

Enabled Agency in Self-Help Housing: A Conceptual Model Linking Housing Provision to Multidimensional Housing Quality

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ABSTRACT

Self-help housing remains an important component of housing provision in rapidly urbanising cities, yet existing scholarship provides limited explanation of how household agency operates within enabling systems and through housing-production processes to shape multidimensional housing quality. This article addresses this conceptual gap through a critical integrative synthesis of scholarship on self-help housing, incremental and assisted self-help housing, enabling systems, and housing-quality assessment. Building on Turner's dweller-control perspective, the article develops the Enabled-Agency Model, which conceptualises household agency as the driving force of self-help housing operating within four interrelated enabling domains: land access, housing finance, infrastructure provision, and technical and institutional support. The model specifies housing-production processes: land acquisition, construction, incremental expansion, consolidation, and maintenance and adaptation, as the proposed mechanism through which enabling conditions and household agency may become reflected in multidimensional housing-quality outcomes. Housing quality is conceptualised across four dimensions: structural and physical quality, infrastructure and service quality, sanitation and public-health quality, and residential satisfaction and user comfort. The model's originality lies in specifying the analytical relationship among dweller control, enabling systems, housing-production processes, and multidimensional housing quality within a single process-oriented framework, rather than treating these concerns separately. Five theoretically derived propositions translate the framework into empirically testable expectations and provide a basis for examining direct, indirect, and conditional relationships among its principal constructs. Abuja-FCT is identified as the principal application context for subsequent empirical investigation, rather than as the basis for theoretical generalisation. The article contributes an enabling-systems extension of Turner's dweller-control perspective and provides a conceptual bridge between self-help housing provision and multidimensional housing-quality research. The model remains a conceptual and empirically testable framework requiring validation, refinement, and comparative assessment across contexts.

Keywords: Self-help housing, Enabled agency, Enabling systems, Housing-production processes, Housing quality.

INTRODUCTION

Housing is fundamental to human health and quality of life, with inadequate housing conditions associated with a range of health risks and reduced well-being [1,20]. Housing conditions also have implications for urban environmental and public-health conditions because housing intersects with infrastructure, sanitation and health-supporting systems [1,20]. At the same time, inadequate housing, affordability constraints and uneven housing conditions remain persistent challenges across rapidly urbanising contexts of the Global South [2,17]. These conditions have sustained the importance of household-led approaches through which residents secure, construct and progressively develop their homes [4,6].

Turner conceptualised housing as a process rather than a finished product, emphasising the role of residents in shaping housing according to their needs, resources and circumstances [3]. His dweller-control perspective

argues that housing can become more responsive to household needs when residents have meaningful control over decisions affecting its development [3]. This perspective established household agency and incremental development as important foundations of self-help housing scholarship. Subsequent work on self-help and assisted self-help housing has shown, however, that household-led production can operate within institutional arrangements that provide access to land, finance, infrastructure and other forms of support [4]. Assisted self-help approaches have further demonstrated changing relationships between households and state and non-state actors in the provision and improvement of housing [5]. More recent scholarship on incremental housing similarly situates household-led production within wider markets, institutions and urban systems [6]. These developments suggest that household agency needs to be understood in relation to the conditions within which housing production takes place.

The role of enabling conditions is particularly relevant because incremental housing is not produced solely through household decisions. Research on incremental and assisted housing highlights the importance of the wider institutional, financial and resource environment within which households initiate, construct and progressively develop their homes [4–6]. Land access can affect the ability of households to initiate and secure housing production, while financial arrangements can influence their capacity to undertake construction and subsequent development [4,14–16]. Evidence from Nigeria highlights the importance of financing mechanisms to incremental housing production [15], while more recent research on the Millard Fuller Foundation model examines how an institutional approach to incremental housing relates to affordability and access to resources in Nigeria [16]. Technical and institutional arrangements can likewise influence how household resources and participation are translated into housing development [4,5]. The implication is not that enabling systems replace household agency, but that they condition the opportunities and constraints within which that agency is exercised.

Housing-quality scholarship has also increasingly treated quality as a multidimensional construct rather than a single physical attribute. A systematic review identified 66 housing-quality indicators distributed across eight categories, demonstrating the breadth of dimensions relevant to housing-quality assessment [7]. These include architectural characteristics, user comfort, location and neighbourhood, building services, construction quality and stability, economic aspects, maintenance and sustainability [7]. Research on residential quality has similarly demonstrated the relevance of dwelling layout, room size, ventilation, circulation and spatial organisation in assessing housing conditions [8]. Evidence from consolidated informal settlements further demonstrates substantial variation in the quality of self-built dwellings, indicating the importance of examining housing conditions beyond broad settlement-level classifications [9]. Recent multidimensional housing-quality research in Ghana likewise combines structural conditions, living space, essential services, sanitation and hygiene to assess variation in housing quality and deprivation [2]. More broadly, recent systematic research on housing quality in the Global South identifies self-help, upgrading and redevelopment as important strategies for addressing persistent housing-quality challenges and emphasises the need to consider the institutional and tenure conditions within which such strategies operate [17].

Despite these developments, self-help housing and housing-quality research have developed along related but comparatively distinct analytical trajectories. Self-help housing scholarship has commonly examined household participation, tenure, affordability, incremental construction and institutional arrangements [4–6], while housing-quality research has focused more strongly on the identification, measurement and assessment of dwelling and residential conditions [7–9,17]. This distinction does not imply that the two literatures are disconnected; rather, their respective emphases leave scope for greater integration between explanations of how housing is produced and assessments of the quality of the resulting residential environment. Less attention has therefore been given to explaining how enabling conditions interact with household agency and housing-production processes to shape multidimensional housing-quality outcomes. This represents the central conceptual gap addressed by this article.

The article proposes that housing quality emerges through the interaction of household agency, enabling systems and housing-production processes. Land access, housing finance, infrastructure provision, and technical and institutional support are conceptualised as enabling conditions that shape households' capacity to undertake housing-production processes. Assisted self-help research demonstrates that institutional support can complement household participation and provide resources relevant to housing production [4,5]. Research on incremental housing similarly indicates that housing production is embedded within wider urban, institutional

and market systems [6]. Within the proposed framework, these enabling conditions operate through processes including land acquisition, construction, incremental expansion, consolidation, and maintenance and adaptation. Housing-production processes therefore constitute the proposed mechanism through which enabling conditions interact with household agency and may contribute to variation in multidimensional housing-quality outcomes. To integrate these relationships, the article develops the Enabled-Agency Model. The model conceptualises enabling systems not merely as external contextual factors but as conditions within which household agency is exercised and housing production occurs. This interpretation retains Turner's emphasis on meaningful household control [3] while incorporating the institutional and resource conditions highlighted in self-help, assisted self-help and incremental housing research [4–6]. The model therefore connects enabling conditions and housing-production processes to multidimensional housing quality while retaining household agency as the central driving force of self-help housing.

Abuja-FCT provides the principal application context because housing provision in the Federal Capital Territory operates within a formal planning and administrative framework while experiencing continuing pressures associated with urban growth and housing provision [10]. Research on Abuja has documented substantial urban expansion and identified challenges concerning the effectiveness of the city's master plan in controlling urbanisation [11]. Further research on the spatial growth of Abuja has highlighted the planning implications associated with rapid urban expansion [12]. These characteristics provide a relevant context for examining how household agency interacts with land, financial, infrastructural and institutional conditions in housing production. The framework is nevertheless presented as a conceptual framework for application and empirical testing rather than as a theory derived solely from Abuja. Its broader relevance should therefore be assessed through empirical research in other rapidly urbanising contexts where household-led and incremental housing form part of housing provision.

The article makes three principal contributions. First, it develops an enabling-systems interpretation of Turner's dweller-control perspective, locating meaningful household agency within the conditions that facilitate or constrain its exercise [3–6]. Second, it conceptualises self-help housing as an integrated production system linking enabling conditions with housing-production processes. Third, it establishes a conceptual bridge between self-help housing and multidimensional housing-quality research by positioning housing-production processes as the mechanism connecting enabling systems and household agency to housing outcomes. The resulting framework generates theoretically derived and empirically testable propositions without claiming established causal relationships.

Self-Help Housing Theory: From Dweller Control To Enabled Agency

Self-help housing theory provides the principal theoretical foundation for understanding household-led housing production. Rather than treating housing solely as a finished commodity supplied by governments or private developers, it conceptualises housing as a process through which households participate in shaping, constructing, and progressively developing their residential environments [3,13]. This process-oriented perspective shifted attention from completed housing products towards household participation and control over housing development [3]. Turner's conception of dweller control remains central to this tradition because it places residents' capacity to influence housing decisions at the centre of the housing process [3,13]. However, contemporary housing systems demonstrate that the exercise of such control occurs within wider institutional, financial, infrastructural, and regulatory environments [4–6]. The theoretical issue is therefore not simply whether households possess agency, but the conditions under which that agency can be exercised meaningfully and translated into housing production.

Turner: Housing as Process and Dweller Control

Turner's conception of dweller control represented a significant departure from conventional approaches to housing provision [3,13]. He argued that households should retain meaningful influence over decisions concerning the location, design, construction, and development of their homes [3]. From this perspective, the value of housing extends beyond the characteristics of the completed dwelling to include the extent of control residents exercise over its development [3]. Housing is consequently understood as a continuing process through which residents respond to changing household needs, resources, and circumstances [13]. This perspective has

two principal implications for self-help housing. First, households are active participants in housing production rather than passive recipients of completed units [3]. Second, housing development can be understood as an adaptive and continuing process in which decisions concerning construction and subsequent development respond to changing circumstances [13]. Dweller control therefore provides the theoretical link between household participation and progressive housing production. Its central contribution is to recognise residents as active agents whose knowledge of their needs and priorities can inform decisions made throughout the housing process [3,13].

The importance of dweller control, however, does not imply that household control operates independently of its surrounding environment. Turner's perspective identifies the importance of household decision-making but provides less explicit specification of how institutional arrangements, resource availability, and wider housing systems condition the capacity to act. Contemporary housing production takes place within systems of land administration, planning regulation, finance, infrastructure, and institutional governance [4–6,10–12]. Households may therefore possess the motivation and willingness to develop their dwellings while encountering constraints beyond their immediate control. The contemporary relevance of Turner's theory consequently requires greater attention to the conditions within which dweller control is exercised.

Contemporary Development: From Autonomous Control to Situated Agency

Subsequent scholarship has retained the importance of household participation while demonstrating that self-help housing rarely develops through household action in isolation. Assisted self-help approaches, for example, show how institutional support can complement household participation through access to resources, technical assistance, and other forms of support [4]. Research on assisted self-help further demonstrates that housing provision can involve changing relationships between households, government, and other actors rather than a simple transfer of responsibility from institutions to residents [5]. Scholarship on incremental housing similarly situates household-led production within wider markets, institutions, and urban systems [6]. Together, these perspectives indicate that the capacity of households to exercise control is partly conditioned by the social, institutional, and material environments in which housing decisions are implemented [4–6]. This development does not invalidate Turner's argument. Rather, it identifies a dimension requiring greater theoretical specification. Turner establishes why household control matters, while contemporary housing systems require greater attention to the conditions that make such control effective. A household may decide to construct, expand, or improve its dwelling without possessing the resources, institutional access, or physical conditions required to implement that decision. Agency is therefore not equivalent to unrestricted autonomy; it is the capacity to act meaningfully within a particular configuration of opportunities and constraints. Planning requirements, land-administration arrangements, access to financial and physical resources, infrastructure conditions, and professional or institutional practices may consequently facilitate or constrain household decisions [4–6]. This distinction is particularly relevant in housing contexts where formal regulatory arrangements coexist with informal or household-led practices [5,6].

Household agency should therefore be understood as situated and conditioned rather than entirely autonomous. This does not reduce the role of households in self-help housing. Instead, it places household decision-making within the systems through which opportunities and constraints are encountered. Housing trajectories may consequently vary even where households demonstrate comparable aspirations or willingness to participate because the conditions surrounding their housing-production activities differ. The theoretical implication is that meaningful household control must be considered together with the enabling environment in which that control is exercised.

The Theoretical Need for Enabled Agency

The preceding discussion establishes the basis for an Enabled-Agency interpretation of self-help housing. The argument is not that Turner's dweller-control perspective should be replaced, but that its contemporary application requires greater recognition of the conditions within which household control operates. Turner's central insight, that households should remain meaningful actors in housing production, remains intact [3,13]. What requires further specification is how household agency interacts with conditions that can facilitate or constrain its effectiveness [4–6]. The Enabled-Agency perspective therefore defines meaningful agency as the

capacity of households to exercise control over housing decisions within conditions that make effective action possible. This shifts the analytical question from whether households participate in housing production to how effectively household control can be exercised within enabling conditions. The framework does not treat households and institutions as competing sources of housing provision. Instead, household agency is conceptualised as the driving force of self-help housing, while enabling systems constitute the conditions within which that agency operates. The specific enabling domains, land access, housing finance, infrastructure provision, and technical and institutional support, are examined in Section 3.

The Enabled-Agency interpretation also provides a basis for understanding potential variation in housing-production trajectories. Similar levels of household effort or participation may be associated with different opportunities for housing development when households operate within different configurations of enabling conditions. The relevant analytical issue is therefore not simply whether households possess agency, but whether the conditions surrounding that agency facilitate or constrain the continuation of housing-production processes, including construction, incremental expansion, consolidation, and maintenance and adaptation. This process-oriented interpretation connects household agency to the wider systems through which housing production occurs without assuming that any particular enabling condition automatically produces a particular housing outcome. Accordingly, this article retains Turner's dweller control perspective as its theoretical foundation while developing an enabling-systems interpretation of dweller control suited to contemporary housing systems. The resulting theoretical position can be summarised as follows:

Household agency is the driving force of self-help housing, but the effectiveness of that agency depends on the enabling conditions within which households exercise meaningful control over housing production.

Enabling Systems

Self-help housing does not occur through household effort alone. Households exercise agency within wider conditions that can facilitate, constrain or shape their capacity to acquire land, mobilise resources, construct and improve dwellings, and maintain residential environments. The Enabled-Agency Model therefore conceptualises land access, housing finance, infrastructure provision, and technical and institutional support as four enabling domains. They are analytically distinct but may interact in practice.

Land Access

Land access provides the spatial foundation for self-help housing and encompasses households' ability to obtain and retain land suitable for residential development. Relevant conditions include tenure security, affordability, documentation, accessibility of developable land and interactions with land-administration and development procedures [14,23,29]. Secure and accessible land can provide a basis for household investment, while insecure, unaffordable or administratively constrained access may restrict the capacity to initiate or sustain housing development. Within the Enabled-Agency Model, land access is therefore treated as an enabling condition rather than a housing-quality outcome. Its relationship with housing production is developed through the land-acquisition process in Section 5.3.

Housing Finance

Housing finance concerns the financial resources and mechanisms through which households support housing development and improvement. Self-help and incremental housing may involve combinations of household savings, income, informal borrowing, formal credit and other financing arrangements [4,15,16,27,28]. The availability, affordability and continuity of these resources can shape households' capacity to undertake housing investment over time. Finance is therefore conceptualised as an enabling input to household-led housing production, rather than as a direct measure of housing quality. Its relationship with construction, incremental expansion, consolidation and subsequent improvement is specified in Section 5.3.

Infrastructure Provision

Infrastructure provision refers to the availability and accessibility of physical and urban services that support residential development and use, including roads, water supply, electricity, drainage and waste-collection

services [7,10–12,17,24]. These services form part of the wider environment within which households develop, occupy and maintain their dwellings. The model distinguishes infrastructure provision as an enabling condition from infrastructure and service quality as a housing-quality outcome. This distinction prevents the input and outcome from being treated as the same construct. The relationship between infrastructure provision and relevant housing-production processes is developed in Section 5.3.

Technical and Institutional Support

Technical and institutional support encompasses access to planning information, professional assistance, regulatory guidance, development-control procedures and relevant administrative institutions. Such support can provide households with information, technical knowledge and institutional resources relevant to housing development [4–6,25,26,29]. The model treats technical and institutional support as an enabling condition that may shape how households undertake housing-production processes. Its specific relationship with construction, consolidation, maintenance and adaptation is developed in Section 5.3.

Interaction among Enabling Systems

The four enabling domains are analytically distinct but are not assumed to operate independently. Their availability and adequacy may combine to create different configurations of opportunity and constraint. For example, access to finance may be less effective where secure land is unavailable, while household financial resources may translate into different housing outcomes depending on infrastructure conditions or access to technical and institutional support. The Enabled-Agency Model therefore treats enabling systems as an interacting configuration of conditions within which household agency is exercised, rather than as four isolated predictors. Their relationships with household agency and housing-production processes are developed in Section 5.

Housing Quality

Multidimensional Housing Quality

Housing quality is increasingly understood as a multidimensional outcome rather than a single attribute of the dwelling. Contemporary housing-quality research identifies physical, infrastructural, environmental and experiential dimensions as relevant to residential quality [7,8]. Assessment based solely on the physical condition of a dwelling may therefore overlook differences in service access, sanitation conditions and residents' experiences. This multidimensional perspective is particularly relevant to self-help housing because housing conditions develop progressively through household investment, adaptation and consolidation. Reyes et al. [9], for example, demonstrate substantial variation in housing quality within consolidated informal settlements, highlighting differences associated with housing investment and the processes through which dwellings are progressively developed. Recent multidimensional frameworks likewise combine physical, infrastructural, environmental and social indicators to capture variation in housing quality [2,17]. Building on this literature, the present article conceptualises multidimensional housing quality as an outcome of housing-production processes operating within enabling systems and shaped by household agency. This formulation establishes an analytical distinction between the conditions that enable housing production, the processes through which housing is progressively produced, and the quality outcomes experienced by households. Within the Enabled-Agency Model, land access, housing finance, infrastructure provision, and technical and institutional support constitute enabling systems, while housing-production processes comprise land acquisition, construction, incremental expansion, consolidation, maintenance and adaptation. Multidimensional housing quality represents the outcome construct through which the consequences of these processes are assessed.

A critical distinction is therefore made between enabling conditions and housing-quality outcomes. Infrastructure provision is treated as an enabling variable, whereas infrastructure and service quality represents an outcome experienced by households. Infrastructure provision concerns the conditions and processes through which physical infrastructure and services are made available, while infrastructure and service quality concerns the adequacy, accessibility and reliability of those services as experienced within the residential environment. This distinction prevents the same construct from being treated simultaneously as an explanatory condition and an

outcome measure. Accordingly, multidimensional housing quality comprises four complementary outcome dimensions:

- a. Structural and physical quality.
- b. Infrastructure and service quality.
- c. Sanitation and public-health quality; and
- d. Residential satisfaction and user comfort.

These dimensions capture both observable residential conditions and residents' subjective experiences while maintaining analytical separation between enabling inputs, housing-production processes and housing outcomes.

Structural and Physical Quality

Structural and physical quality concerns the condition, safety, durability and functional adequacy of the dwelling itself. Relevant indicators include structural integrity, construction materials, roofing, walls, floors, space adequacy, internal layout, ventilation, natural lighting, functionality and general physical condition [18,7]. These characteristics provide the physical basis through which a dwelling accommodates household activities and protects residents from environmental exposure. In self-help housing, structural and physical quality may develop incrementally rather than through a single construction event [3,6,9,15,16]. Households may initially construct basic structures and subsequently replace temporary materials, add rooms, improve roofing, modify layouts or strengthen structural elements as resources and household needs change. Physical quality therefore reflects the cumulative trajectory of housing production rather than only the condition of the dwelling at initial construction.

Evidence from self-built settlements supports this process-oriented interpretation. Reyes et al. [9] found substantial variation in housing quality within consolidated settlements, demonstrating that differences in investment and technical capacity can be reflected in the quality achieved through progressive consolidation. Nigerian research similarly documents incremental and phased approaches to household housing development [15,16]. These findings support the conceptualisation of structural and physical quality as an outcome associated with the cumulative progression of housing-production activities. Within the Enabled-Agency Model, structural and physical quality is therefore treated as a housing-quality outcome rather than an enabling condition. Secure land, access to finance, and appropriate technical and institutional support may influence the capacity of households to initiate, construct, expand and consolidate their dwellings, but these enabling conditions are analytically distinct from the resulting physical condition of the dwelling.

Mechanism link: Land access primarily enables land acquisition and the initiation of development, while housing finance and technical and institutional support facilitate construction, incremental expansion and consolidation; these production processes are expected to contribute particularly to structural and physical housing quality.

Infrastructure and Service Quality

Infrastructure and service quality concerns the experienced availability, accessibility, reliability and adequacy of essential services within the residential environment. Relevant indicators include potable water, electricity, road access, drainage, waste-management services and other essential urban services [19,7]. These conditions extend the assessment of housing quality beyond the physical dwelling to the wider environment in which households live. This dimension is particularly important in self-help housing because household construction and public infrastructure development may not progress at the same rate [6,9,17]. A household may complete or improve its dwelling while roads, drainage, water supply or electricity remain inadequate [6,9,17]. A structurally satisfactory dwelling may therefore still be associated with an unsatisfactory residential environment where essential services are inaccessible, inadequate or unreliable.

As established in Section 4.1, infrastructure provision and infrastructure/service quality are analytically distinct. Infrastructure provision constitutes an enabling condition within the model, whereas the adequacy and reliability of services experienced by households constitute an outcome dimension. This distinction allows the framework to examine whether differences in enabling infrastructure conditions are associated with variation in experienced infrastructure and service quality without conflating input and outcome. Infrastructure provision should therefore not be interpreted as equivalent to infrastructure and service quality. The former concerns the enabling environment within which households undertake housing production, whereas the latter concerns the conditions and services experienced within the completed or developing residential environment. Within the Enabled-Agency Model, infrastructure and service quality consequently represents a housing-quality outcome whose variation may be related to infrastructure provision as well as to housing-production processes and other enabling conditions.

Mechanism link: Infrastructure provision provides the enabling environment for construction, maintenance and adaptation, while these processes interact with the wider service environment to shape residents' experienced infrastructure and service quality, particularly in relation to access, adequacy and reliability.

Sanitation and Public-Health Quality

Sanitation and public-health quality represent the extent to which residential conditions provide a safe, hygienic and health-supportive living environment. It includes sanitation facilities, waste disposal, drainage performance, environmental cleanliness, exposure to flooding and other environmental hazards, as well as indoor conditions relevant to health such as ventilation [19,1,20]. This dimension is distinct from infrastructure and service quality even where some indicators are related. Infrastructure and service quality focuses primarily on the availability, adequacy and performance of essential services, whereas sanitation and public-health quality focuses on the health and environmental conditions experienced by residents. For example, the availability of drainage infrastructure concerns an enabling service condition, whereas stagnant water, flooding or associated environmental exposure concerns sanitation and public-health conditions. Similarly, the existence of waste-collection arrangements does not necessarily indicate that the residential environment is clean or free from health-related risks.

Infrastructure availability therefore does not necessarily imply healthy residential conditions. Poorly maintained drainage, inadequate waste disposal or insufficient sanitation facilities can continue to create environmental hazards despite the presence of basic infrastructure. Housing-quality assessment must consequently consider not only whether services exist but also whether residential conditions support safe and healthy living. The public-health relevance of housing conditions is well established, with research linking housing environments to environmental exposures and health risks [20]. Nigerian research likewise identifies housing and environmental conditions as relevant to public-health concerns [21]. Within the Enabled-Agency Model, sanitation and public-health quality consequently constitutes a distinct housing outcome through which the effects of housing-production processes and enabling conditions may be experienced by households. Its inclusion also prevents infrastructure-related assessment from being reduced to service availability alone and recognises the environmental and health conditions associated with the residential setting.

Mechanism link: Infrastructure provision and technical and institutional support may facilitate drainage, sanitation and environmental management through construction, maintenance and adaptation processes, while the resulting residential conditions are expected to be reflected in sanitation and public-health quality.

Residential Satisfaction and User Comfort

Residential satisfaction and user comfort captures the subjective dimension of housing quality, reflecting how residents evaluate their dwelling and residential environment. Relevant indicators include comfort, privacy, safety, convenience, functionality, adequacy for household needs and overall satisfaction [8]. The inclusion of this dimension recognises that objectively similar housing conditions may be evaluated differently by different households. Expectations, household composition, preferences, socioeconomic circumstances and changing needs can influence perceptions of adequacy and comfort [8]. Residential satisfaction therefore provides information that cannot be captured entirely through physical inspection or service-based indicators. Subjective satisfaction should not, however, substitute for objective assessment. For example, subjective satisfaction may

not always correspond to objectively measured physical or sanitary conditions [8,22]. Combining subjective and objective dimensions therefore provides a broader assessment of housing quality [8]. Within the Enabled-Agency Model, residential satisfaction and user comfort represents the experiential dimension of housing quality.

The relevance of this dimension is particularly apparent in incremental self-help housing, where households progressively modify their dwellings in response to changing needs, resources and preferences [3,6,9,15,16]. Construction, expansion, consolidation, maintenance and adaptation may therefore influence not only the physical condition of the dwelling but also the extent to which the residential environment meets household expectations. The role of household agency is consequently important because residents may exercise choices over development priorities, modifications and adaptations within the opportunities and constraints created by the enabling environment. Residential satisfaction and user comfort is therefore treated as an outcome dimension, rather than as a direct measure of household agency. Agency concerns the capacity and role of households in making and implementing housing decisions, whereas satisfaction and comfort concern residents' subsequent evaluations of the dwelling and residential environment.

Mechanism link: Housing finance and technical and institutional support may facilitate construction, expansion, consolidation and adaptation that respond to household needs, with these production processes potentially contributing to residential satisfaction and user comfort.

Synthesis of Housing-Quality Dimensions

The four dimensions form a coherent multidimensional outcome construct while maintaining distinct analytical boundaries: structural and physical quality concerns the dwelling itself; infrastructure and service quality concerns essential services; sanitation and public-health quality concerns health-supportive and environmentally safe residential conditions; and residential satisfaction and user comfort captures residents' subjective evaluations of their dwelling and residential environment. Together, they enable the Enabled-Agency Model to distinguish physical, service, environmental-health and experiential outcomes without reducing housing quality to a single measure. Conceptually, these outcomes are linked through *enabling systems* → *household agency* → *housing-production processes* → *multidimensional housing quality*, while recognising that self-help housing is iterative and that housing-quality outcomes may inform subsequent maintenance, adaptation, expansion and investment. This provides the basis for the empirical operationalisation and testing developed in Section 5.

The Enabled-Agency Model: An Integrated Framework For Self-Help Housing Provision And Housing Quality

Model Architecture

The Enabled-Agency Model integrates the theoretical relationships established in Sections 2–4 into a process-oriented framework for explaining how self-help housing provision may become reflected in multidimensional housing quality. The model retains household agency as the driving force of self-help housing while conceptualising land access, housing finance, infrastructure provision, and technical and institutional support as the enabling conditions within which that agency is exercised. The principal analytical pathway is:

Enabling Systems → *Household Agency* → *Housing-Production Processes* → *Multidimensional Housing Quality*

This pathway should not be interpreted as a rigid chronological sequence or deterministic causal chain. Rather, it represents the principal analytical relationship within a process-oriented and iterative conceptual model. Housing-production processes may overlap and recur, while housing outcomes may generate feedback through subsequent investment, maintenance and adaptation. The four enabling domains established in Section 3 constitute the enabling-system component of the model. Household agency refers to households' capacity to make decisions, exercise meaningful control and mobilise resources in relation to housing development. Housing-production processes comprise land acquisition, construction, incremental expansion, consolidation, and maintenance and adaptation. These processes provide the proposed mechanism through which enabling conditions and household agency become reflected in housing-quality outcomes. The four housing-quality

outcomes established in Section 4 are structural and physical quality; infrastructure and service quality; sanitation and public-health quality; and residential satisfaction and user comfort. Infrastructure provision remains analytically distinct from infrastructure and service quality: the former is an enabling input, whereas the latter is an outcome experienced by households.

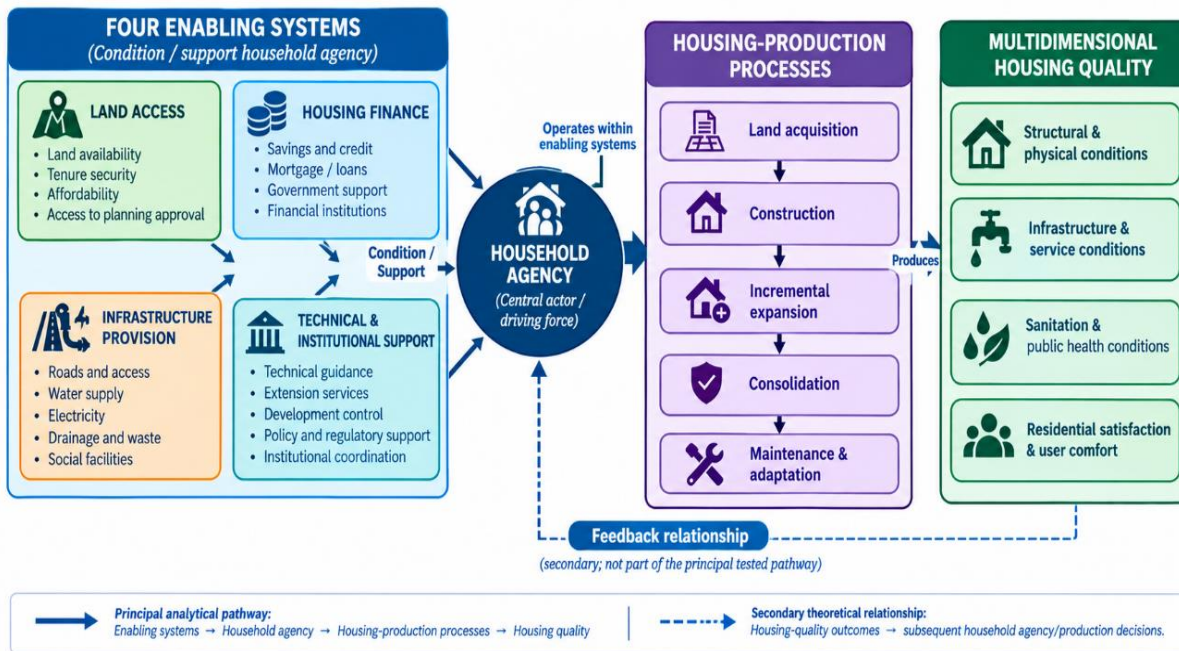


Figure 1. The Enabled-Agency Model: Linking Self-Help Housing Provision to Multidimensional Housing Quality

Source: Developed by the authors (2026).

Interaction among Enabling Systems

The four enabling domains are analytically distinct but potentially interdependent. Land access can condition the security and location within which household investment occurs; finance provides resources for progressive development; infrastructure establishes physical and service conditions surrounding housing production; and technical and institutional support provides access to professional, regulatory and administrative systems [4–6,14–16]. Their interaction means that the availability of one enabling condition may affect the practical value of another. For example, financial resources may have limited developmental value where households lack secure and developable land, while secure land may not translate into substantial housing improvement where finance or infrastructure is inadequate. Similarly, physical infrastructure may be less effectively utilised where households face technical or institutional barriers to development. The model therefore does not treat the four enabling domains as four independent determinants that simply add together. Their configuration may reinforce or constrain household agency and the continuation of housing-production processes. This interaction provides the basis for examining both individual enabling domains and their combined effects in subsequent empirical research.

Housing-Production Processes as the Mechanism of Enabled Agency

The Enabled-Agency Model positions housing-production processes as the mechanism through which enabling conditions and household agency become reflected in housing-quality outcomes. Rather than treating housing production as a single event or a rigid sequence of stages, the model conceptualises it as a set of iterative and overlapping processes through which households acquire, construct, expand, consolidate, maintain and adapt their dwellings [3,6,13,15,16]. The four enabling domains are therefore expected to have different but potentially overlapping relationships with these processes. Land access is most directly associated with land acquisition, providing the basis upon which subsequent housing production can occur. Housing finance is particularly

relevant to construction, incremental expansion and consolidation, while continued financial capacity may support maintenance and adaptation. Infrastructure provision forms part of the physical and service environment within which construction, maintenance and adaptation occur. Technical and institutional support may be relevant to construction, consolidation, maintenance and adaptation through technical guidance, regulatory information and institutional assistance [4–6,14–16,23,25,26,29]. These relationships can be summarised as:

- *Land access → Land acquisition → Subsequent housing-production processes*
- *Housing finance → Construction, incremental expansion and consolidation → Maintenance and adaptation*
- *Infrastructure provision → Construction, maintenance and adaptation*
- *Technical and institutional support → Construction, consolidation, maintenance and adaptation*

The resulting housing-production processes provide the principal mechanism through which different configurations of enabling conditions may become associated with variation in multidimensional housing quality. The relevant outcomes include structural and physical quality, infrastructure and service quality, sanitation and public-health quality, and residential satisfaction and user comfort. The pathways are not assumed to be deterministic or independent; their strength and direction may vary according to the interaction among enabling systems and household circumstances. Accordingly, the principal analytical pathway is:

Enabling systems → Household agency → Housing-production processes → Multidimensional housing quality

The pathway is conceptual rather than empirically established. Housing-quality outcomes may also feed back into subsequent maintenance, adaptation, expansion and investment decisions, reinforcing the iterative character of self-help housing.

Principal Integrative Proposition and Theoretical Propositions

The Enabled-Agency Model proposes that household agency operates within enabling systems and becomes reflected in multidimensional housing quality through housing-production processes. The propositions below specify the principal domain-specific relationships while retaining the distinction between enabling conditions, production mechanisms and outcomes.

P1 — Land Access

Secure, accessible, affordable, and developable land is expected to facilitate land acquisition and subsequent housing production, thereby contributing to variation in structural and physical quality.

P2 — Housing Finance

Greater availability and continuity of housing finance are expected to facilitate construction, incremental expansion, and consolidation, with potential implications for structural and physical quality, infrastructure and service quality, sanitation and public-health quality, and residential satisfaction and user comfort.

P3 — Infrastructure Provision

More adequate, accessible, and reliable infrastructure provision is expected to support construction and maintenance and adaptation and to be associated particularly with infrastructure and service quality and sanitation and public-health quality.

P4 — Technical and Institutional Support

More accessible and responsive technical and institutional support is expected to facilitate construction, consolidation, and maintenance and adaptation, with potential implications for structural and physical quality and residential satisfaction and user comfort.

P5 — Housing-Production Processes as the Integrative Mechanism

Housing-production processes are expected to mediate the relationships between enabling systems, household agency, and multidimensional housing quality by translating enabling conditions into land acquisition, construction, incremental expansion, consolidation, and maintenance and adaptation activities. These propositions represent theoretically derived and empirically testable expectations, not established causal relationships.

Table 1. Theoretical Propositions and Proposed Mechanism Pathways

Proposition	Enabling domain/condition	Housing-production process(es)	Expected housing-quality dimension(s)
P1	Land access	Land acquisition → subsequent construction	Structural and physical quality
P2	Housing finance	Construction → incremental expansion → consolidation	All four dimensions
P3	Infrastructure provision	Construction → maintenance and adaptation	Infrastructure and service quality; sanitation and public-health quality
P4	Technical and institutional support	Construction → consolidation → maintenance and adaptation	Structural and physical quality; residential satisfaction and user comfort
P5	Combined enabling systems	Entire housing-production process	All four dimensions

Source: Developed by the authors (2026)

Table 1 clarifies that the propositions are not five unrelated direct-effect hypotheses. P1–P4 specify domain-specific pathways, while P5 identifies housing-production processes as the integrative mechanism through which the broader enabling system may become associated with housing-quality outcomes.

Proposed Empirical Operationalisation of the Enabled-Agency Model

The conceptual framework requires translation into measurable constructs before empirical testing. Table 2 therefore identifies candidate indicators, proposed measurement approaches, potential data sources, and the indicative literature basis for the selected indicator groups. These indicators are not presented as validated scales; they require pilot testing, reliability and validity assessment, and contextual adaptation before use. The literature-basis column identifies the principal sources informing the candidate indicators and does not imply that the proposed measurement forms have been validated by those studies.

Table 2. Candidate Indicators and Proposed Measurement Approaches

Construct	Candidate indicators	Proposed measurement approach	Potential data source
Household agency	Decision-making autonomy; control over housing decisions; participation; resource mobilisation; control over timing and priorities	5-point Likert scale	Household survey; KII
Land access	Tenure security; affordability; documentation; accessibility; development approval	5-point Likert + categorical items	Household survey; administrative records

Housing finance	Savings; credit/loans; affordability; financial assistance; ability to mobilise funds; continuity of finance	5-point Likert + amount/frequency measures	Household survey; administrative/financial records where available
Infrastructure provision	Roads; water; electricity; drainage; waste collection; accessibility; adequacy; reliability	5-point Likert + objective/spatial measures	Household survey; observation; GIS/admin data
Technical and institutional support	Technical advice; professional assistance; planning information; development-control interaction; regulatory guidance; institutional responsiveness	5-point Likert	Household survey; KII; administrative records
Housing-production processes	Land acquisition; construction; incremental expansion; consolidation; maintenance and adaptation	Process, ordinal and/or count measures	Household survey; observation; records
Structural and physical quality	Structural integrity; roofing; walls; floors; space adequacy; ventilation; lighting; functionality; physical condition	Observation/index and household assessment	Observation; household survey
Infrastructure and service quality	Water; electricity; roads; drainage; waste services; accessibility; adequacy; reliability	5-point Likert + objective/spatial measures	Household survey; observation; GIS/admin data
Sanitation and public-health quality	Toilet adequacy; waste accumulation; cleanliness; drainage performance; flooding; stagnant water; environmental exposure; ventilation	Observation/index + 5-point Likert where appropriate	Household survey; observation; GIS
Residential satisfaction and user comfort	Comfort; privacy; safety; convenience; functionality; adequacy; overall satisfaction	5-point Likert scale	Household survey

Source: Developed by the authors from the theoretical synthesis and literature reviewed

The operationalisation maintains the conceptual separation between enabling inputs, household agency, housing-production processes and housing-quality outcomes. Infrastructure provision is measured as an enabling condition, whereas infrastructure and service quality is measured as an experienced housing-quality outcome. The proposed measures should nevertheless be treated as candidate indicators rather than established or validated scales. Empirical studies should therefore assess their reliability, construct validity, dimensionality and contextual appropriateness before using them to test the Enabled-Agency Model. Where objective or spatial measures are available, they may be combined with household-reported measures to reduce reliance on a single source of information.

Empirical Testing and Modelling Implications

The model generates several empirically testable relationships. The following strategies are proposed as appropriate extensions of the framework rather than as methods already applied in this conceptual article.

Direct Relationships

The four enabling domains can initially be examined separately and jointly in relation to the four housing-quality dimensions:

Land Access + Housing Finance + Infrastructure Provision + Technical and Institutional Support → Housing Quality

Separate models can assess the association of each enabling domain with structural and physical quality, infrastructure and service quality, sanitation and public-health quality, and residential satisfaction and user comfort. Joint models can subsequently examine their relative and combined explanatory contributions while controlling for relevant household and settlement characteristics.

Mediation Testing

The principal mechanism proposed by the Enabled-Agency Model is a serial pathway:

Enabling Systems → Household Agency → Housing-Production Processes → Housing Quality

This pathway reflects the model's central proposition that enabling conditions create the circumstances within which household agency is exercised, while housing-production processes provide the mechanism through which agency and enabling conditions may become reflected in housing-quality outcomes. Accordingly, mediation analysis could examine both the overall serial pathway and domain-specific pathways. The principal serial mediation model would be:

Land Access + Housing Finance + Infrastructure Provision + Technical and Institutional Support → Household Agency → Housing-Production Processes → Housing Quality

The four domain-specific pathways could then be examined as:

- i. Land Access → Household Agency → Housing-Production Processes → Housing Quality
- ii. Housing Finance → Household Agency → Housing-Production Processes → Housing Quality
- iii. Infrastructure Provision → Household Agency → Housing-Production Processes → Housing Quality
- iv. Technical and Institutional Support → Household Agency → Housing-Production Processes → Housing Quality

These specifications maintain household agency as a theoretically relevant component of the proposed mechanism rather than omitting it from domain-specific tests. Researchers could estimate the indirect effects associated with each enabling domain separately and the combined indirect effect of the four-domain enabling system. Structural equation modelling or regression-based mediation analysis could be used to estimate direct, indirect and total associations, subject to appropriate measurement quality and sample size. Where the data and theoretical specification permit, the analysis could distinguish between:

- a. direct associations between enabling systems and housing quality;
- b. indirect associations through household agency;
- c. indirect associations through housing-production processes; and
- d. serial indirect associations through household agency and housing-production processes.

This specification does not require every relationship to be statistically significant before the broader model can be examined; rather, the empirical analysis should assess the magnitude, direction and uncertainty of the specified pathways. Importantly, cross-sectional evidence would demonstrate statistical indirect association but would not, by itself, establish temporal causal mediation.

Interaction and Conditional Effects

The model also permits testing whether the association between one enabling condition and housing-production processes varies according to another condition. Potential interaction terms include:

- a) Housing Finance x Infrastructure Provision → Housing-Production Processes

- b) Land Access x Housing Finance → Housing-Production Processes
- c) Household Agency x Technical and Institutional Support → Housing-Production Processes

Significant interaction terms would indicate conditional association, for example, that the relationship between housing finance and production processes differs according to infrastructure conditions. Such tests would provide empirical evidence on the configuration of enabling systems rather than assuming that each domain operates independently.

Longitudinal, Multilevel and Spatial Testing

Longitudinal or panel designs could examine temporal sequencing among enabling conditions, household agency, housing-production processes and subsequent changes in housing quality. Retrospective approaches may provide a more feasible alternative where panel data are unavailable. Where households are nested within neighbourhoods, settlements or Area Councils, multilevel modelling could distinguish household-level from contextual variation. Spatial analysis and GIS-based modelling could likewise examine whether variation in land accessibility, infrastructure provision and residential location corresponds with spatial differences in housing-production processes and housing quality. These approaches are particularly relevant to FCT, where enabling conditions may vary across residential locations. The proposed modelling strategy treats the Enabled-Agency Model as an empirically testable framework while recognising that the conceptual article itself does not establish the direction, magnitude or causality of the proposed relationships.

Abuja-Fct As The Application Context

Although the Enabled-Agency Model is proposed as a general conceptual framework, Abuja-FCT provides an appropriate context for its empirical application because it combines metropolitan expansion with formal planning and land-administration institutions, housing pressures, and continuing challenges associated with urban development and service provision [10–12,24]. Research on Abuja has documented substantial urban expansion and changes in the spatial structure of the metropolitan area, including pressures associated with the effectiveness of planning and governance arrangements [11,12,24]. These characteristics provide a setting in which household agency can be examined in relation to varying land, financial, infrastructural, and institutional conditions rather than as an isolated household attribute.

As Nigeria's planned capital, Abuja was established within a formal planning and administrative framework concerned with land allocation, physical development, infrastructure provision, and urban expansion [10–12]. The Federal Capital Development Authority (FCDA), established under the 1976 Federal Capital Territory Decree, was assigned responsibility for planning and developing the Federal Capital, including preparation and implementation of the Abuja Master Plan and associated development and infrastructure functions [25,26]. Land administration and its relationship with urban housing development have also been identified as important institutional issues within the Federal Capital Territory [29]. The Abuja Master Plan consequently provides an important spatial and institutional framework within which residential development and urban expansion occur. At the same time, research on Abuja's urban growth indicates continuing expansion beyond the originally planned urban structure and associated governance and development pressures [11,12,24].

Abuja-FCT as an Application Context for Enabled Agency

The analytical value of Abuja-FCT lies particularly in the variation in enabling conditions across households and residential locations. The four enabling domains are conceptually distinct, and their empirical expression may vary according to differences in land access, financial capacity, infrastructure conditions, and interactions with planning and institutional systems. Such variation provides a relevant context for examining whether household agency operates under different configurations of enabling conditions. The purpose of identifying this variation is not to assume that all Abuja households experience the same constraints. Rather, the Enabled-Agency Model proposes that households may encounter different combinations and levels of enabling conditions and that these differences may be associated with differences in housing-production processes and multidimensional housing quality. These relationships remain propositions for empirical testing rather than established causal effects.

Contextual Variation across the Four Enabling Systems

Land access may vary according to tenure arrangements, location, affordability, documentation, accessibility of developable land, and households' experiences with land-administration and development procedures. Research on land administration in the FCT identifies the relationship between land-administration processes and urban housing development as an important institutional issue [29]. More broadly, secure and accessible land is recognised as an enabling condition for progressive housing investment [14,23]. Housing finance may vary according to household resources, affordability, savings capacity, access to formal finance, and other mechanisms through which households mobilise resources for housing development. Research on Abuja has identified housing affordability as an important issue across households with different income characteristics [27], while Nigerian research on affordable and self-help housing highlights the role of different housing-provision and financing arrangements [28]. These sources support the relevance of financial variation to the Abuja housing context, but they do not by themselves establish that every identified financing mechanism operates in the same way among self-help households in all parts of the FCT. Such relationships therefore require empirical examination.

Infrastructure provision may vary spatially in relation to road access, electricity, water supply, drainage and other urban services. Research on Abuja has documented rapid urban expansion and associated pressures on the provision and spatial distribution of urban infrastructure and services [10–12,24]. Within the Enabled-Agency Model, these differences constitute potential variation in the enabling environment rather than predetermined effects on housing quality. Technical and institutional support may vary according to access to planning information, professional assistance, development-control procedures, regulatory guidance, and interactions with relevant administrative institutions [25,26,29]. The institutional context is important because household-led housing development occurs within formal planning and land-administration systems rather than outside them. However, the extent to which forms of institutional or technical support are accessible to individual households remains an empirical question. These differences create observable variation in the conditions within which households undertake housing-production processes. Such variation is important for empirical testing because it provides the basis for examining whether differences in enabling conditions are associated with differences in housing-production processes and multidimensional housing quality. The analytical premise is therefore not that Abuja uniformly experiences land, finance, infrastructure, or institutional constraints, but that households may encounter different configurations and levels of these conditions.

Table 3. Abuja-FCT Contextual Variation across the Four Enabling Systems

Enabling domain	Abuja-FCT contextual issue	Expected variation relevant to empirical testing
Land access	Formal and informal tenure arrangements, land allocation, documentation and development-approval requirements operate within the FCT planning and land-administration system.	Variation in tenure security, affordability, documentation, location, accessibility of developable land, land-administration procedures and development-approval experience.
Housing finance	Household-led construction occurs within a context of affordability pressures and multiple formal and informal mechanisms for mobilising construction resources.	Variation in household financial resources, savings, access to formal finance, informal credit, family resources and capacity to sustain construction expenditure.
Infrastructure provision	Infrastructure provision occurs within a rapidly changing metropolitan environment experiencing pressures on roads, water, electricity, drainage, waste management and other services.	Spatial variation in infrastructure accessibility, adequacy and reliability across planned, peri-urban and expanding residential areas.

Technical and institutional support	Housing development interacts with planning, development-control, land-administration and professional systems within the FCT.	Variation in access to planning information, professional assistance, development-control processes, regulatory guidance and institutional support.
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Source: Developed by the authors based on the cited literature and Abuja-FCT institutional context (2026).

The four domains are therefore conceptually distinguishable while remaining empirically connected. Their contextual expression can be operationalised through measures of land access, housing finance, infrastructure provision and technical and institutional support, as specified in Section 5.5. These measures can subsequently be examined in relation to household agency, housing-production processes and the four dimensions of housing quality. Importantly, the expected variation identified in Table 3 represents a contextual rationale for empirical investigation rather than an assertion that these differences have already been demonstrated uniformly across Abuja-FCT. The empirical study would establish the extent and distribution of such variation using household-level, observational, spatial and/or administrative evidence where available.

Abuja-FCT Institutional Context of the Four Enabling Systems

The enabling systems also operate through institutional interfaces that differ in function and scope. Mapping these interfaces helps clarify how the abstract constructs of the Enabled-Agency Model may be encountered by households in the Abuja context.

Table 4. Abuja-FCT Institutional Context of the Four Enabling Systems

Enabling domain	Relevant institutional/contextual actors	Potential mechanism
Land access	FCTA/FCDA land-administration and planning institutions; Area Councils; other relevant administrative actors	Land allocation and administration, tenure and documentation, development approval, and access to developable residential land.
Housing finance	Financial institutions; household savings and credit mechanisms; relevant government housing programmes	Mobilisation of capital and other financial resources for land acquisition, construction, expansion and housing improvement.
Infrastructure provision	FCDA/FCTA infrastructure institutions; Area Councils; relevant public and private service providers	Provision and accessibility of roads, water, electricity, drainage, waste management and related urban services.
Technical and institutional support	Planning and development-control institutions; professional practitioners; Area Councils; other relevant administrative institutions	Technical guidance, planning information, development approval, regulatory compliance and institutional support for housing development.

Source: Developed by the authors from the Abuja-FCT institutional and housing literature (2026).

The institutional mapping demonstrates that the four enabling domains operate through different but overlapping institutional interfaces. Land access is associated primarily with land administration, allocation, tenure, documentation and development approval; housing finance concerns the mechanisms through which households mobilise financial resources; infrastructure provision concerns the physical and service networks that support residential development; and technical and institutional support concerns interactions among households, planning and development-control systems, professional actors and relevant administrative institutions [25,26,29]. The mapping should not, however, be interpreted as suggesting that any single institution

independently controls an entire enabling domain. The domains are analytically defined constructs whose empirical expression may involve multiple institutions, actors and household-level experiences. Institutional actors therefore provide part of the contextual environment through which enabling conditions are experienced; they are not automatically equivalent to the constructs themselves.

Contextual Pathways for Empirical Application

The Abuja-FCT context provides an opportunity to examine the pathways specified in Section 5 under varying institutional, spatial and socio-economic conditions. In empirical application, land access can be examined in relation to land acquisition and subsequent housing-production processes; housing finance in relation to construction, incremental expansion, consolidation, maintenance and adaptation; infrastructure provision in relation to the physical and service environment within which housing production and residential use occur; and technical and institutional support in relation to construction, consolidation, maintenance and adaptation [4–6,14–16,23,25,26,29]. These relationships may subsequently be examined against variation in the four dimensions of multidimensional housing quality.

The pathways should not be interpreted as independent or deterministic. As proposed in Section 5.2, the enabling domains may interact, such that the contribution of one condition depends partly on the availability or adequacy of others. For example, the capacity to convert financial resources into housing investment may depend on secure land access and appropriate technical or institutional support. Abuja therefore provides a setting in which both the domain-specific pathways and their interacting configurations can be empirically investigated.

Empirical Applicability and Transferability

The empirical relevance of Abuja-FCT lies in variation rather than uniformity. Households may experience different combinations of enabling conditions, for example, relatively secure land access but limited finance, adequate finance but inadequate infrastructure, or financial resources accompanied by limited technical and institutional support. Such variation provides a basis for examining whether household agency operates differently under different enabling conditions and whether these differences are reflected in housing-production processes and multidimensional housing quality. Abuja should therefore be understood as the principal application context, not as the basis for assuming universal applicability. Its formal planning institutions, land-administration arrangements, metropolitan expansion and heterogeneous residential environments provide a suitable setting for testing the model's propositions. However, institutional arrangements, land systems, infrastructure conditions, financial opportunities and household-led housing practices may differ across other urbanising contexts. Findings from Abuja should consequently not be assumed to apply automatically elsewhere. Comparative research would be required to determine whether relationships identified in Abuja are context-specific or transferable across different institutional and housing environments.

DISCUSSION

The Enabled-Agency Model contributes to self-help housing scholarship by specifying how household agency operates within enabling systems and becomes reflected in multidimensional housing quality through housing-production processes. Its contribution is therefore relational rather than the introduction of household agency, enabling conditions, or housing-quality dimensions as new concepts. The discussion focuses on four implications: theoretical contribution and originality, contribution to housing-quality research, policy and planning implications, and implications for empirical research. The model is presented throughout as a conceptual framework whose propositions require empirical testing rather than as an established causal model.

Theoretical Contribution and Originality

The principal theoretical contribution of the Enabled-Agency Model lies in connecting three strands of housing scholarship that have generally addressed different aspects of housing provision and outcomes. First, Turner's self-help and dweller control perspective provides the theoretical foundation for understanding household agency. By conceptualising housing as a process in which residents exercise meaningful control over decisions concerning the development of their homes, Turner establishes why household initiative and control are central

to self-help housing [3,13]. This perspective explains why household control matters while leaving scope for greater specification of the conditions within which such control is exercised. Second, enabling and assisted self-help approaches demonstrate that household-led housing does not occur in isolation but within wider institutional, financial, infrastructural, and technical environments [4–6]. These approaches provide a basis for understanding the resources and external conditions surrounding household-led housing production and the ways in which external support can complement household participation. Third, housing-quality research provides frameworks for identifying and assessing residential outcomes across physical, infrastructural, environmental, and experiential dimensions [7–9,17]. These approaches establish important ways of defining and measuring housing quality but provide less explicit specification of how differences in quality emerge through household-led housing-production processes.

Existing assisted self-help frameworks primarily explain how institutional assistance, technical support, finance, and infrastructure can complement household participation, while incremental-housing governance approaches emphasise the institutional and policy arrangements through which incremental housing is supported and regulated [4–6]. Housing-quality frameworks, by contrast, primarily address the identification and measurement of residential-quality outcomes [7–9,17]. The Enabled-Agency Model differs in its analytical purpose and configuration: it connects these previously distinct concerns through a specified process mechanism in which enabling systems condition household agency, household agency is expressed through housing-production processes, and those processes provide the pathway through which multidimensional housing-quality outcomes may emerge. Its novelty therefore lies not in introducing land, finance, infrastructure, agency, or housing quality as previously unknown concepts, but in specifying their analytical relationship and intervening production mechanism within a single process-oriented framework. The principal analytical pathway is therefore:

Enabling Systems → Household Agency → Housing-Production Processes → Multidimensional Housing Quality

This pathway is principal rather than strictly linear. Housing-production processes may overlap and recur, while housing-quality outcomes may generate feedback through subsequent investment, maintenance, adaptation, and expansion. The model is therefore better understood as a process-oriented and iterative framework with a principal analytical pathway and secondary feedback relationships, rather than as a rigid chronological sequence. The significance of this formulation is that the model assigns distinct analytical roles to its principal components. Enabling systems represent the conditions within which household agency is exercised; household agency represents the driving force of self-help housing; housing-production processes represent the proposed mechanism; and multidimensional housing quality represents the outcome construct. The model consequently provides a different explanatory structure from approaches that examine these elements separately or treat enabling conditions simply as direct predictors of housing quality.

This distinction also clarifies why the model does not assume that secure land, finance, infrastructure, or technical support automatically produces housing outcomes. Their significance depends partly on how households mobilise and apply available resources through land acquisition, construction, incremental expansion, consolidation, maintenance, and adaptation. Housing quality is therefore conceptualised as an outcome associated with cumulative housing-production processes undertaken within enabling conditions. The model should consequently be understood as an enabling-systems extension of Turner's dweller-control perspective, rather than a replacement for it. Turner explains the importance of household control, contemporary enabling and assisted self-help scholarship identifies the conditions surrounding household-led production, and housing-quality research provides approaches for assessing residential outcomes. The Enabled-Agency Model connects these contributions by proposing that household agency operates within enabling systems and becomes consequential for housing quality through housing-production processes. The five propositions developed in Section 5 translate this relationship into empirically testable expectations.

Contribution to Housing-Quality Research

The second contribution is to connect housing-quality assessment more explicitly to the processes through which housing quality develops. Housing-quality research provides important measures of observable and experienced residential outcomes, but outcome measures alone provide limited explanation of how differences in quality

emerge through time. The Enabled-Agency Model addresses this issue by positioning housing-production processes between enabling conditions and housing-quality outcomes. This process orientation is particularly relevant to self-help and incremental housing, where observed quality may reflect cumulative decisions and investments made over time [3,6]. Land acquisition, construction, incremental expansion, consolidation, maintenance, and adaptation may occur iteratively and in overlapping ways. Housing quality at a particular point in time may therefore reflect both current conditions and the cumulative trajectory of previous housing-production processes.

The framework also contributes through its separation of enabling inputs, production mechanism, and housing outcomes. Infrastructure provision, for example, is treated as an enabling condition, whereas infrastructure and service quality represents an outcome experienced by households. Similarly, sanitation and public-health quality is treated as an outcome of housing-production processes and the resulting residential environment rather than as an enabling input. This distinction reduces conceptual and measurement ambiguity and provides a clearer basis for examining relationships among enabling systems, housing-production processes, and multidimensional housing quality. The four outcome dimensions, structural and physical quality; infrastructure and service quality; sanitation and public-health quality; and residential satisfaction and user comfort, therefore, allow housing quality to be examined as a multidimensional outcome rather than as a single physical attribute. The framework does not claim that these dimensions constitute an exhaustive measure of housing quality; rather, they provide a coherent outcome structure for empirical testing within the self-help housing context.

Policy and Planning Implications

The policy implication of the model is a shift from viewing household-led housing primarily in terms of the delivery or regulation of completed housing units towards greater attention to the systems within which households produce, improve, maintain, and adapt housing. This does not diminish the importance of formal housing provision. Instead, it suggests that policies addressing self-help housing should consider whether households have sufficient security, resources, infrastructure, and technical and institutional support to sustain housing-production processes. The four enabling domains should therefore be considered as an interrelated policy system rather than as isolated interventions. Appropriate land-access arrangements can support households' capacity to commit resources to housing; context-sensitive finance can facilitate progressive investment; infrastructure can improve the physical and service environment within which housing develops; and technical and institutional support can strengthen construction practices and facilitate appropriate regulatory interaction [4–6]. The implication is not that any individual intervention will independently improve every dimension of housing quality. Rather, coordinated interventions may create more favourable conditions for sustained housing production.

This has relevance to Abuja, where household-led housing production occurs alongside formal systems of planning, land administration, infrastructure provision, and development control [10–12]. Planning responses should therefore consider not only regulation of self-help housing but also the conditions under which household-led housing production can occur with greater tenure security, infrastructure support, technical adequacy, and regulatory compatibility. Coordination among land administration, housing finance, infrastructure provision, development control, and technical-support mechanisms may consequently be important. These implications are derived from the conceptual model rather than empirically established policy effects and would require context-specific assessment before implementation. The model thus provides a different way of framing the relationship between household initiative and institutional intervention. Public institutions need not be conceptualised solely as substitutes for household action; under appropriate conditions, institutional support can provide an enabling environment within which households exercise meaningful control over housing production while remaining subject to relevant planning, infrastructure, and construction requirements.

Implications for Empirical Research

The framework generates an empirical research agenda centred on testing the proposed direct, mediated and conditional relationships among enabling systems, household agency, housing-production processes and multidimensional housing quality. Where data permit, longitudinal, multilevel and spatial designs may be used to examine temporal processes, contextual variation and spatial differences. Section 5.6 provides the detailed

modelling implications; future research should therefore focus on empirical validation and refinement of the proposed relationships rather than treating the model's pathways as established causal relationships.

Limitations And Future Research

The Enabled-Agency Model is conceptual and therefore has limitations that define the scope of its contribution. First, its proposed relationships, including the role of housing-production processes as an intervening mechanism, have not been empirically validated in this article. The five propositions are therefore testable theoretical expectations rather than established causal relationships. Their validity, magnitude, interactions, indirect pathways, and alternative explanations require empirical examination. Second, the proposed operationalisation involves candidate indicators and measurement approaches that have not been validated as scales within this article. Differences in how self-help housing, enabling systems, household agency, housing-production processes, and housing quality are defined and measured across contexts may therefore affect empirical results. Future studies should employ clearly specified indicators and assess their reliability and validity before testing the proposed relationships. Third, the relevance and configuration of the four enabling domains may vary across institutional, spatial, and residential contexts. Abuja-FCT provides the principal application context, but differences in land administration, finance, infrastructure, and technical and institutional support mean that the model should not be assumed to have uniform explanatory relevance without comparative testing.

Future research should address these limitations through four complementary directions. First, empirical validation should operationalise and test the five propositions and examine relationships among enabling systems, household agency, housing-production processes, and multidimensional housing quality. Second, mediation and longitudinal or retrospective research should examine whether housing-production processes constitute an intervening pathway and how relationships develop through land acquisition, construction, incremental expansion, consolidation, maintenance, and adaptation. Longitudinal evidence would be particularly valuable for assessing temporal ordering, which cross-sectional research cannot establish. Third, interaction and comparative research should examine whether associations between individual enabling domains and housing-production processes vary according to other enabling conditions and whether relationships differ across neighbourhoods, Area Councils, cities, or institutional settings. Fourth, model refinement should remain evidence-led, allowing empirical findings to support, modify, extend, or challenge the proposed pathways rather than treating the present formulation as fixed. The principal research task is therefore to move from conceptual specification to systematic empirical examination. Such research can assess whether the proposed relationships are supported, whether housing-production processes function as an intervening mechanism, under what conditions relationships vary, and which aspects of enabled agency require further theoretical development.

CONCLUSION

This article developed the Enabled-Agency Model as a conceptual framework for examining how household agency operates within enabling systems and may contribute to multidimensional housing quality through housing-production processes. The model brings together established strands of scholarship on dweller control, self-help and incremental housing, enabling systems, and housing-quality assessment within a single process-oriented framework. Its principal conceptual contribution is to specify the relationships among these elements and provide a basis for examining why similar household initiative may be associated with different housing outcomes under different enabling conditions.

The model is particularly relevant to self-help housing because it treats housing quality as an outcome of an ongoing production process rather than solely as a static attribute of completed dwellings. Applied to Abuja-FCT, it provides a context-sensitive framework for examining these relationships within a heterogeneous institutional, spatial and socio-economic environment.

The Enabled-Agency Model remains conceptual and empirically testable rather than a validated causal model. Its five propositions, proposed mediation pathway and potential interaction effects therefore require systematic empirical investigation. Future research should test, refine or extend these relationships using appropriate empirical designs and measures. The model's contribution ultimately lies in providing a theoretically specified

and empirically testable framework whose propositions remain open to alternative, additional or context-specific pathways identified through evidence.

Ethical Considerations

This article is conceptual and does not involve the collection or analysis of primary data from human participants or animals; therefore, ethical approval was not required.

Data Availability

No primary dataset was generated or analysed for this conceptual article. The analysis is based on published literature and secondary sources cited in the manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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