, including the Green Space Committee (GSC), *Mtaa* Gov-

ernment Leaders (MGL, conceptualised as extended planners), and the researcher, reorganised to confront the blockage through reflective and dialogic actions.

This rupture catalysed what is here termed an Extended ChangeLab: an adaptive learning process rooted in contradictions of grassroots practice. Building on Engeström's ChangeLab methodology (Virkkunen & Newnham, 2013), the Extended ChangeLab differs in its embeddedness within governance processes that straddle formal and informal systems. Rather than following a predefined workshop cycle, it unfolded organically through community-driven improvisation over four months (February–May 2025), producing seven participatory activities that gradually worked through the contradiction.

3.1. Participants, researcher positionality, and ethics

Participation emerged naturally, as actors were already embedded in the conflict and directly affected by decisions. The researcher did not impose formal selection criteria; stakeholders joined as issues arose. For example, in the first bilateral meeting with MGL, leaders resolved to pursue a social rather than legal response, choosing resident engagement over escalation to municipal authorities. Subsequent participants, including adjacent residents, GSC members, religious leaders, and a lodge owner, were drawn in through ongoing deliberation.

The researcher, working within a Participatory Action Research (PAR) design (Bødker et al., 2022; Kindon et al., 2009), initially took on a facilitative role but gradually shifted toward participant-observation as grassroots actors assumed leadership. Ethical clearance was obtained from relevant authorities, and the researcher carried an official permission letter for all engagements. At meetings, the researcher was introduced by community representatives and explicitly recorded in meeting minutes as “researcher,” reinforcing transparency, positionality, and accountability. Informed consent was sought verbally, consistent with the dialogical character of the process.

3.2. Data collection and analysis

The Extended ChangeLab was structured through seven participatory activities: coordination meetings between the researcher and MGL (4 participants); a consultation with adjacent residents (9 participants); a joint reflection session between GSC and MGL that agreed to involve a religious leader and political party representative (5 participants); an internal MGL reflection (4 participants); a negotiation between the GSC chairperson, an adjacent resident, and a lodge owner; a follow-up consultation with resistant residents (14 participants); and a poster-based dissemination campaign. Each activity was documented through field notes, audio recordings, and mediating artefacts such as meeting minutes, maps, and letters.

Analysis drew on CHAT and Expansive Learning Theory, focusing on contradictions as triggers for transformation. CHAT elements: subjects, tools, rules, community, division of labour, and object (Engeström, 2000), were used to trace how grassroots actors framed problems, redefined roles, and adapted tools. Special attention was paid to mediating artefacts, which not only communicated but also stabilised meaning, enabled coordination, and shaped decision-making.

3.3. Limitations

This study draws on a single case, limiting generalisability. However, the historical depth of Sinza D, an area formally planned yet incrementally reshaped by grassroots agency, offers a rich lens into how community-led planning unfolds within contested governance environments.

4. Findings and discussion

This section presents and discusses findings from seven participatory activities facilitated through an Extended ChangeLab process within a

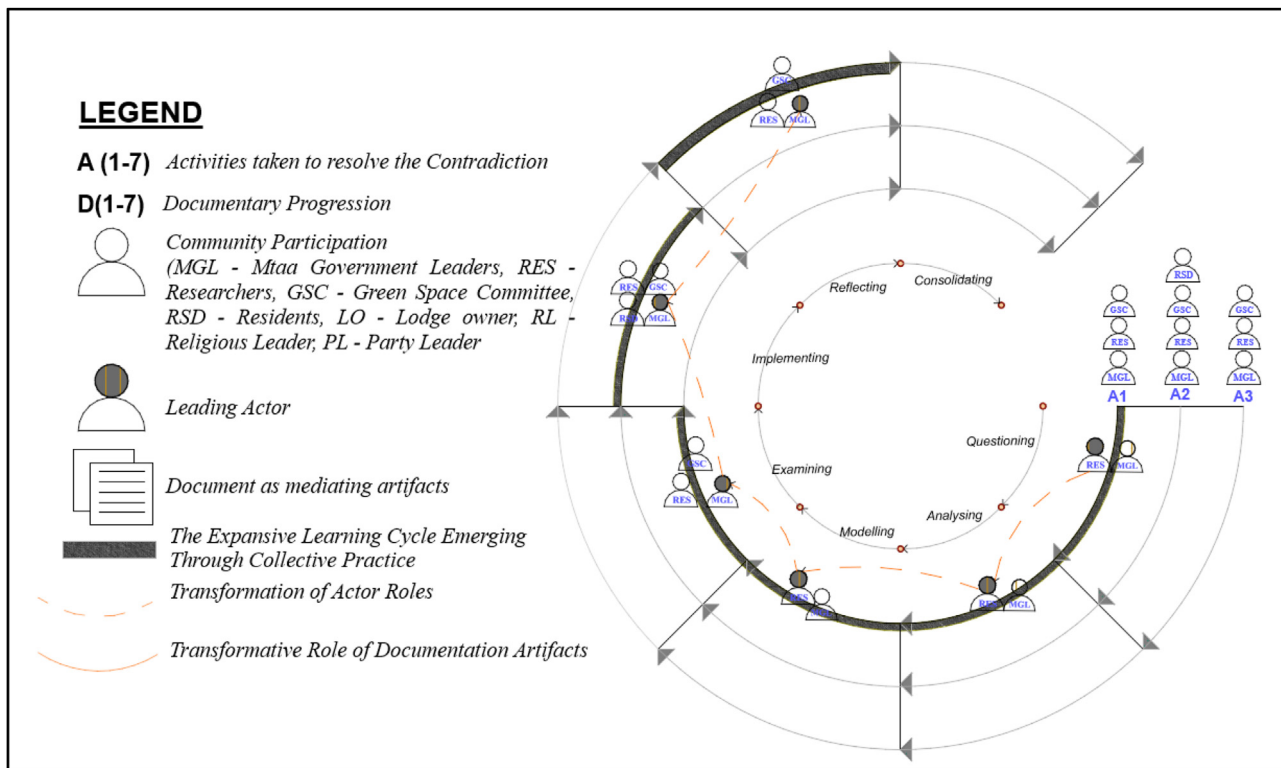


Fig. 1. Expansive Learning Cycle 1 showing initial coordination and problem framing.

contested green space initiative in Sinza D, Dar es Salaam. The site, an unplanned yet legally protected river buffer zone (URT, 2018), became the focal point of a community-led planning effort. While the initiative initially secured support from both residents and municipal leaders, the process encountered resistance during implementation, surfacing deeper contradictions that demanded collective negotiation and adaptation.

The discussion is organised around key dimensions of expansive learning, highlighting how learning emerged as participants responded to these contradictions in practice. To guide the reader, the findings are structured around four expansive learning cycles. Cycle 1 centres on initial coordination and problem framing. Cycle 2 captures the deepening of participation and the reconfiguration of agency. Cycle 3 reflects grassroots consolidation and emergent autonomy. Cycle 4 marks the convergence of actors and the public institutionalisation of the initiative.

4.1. Legend and analytical framework

To guide the reader through the expansive learning cycles and figures in this section, this subsection defines the legend and key analytical components applied consistently across Table 1 and Figs. 1–4. These visualisations draw on CHAT, highlighting core elements of activity systems, community, roles, mediating artefacts, and their evolution through cycles of expansive learning.

- Activities (A1–A7): Marked with the letter A, representing the seven documented activities undertaken to address contradictions in the initiative.
- Documentation (D1–D7): Marked with the letter D, indicating maps, minutes, posters, letters, and other artefacts, including the researcher's justification as a student, generated throughout the process, emphasising their role as mediating cultural artefacts.
- Community components: Actors include MGL, researchers (RES), GSC, religious leaders (RL), party leader (PL), residents (RSD), and the lodge owner (LO).

- Leading actors: Identified according to CHAT's "division of labour" element, showing shifts in facilitation, coordination, and influence.
- Bold lines in cycles: Show the emergence of expansive learning cycles through collective practice and negotiation.
- Coloured dashed lines: Indicate transformations in actor roles across cycles.
- Coloured thin lines: Trace the transformation of documentation as a mediating artefact across cycles.

This legend applies to all figures and tables in Section 4, providing a consistent guide to interpreting the visual representations and their connection to the theoretical framework.

Source: Fieldwork in Sinza D, 2025.

4.2. Expansive learning cycles as structuring devices for distributed action

The green space initiative unfolded through seven learning activities, shown in the columns of Table 1, spanning grassroots coordination, stakeholder negotiations, and public dissemination. Applying the expansive learning cycle (rows in Table 1) reveals that these activities did not follow a linear sequence but can be grouped into four cycles defined by distinct actor configurations, mediating tools, and expansive learning actions (see Table 1 and Figs. 1–4). For instance, Activity 2 followed Activity 1's examining phase but shifted into implementation within the same column, while Activity 4 emerged during the reflection phase of Activity 3. Unlike ChangeLab interventions in contexts such as hospitals, where cycles often proceed in structured stages with limited overlap, here, cycles are intertwined and adapted fluidly in response to emerging contradictions. Building on the roadmap introduced above, the following subsections examine Cycles 1 to 4 in detail.

4.2.1. Cycle one: initial coordination and problem framing

Cycle One centres on early coordination among grassroots leaders, particularly the newly formed GSC, MGL, and the researchers, who joined the initiative to address a core contradiction disrupting

Table 1
Collective learning activities and expansive learning cycles in a grassroots urban greening initiative.

No	Expansive Learning Cycle's actions	Activity 1 (A1): Coordination meetings with grassroots leaders	Activity 3 (A3): Reflection meetings to engage broader stakeholders	Activity 5 (A5): Negotiation meetings with the lodge owner	Activity 6 (A6): Follow-up consultations with resistant residents	Activity 7 (A7): Poster dissemination campaign
1	Questioning	What are the root causes of resistance to the project?	What drives opposition, and which stakeholders can mediate and bridge understanding among conflicting parties?		What is the origin of the green space project, how will it be implemented and funded, and what are the expected benefits?	
2	Analysing	Identified self-interested use of space by residents (dumping, farming, parking); responded by involving local authorities and convening a meeting to address concerns	Mapped stakeholder roles and assessed actor responsiveness to identify allies for engaging dissenting residents		Assessed lodge owner concerns on privacy, security, and sewage system impacts	
3	Modelling	A dialogue meeting with opposing residents was initiated to model conflict resolution	A strategy of one-on-one engagement was introduced as a model to address resistance and build trust.		The proposed plan (D3) was presented for discussion and refinement	The researcher presented the project map (D5) for review prior to printing
4	Examining	The group critically evaluated reporting to municipal authorities versus engaging residents directly. To avoid escalating tensions, they prioritised a residents' meeting to better understand concerns and foster collaboration	Considered leveraging respected figures, the lodge owner, residents, religious and party (CCM) leaders, to mediate and address opposition		Negotiated the proposed plan (D3) to resolve conflicts, MGL and researchers were consulted through a phone call to share their perspectives	MGL mandated the inclusion of sewerage, road, and green space projects in the map (D6).
5	Implementing	Activity 2 (A2): A Meeting with adjacent residents was conducted.	The GSC engaged religious and party leaders, MGL contacted the lodge owner, and the researcher engaged residents.	Held a meeting to share project documents (D1) with the lodge owner.	MGL shared additional documents (D2 & D3), including meeting minutes, with residents	The neighbourhood map highlighted key projects, with posters displayed publicly, including at the Mtaa government office.
6	Reflecting	Held a reflection meeting (Activity 3) to assess progress and identify the strategic value of engaging influential stakeholders to enhance initiative support.	Activity 4 (A4): Reflection Meeting: Uncovered underlying interests and past grievances fueling resistance. Participants agreed to engage the lodge owner and share key documents (D1), including the researcher's student ID, admission letter, approved research proposal, research permit, municipal project permit and scholarship proof to enhance transparency and legitimacy.	Reflection Meeting (Activity 4): Highlighted the strategic importance of the lodge owner's involvement, resulting in a commitment to engage neighbouring residents and facilitate a joint meeting. It was agreed to organise and share key planning documents (D2) (meeting minutes).	Following the MGL's directive (D4), the researcher will design and share a poster to raise awareness and broaden community support.	MGL reported positive resident feedback following poster (D6) dissemination.
7	Consolidating				The GSC began project implementation, adhering to the negotiated design (D5) and agreed methods.	The GSC was tasked with sharing documents (D7) publicly and presenting the plan at the next meeting.

the green space project. This phase involved three key activities: Activity 1 (coordination meeting with MGL), Activity 2 (meeting with adjacent residents), and Activity 3 (reflection session with broader stakeholders), through which actors began framing the problem, surfacing tensions, and laying the groundwork for subsequent cycles (see Table 1).

Early on, internal disagreements emerged about how to proceed. While the Mtaa Executive Officer (MEO) urged escalation to municipal authorities, the MC cautioned that formal enforcement could deepen divisions and make the community “unlivable.” Meanwhile, the GSC chairperson, facing mounting resistance from residents, was on the

verge of abandoning the initiative altogether. Sensing this tension, the researcher intervened by conducting bilateral meetings with the MEO, the MC, and the GSC chairperson to understand their perspectives. Drawing on CHAT elements, the researcher framed questions around the collective object, key actors needed for success, and existing community rules and tools. Bringing these leaders together, the researcher facilitated a discussion focused on clarifying objectives, surfacing contradictions, and identifying paths forward grounded in local relationships and knowledge.

This process differed markedly from conventional ChangeLabs, where researchers often open the process by presenting mirror data and

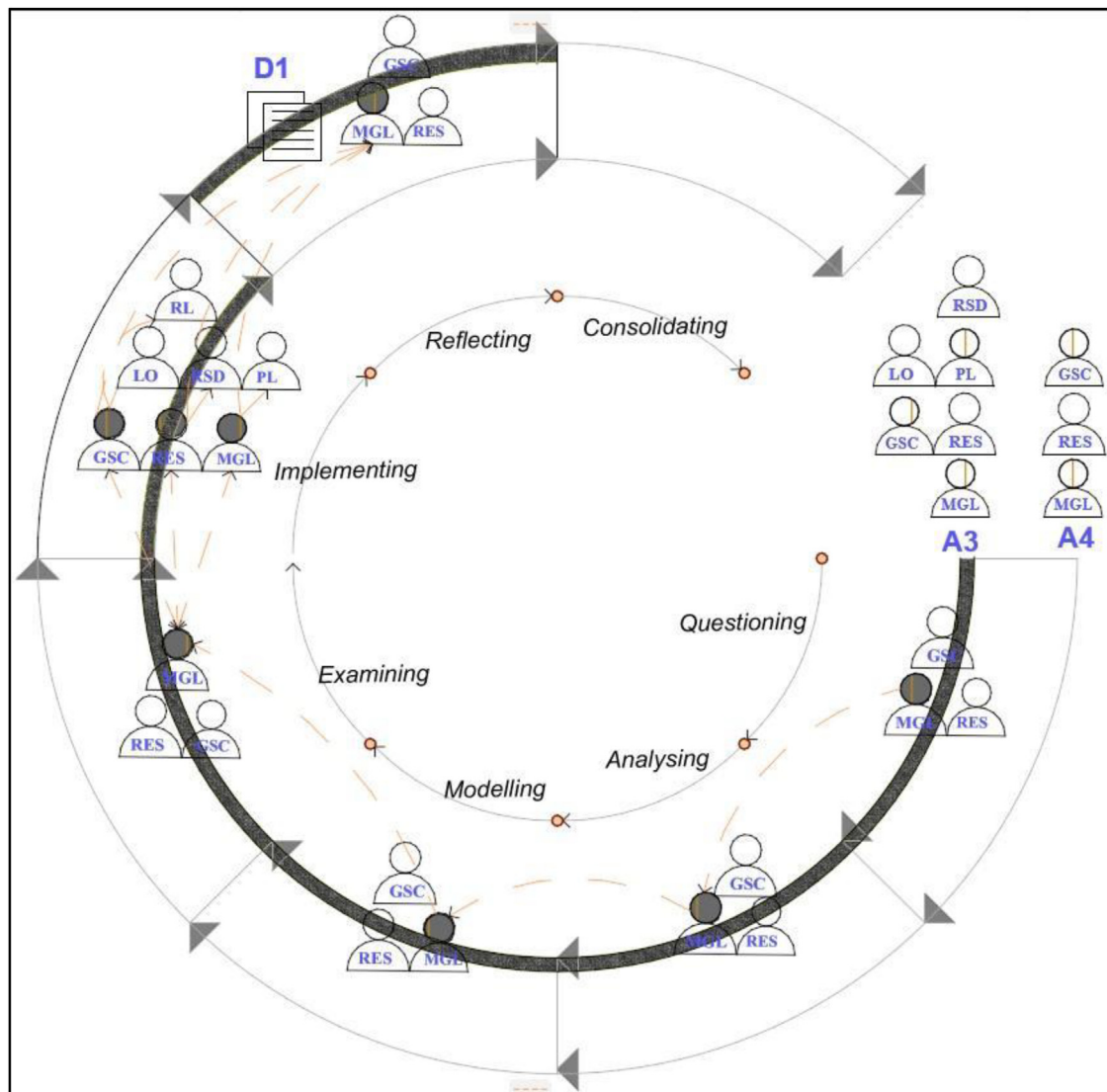


Fig. 2. Expansive Learning Cycle 2 showing Deepening Participation and Reconfiguration of Agency.

facilitating structured workshops in controlled settings (Virkkunen & Newnham, 2013). Here, initial problem framing unfolded through informal, adaptive conversations embedded in local tensions and trust-building. During this dialogue, the MEO shifted his stance, remarking:

“Maybe the expert can lead us to what we should do...” (MEO, Activity 1, 2025)

This marked a turning point, with the researcher moving from observer to trusted facilitator, steering early learning actions alongside the MGL and building a shared understanding of the contradiction. Following the MC’s suggestion to consolidate core perspectives before broader engagement, the GSC was formally included in the examining phase. This approach reflected caution but also growing trust in the researcher’s role. Gradually, the MGL assumed greater leadership, culminating in a resident-focused implementation phase and a reflection phase interpreting early outcomes.

Overall, Cycle 1 illustrates how contradictions catalyse grassroots deliberation and shifting roles, with external facilitation providing a flexible, context-sensitive catalyst for locally grounded problem-solving. As Virkkunen and Newnham (2013) emphasise, the researcher’s role in expansive learning is not to prescribe solutions but to trigger movement when local actors become stuck, helping clarify objectives, roles, and mediating tools. From an agonistic perspective, such moments

of hesitation and contestation are not pathologies but opportunities for new roles to emerge (Mouffe, 1999). In the Tanzanian context, this dynamic resonates with findings by Manara and Pani (2023) and Ngowi et al. (2022), who show how grassroots leadership at the Mtaa level gradually consolidates once catalytic interventions open space for negotiation. In this case, external facilitation anchored in CHAT principles of clarifying objectives, roles, and mediating artefacts supported the transition from hesitation to action, enabling locally grounded problem-framing and early collaboration. Taken together, these dynamics highlight how researcher facilitation can serve as a temporary but vital bridge, helping grassroots leaders move past initial paralysis, while laying the groundwork for their own leadership to take root and evolve.

4.2.2. Cycle two: deepening participation and the reconfiguration of agency

Cycle Two (Fig. 2), covering Activities 3 and 4, marked a shift from researcher-led facilitation toward broader participation by the MGL and GSC. Unlike Cycle One’s cautious coordination, this phase deliberately engaged three core actor groups: the researcher, the full cohort of MGL, and the GSC. The GSC’s sustained involvement reflected its growing legitimacy and institutional acceptance.

During the phases of questioning, analysing, modelling, and examining, roles shifted in response to evolving trust and relationships. In Activity 3, the researcher interviewed residents and spoke informally

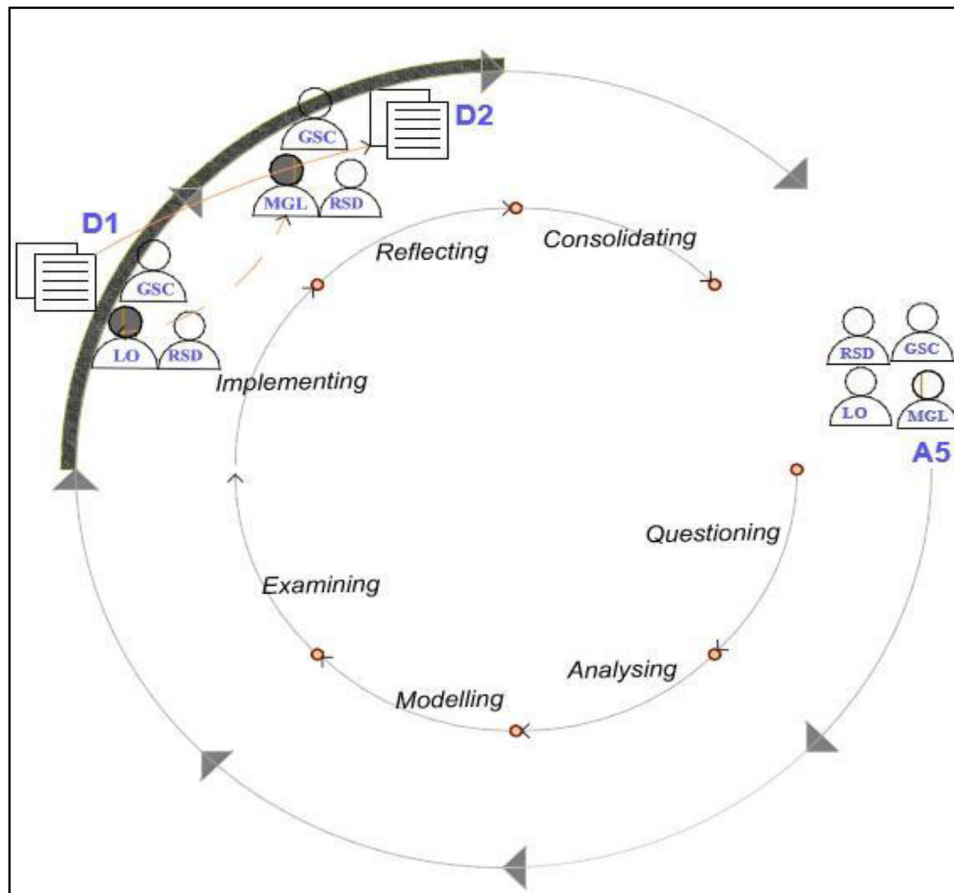


Fig. 3. Expansive Learning Cycle 3 showing Grassroots Consolidation and Emergent Autonomy.

with stakeholders to surface concerns, while the MGL engaged political leaders and the GSC worked directly with the lodge owner and religious figures, drawing on their reputation for neutrality. As one resident explained:

“These people who are resisting... should discuss with the GSC members... because they are the ones who are neutral and represent the community.” (Resident, Activity 3, 2025)

Trust thus became a central condition for collaboration (Apostolopoulou et al., 2022; Kaufman & Dilla Alfonso, 1997). Once established, it enabled local leaders to implement solutions and apply the same model to new challenges. The deliberate engagement of political and religious figures also anchored legitimacy for implementation, echoing Kaufman’s argument that community action depends on networks of recognition and trust. At the same time, shared tools such as documents, maps, and meeting notes shifted from simple records to mediating artefacts that clarified misunderstandings, coordinated responses, and built trust. In line with Virkkunen and Newnham’s (2013) principle of double stimulation, these artefacts acquired new meaning through use, becoming generative resources for sustained grassroots problem-solving.

4.2.3. Cycle three: grassroots consolidation and emergent autonomy

Cycle Three (Fig. 3, Activity 5) marked a shift toward grassroots-led coordination of the green space initiative. Unlike ChangeLab interventions described by Virkkunen and Newnham (2013), where interventionists guide activity, the Extended ChangeLab in Sinza D unfolded through community-initiated engagements in the absence of both the researcher and the MGL. The lodge owner (LO) began informal discussions with previously resistant residents. These unrecorded exchanges reflected expansive learning actions, questioning, analysing, and mod-

elling, conducted organically, without external facilitation. Residents used this time to “walk alone,” processing the initiative on their own terms.

Crucially, the community collectively revisited Document D1, containing the researcher’s student ID, proposal, permits, and institutional backing. Conventionally, such a document serves as a mediating artefact legitimising the interventionist. In Sinza D, however, D1 became the object of verification, not by officials but by residents themselves, signalling a community-led mode of legitimation. When the formal meeting took place, it was chaired by the LO and attended by the GSC and residents. The researcher and MGL remained deliberately absent. The GSC acted as a proxy, coordinating discussion around Document D2, which had been developed in earlier workshops. This document now functioned as a remediated artefact, repurposed by grassroots actors to structure dialogue and decision-making.

In the follow-up reflection (Activity 6), the MGL invited the GSC to recount events:

“Give us the story of what happened. I already have some clues that things went on well, but give us the real picture.” (MC, Activity 6, 2025)

This moment reflected institutional curiosity and a willingness to learn from community-led action. A decision was made to circulate the meeting minutes more widely, confirming documentation as a shared tool for transparency and collective memory.

Overall, Cycle 3 diverged from interventionist-led applications of the ChangeLab method. Instead, the Extended ChangeLab demonstrated how communities can verify, reinterpret, and mobilise mediating artefacts to advance learning and action from within. This signals a turning point: grassroots actors not only appropriated tools introduced through external facilitation but also redefined their meaning, illustrating emer-

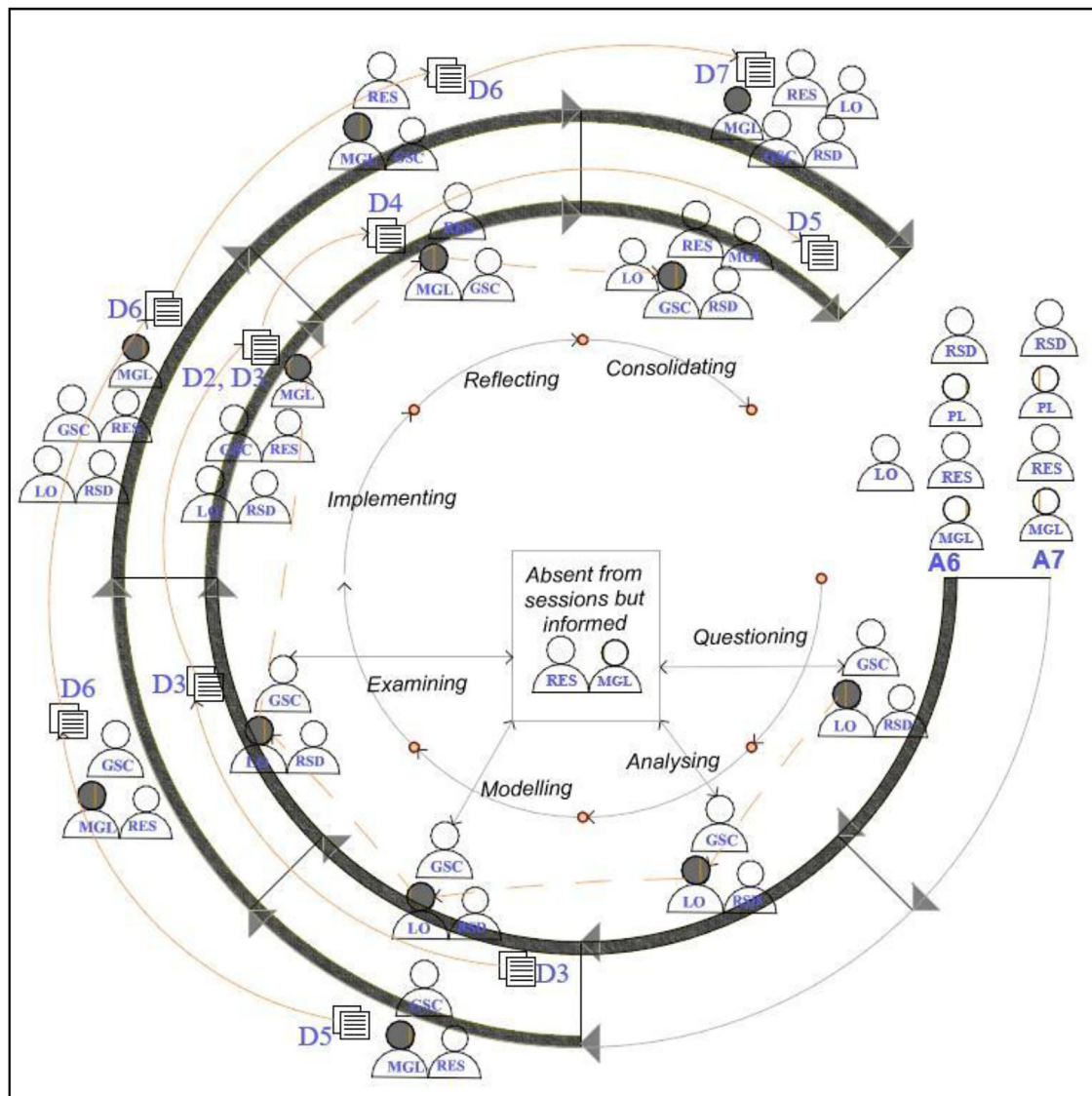


Fig. 4. Expansive Learning Cycle 4 showing convergence and public institutionalisation.

gent autonomy and the capacity to institutionalise learning on their own terms.

4.2.4. Cycle four: convergence and public institutionalisation

Cycle Four, covering Activities 6 and 7, marked a turning point in the initiative: the convergence of grassroots and institutional actors around the public institutionalisation of the green space plan. Unlike the ChangeLab described by Virkkunen and Newnham (2013), where interventionists guide activity, this cycle revealed an Extended ChangeLab logic in which community actors coordinated the process while institutional actors supported it remotely.

In Activity 6, the lodge owner (LO) and Green Space Committee (GSC) led the expansive learning actions of questioning, analysing, modelling, and examining, without the physical presence of the researcher or the Mtaa Government Leader (MGL). Input from these institutional actors, the researcher representing the university and the MGL representing the government, came through mobile consultations, reflecting a distributed mode of governance where grassroots leaders made decisions and institutional actors provided legitimacy and technical advice when required.

Documentation again played a central role. Meeting notes, draft plans, and mobile communications functioned as cultural mediating

artefacts and boundary objects, enabling collaboration across institutional and spatial divides. During this phase, the GSC's autonomy was openly affirmed by the MGL:

"You have the power to make decisions because the plan is yours. Whatever is agreed, that is what we are supposed to work on." (MC, Activity 6, 2025)

The GSC's coordination of phased implementation, beginning with tree planting, demonstrated its legitimacy as a community-based intermediary. Later in the same activity, a public implementation forum brought all six stakeholder groups: GSC, LO, residents, researchers, and MGL, into a shared space. Documents co-developed earlier (D2) were remediated through posters and maps that enabled transparent, collective referencing. Here, documentation not only supported planning but also anchored implementation in public view.

In the reflection session, the MGL reframed documentation as a tool for public accountability:

"We're facing contradictions in the green space and sewerage projects, and maybe in road construction too. So while you're still here, include all three projects in the poster for the noticeboard, we'll also share it in public meetings." (MGL, Activity 6, 2025)

This shift from internal coordination to performative governance (Kaufman & Dilla Alfonso, 1997) signalled deeper integration of grassroots processes into local institutional systems. Documentation (D3–D7) evolved into instruments for transparency, visibility, and collective oversight, aligning with broader participatory governance expectations.

In Activity 7, the process concluded with focused actions on modelling and examination. Final maps and awareness posters were validated, and the lodge owner, once a strong opponent, fully endorsed the negotiated plan. His transformation underscored the power of sustained grassroots dialogue and the strategic use of participatory tools.

Rather than ending with physical implementation, the cycle culminated in a collectively validated foundation for action, a shared plan grounded in trust and enabled through remediated cultural artefacts. This marked the consolidation of an Extended ChangeLab: not as a closed cycle, but as a community-driven infrastructure capable of sustaining negotiation, learning, and implementation beyond the life of the intervention.

Together, these four cycles illustrate how expansive learning unfolded through locally grounded practices of negotiation, reconfiguration, and collaboration. While each cycle highlights a distinct moment of transition, taken together they show a trajectory from initial coordination to public institutionalisation. To deepen the discussion, the following subsections synthesise the findings across cycles, focusing on three cross-cutting themes: (i) expansive learning in fragmented collectives, (ii) adaptive roles and distributed leadership, and (iii) documentation as a catalytic mediator in collective learning.

4.3. Expansive learning in a fragmented collective

The green space initiative unfolded through fragmented, non-linear processes shaped by shifting alliances and evolving contradictions (see Table 1 and Figs. 1–4). While Virkkunen and Newnham (2013) describe ChangeLabs where participant configurations often stabilise through structured, researcher-facilitated cycles, the Extended ChangeLab in Sinza D functioned differently. It provided a methodological space in which the collective expanded and contracted in response to emerging tensions and contextual complexities.

From the outset, proponents, including researchers, the MGL, and GSC members, faced coordinated resistance from the lodge owner and a group of residents, rooted in historical mistrust and contested land use:

“We discussed together and made the decision that we don’t want this project...” (Resident, Activity 2, 2025)

Fragmentation also existed among the proponents themselves, as some GSC members expressed reluctance to align with MGL authority. Rather than enforcing consensus, the Extended ChangeLab created space for these divisions to be surfaced and negotiated. Contradictions around trust, inclusion, and procedural legitimacy prompted the temporary expansion of the collective to include new actors, such as religious leaders, who were deliberately engaged to mediate resistance:

“Since those resisting are guided by their religious leaders, we should engage these leaders...” (GSC Chairperson, Activity 3, 2025)

This process illustrates a core CHAT principle: collective activity systems consist of diverse actors whose roles shift as contradictions are mediated through tools and dialogue (Engeström, 2001; Virkkunen & Newnham, 2013). Within the Extended ChangeLab, authority became more distributed as proponents recognised the community’s own capacity to generate solutions. As one MGL reflected, it was important to “let the community have a solution” (MGL 2, Activity 3, 2025).

Learning advances through cycles of reflection, provisional alignment, and the expansion of actor networks. In contrast to Engeström’s early applications in relatively stable institutional settings, the Extended ChangeLab in Sinza D remained fluid and adaptive, responding to contested urban dynamics where roles, rules, and relationships were constantly in flux. This resonates with Kaufman and Dilla Al-

fonso’s (1997) arguments on the relational power of networks, where adding or mobilising new actors can shift legitimacy and unlock collective agency. Fragmentation and adaptation thus emerge not as weaknesses but as defining features of the Extended ChangeLab in grassroots contexts, enabling new forms of collective agency to take shape through ongoing negotiation and reconfiguration.

4.4. Adaptive roles and distributed leadership in expansive learning

The progression of the green space initiative illustrates how leadership and agency evolved through contradiction, negotiation, and tool-mediated reflection, rather than remaining fixed. In early ChangeLab applications, researchers often initiated structured sessions, prepared mirror data, and guided expansive learning actions within bounded institutional settings (Engeström, 2001; Virkkunen & Newnham, 2013). By contrast, the Extended ChangeLab in Sinza D unfolded within everyday community life, adapting dynamically to emerging tensions and relationships.

Initially, researchers and Mtaa Government Leaders (MGL) directed the process, with the Green Space Committee (GSC) excluded from early planning. This exclusion generated tension in Activity 1, prompting expansive learning: GSC members questioned their role, MGL clarified responsibilities, and a shared understanding was negotiated. By Cycle 2 (Activity 3), the GSC had become central facilitators. Leadership diversified further as the MGL engaged political leaders, the researcher supported dialogue with residents, and the GSC connected with religious figures and the lodge owner.

Rather than being concentrated in a single facilitator, leadership was distributed, including residents and previously resistant actors who, by Cycles 3 and 4, were actively participating in negotiation, modelling, and reframing conflict. As one resident explained, “these people who are neutral... should discuss with the GSC members because they represent the community” (Resident, Activity 3, 2025). This reflected an expanding recognition that facilitation could be rooted in trust and social legitimacy rather than formal authority.

The adaptive redistribution of leadership resonates with Mouffe’s (1999) argument that conflict can open democratic possibilities, and with Apostolopoulou et al. (2022)’s observation that urban governance often depends on the convergence of formal and informal arrangements. It also reflects Kaufman and Dilla Alfonso’s (1997) emphasis on the relational nature of power, where legitimacy grows through networks and common interests rather than fixed mandates. In Sinza D, the Extended ChangeLab enabled grassroots leaders, formal authorities, and initially resistant residents to find overlapping ground, redistributing authority in ways that strengthened collective capacity. Facilitation thus emerged as dynamic and relational, embedded across a constellation of actors whose legitimacy stemmed from both institutional mandate and community trust.

4.5. Documentation as a catalytic mediator in collective learning

A turning point in the initiative emerged during Cycle 2, when tensions around trust, inclusion, and procedural clarity underscored the need for stronger tools to navigate conflict. Among the most transformative was documentation, which shifted from neglect to becoming central in collective learning. As one leader put it:

“Documents are instruments in conflict resolution in our area, we have to buy files and keep them readily available...” (MGL, Activity 4, 2025)

This marked a departure from Cycle 1, when documentation was largely absent, reflecting weak record-keeping in grassroots governance (Majogoro et al., 2025). As contradictions surfaced, participants encountered what Vygotsky (Cong-Lem, 2022) calls a *first stimulus*, a disruptive situation of uncertainty. They responded with documentation as a *second stimulus*, using notes, maps, and sketches to reframe issues and

move forward. Through this process of double stimulation (Virkkunen & Newnham, 2013), documentation evolved into an active cultural artefact that clarified meaning, strengthened relationships, and coordinated action.

This trajectory reflects expansive learning: contradictions pushed actors to question old habits, experiment with new tools, and consolidate documentation as part of everyday practice. Similar to Botero and Saad-Sulonen's (2018) findings on documentation in collaborative design, and Apostolopoulou et al's (2022) insights on formal–informal convergence, artefacts became shared reference points across actors. By Cycle 3, minutes and maps were circulated to explain decisions and counter misinformation; by Cycle 4, documentation anchored legitimacy and accountability, evident when leaders demanded public display of maps.

Overall, documentation emerged as a catalytic mediator in the Extended ChangeLab, enabling grassroots actors not only to coordinate immediate action but also to establish more transparent and durable forms of governance.

5. The extended changelab: reflections on grassroots learning and planning

Change-oriented “lab” approaches have proliferated in recent years, from Urban Living Labs (ULLs) that emphasise experimentation and co-creation in real-world settings (Boni, 2023; Bulkeley et al., 2016; Kris & Ellen, 2017) to ChangeLabs, developed within Cultural Historical Activity Theory (CHAT), which frame collective learning through cycles of contradiction, negotiation, and expansive transformation (Engeström & Sannino, 2010; Virkkunen & Newnham, 2013). While ULLs focus on prototyping innovations in urban governance, ChangeLabs concentrate on how learning emerges when contradictions in collective activity are surfaced and mediated through tools, roles, and rules.

The green space initiative in Sinza D illustrates an Extended ChangeLab, which shares with ULLs a commitment to multi-actor participation and situated experimentation, but builds more directly on the ChangeLab tradition. Unlike the structured, expert-led sessions of earlier ChangeLab applications in schools or hospitals, the Extended ChangeLab unfolded in everyday community life. Learning was driven not by a formal workshop cycle, but by contradictions that surfaced during implementation, particularly resistance from some residents after more than a year of participatory planning. These ruptures triggered a reorganisation among grassroots leaders and the researcher, who began to improvise new forms of engagement to address conflict.

Here, expansive learning was not confined to bounded workshops but was scaffolded across everyday interactions, meetings, and artefacts. Documents, maps, posters, and notes shifted from being simple records to mediating tools that stabilised meaning, legitimised decisions, and opened space for negotiation. Contradictions became catalysts, documentation became a mediator, and leadership roles shifted across cycles, together extending the ChangeLab into a grassroots planning infrastructure that adapted to the fragmented, contested conditions of Sinza D.

6. Conclusion

This study makes two interrelated contributions. First, it critically reflects on the evolving position of the *extended planner* in the context of entrepreneurial pressures and fragmented governance. The case shows how planners' roles extend beyond technical delivery to facilitation, negotiation, and the activation of grassroots learning processes. Second, it demonstrates the Extended ChangeLab as a reconceptualisation of the ChangeLab method, adapting expansive learning principles of contradiction, mediation, and shifting roles into an open, context-sensitive infrastructure for grassroots planning.

From these contributions, several recommendations follow. Municipal planners should approach facilitation as a shared learning process, resisting technocratic reflexes. Researchers should offer mediating tools

and theoretical scaffolds while recognising when to withdraw and allow grassroots actors to lead. Grassroots leaders can strengthen legitimacy and collective capacity through consistent documentation, transparency, and distributed authority.

Looking ahead, a key task is to explore how planners and institutions themselves can undergo expansive learning, embedding co-creation without displacing grassroots agency. More broadly, the study offers a framework for understanding and navigating the unstable dynamics of community-led planning in rapidly transforming African cities.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

CRediT authorship contribution statement

Manyama Majogoro: Writing – review & editing, Writing – original draft, Visualization, Validation, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Oswald Devisch:** Writing – review & editing, Validation, Supervision, Resources, Investigation, Funding acquisition, Conceptualization. **Fredrick Bwire Magina:** Writing – review & editing, Validation, Supervision, Resources, Project administration, Investigation, Funding acquisition, Conceptualization.

References

- Andrew, L., & Issa, F. (2025). The role of community policing in preventing crimes in Tanzania: A case Mkuranga district council. *African Journal of Empirical Research*, 6(1), 23–32. [10.51867/ajernet.6.1.3](https://doi.org/10.51867/ajernet.6.1.3).
- Antoniadou, V. (2011). Using activity theory to understand the contradictions in an online transatlantic collaboration between student-teachers of english as a foreign language. *ReCALL*, 23(3), 233–251. [10.1017/S0958344011000164](https://doi.org/10.1017/S0958344011000164).
- Apostolopoulou, E., Bormpoudakis, D., Chatzipavlidis, A., Cortés Vázquez, J. J., Florea, I., Gearey, M., Levy, J., Loginova, J., Ordner, J., Partridge, T., Pizarro, A., Rhoades, H., Symons, K., Verissimo, C., & Wahby, N. (2022). Radical social innovations and the spatialities of grassroots activism: Navigating pathways for tackling inequality and reinventing the commons. *Journal of Political Ecology*, 29(1). [10.2458/jpe.2292](https://doi.org/10.2458/jpe.2292).
- Bødker, S., Dindler, C., Iversen, O. S., & Smith, R. C. (2022). *Participatory design*. Springer International Publishing. [10.1007/978-3-031-02235-7](https://doi.org/10.1007/978-3-031-02235-7).
- Boni, A. S. (2023). Urban Living Labs: Insights for institutionally promoted Urban policies. In N. Aernouts, F. Cognetti, & E. Maranghi (Eds.), *Urban living lab for local regeneration* (pp. 53–67). Springer International Publishing. [10.1007/978-3-031-19748-2_4](https://doi.org/10.1007/978-3-031-19748-2_4).
- Botero, A., & Saad-Sulonen, J. (2018). (Challenges and opportunities of) documentation practices of self-organised urban initiatives. In *Participatory design theory* (1st ed., pp. 230–246).
- Bulkeley, H., Coenen, L., Frantzeskaki, N., Hartmann, C., Kronsell, A., Mai, L., Marvin, S., McCormick, K., Van Steenberghe, F., & Voytenko Palgan, Y. (2016). Urban living labs: Governing urban sustainability transitions. *Current Opinion in Environmental Sustainability*, 22, 13–17. [10.1016/j.cosust.2017.02.003](https://doi.org/10.1016/j.cosust.2017.02.003).
- Cong-Lem, N. (2022). Vygotsky's, Leontiev's and Engeström's cultural-historical (Activity) theories: Overview, clarifications and implications. *Integrative Psychological and Behavioral Science*, 56(4), 1091–1112. [10.1007/s12124-022-09703-6](https://doi.org/10.1007/s12124-022-09703-6).
- Engeström, Y. (2000). Activity theory as a framework for analyzing and redesigning work. *Ergonomics*, 43(7), 960–974. [10.1080/001401300409143](https://doi.org/10.1080/001401300409143).
- Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualization. *Journal of Education and Work*, 14(1), 133–156. [10.1080/13639080020028747](https://doi.org/10.1080/13639080020028747).
- Engeström, Y., & Sannino, A. (2010). Studies of expansive learning: Foundations, findings and future challenges. *Educational Research Review*, 5(1), 1–24. [10.1016/j.edurev.2009.12.002](https://doi.org/10.1016/j.edurev.2009.12.002).
- Ersay, A., & Van Bueren, E. (2020). Challenges of urban living labs towards the future of local innovation. *Urban Planning*, 5(4), 89–100. [10.17645/up.v5i4.3226](https://doi.org/10.17645/up.v5i4.3226).
- Georgiadou, M. C., Loggia, C., Bisaga, I., & Parikh, P. (2021). Towards sustainable informal settlements: A toolkit for community-led upgrading in Durban. *Proceedings of the Institution of Civil Engineers - Engineering Sustainability*, 174(2), 83–93. [10.1680/jensu.20.00040](https://doi.org/10.1680/jensu.20.00040).
- Horelli, L., Saad-Sulonen, J., Wallin, S., & Botero, A. (2015). When self-organization intersects with urban planning: Two cases from Helsinki. *Planning Practice & Research*, 30(3), 286–302. [10.1080/02697459.2015.1052941](https://doi.org/10.1080/02697459.2015.1052941).
- Huybrechts, L., Van den Eynde, D., Kabendela, G., Knapen, E., Kimaro, J., & Magina, F. (2024). Institutioning as action: mediating grassroots labor and government work for sustainable transitions. <https://doi.org/10.57698/V18I3.07>

- JamiiForums. (2025). Wananchi wa mtaa wa mji mpya, saranga jijini dar es salaam wachangishana pesa na kujenga kipande cha barabara kwa kiwango cha zege [Online post]. <https://www.jamiiforums.com/threads/wananchi-wa-mtaa-wa-mji-mpya-saranga-jijini-dar-es-salaam-wachangishana-pesa-na-kujenga-kipande-cha-barabara-kwa-kiwango-cha-zege.2323354/>
- Kaufman, M., & Dilla Alfonso, H. (Eds.). (1997). *Community power and grassroots democracy: The transformation of social life*. Zed Books ; International Development Research Centre.
- Kindon, S., Pain, R., & Kesby, M. (2009). Participatory action Research. In *International encyclopedia of human geography* (pp. 90–95). Elsevier. 10.1016/B978-008044910-4.00490-9.
- Kris, S., & van Ellen, B. (2017). The defining characteristics of urban living labs. *Technology Innovation Management Review*, 7.
- Magina, F. B., Kyessi, A., & Kombe, W. (2020). The urban land nexus– Challenges and opportunities of regularising informal settlements: The case studies of Dar es Salaam and Mwanza in Tanzania. *Journal of African Real Estate Research*, 5(1), 32–54. 10.15641/jarer.v5i1.837.
- Majogoro, M., Devisch, O., & Magina, F. B. (2025). Participatory retrofitting through extended planners in Tanzanian urban areas. *Urban Planning*, 10, 51–73. 10.17645/up.9015.
- Manara, M., & Pani, E. (2023). Institutional hybrids through meso-level bricolage: The governance of formal property in urban Tanzania. *Geoforum; journal of physical, human, and regional geosciences*, 140, Article 103722. 10.1016/j.geoforum.2023.103722.
- Mouffe, C. (1999). Deliberative democracy or agonistic pluralism? *Social Research*, 66(3), 745–758.
- Ngowi, N., Kadio, J., & Chiduo, P. (2022). Do Village and Mtaa Executive officers have legal knowledge of their duties and responsibilities as community workers? A case of selected district councils. *Planning and Development Initiative Journal*, 5(6).
- Ono, H., & Adrien, U. (2024). Community-driven informal settlement upgrading as an everyday practice: The role of urban and governance policies. *Land Use Policy*, 146, Article 107318. 10.1016/j.landusepol.2024.107318.
- Sannino, A., Engeström, Y., & Lemos, M. (2016). Formative interventions for expansive learning and transformative agency. *Journal of the Learning Sciences*, 25(4), 599–633. 10.1080/10580406.2016.1204547.
- Smith, A., Fressoli, M., & Thomas, H. (2014). Grassroots innovation movements: Challenges and contributions. *Journal of Cleaner Production*, 63, 114–124. 10.1016/j.jclepro.2012.12.025.
- URT. (2018). The urban planning (planning space standards) regulations. United Republic of Tanzania.
- Varnai, B., Bryant, K., & Gallo, M. (2019). *The future is community-led: How people are improving their neighbourhoods across Africa* May 16. URBANET https://www.urbanet.info/community-led-neighbourhood-improvement-across-africa/?utm_source=chatgpt.com.
- Virkkunen, J., & Newnham, D. S. (2013). *The change laboratory*. SensePublishers. 10.1007/978-94-6209-326-3.
- Voytenko, Y., McCormick, K., Evans, J., & Schliwa, G. (2016). Urban living labs for sustainability and low carbon cities in Europe: Towards a research agenda. *Journal of Cleaner Production*, 123, 45–54. 10.1016/j.jclepro.2015.08.053.
- Yamagata-Lynch, L. C. (2010). Understanding cultural historical activity theory. In L. C. Yamagata-Lynch (Ed.), *Activity Systems Analysis Methods* (pp. 13–26). US: Springer.
- Zapata Campos, M. J. (2019). *Organising grassroots initiatives for a more inclusive governance: Constructing the city from below*. Swedish International Centre for Local Democracy [Elektronisk resurs].