

Policy Design for Promoting Community Self-reliance : A Case Study of the Khok Nong Na Model

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Abstract

This qualitative study investigates lessons learned from the Khok Nong Na Model as a prototype for community self-reliance aligned with the Sustainable Development Goals (SDGs), particularly in the context of compounding crises during the COVID-19 pandemic in Thailand. The study explores the feasibility of bottom-up public policy design based on empirical, field-derived data. Employing a case study methodology, data were collected from 20 sites across the country. The findings reveal that community self-reliance is fostered through the integration of five core components: (1) spatial management based on local socio-geographic contexts; (2) experiential learning through hands-on practice; (3) the enhancement of social capital; (4) a transformation in mindset; and (5) the supportive role of the state. The study further proposes the "4S Framework" as a policy design tool at the local level, comprising: Sustainable Space, Social Capital, Self-Directed Learning, and the State as a Supporter. The policy recommendations emphasize the development of a participatory governance ecosystem that systematically connects communities to provincial and national levels, addressing critical structural vulnerabilities exposed during the pandemic period when Thailand's household debt reached 89.3% of GDP and unemployment rose to 1.63%. This approach enhances community capacity, reduces vulnerability, and authentically promotes sustainable development from the grassroots level.

Keywords: Community Self-reliance, Khok Nong Na Model, Place-based Policy, Sustainable Development, Participation, Sufficiency Economy

1. Introduction

Thailand has undergone significant structural transformations across economic, social, environmental, and natural resource dimensions. The COVID-19 pandemic (2020–2022) further exposed the country's pre-existing vulnerabilities while simultaneously triggering a polycrisis. This multifaceted crisis was characterized by economic contraction of 6.2% in 2020—Thailand's largest since the Asian financial crisis—rising unemployment, household debt reaching 89.3% of GDP, and exacerbated inequalities in access to resources and social opportunities (Prince Damrongrajanubhab Institute of Research & Development, 2024). The pandemic's impact was particularly severe on Thailand's informal workforce, comprising over 20 million people—more than half of total employment—with some small businesses earning only 20% of their pre-COVID-19 income (Open Development Thailand, 2020). Against this backdrop, development approaches emphasizing local resource management and community empowerment have received increased attention.

Notably, the Khok Nong Na Model has emerged as a prominent initiative that applies the principles of the Sufficiency Economy Philosophy and the "New Theory" at the local level. Its primary aim is to enhance self-reliance in key areas such as land, water, forests, food, and mental well-being (Department of Community Development, 2021). The model's distinctive 30:30:30:10 land allocation framework—30% for rice fields, 30% for orchards or mixed gardens, 30% for ponds or water storage, and 10% for residence and livestock—provides a concrete template for sustainable resource management and food security (Farang Farm, 2024). A distinctive feature of the model lies in its household-level spatial design, which serves as a site for food production, experiential learning, and the regeneration of social capital. This approach contributes to food security while enabling communities to authentically define their own development trajectories.

Although the project has been implemented in all 76 provinces, engaging hundreds of thousands of participants and receiving substantial government funding as part of post-COVID-19 recovery plans, an official performance audit by the Office of the Auditor General (2022) identified several limitations. These include deviations from the planned implementation framework in some areas, risks of not achieving the model learning center objectives, misalignment in personnel recruitment criteria, and safety concerns regarding equipment storage. These findings reflect the complexity of translating top-down policy frameworks into effective grassroots implementation and highlight the need for more nuanced, place-based approaches that genuinely support sustainable community self-reliance. These findings reflect inconsistencies in outcomes across different sites and highlight the limitations of a centrally driven policy framework that emphasizes quantitative targets over systemic structures genuinely supporting sustainable community self-reliance.

At the international level, the concept of community self-reliance is increasingly recognized as a structural framework vital to advancing the Sustainable Development Goals (SDGs). Analysis of community-led initiatives across multiple countries reveals their significant contributions to almost all SDGs, with particular success in bringing different goals into synergy (Henfrey et al., 2023). In particular, it aligns with goals related to poverty reduction (SDG 1), food security (SDG 2), sustainable water resource management (SDG 6), decent work and

economic growth (SDG 8), responsible consumption and production (SDG 12), and climate action (SDG 13) (United Nations Development Programmer [UNDP], 2021). This concept also resonates with Chambers' (1997) proposition of shifting communities from passive recipients to active agents of development through participatory, area-based approaches that foster transformative change from within.

Nevertheless, there remains a lack of empirical research synthesizing lessons from the Khok Nong Na Model in the context of public policy design. To address this gap, the present study investigates model learning centers across various regions of Thailand, capturing geographic, economic, social, and cultural diversity. Through qualitative analysis and a policy design lens, this study aims to develop recommendations that meaningfully promote community self-reliance, are adaptable to diverse contexts, and contribute to advancing the SDGs.

2. Objectives

- (1) To synthesize the key components that promote community self-reliance, based on the implementation of the Khok Nong Na Model across diverse regions of Thailand.
- (2) To develop a policy design framework that supports community self-reliance and can be adapted to the specific contexts of different localities.
- (3) To propose strategies for advancing public policy that align with the Sustainable Development Goals (SDGs) and are applicable to various area-based contexts.

3. Literature Review and Conceptual Framework

3.1 The Concept of Community Self-reliance

Self-reliance is regarded as a fundamental principle in the pursuit of sustainable community development. It emphasizes the enhancement of a community's capacity to manage its own resources across economic, social, environmental, and cultural dimensions. This concept originates from people-centered development and has been widely supported by both scholars and practitioners.

Contemporary research demonstrates that community self-reliance serves as a cornerstone of sustainable development by fostering empowerment, providing access to resources, and promoting inclusive growth (Martins Awofadeju Foundation, 2025). The theoretical foundations draw from multiple traditions, with particular emphasis on participatory development theory and social capital formation. Chambers (1997) argued that fostering self-reliance requires a paradigm shift—from perceiving communities as passive recipients of aid to recognizing them as capable agents of change. Communities should be empowered to identify their own problems, mobilize resources, and determine development strategies, rather than relying solely on government or non-governmental interventions.

Participatory Action Research (PAR) methodology emphasizes "participation and action by members of communities affected by that research" and seeks to "understand the world by trying to change it, collaboratively and following reflection" (ATLAS.ti, 2025). This approach contrasts fundamentally with traditional research methodologies by positioning community members as co-researchers rather than passive subjects, thereby fostering empowerment, inclusivity, and sustainable change processes.

In the Thai context, the notion of self-reliance aligns closely with the Sufficiency Economy Philosophy (SEP), introduced by His Majesty King Bhumibol Adulyadej (Rama IX). This philosophy comprises three key principles—moderation, reasonableness, and self-immunity—rooted in knowledge and morality (Sumet Tantivejkul, 2007, as cited in Office of the Royal Development Projects Board, n.d.).

Additionally, Moser (1993) proposed a development framework grounded in five forms of community capital: human, natural, physical, financial, and social. These resources are essential for enabling communities to sustain their livelihoods independently of market or state mechanisms. Research across various international settings demonstrates that "social networks, trust, and collective action played crucial roles in enhancing community well-being and resilience" (CARI Journals, 2023). Social capital serves as a catalyst for community empowerment by fostering cooperation and mutual support among residents, while also facilitating the creation of social norms and collective identities that reinforce community cohesion and solidarity.

Asset-Based Community Development (ABCD) theory provides another crucial theoretical lens for understanding community self-reliance. This approach emphasizes "the gifts of individuals, citizens associations, and local institutions" rather than focusing on community deficiencies and external solutions (Connected Communities Canada, 2018). The ABCD framework suggests that communities possess inherent assets and capacities that, when properly mobilized and connected, can drive sustainable development processes from within.

In summary, the concept of community self-reliance emphasizes local capacities to manage resources and shape their development trajectories. It draws from both global participatory development paradigms and Thailand's indigenous sufficiency economy framework. The core of self-reliance lies in balancing economic, social, and environmental factors through knowledge systems, social capital, and supportive institutional structures.

3.2 Bottom-Up Policy Design

In public policy development—particularly in rural or community-based contexts—the bottom-up approach is increasingly recognized as more effective than traditional top-down models (Head, 2022). Place-based approaches, defined as "collaborative endeavours that seek to create systemic change by bringing together efforts across the community to work towards shared long-term outcomes," offer an alternative framework that harnesses "the vision, resources and opportunities of community" (QCOSS, 2019). These approaches employ systems thinking to create opportunities for novel, collaborative efforts across communities, sectors, and government levels. Grounded policy design emphasizes the active participation of local communities in all phases of the policy cycle, from problem identification and needs assessment to planning and monitoring.

Research on bottom-up governance mechanisms reveals their potential to address complex societal challenges through locally-driven solutions. A study of 17 regional initiatives for plastic pollution removal in the Netherlands demonstrated that while bottom-up mechanisms can reinforce each other, they often require policy support to achieve transformative impact at scale (Taylor & Francis, 2021). This finding underscores the importance of "systemic mechanisms that help local solutions upscale" through multi-level governance arrangements.

This approach has gained international attention, particularly in areas such as resource governance and environmental sustainability, where decisions based on local empirical data and meaningful community participation yield greater policy relevance and long-term effectiveness (Madani et al., 2025).

The concept of "small wins" as a governance strategy for addressing wicked problems offers particular relevance to community self-reliance initiatives. This approach focuses on "accelerating bottom-up initiatives guided by a shared mission" with the aim of activating "propelling mechanisms to support and couple self-organizing change processes" (Taylor & Francis, 2021). Evidence suggests that while bottom-up propelling mechanisms can reinforce each other, achieving robust change processes across scales requires strategic policy intervention to activate systemic mechanisms.

Genuine participation is essential—not as a tokenistic consultative exercise, but as a co-creative process that enables citizens to shape policy directions alongside governmental and non-governmental actors. As Fischer (2003) emphasized, authentic participation fosters local ownership of policy initiatives, thereby enhancing sustainability.

In Thailand, however, structural challenges persist in implementing bottom-up policy design. These include centralized decision-making processes, limited fiscal decentralization, and evaluation systems that prioritize quantitative indicators over community well-being. Research on the Khok Nong Na model in Nong Khai province revealed that "even if the Khok Nong Na model is widely publicized in Thailand, it is still difficult for farmers to access governmental assistance, especially in terms of financial help" (Mahidol University, 2024). This study found that farmers must often "invest personal budget along the process" and that "local agents are not well informed about the model which leads to confusion and highly time-consuming processes." Nonetheless, initiatives such as the Khok Nong Na Model have created opportunities for bottom-up engagement by grounding policy implementation in field-based data and community-led mechanisms.

In conclusion, bottom-up policy design offers a framework that integrates local knowledge with participatory governance. It enhances policy relevance, strengthens community alignment, and reduces the risks associated with top-down policy misalignment.

3.3 Area-Based Self-reliance Policy: The Khok Nong Na Model

The Khok Nong Na Model is a flagship community development initiative launched in 2020 by Thailand's Ministry of Interior through the Department of Community Development. Its primary goal is to enhance household-level security—economically, socially, and environmentally—through self-reliance and integrated land management. The model is rooted in the principles of New Theory Agriculture and the Sufficiency Economy Philosophy. It encompasses three key spatial components: (1) Khok—elevated land for planting perennial trees, (2) Nong—small-scale water reservoirs for irrigation and aquaculture, and (3) Na—rice fields and crop areas for household consumption and market-oriented production. Importantly, the model extends beyond subsistence agriculture to include training, mindset transformation, and consciousness-building in self-reliance. These components are supported by a network of more than 76 learning centers across the country (Department of Community Development, 2020).

4. Research Methodology

This study employed a qualitative research design to examine the operational processes of the Khok Nong Na Model project and to synthesize key components that contribute to enhancing community Self-reliance. The research was conducted through case studies of model learning centers operating under the supervision of the Department of Community Development, Ministry of Interior, Thailand.

4.1 Target Group

This study employed a qualitative research design to examine the operational processes of the Khok Nong Na Model project and to synthesize key components that contribute to enhancing community self-reliance. The research framework draws from Participatory Action Research (PAR) methodology, which emphasizes "participation and action by members of communities affected by that research" and seeks to "understand the world by trying to change it, collaboratively and following reflection" (ATLAS.ti, 2025). This approach contrasts fundamentally with traditional research methodologies by positioning community members as co-researchers rather than passive subjects, thereby fostering empowerment, inclusivity, and sustainable change processes. The research was conducted through case studies of model learning centers operating under the supervision of the Department of Community Development, Ministry of Interior, Thailand.

4.2 Data Collection Methods

The target group consisted of individuals who played significant roles in the implementation of the Khok Nong Na Model project. These included learning center owners, community participants, and local development officers. Purposive sampling was used to select information-rich cases with demonstrable outcomes, ensuring diversity in regional locations and sociocultural contexts. The sampling strategy aligned with evidence-based research approaches demonstrated in similar studies, such as research on innovation application in community development contexts involving 400 questionnaire respondents and 10 in-depth interviews utilizing systematic data collection methods (NeuroQuantology, 2022). The study covered 20 model sites across various regions of Thailand.

4.3 Data Analysis

Primary data collection methods included in-depth interviews with 24 key informants involved in the operation of the model learning centers. These informants comprised project advisors, center owners, community development officers, and landscape designers. The interview methodology incorporated structured and semi-structured approaches, drawing from successful participatory research models demonstrated in healthcare interventions using community-based participation, which showed high participant satisfaction levels with mean scores of 4.46 (± 0.52). In addition, field notes were employed to capture behavioral cues, environmental observations, and community interactions not readily accessible through audio recordings. Document analysis was also conducted using relevant materials such as progress reports, action plans, and official documentation to support data interpretation and triangulation. This multi-method approach reflects best practices in community development research, as demonstrated in studies utilizing focus group discussions, training documentation, socialization records, counseling notes, and mentoring reports to develop comprehensive understanding of

community dynamics. Document analysis was also conducted using relevant materials such as progress reports, action plans, and official documentation to support data interpretation and triangulation.

4.4 Presentation and Reporting of Findings

Research findings were presented through thematic analysis synthesized from empirical field data and articulated in descriptive narratives supported by visual diagrams. The report was structured into three main components:

1. Core elements that promote community Self-reliance as identified through the implementation of the Khok Nong Na Model across diverse regions;
2. Policy design approaches that enhance community Self-reliance and are adaptable to specific local contexts; and
3. Policy recommendations aligned with the Sustainable Development Goals (SDGs), applicable to varied geographic and sociocultural settings.

5. Results

5.1 Key Components Promoting Community Self-reliance in the Implementation of the Khok Nong Na Model Project Across Thailand

Findings from Khok Nong Na Model project sites nationwide reveal that community Self-reliance emerges from the integration of multiple, interrelated, and evolving factors. Five key components contributing to community Self-reliance were identified:

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5.1.1 Geo-Social Area Management

Thailand's diverse geographical contexts necessitate flexible area designs tailored to local geo-social conditions. Successful project sites typically demonstrate systematic interconnections between Khok (raised beds), Nong (ponds), Na (paddy fields), and water circulation systems. A deep understanding of the physical context enables households to produce food year-round, conserve local resources, and reduce reliance on external markets—enhancing food security at both household and community levels. The study found that communities implementing effective geo-social area management showed greater resilience during economic disruptions. Households with well-integrated Khok-Nong-Na systems reported maintaining food production levels even during periods of limited market access, demonstrating the practical value of spatial diversification in building household security.

5.1.2 Learning by Doing

The project emphasizes experiential learning, or "learning by doing," facilitated by "teacher-practitioners" and community learning centers as key mechanisms for knowledge transfer. This approach fosters meaningful learning connected to real-life contexts. Participants are empowered to apply knowledge within their own settings and to extend outcomes sustainably

across households and communities. Observations across multiple sites revealed that communities with strong experiential learning programs demonstrated higher rates of knowledge retention and application. Participants who engaged in hands-on activities showed greater confidence in adapting techniques to their specific contexts and were more likely to share knowledge with neighboring households.

5.1.3 Restoration and Enhancement of Social Capital

The formation of various community-based groups—such as agricultural production groups, product processing groups, and public activity groups—encourages horizontal cooperation networks. These networks reduce power asymmetries between the state and communities and promote long-term interdependence. Project sites with well-established learning centers typically demonstrate stronger social capital and long-term community resilience. The research identified that communities with active group formations showed increased collective problem-solving capacity. These groups served as platforms for resource sharing, knowledge exchange, and mutual support during challenging periods, creating sustainable support networks that extend beyond the project timeframe.

5.1.4 Shifting Attitudes and Mindsets

Community self-reliance is fundamentally tied to a paradigm shift: from perceiving development as the domain of the state or external actors to recognizing the agency of communities in managing their own development. Many households are shifting priorities toward sufficiency, security, and quality of life, rather than economic gain alone. This transformation in mindset plays a critical role in awakening internal capacities and fostering genuine self-reliance. Field observations documented significant changes in community discourse and decision-making processes. Participants increasingly framed challenges in terms of internal capacity and resource mobilization rather than external dependency. This shift manifested in practical ways, including increased investment in local food production, reduced reliance on external inputs, and greater emphasis on community-based solutions to local problems.

5.1.5 The Role of Government as a Facilitator

In locations where government agencies act more as facilitators than controllers, project design and implementation are more closely aligned with local needs. Flexibility in regulatory processes, budgetary management, and spaces for civic participation allows projects to respond to actual conditions. Such areas become living laboratories for community-driven innovation and long-term sustainability.

Analysis across study sites revealed distinct differences in outcomes between areas with facilitating versus controlling government approaches. Communities with supportive government facilitators demonstrated greater autonomy in project adaptation, higher levels of community participation, and more sustainable long-term outcomes. These sites also showed increased capacity for independent problem-solving and reduced dependency on external intervention.

5.2 Policy Design Approaches Promoting Community Self-reliance, Adaptable to Specific Local Contexts

Community Self-reliance does not emerge from centralized, one-size-fits-all policies. Instead, it requires adaptive, evidence-based policy frameworks rooted in real-world experiences. This study identifies five key approaches to place-based policy design that emerged from the implementation of the Khok Nong Na Model across diverse settings:

5.2.1 Adapting Policies to Local Contexts

The study clearly indicates that geographic, climatic, and sociocultural differences directly influence project implementation. For example, drought-prone areas require distinct water storage strategies compared to wetlands, while highland communities must address water flow dynamics. Policies should therefore avoid prescribing fixed models and instead promote "co-designed behavioral policies" that communities can adapt to their ecological and cultural realities. Field evidence demonstrated that successful adaptation occurred when communities were given flexibility to modify the basic Khok-Nong-Na framework according to local conditions. Sites that rigidly followed standardized designs showed lower success rates compared to those that adapted the model to local topography, climate patterns, and cultural practices.

5.2.2 Creating Diverse Prototypes

Establishing regional demonstration or learning centers—such as those focusing on rainwater management in the Northeast, mangrove restoration in the South, or highland wisdom integration in the North—allows communities to select models relevant to their own contexts. Policy frameworks should thus support the development of "sub-policy prototypes" tailored to regional conditions, encouraging continuous learning and refinement rather than relying solely on centralized, top-down models. The research identified successful prototype variations across different regions, with each developing distinct strengths based on local resources and knowledge systems. These variations provided valuable learning opportunities for other communities facing similar conditions, creating a network of context-specific solutions.

5.2.3 Utilizing Empirical Data as a Policy Foundation

Sustainable policies should not rely solely on national-level statistics or macroeconomic development plans. Instead, they must incorporate voices from the ground. Field-based data—such as expressed needs, persistent challenges, local resource potential, and participant experiences—should be systematically analyzed and integrated into the policy-making process. This approach is consistent with the concept of grounded policy, which emphasizes deriving policy directions through the synthesis of qualitative data obtained via in-depth interviews, field observations, and focus group discussions. The study found that sites with systematic data collection and feedback mechanisms showed better alignment between community needs and project implementation. Communities that regularly documented their experiences and challenges were better able to adapt strategies and demonstrate impact to external stakeholders.

5.2.4 Participatory Design

Effective policy design must go beyond tokenistic consultations by creating authentic spaces for community engagement. This involves facilitating collaboration in planning, implementation, evaluation, and joint problem-solving among communities, government

agencies, and partner organizations. Such inclusive processes foster local policy ownership, which is critical to strengthening community self-reliance and reducing long-term dependency on externally imposed solutions.

Evidence from the study sites showed that communities with genuine participatory design processes demonstrated higher levels of project ownership and sustainability. These communities were more likely to continue activities beyond the official project period and showed greater innovation in problem-solving approaches.

5.2.5 Employing the 4S Framework as a Policy Formulation Tool

Based on the findings, the researcher proposes the 4S Framework, synthesizing four key components that underpin community self-reliance: (1) Sustainable Space: Designing productive and ecologically balanced areas that support both livelihood and environmental conservation. (2) Social Capital: Revitalizing communal relationships, fostering cooperation, and rebuilding trust within the community. (3) Self-Learning: Encouraging experiential learning through hands-on activities, experimentation, and the transfer of indigenous knowledge. (4) State as a Supporter: Reframing the state's role from that of a director to a facilitator that enables learning environments. Field application of the 4S Framework across study sites revealed its effectiveness as both an analytical tool for understanding community dynamics and a practical guide for policy implementation. Communities that consciously addressed all four components showed more balanced and sustainable development outcomes compared to those focusing on individual elements.

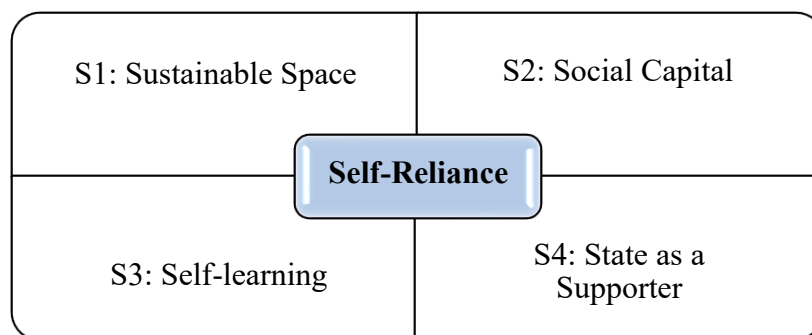


Figure 1 4S Framework
Source: Sathita Angthong (Researcher)

Together, these components form a conceptual framework aimed at achieving the overarching goal of community Self-reliance. The 4S Framework can be applied to policy planning at the provincial, district, or local levels to enhance flexibility, contextual relevance, and practical implementation.

5.3 Approaches to Driving Public Policies Aligned with Sustainable Development Goals (SDGs) and Adaptable to Diverse Local Contexts

The development of public policy that effectively addresses both local and national needs requires multi-level governance, the integration of field-based data into policy formulation, and strategic alignment with the 17 Sustainable Development Goals (SDGs) set forth by the United Nations. Findings from the Khok Nong Na Model project suggest four key approaches that

support the implementation of public policy in ways that connect top-down mandates with bottom-up responsiveness to local diversity.

5.3.1 Elevating Learning Spaces into Policy Instruments

Areas implementing the Khok Nong Na Model demonstrate the potential of community-based learning spaces to generate practice-based evidence, which can effectively inform place-based policy. In locations where data collection is systematic (e.g., production metrics, food security indicators, behavioral changes, and social network development), such evidence can be synthesized into grassroots policy proposals. The government should establish systems that integrate this local data into national decision-making processes by utilizing supportive structures, such as participatory policy committees, sub-district data centers, or provincial and national forums for presenting field-based findings.

Research findings revealed that learning centers functioning as data collection hubs generated valuable insights for policy refinement. Sites with systematic documentation processes were better able to demonstrate impact and influence policy adjustments at district and provincial levels.

5.3.2 Integrating Sustainable Development with Community-Based Policies

Although the Khok Nong Na Model does not explicitly target the SDGs, findings indicate that its activities align with several key goals. These include:

- Goal 1: No Poverty
- Goal 2: Zero Hunger
- Goal 6: Clean Water and Sanitation
- Goal 12: Responsible Consumption and Production
- Goal 13: Climate Action
- Goal 16: Peace, Justice, and Strong Institutions

Future public policy efforts should focus on translating these global goals into locally relevant, understandable, and actionable objectives, using participatory approaches that position citizens as co-owners-rather than passive implementers-of development processes.

Field observations documented how community activities naturally aligned with multiple SDGs simultaneously, even without explicit SDG targeting. This organic alignment suggests that community-driven approaches may be more effective at achieving integrated sustainable development outcomes than top-down SDG implementation strategies.

5.3.3 Creating Dynamic Intermediary Mechanisms

Bridging national policies with local implementation requires dynamic and bidirectional intermediary mechanisms. Many Khok Nong Na learning centers serve as effective connectors between state agencies, academic institutions, and community stakeholders by translating local experiences into context-responsive and evidence-informed policy designs. The government should invest in and support intermediary platforms such as participatory policy review forums, citizen report cards, and local organizations that act as policy translators and conveners.

The study identified successful intermediary mechanisms that facilitated effective communication between community level and policy level actors. These mechanisms proved crucial for ensuring that local innovations and challenges informed broader policy development.

5.3.4 Establishing Bottom-Up Policy Systems

Developing sustainable public policies requires a transition from centralized, top-down policy frameworks to bottom-up systems that genuinely empower communities to engage in policy design and decision-making. This entails facilitating local experimentation, supporting provincial prototypes that reflect contextual diversity, and scaling them into national models rooted in shared principles. National intermediary bodies—such as the National Economic and Social Development Council and independent policy research institutes—should function as data filters and synthesizers, linking local insights to national-level decision. These approaches collectively foster a systemic learning loop between communities, provincial authorities, and national agencies. The result is a more flexible, evidence-grounded, and legitimate policy system that is likely to gain long-term acceptance and effective implementation.

Evidence from the study sites demonstrated that communities with greater autonomy in policy adaptation showed higher sustainability and impact. These findings support the need for policy frameworks that enable local innovation while maintaining coherence with national development objectives.

6. Conclusion and Discussion

6.1 Key Components Promoting Community Self-reliance in the Khok Nong Na Model Project

The findings indicate that community self-reliance does not emerge solely from agricultural activities or technical training. Rather, it stems from the integration of five key factors: (1) appropriate land management based on geo-social conditions, (2) experiential learning, (3) the restoration of social capital, (4) mindset transformation, and (5) the state's role as a supporter rather than a commander. This aligns with contemporary theoretical frameworks, particularly Chambers' (1997) concept of people-centered development, which asserts that sustainable development should originate from local communities and existing capacities, rather than from external or state-imposed directives. The approach resonates with Participatory Action Research methodology, which emphasizes "participation and action by members of communities affected by that research" and seeks to "understand the world by trying to change it, collaboratively and following reflection" (ATLAS.ti, 2025). This aligns with Chambers' (1997) concept of people-centered development, which asserts that sustainable development should originate from local communities and existing capacities, rather than from external or state-imposed directives. The emphasis is placed on local capital—such as indigenous knowledge, cultural wisdom, and collaborative community structures. This approach also reflects the concept of social capital, which research demonstrates as a crucial mechanism for reducing vulnerability and enhancing a community's capacity to adapt to long-term changes, with studies showing that "social networks, trust, and collective action played crucial roles in enhancing community well-being and resilience" (CARI Journals, 2023). This approach also reflects the concept of social capital, which Woolcock and Narayan (2000) identify as a crucial mechanism for reducing vulnerability and enhancing a community's capacity to adapt to long-term changes.

6.2 Policy Design Approaches Promoting Self-reliance in Various Spatial Contexts

This study proposes a flexible, place-based policy design approach—one that avoids imposing rigid formats and instead encourages communities to co-design policy in collaboration

with the state, using field-based data as a foundation (grounded policy). This approach aligns with place-based development theory, which defines such approaches as "collaborative endeavours that seek to create systemic change by bringing together efforts across the community to work towards shared long-term outcomes" that harness "the vision, resources and opportunities of community" (QCOSS, 2019). Research on bottom-up governance mechanisms reveals their potential to address complex societal challenges, though studies indicate they often require policy support to achieve transformative impact at scale (Taylor & Francis, 2021). This approach aligns with the principle of evidence-based decision-making, which emphasizes the value of qualitative data synthesized at the community level. Such methods enable public policies to address not only immediate issues but also deeper structural vulnerabilities (Madani et al., 2025).

In addition, the researcher synthesized the 4S conceptual framework—Sustainable Space, Social Capital, Self-Learning, and State as a Supporter—to explain that self-reliance is interdependent with physical context, consciousness, and community-based learning structures. This systemic design draws from Asset-Based Community Development (ABCD) theory, which emphasizes "the gifts of individuals, citizens associations, and local institutions" rather than focusing on community deficiencies and external solutions (Connected Communities Canada, 2018). The framework suggests that communities possess inherent assets and capacities that, when properly mobilized and connected, can drive sustainable development processes from within. This systemic design is grounded in the principles of sustainable development and underscores the importance of empowering people to define their own development trajectories (Fischer, 2003).

6.3 Advancing Sustainable Development Goals through Localized Policy Systems

Lessons from the Khok Nong Na Model demonstrate that although the project did not explicitly aim to fulfill the SDGs, it aligns in practice with several key goals—specifically: Goal 1: No Poverty; Goal 2: Zero Hunger; Goal 6: Clean Water and Sanitation; Goal 13: Climate Action. This alignment reflects broader research findings showing that community-led initiatives contribute to "almost all of the SDGs, and achieving particular success in bringing different goals into synergy" (Henfrey et al., 2023). However, these achievements are based on "ethics, guiding philosophies, issue framings, practical goals and ways of organising that differ significantly from those behind the formulation and delivery of the SDGs." This indicates that local communities serve as strategic agents in driving the SDGs forward.

Contemporary challenges reinforce the urgency of such community-based approaches. Current data reveals that Thailand's household debt-to-GDP ratio reached 89.6% in the second quarter of 2024, with the average household debt per family reaching a record high of 606,378 baht in 2024, representing an 8.4% increase from the previous year (Thailand Business News, 2024). Significantly, 99.7% of households carry some form of debt, with 30% of average debt originating from informal loans, indicating that banks have tightened credit access and pushed lower-income families toward high-interest illegal loan sharks. If the state can effectively translate global goals into locally understandable and relevant language (i.e., localizing global goals), these objectives can be realized more organically from the grassroots level. The bottom-up policy system is essential for reducing power disparities between the state and citizens and for sustaining continuous community participation throughout the policy process. This approach reflects Head's (2022) concept of the systemic learning loop, wherein information circulates between operational and policy levels to foster ongoing mutual learning. Therefore, creating

dynamic intermediary mechanisms becomes vital for linking local policy proposals to national goals—making policies living entities that can evolve and adapt in real time (living policy).

However, critical perspectives highlight implementation challenges that must be addressed. Research reveals the gap between policy intention and reality, with findings that "many organizations have used Khok Nong Na model as public relation scheme, rather to practice the model for actual sustainable development" (Mahidol University, 2024). Additionally, farmers often face difficulties accessing governmental assistance, with studies showing that "even if the Khok Nong Na model is widely publicized in Thailand, it is still difficult for farmers to access governmental assistance, especially in terms of financial help," requiring farmers to "invest personal budget along the process" while "local agents are not well informed about the model which leads to confusion and highly time-consuming processes" (Mahidol University, 2024).

7. Recommendations

7.1 Recommendations from the Study

(1.1) Area-based learning centers should be promoted to collect and manage data from real-world operations, serving as knowledge hubs for both community-level development and policy formulation.

(1.2) Experiential learning activities should be organized with an emphasis on the "learning by doing" approach, which has the potential to stimulate meaningful behavioral change.

(1.3) The formation of groups and the development of collaborative networks within communities should be encouraged to strengthen social capital and foster Self-reliance.

(1.4) Support should be provided for mindset transformation at the household level, focusing on the principles of sufficiency, security, and quality of life, rather than solely on economic prosperity.

7.2 Policy Recommendations

(2.1) Flexible, place-based policies should be developed, avoiding a one-size-fits-all approach and allowing for contextual adaptation across regions.

(2.2) Participatory policy design should be promoted, enabling communities to engage actively in all stages of policy formulation.

(2.3) A bottom-up policy system should be established, beginning with local initiatives and scaling upward to provincial and national levels.

(2.4) A dynamic intermediary mechanism should be instituted to collect, translate, and communicate information between communities, academic institutions, and policymaking bodies.

(2.5) The Sustainable Development Goals (SDGs) should be localized into formats that are understandable, relevant, and accessible to local communities.

(2.6) Financial accessibility mechanisms should be strengthened to address implementation barriers, particularly regarding governmental assistance programs that currently require significant personal investment from participants.

(2.7) Capacity building for local agents and government officials should be prioritized to ensure accurate information dissemination and reduce bureaucratic confusion in program implementation.

7.3 Recommendations for Future Research

(3.1) In-depth studies should be conducted on feedback loop processes between communities and policies to support the design of policy systems that are responsive to ground-level realities.

(3.2) Comparative studies of different policy prototypes across regions should be carried out to synthesize effective approaches for policy adaptation based on socio-geographical variation.

(3.3) The long-term economic, social, and environmental impacts of community Self-reliance should be analyzed to evaluate its sustainability.

(3.4) Communication mechanisms between the state and citizens should be examined through the lenses of social learning and public policy communication theories.

(3.5) Longitudinal studies should investigate the relationship between household debt dynamics and community self-reliance initiatives to better understand how local-level interventions can address structural economic vulnerabilities.

(3.6) Comparative analysis should be conducted between Thailand's Khok Nong Na Model and similar community self-reliance initiatives in other developing countries to identify transferable lessons and best practices.

(3.7) Research should examine the effectiveness of different intermediary mechanisms in bridging local community data with national policy formulation processes.

8. Conclusions

This study aimed to synthesize the components that promote community self-reliance based on the implementation of the Khok Nong Na Model Project across 20 sites nationwide and to develop adaptable policy approaches for diverse local contexts. The findings demonstrate that self-reliance is not merely an outcome of activities, but a result of a dynamic integration of spatial, social, cultural, and policy dimensions. Five key components were identified: (1) socio-geographical area management, (2) learning through practice, (3) social capital restoration, (4) community mindset transformation, and (5) the role of the state as a supporter rather than a controller. Furthermore, the study proposes a flexible, participatory, and field-data-driven policy design model based on the "4S" framework: Sustainable Space, Social Capital, Self-learning, and State as a Supporter. This framework functions as a systematic tool for place-based policy formulation, aligned with the principles of sustainable development and supportive of bottom-up policy systems.

The research contributes to the growing body of literature on community-centered development by providing empirical evidence from Thailand's largest community self-reliance initiative. The findings align with international research demonstrating that community-led initiatives contribute significantly to multiple SDGs while operating through "ethics, guiding philosophies, issue framings, practical goals and ways of organising that differ significantly from those behind the formulation and delivery of the SDGs" (Henfrey et al., 2023). This suggests that authentic community self-reliance emerges through locally-defined processes rather than externally imposed frameworks.

The policy recommendations stress the importance of empowering local learning centers as knowledge infrastructures, integrating the SDGs into local contexts, establishing dynamic intermediaries to facilitate two-way information flow, and institutionalizing policy processes that allow communities to lead. These recommendations gain particular urgency in the context of

Thailand's current economic challenges, with household debt reaching record levels and informal sector vulnerabilities exposed during the pandemic period. The fiscal constraints facing the government, with public debt rising from 41% to 58% of GDP during the pandemic recovery, underscore the importance of community-based approaches that can achieve development outcomes with lower fiscal requirements while building local capacity for sustainable development.

The study also reveals critical implementation challenges that require attention. The gap between policy rhetoric and practice, evidenced by organizations using the model as a "public relation scheme" rather than genuine development tool, highlights the risk of co-optation within existing governance structures. Additionally, barriers to accessing governmental assistance and inadequate capacity among local agents point to systemic issues that must be addressed for authentic community empowerment to occur.

These findings underscore that self-reliance is not a static policy target but a transformative process that must be cultivated from the grassroots, with appropriate state support. The evidence suggests that building community resilience requires what research defines as "a process of linking a network of adaptive capacities to cope up and bounce back after any disaster" through "Economic development, Social capital, Information and Communication and community competence" (Jawaharlal Nehru University, 2023). This framework emphasizes reducing inequities, engaging people in mitigation efforts, creating organizational linkages, and protecting social support systems. The study emphasizes the need for context-specific, participatory, and adaptive policy-making to achieve sustainable community development.

The implications extend beyond Thailand's borders, offering insights for other developing countries grappling with similar challenges of rural development, food security, and community empowerment. The 4S framework provides a replicable model that can be adapted to diverse socio-cultural and geographical contexts while maintaining core principles of participatory governance and community-led development.

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