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Community Readiness for an Aging Society in Semi-Rural and Rural Communities of Trang Province, Southern Thailand: A Mixed-Methods Approach

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ABSTRACT

This mixed-methods study investigates community readiness for supporting an aging society in Trang Province, Southern Thailand, across five dimensions: health, economy, society, environment, and technology. Conducted in two phases—(1) assessing community preparedness and (2) developing context-sensitive policy recommendations—the study involved 697 participants from urban, semi-urban, and rural areas using surveys, in-depth interviews, focus groups, and participant observation. Quantitative data were analyzed with descriptive statistics and one-way ANOVA, while qualitative data were examined thematically. Findings indicate moderate to high community readiness, yet structural and cultural challenges persist. Economic vulnerability is pronounced, with 51.9% of households reporting unstable income and 56.2% indicating debt. Common health issues include hypertension, diabetes, and osteoarthritis. Environmental limitations, such as 34.1% of households continuing to use squat toilets, highlight infrastructural gaps. Social support and engagement remain strong but vary significantly across subdistricts ($p < 0.05$). Based on these results, a five-dimensional policy framework is proposed, integrating preventive health care, economic security, social participation, age-friendly infrastructure, and digital inclusion. Lifelong learning and participatory governance are emphasized as key strategies for empowering older adults. Comparative analysis underscores the importance of social capital, cultural norms, and multi-sectoral collaboration in achieving equitable aging policies. Strengthening cross-level coordination and community ownership is essential for transforming readiness into long-term resilience and improving quality of life for older adults.

Keywords: Aging Society, Community Readiness, Policy Development, Southern Thailand, Semi-Rural and Rural Communities

INTRODUCTION

Population aging has emerged as one of the most significant demographic transformations of the twenty-first century. As the proportion of older adults rises globally, countries face increasing pressures on healthcare systems, social welfare, and economic sustainability. Thailand is no exception. According to the National Statistical Office (2021), approximately 12.4 million people, or 18.7% of the population, were aged 60 and above in 2021. This

proportion is projected to reach 30.2% by 2040, signaling Thailand's progression toward a super-aged society. These demographic shifts have profound implications for healthcare demand, social security provision, and labor productivity (Worawech, 2020). Trang Province, in southern Thailand, exemplifies these changes. In 2020, the province had 106,819 older adults, representing 17.5% of its population, with projections indicating an increase to 22.5% by 2025 (Trang Provincial Public Health Office, 2020). The rising elderly population has intensified the need for accessible healthcare, welfare programs, and community-based social support (Thanyakorn et al., 2019). The province's semi-urban structure and socio-economic diversity further complicate the challenges of adapting to population aging.

Community readiness is pivotal for supporting older adults, encompassing health services, social inclusion, and overall quality of life (Nanthiya et al., 2020). In semi-rural and rural contexts, preparedness is often uneven due to resource limitations, fragmented local governance, and insufficient knowledge on aging-related needs (Piyawat et al., 2019). Studies indicate that higher community readiness across health, economic, social, environmental, and technological dimensions correlates with better quality of life for older adults (Sasiphat et al., 2020). Effective multi-sectoral collaboration between public, private, and civil society actors is essential to establish sustainable systems for aging (Wilailak et al., 2019). However, research on community readiness in southern Thailand, particularly in semi-rural and rural areas, remains limited, highlighting the need for localized, context-sensitive studies (Patcharin, 2020).

In recognition of these trends, Trang Province declared itself a "complete aged society" in 2023, when 20.6% of the population were aged 60 and above, and is projected to become a "super-aged society" by 2035. In response, the Trang Provincial Elderly Quality of Life Development Plan (2023–2030) was introduced, guided by the vision: *"By 2030, older persons in Trang will enjoy a good quality of life, live happily, and age with dignity."* The plan sets five strategic priorities—health, economic resilience, enabling environment, social inclusion, and digital literacy—implemented through multi-level Quality of Life Development Committees, integrating community participation with policy alignment from village to provincial levels (Trang Provincial Public Health Office, 2023).

Despite these initiatives, several challenges persist. Approximately 2.96% of older adults are dependent, 44.4% have chronic illnesses, 12.48% of households have no savings, and 50.6% are indebted. Environmental hazards, inadequate housing adaptations, and a 37.01% rate of drug-related community problems further threaten older adults' well-being. In addition, the lack of a centralized database and fragmented coordination among governmental and local organizations impede effective service delivery.

To address these challenges, this study employs a mixed-methods approach with two primary objectives: (1) assessing the current situation and the readiness of communities to accommodate older adults, and (2) developing evidence-based policy recommendations to enhance sustainable community preparedness**.** By integrating quantitative assessments with qualitative insights, the study aims to identify model communities and scalable practices across five dimensions—health, economy, society, environment, and technology and lifelong learning. The findings are expected to provide empirical evidence for policy formulation, strengthen local capacity, and improve the overall quality of life for older adults in Trang Province and other southern regions of Thailand.

METHODS

This study employed a mixed-methods research design, implemented between August 2024 and September 2025, to assess community readiness for an aging society in semi-rural and rural communities of Trang Province, Southern Thailand, and to develop practical policy recommendations and operational guidelines at the community level. By integrating quantitative and qualitative approaches with a Participatory Action Research (PAR) framework, the study enabled comprehensive data collection, triangulation, and active stakeholder engagement throughout the research process, ensuring contextual and culturally sensitive outcomes.

The study population consisted of two primary groups: those participating in the assessment of community preparedness and those involved in the formulation of policy recommendations. Inclusion criteria required individuals to work in or be related to elderly care activities, be able to read and write Thai, and reside in Trang Province. Exclusion criteria included unwillingness to provide information, inability to participate throughout the project, or severe illness during the research period. For the quantitative phase, 697 participants were selected through multi-stage stratified random sampling proportional to the population size of each subdistrict. The minimum sample size, calculated using G*Power software (F tests, one-way ANOVA, effect size = 0.20, $\alpha = 0.05$, power = 0.95, six groups), was 504 participants. To enhance precision, the sample was increased by 38.29%, yielding a total of 697 participants representing various stakeholders in elderly care.

The qualitative phase included 150 purposively selected informants, comprising community leaders from six local administrative organizations (25 per area: 10 village health volunteers, 10 elderly representatives, and 5 local officials), district-level quality-of-life development committee members (20 per district), and provincial-level

representatives (40 persons) from municipalities, hospitals, the Provincial Social Development and Human Security Office, the Department of Local Administration, the Provincial Administrative Organization, the Provincial Public Health Office, the Health Assembly, and other relevant agencies within Tha Phaya Municipality, Tha Kham, Lipang, Na Khuan, Thung Krabue, and Na Chum Het Subdistrict Administrative Organizations.

The research was conducted in two sequential phases. Phase 1, a quantitative assessment, examined community preparedness across five dimensions: health, economy, society, environment, and technology/lifelong learning. Data were collected using structured questionnaires administered to older adults, family caregivers, and community members in urban, semi-urban, and rural areas, particularly in Yan Ta Khao and Palian districts, which have high elderly populations and well-established care systems. Descriptive and inferential statistical analyses, including frequency, percentage, mean, standard deviation, and one-way ANOVA, were used to assess levels of readiness, identify gaps, and determine differences across communities.

Phase 2 applied a qualitative, action-oriented approach grounded in PAR principles to translate quantitative findings into contextually relevant strategies. Key informants included district and subdistrict quality-of-life development committee members, community leaders, local administrative officers, civil society representatives, and health professionals. The process began with stakeholder mapping and community consultations to validate quantitative findings and identify priority issues. Participatory workshops facilitated joint problem definition and the co-creation of localized action plans. Data were collected through in-depth interviews, focus group discussions, and participatory observations, providing insight into lived experiences, institutional capacities, and collaborative dynamics shaping aging-society preparedness. The PAR process followed iterative cycles of planning, action, observation, and reflection (PAOR model), allowing communities to co-design initiatives aligned with the five-dimensional policy framework, pilot selected interventions, and adapt strategies through regular review meetings. This participatory cycle enhanced community ownership, intersectoral collaboration, and local innovation, ensuring the sustainability and contextual relevance of proposed solutions.

Five integrated research instruments captured multidimensional data. A structured questionnaire assessed perceptions, attitudes, and social support. Semi-structured interviews explored lived experiences, cultural norms, and institutional practices. Focus group discussions elicited collective reflections, shared priorities, and informal strategies. Observation and document analysis checklists recorded environmental, infrastructural, and policy contexts. Finally, a database framework organized information on community capacities and policy responses, facilitating triangulation and critical reflection on discrepancies between formal structures and lived realities. Instruments were developed based on an extensive literature review and national frameworks on active aging, validated by experts (IOC = 0.67–1.00), and pilot-tested with 30 participants, yielding Cronbach's alpha of 0.78 for the attitude scale and 0.82 for the social support scale.

Quantitative data were analyzed using descriptive and inferential statistics, while qualitative data underwent content analysis, including transcription, coding, categorization, and thematic interpretation. Results were presented through narratives, tables, and diagrams, and synthesized to generate actionable policy recommendations at both community and provincial levels. Ethical standards were strictly observed: prior informed consent was obtained, confidentiality maintained, and voluntary participation ensured. Audio-visual recordings captured both verbal and non-verbal contextual nuances.

This study was reviewed and approved by the Human Research Ethics Committee of Sirindhorn College of Public Health, Trang (Approval No. P101/2567). All information was used solely for research purposes, and strict confidentiality was maintained. Participation was voluntary, and no harm or adverse consequences occurred to participants or related stakeholders throughout the study.

By integrating mixed methods with PAR, the study provided a holistic understanding of community readiness, combining empirical measurement with social and cultural insights. This approach facilitated knowledge translation into locally relevant policy and community interventions, highlighting the complex interplay between individual, social, environmental, and institutional factors in preparing semi-rural and rural communities for the challenges and opportunities of an aging society.

RESULTS

1. Situation and Community Preparedness for an Aging Society in Trang Province

General Information

The findings revealed that the majority of respondents were female (70.01%) and aged 60 years and above. Most participants were Buddhist (67.9%) and had completed primary education (41.0%). The predominant occupation was agriculture (56.2%). In terms of economic conditions, more than half of the households reported having sufficient income but no savings (51.9%), followed by households with insufficient income to cover

expenses (32.9%) and those with outstanding debts (56.2%). Regarding health status, 42.0% of respondents reported having at least one chronic illness, primarily hypertension (19.2%), diabetes mellitus (7.3%), and osteoarthritis (5.0%). In terms of environmental conditions, 91.4% of respondents lived in houses suitable for elderly persons; however, 34.1% reported using squat toilets, which pose a fall risk. From the social perspective, 76.47% of respondents lived in nuclear families, 58.25% had more than four household members, 91.25% owned their homes, and 96.99% indicated that no family members were involved with illicit drugs.

2. Attitudes Toward Aging Society Preparedness

Analysis of variance (ANOVA) revealed statistically significant differences in attitudes among participant groups ($F = 9.464$, $p < .001$). The between-group sum of squares was 17.958 with a mean square of 3.592, while the within-group variance was 262.230 (df = 691, mean square = 0.379). This indicates that at least one group differed significantly in attitudes toward aging-society preparedness at the 0.05 significance level. The mean attitude score across all communities was at **a** very high level ($\bar{x} = 3.71$, SD = 0.63). The highest mean was observed in Tha Kham Subdistrict Administrative Organization ($\bar{x} = 3.94$, SD = 0.49)**,** followed by Lipang Subdistrict Administrative Organization ($\bar{x} = 3.83$, SD = 0.57)**,** Thung Krabue Municipality ($\bar{x} = 3.78$, SD = 0.71)**,** Tha Phaya Municipality ($\bar{x} = 3.73$, SD = 0.58)**,** and Na Chum Het Subdistrict Administrative Organization ($\bar{x} = 3.68$, SD = 0.60)**.** The lowest mean score was found in Nai Khuan Subdistrict Administrative Organization ($\bar{x} = 3.48$, SD = 0.66)**,** although it remained at a very good level. One-way ANOVA confirmed significant differences in mean attitude scores among the six communities ($p < .001$). Post hoc analysis indicated that Nai Khuan had significantly lower attitude scores compared with other areas at the 0.05 significance level, except when compared with Na Chum Het, where no significant difference was found ($p > .05$). Other areas such as Tha Phaya, Thung Krabue, and Lipang did not exhibit statistically significant differences (Table 1).

3. Social Support for Aging-Society Preparedness

Analysis of variance for social support revealed significant differences among participant groups ($F = 18.831$, $p < .001$). The between-group sum of squares was 33.362 with a mean square of 6.672, while the within-group variance was 244.845 (df = 691, mean square = 0.354). These results suggest that the levels of perceived social support for aging-society preparedness differed significantly among groups at the 0.05 level (Table 1).

Table 1. Summarizes the comparison of attitudes, social support, and quality of life among community members across study areas.

Variable		**Sum of Squares**	**df**	**Mean Square**	**F**	***P****
Attitude	Between Groups	17.958	5	3.592	9.464	<.001
	Within Groups	262.230	691	.379		
	Total	280.189	696			
Social Support	Between Groups	33.362	5	6.672	18.831	<.001
	Within Groups	244.845	691	.354		
	Total	278.207	696			

The findings indicate that community attitudes and social support are both at high levels but vary significantly across subdistricts. Communities with stronger local governance, established volunteer networks, and better socioeconomic conditions—such as Tha Kham and Lipang—tend to demonstrate higher preparedness levels. Conversely, areas with limited resources or weaker institutional coordination, such as Nai Khuan, exhibit relatively lower readiness. The results underscore the importance of multi-sectoral collaboration, consistent community engagement, and targeted policy interventions to strengthen local preparedness for Thailand's rapidly aging society.

1. Attitudinal Differences Across Study Areas

The overall mean attitude score was 3.70 (SD = 0.63), indicating a *very good level* of preparedness. When examined item by item, participants reported the highest attitude levels toward *attending scheduled medical appointments* ($\bar{x} = 4.32$, SD = 0.587), followed by *annual health checkups* ($\bar{x} = 4.22$, SD = 0.545) and *adequate rest* ($\bar{x} = 4.14$, SD = 0.572). These findings highlight strong emphasis among participants on maintaining both physical and mental health.Conversely, the lowest attitude scores were observed for *recording household income and expenditure* ($\bar{x} = 2.16$, SD = 0.997), *debt repayment* ($\bar{x} = 2.50$, SD = 1.460), and *seeking information about hobbies or leisure activities* ($\bar{x} = 2.64$, SD = 0.722), which were at moderate levels (Table 2).

Table 2. Comparison of Mean Scores of Attitude Toward Aging-Society Preparedness and Significance Level by Area.

Area	$\bar{x}$	SD	*p*-value					
			Tha Phaya	Tha Kham	Lipang	Nai Khuan	Thung Krabue	Na Chum Het
Tha Phaya	3.73	.58						
Tha Kham	3.94	.49	.014					
Lipang	3.83	.57	.243	.193				
Nai Khuan	3.48	.66	.001	<.001	<.001			
Thung Krabue	3.78	.71	.575	.057	.544	<.001		
Na Chum Het	3.68	.60	.595	.003	.090	.007	.276	

The post hoc analysis revealed that Nai Khuan Subdistrict Administrative Organization exhibited significantly lower attitude scores compared with all other areas ($p < .05$), except for Na Chum Het SAO ($p > .05$). The other areas—Tha Phaya, Thung Krabue, and Lipang—showed no statistically significant differences in mean attitudes ($p > .05$).

2. Social Support for Aging-Society Preparedness

The overall mean social support score across six communities was 3.50 (SD = 0.632), reflecting a *very good level* of perceived support. The highest mean was reported in Lipang SAO ($\bar{x} = 3.93$, SD = 0.467), followed by Tha Kham SAO ($\bar{x} = 3.68$, SD = 0.679) and Na Chum Het SAO ($\bar{x} = 3.46$, SD = 0.556). Moderate mean levels were observed in Tha Phaya Municipality ($\bar{x} = 3.47$, SD = 0.749), Thung Krabue Municipality ($\bar{x} = 3.37$, SD = 0.631), and Nai Khuan SAO ($\bar{x} = 3.27$, SD = 0.513).

A one-way ANOVA indicated statistically significant differences in mean social support among the six communities ($F = 18.831$, $p < .001$), with a between-group sum of squares of 33.362 and a within-group sum of 244.845. The post hoc comparison further revealed that: (1) Nai Khuan had significantly lower social support compared with Tha Kham and Lipang ($p < .05$); (2) Lipang had significantly higher support than Thung Krabue Municipality, Na Chum Het, and Tha Phaya Municipality ($p < .05$).No significant differences were found among other pairwise comparisons (Table 3).

Table 3. Significance of Mean Differences in Social Support for Aging-Society Preparedness by Area.

Area	$\bar{x}$	SD	*p*-value					
			Tha Phaya	Tha Kham	Lipang	Nai Khuan	Thung Krabue	Na Chum Het
Tha Phaya	3.47	.749						
Tha Kham	3.68	.678	.146					
Lipang	3.93	.467	<.001	.052				
Nai Khuan	3.27	.513	.151	<.001	<.001			
Thung Krabue	3.37	.631	1.00	.004	<.001	1.00		
Na Chum Het	3.46	.556	.1.00	.154	<.001	.149	1.00	

Participants perceived the strongest social support in the domain of emotional encouragement and practical assistance from family and friends ($\bar{x} = 3.92$, SD = 0.881), followed by annual health checkups provided by public health officers ($\bar{x} = 3.75$, SD = 0.873) and health guidance from local health personnel ($\bar{x} = 3.69$, SD = 0.860). The lowest mean was found in receiving public recognition or praise from community members ($\bar{x} = 3.38$, SD = 0.794). Overall, social support in Trang Province was rated as very good, especially in the emotional and healthcare domains, though social acknowledgment remained comparatively low (see Figure 1).

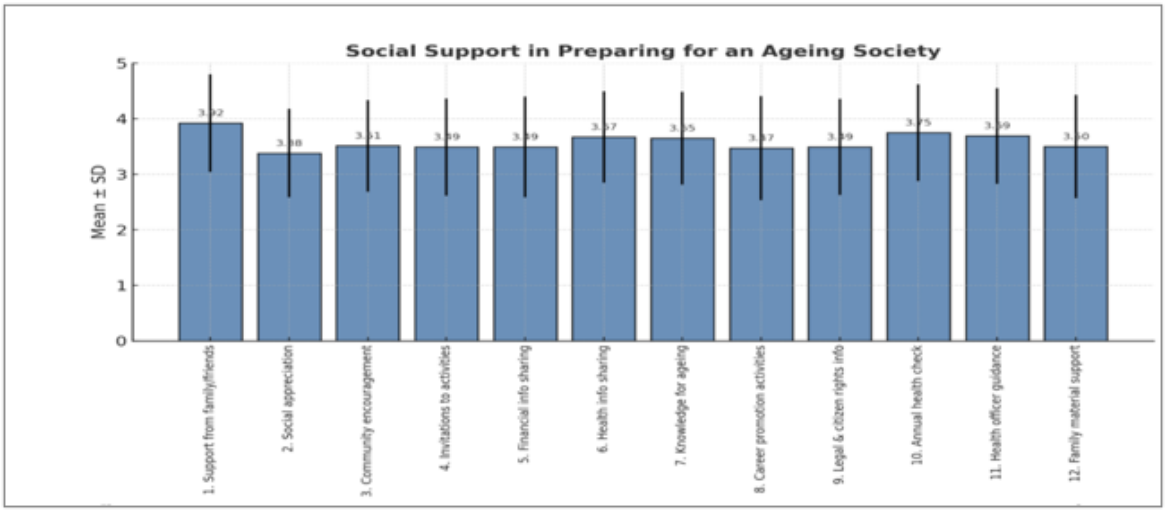

Figure 1. Comparison of Mean Social Support Scores for Aging-Society Preparedness Across Communities in Trang Province.

3. Community Problems and Development Needs

Community needs regarding aging-society preparedness were categorized into three primary dimensions: health, economic, and social, derived from both survey and qualitative data.

1. Health Dimension: The most frequently cited need was physical exercise programs (27.63%), particularly in Thung Krabue, followed by health behavior modification (13.87%), predominantly in Nai Khuan. These two categories accounted for 41.50% of total needs.
2. Economic Dimension: The most common need was waste recycling management (24.50%), mostly in Tha Phaya, followed by handicraft, food, and snack production (10.64%), sufficiency agriculture (vegetable gardening) (8.09%), livestock and aquaculture projects (6.35%), and community savings groups (4.62%). Collectively, these economic needs accounted for 54.22% of total community development demands.
3. Social Dimension: The most frequently reported social need was the establishment of an elderly school (12.14%), followed by cultural and recreational activities such as long-drum and traditional dance programs (6.01%), representing 18.15% of total needs.

Overall, the economic dimension reflected the highest proportion of community needs (54.22%), followed by health (41.50%) and social (18.15%) dimensions.

4. Thematic Synthesis of Community Challenges

From in-depth interviews and participatory observations, four overarching themes were identified:

Theme 1: Basic Health Needs and Aging Preparedness Most communities expressed a continued need for foundational health education and awareness regarding aging-society readiness. Although some areas had initiated home modifications—such as installing handrails and replacing squat toilets—many residents remained unaware of their urgency, especially concerning fall prevention, dementia, depression, and oral health.

Theme 2: Economic Vulnerability and Household Debt The most pressing concern across communities was economic insecurity, including insufficient income and chronic household debt. There was limited evidence of organized occupational groups or sustained livelihood programs. Most households still relied heavily on rubber and palm plantations or day labor, reflecting structural economic vulnerability.

Theme 3: Food Security and Community Markets Households remained dependent on food supplies from external sources and middlemen. Respondents emphasized the need for *community-based food markets* and *local production planning*. One local leader stated, "We want the Subdistrict Administrative Organization to help establish a regular community market." Despite expressed interest, local governments cited limited infrastructure and budget constraints.

Theme 4: Social Participation and Quality of Life Development Elderly respondents, particularly those with stable economic conditions, expressed strong interest in joining elderly schools and community activities. However, civic participation in public meetings and planning sessions remained low. Local development officers consistently highlighted challenges in motivating participation in government-led programs, especially vocational training, which often lacked continuity and follow-up.

KEY FACTORS INFLUENCING COMMUNITY PREPAREDNESS FOR AN AGING SOCIETY IN TRANG PROVINCE

Community preparedness for an aging society in Trang Province is not merely a function of administrative efficiency or policy enforcement but a reflection of the province's socio-cultural fabric and institutional interdependencies. The analysis revealed seven interrelated determinants shaping local readiness: leadership and strategic direction, human resources, information systems, budgeting mechanisms, technological infrastructure, essential service delivery, and community health systems. These elements collectively expose an enduring tension between centralized policy directives and local autonomy—an issue deeply rooted in Thailand's bureaucratic culture. The following discussion interprets these dimensions through a socio-cultural lens, highlighting both structural constraints and opportunities for community-driven transformation.

Leadership and Strategic Direction

Leadership and strategic vision form the moral and organizational backbone of community preparedness. In Trang, the articulation of elderly care strategies often reflects a *top-down administrative rationality*, where local agencies align with the "Elderly Quality of Life Development Plan (2023–2027)" yet lack mechanisms for contextual adaptation. As one subdistrict administrator explained, *"Although the province has a clear agenda for the elderly, implementation at the subdistrict level often remains project-based, lacking continuity and alignment with actual local needs."* This illustrates the fragmentation between policy design and local execution—a phenomenon consistent with the broader Thai governance structure, where centralization often undermines local initiative. Sustainable preparedness therefore requires a shift toward *participatory governance*, in which leadership embodies both administrative authority and cultural empathy toward aging as a community concern.

Human Resources

Human resources represent the most tangible interface between policy and people. Village health volunteers, local officials, and informal caregivers constitute a critical yet overextended labor force. Their roles, while indispensable, often overlap and remain undervalued within the bureaucratic hierarchy. As one participant noted, *"Elderly care involves health, economic, and social dimensions, but the work mainly falls on village health volunteers who are already overwhelmed."* This reflects a structural paradox—where the state depends heavily on voluntary labor but invests minimally in capacity-building, especially in digital and gerontological competencies. Culturally, this reliance aligns with Thailand's ethos of *bun khun* (reciprocal obligation), yet it risks normalizing unpaid care labor without adequate institutional recognition.

Information Systems

Information systems serve as the epistemic infrastructure of preparedness. However, in Trang, data collection is largely *performative*—conducted for compliance rather than analysis. Different agencies maintain parallel databases with little interoperability, echoing the bureaucratic inertia of Thai administrative culture. A health officer observed, *"Each agency collects its own data… when we need to plan, we spend so much time consolidating information, and often, it does not reflect the current situation."* The absence of a shared data ecosystem reflects a deeper epistemological gap: information is produced but not translated into community knowledge. Transforming data into culturally meaningful insight requires not only digital integration but also epistemic participation—allowing communities to *own* and interpret their own data.

Budgeting Mechanisms

Fiscal governance remains another structural bottleneck. Most funding streams are earmarked for short-term or categorical projects—home modifications, welfare stipends, or annual events—rather than continuous community investment. A local leader noted, *"Local governments want to continue elderly programs, but budget restrictions and complex disbursement procedures cause many projects to stall midway."* This reveals how bureaucratic rigidity curtails innovation and collective agency. From a cultural-political standpoint, it also reflects a paternalistic logic, where the state allocates benefits but constrains autonomy. A more flexible, participatory budgeting process could enable local actors to design adaptive interventions rooted in lived community realities.

Technological Infrastructure

Technology functions as both a promise and a paradox. Although the provincial government has introduced systems such as *TrangCare.net* to centralize elderly health data, their adoption remains minimal. The digital divide persists—not merely due to lack of skills but due to *technological alienation*, wherein systems are perceived as external to local lifeworlds. As a public health professional remarked, *"The system is well-designed, but people are not ready."* This highlights the disjuncture between technical rationality and socio-cultural readiness. Effective integration requires

not only training but also cultural translation—framing technology as a tool of communal care rather than bureaucratic control.

Essential Service Delivery

Essential services for older persons—such as health clinics, vocational training, and social participation programs—exist unevenly across communities. The contrast between semi-urban and rural subdistricts underscores structural inequity: *"Some subdistricts have numerous activities, while our village only receives an annual health check,"* one respondent lamented. These disparities illuminate the spatial politics of welfare—how infrastructural concentration in more developed areas reproduces social exclusion in peripheral communities. Inclusive aging, therefore, demands an approach that redistributes not only material resources but also *symbolic attention* toward marginalized areas.

Community Health Systems

Finally, the strength of community health systems determines the long-term sustainability of preparedness efforts. Communities that nurture intergenerational networks—elderly clubs, women's groups, youth volunteers—tend to exhibit greater resilience and adaptability. As a community leader expressed, *"When different groups—elderly, youth, and health volunteers—work together, older persons are no longer seen as a burden but as valuable contributors."* This statement encapsulates the cultural transformation necessary for an aging society: shifting from a discourse of dependency to one of *collective vitality*. Such communities embody what might be termed *relational resilience*, where social cohesion itself becomes a form of health infrastructure.

3. Policy Recommendations for Enhancing Community Preparedness for an Aging Society in Trang Province under the Five-Dimensional Framework.

Developing an inclusive and sustainable aging society in Trang requires an integrated policy framework linking local strategies with national priorities. The proposed five-dimensional framework—health, economy, society, environment, and technology & learning—serves as a holistic model for action.

1) Health Dimension: Establishing a resilient and preventive community health system is crucial. Preventive and long-term care services should extend to subdistrict and village levels, with enhanced capacity among village health volunteers and elderly caregivers to conduct basic care and screening for dementia, depression, and chronic diseases. Prototype "Health and Rehabilitation Centers" should be developed in every district as hubs for intersectoral collaboration. Budget allocation must shift from reactive to flexible preventive funding to ensure continuity and sustainability.

2) Economic Dimension: Economic security for the elderly should be strengthened through integrated community savings and welfare systems linking village funds, cooperatives, and local health funds. Proactive financial literacy and debt management programs should be offered to older adults and families. Income-generating opportunities suited to elderly capacity—such as crafts, services, and community enterprises—should be promoted. Additionally, initiatives like food security, sufficiency agriculture, and local markets connecting producers with consumers can enhance both income and nutritional stability.

(3) Social Dimension: Active aging and social participation must be central to community development. Establishing elderly clubs, lifelong learning schools, and subdistrict elderly councils can foster intergenerational learning and civic engagement. Elderly individuals should be recognized as community assets rather than dependents. Proactive management training for local volunteers and leaders—including digital and leadership skills—should be institutionalized to build a strong social foundation for aging-inclusive development.

4) Environmental Dimension: Age-friendly infrastructure and public spaces are essential for quality of life. This includes home modifications for safety, installation of handrails, fall-prevention designs, and accessible transportation services for the elderly. Urban and rural planning should integrate green spaces and outdoor activity areas. Preventive environmental budgeting should be prioritized to promote safe and inclusive communities in the long term.

5) Technology and Learning Dimension: An integrated elderly data platform—such as *TrangCare.net*—should be enhanced to connect health, economic, and social data for real-time policy planning and targeted interventions. Strengthening digital literacy among health volunteers and local leaders will transform data management from passive recording to active analysis. Furthermore, establishing digital learning centers and community-based senior schools can empower older adults to access information, develop new skills, and engage with the digital society.

3. Policy Recommendations for Enhancing Community Preparedness for an Aging Society in Trang Province: A Five-Dimensional Framework

Developing an inclusive and sustainable aging society in Trang Province necessitates an integrated policy framework that aligns local strategies with national development priorities. The proposed five-dimensional framework—encompassing health, economy, society, environment, and technology & learning—serves as a comprehensive model for policy formulation and community action toward aging readiness (Figure 2).

(1) Health Dimension: Building a resilient and preventive community health system is imperative. Preventive and long-term care services should be decentralized to the subdistrict and village levels, empowering village health volunteers and elderly caregivers to conduct basic health screenings, particularly for dementia, depression, and chronic diseases. Prototype "Health and Rehabilitation Centers" should be established in every district to function as coordination hubs for multisectoral collaboration. Furthermore, budget allocation must transition from reactive expenditures to proactive and flexible preventive funding to ensure continuity and sustainability of care services.

(2) Economic Dimension: Strengthening economic security among older adults requires the integration of local financial mechanisms such as community savings groups, cooperatives, and local health funds into a coherent welfare system. Financial literacy and debt management programs should be regularly provided to older adults and their families to promote sustainable financial behavior. Income-generating initiatives that match the capacity of elderly individuals—such as handicrafts, service-based work, and community enterprises—should be supported. Complementary programs focusing on food security, sufficiency agriculture, and local market linkages can further enhance both economic stability and nutritional well-being.

(3) Social Dimension: Active aging and meaningful social participation must be embedded in community development agendas. The establishment of elderly clubs, lifelong learning centers, and subdistrict elderly councils can facilitate intergenerational learning, civic participation, and community solidarity. Older adults should be recognized and engaged as valuable community contributors rather than passive dependents. To reinforce this social foundation, systematic training in leadership, communication, and digital skills should be institutionalized for local leaders and volunteers involved in aging-related development.

(4) Environmental Dimension: Creating age-friendly environments is fundamental to improving the quality of life of older adults. This involves promoting safe home modifications—such as installing handrails, adopting fall-prevention designs, and ensuring barrier-free access—alongside accessible public transportation services. Urban and rural planning should prioritize inclusive green spaces and outdoor activity areas that foster social interaction and physical well-being. Moreover, local governments should institutionalize preventive environmental budgeting to sustain safe, inclusive, and supportive living environments for all generations.

(5) Technology and Learning Dimension: Digital transformation plays a pivotal role in advancing aging-inclusive governance. An integrated data management system—such as the proposed TrangCare.net—should be developed to consolidate health, economic, and social data for evidence-based policy planning and targeted interventions. Strengthening digital literacy among health volunteers, community workers, and local leaders can transform data management from passive recording into active analysis and decision-making. Establishing community-based digital learning centers and senior education hubs will further empower older adults to acquire new skills, access digital services, and engage meaningfully in the digital society.

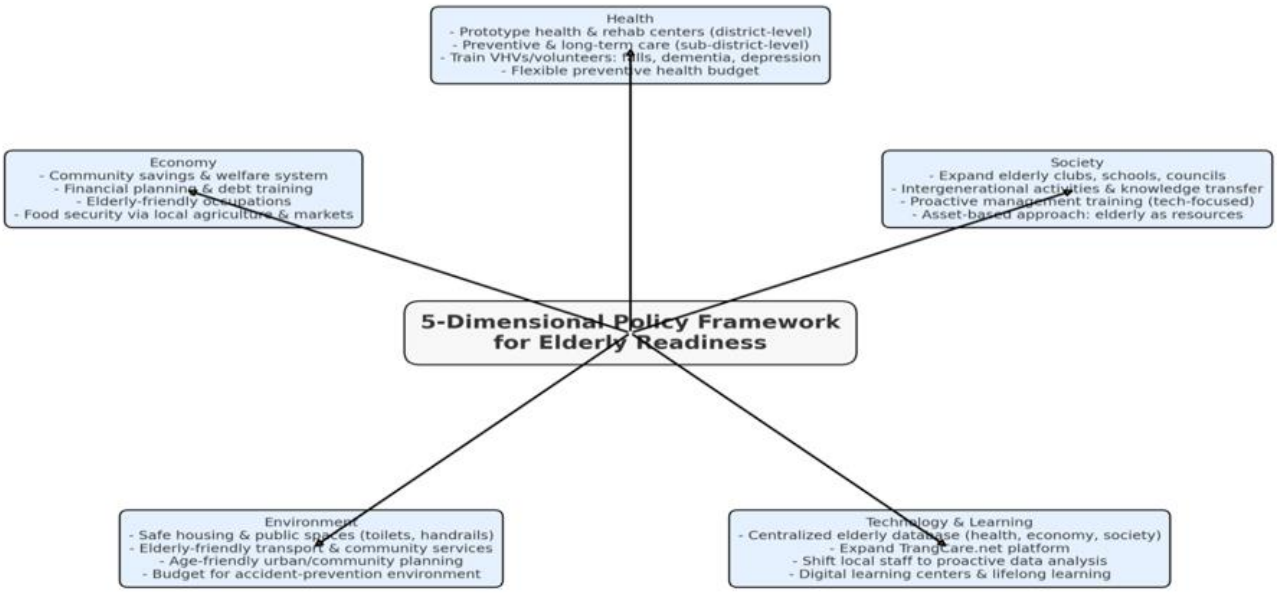

Figure 2. Policy recommendations for enhancing community preparedness for an aging society in Trang Province under the five-dimensional framework.

DISCUSSION

The findings of this study reveal the multifaceted nature of community readiness in semi-rural and rural communities of Trang Province for accommodating an aging population. The assessment highlighted key

determinants, including leadership, strategic planning, community participation, technological infrastructure, and service provision, all of which are consistent with the broader literature on community readiness and aging populations (Edwards et al., 2000; Dalton & Gottlieb, 2003). These results align with prior research emphasizing that community-level preparedness is influenced by both structural and social dimensions, reflecting Bronfenbrenner's (1979) ecological systems perspective, which underscores the interplay between individual, community, and institutional factors in shaping developmental outcomes.

One prominent observation is the significant role of local leadership and administrative organizations in fostering community readiness. Leaders in Trang Province demonstrated proactive engagement in designing elderly-focused programs, echoing findings by Veerasak, Kitti, Rakchanok, and Surasom (2021), who emphasized that local administrative bodies are critical mediators in translating national aging policies into localized strategies. Such engagement ensures alignment with Thailand's Second National Plan for the Elderly (Department of Older Persons, 2021) and reinforces the notion that successful aging is not solely an individual endeavor but a communal and policy-mediated process (Havighurst, 1963; Atchley, 1989).

Community participation emerged as a cornerstone for readiness, particularly in semi-rural settings where social cohesion is strong. Residents actively engaged in needs assessment, disaster preparedness, and knowledge transfer activities, reflecting the principles of community-driven development observed in the Chalerm App initiative (Lekapol et al., 2025). Similar patterns were documented in other Thai communities, where elderly individuals contributed to intergenerational knowledge sharing and social capital formation, which in turn enhanced resilience and quality of life (Kaewkangwan et al., 2021; Patcharin, 2018). These findings suggest that empowerment and participation of older adults not only enhance readiness but also contribute to social sustainability, consistent with Atchley's (1989) continuity theory, which emphasizes the preservation of roles and relationships throughout aging.

Technological integration in elderly care, particularly through mobile health solutions, was identified as both a facilitator and a challenge. The Chalerm App (Lekapol et al., 2025) exemplifies how technology can support chronic disease management and facilitate community-level health monitoring. However, gaps remain in digital literacy and access, which echoes challenges noted in semi-rural Thai contexts (Jitapunkul & Wivatvanit, 2019; Kanchanachitra et al., 2021). Bridging this digital divide is essential for promoting equitable access to health services and enhancing community resilience, particularly for frail older adults (Dent et al., 2016; Wang et al., 2023).

The study also highlights the critical influence of disaster preparedness on elderly well-being. Communities in Trang Province demonstrated variable readiness for floods and other environmental hazards, reflecting both infrastructural limitations and differing levels of social capital (Parichat et al., 2019; Jitramontree et al., 2021; Yodsuban et al., 2021). These observations are consistent with prior findings indicating that disaster resilience among older adults depends not only on physical preparedness but also on established networks and communal engagement (Thanakwang & Soonthorndhada, 2011; Sasiphat et al., 2020). This underscores the importance of integrating aging-specific considerations into broader disaster management frameworks, an approach advocated by Sasiphat (2018) and Somnuk, Rossarin, and Raewadee (2021).

An additional insight concerns the economic and policy contexts that shape community readiness. Financial planning, long-term care funding, and policy alignment were identified as facilitators of sustainable preparedness (Suphanchaimat et al., 2021; Suwanrada et al., 2018). Comparative analysis with other ASEAN contexts reveals that while Thailand has made significant strides, systemic gaps remain, particularly in financing home-based care and supporting frail elderly in rural areas (Fasbender et al., 2021; Knodel et al., 2020). Such findings indicate that policy coherence, adequate resource allocation, and community engagement must operate in tandem to achieve meaningful preparedness for aging societies.

From a theoretical perspective, these findings corroborate the applicability of ecological and continuity frameworks in understanding community readiness. The interaction between individual agency, social networks, institutional policies, and environmental factors creates a complex adaptive system, echoing Bronfenbrenner (1979) and Intharakhet, Utaranakorn, and Utaranakorn (2021). Furthermore, the emphasis on participatory engagement, social capital, and empowerment reflects the cultural specificity of Thai rural communities, where collectivist norms and intergenerational reciprocity are prevalent (Kaewkangwan et al., 2021; Patcharin, 2018).

The study also contributes to the emerging literature on advance care planning (ACP) and frailty management among community-dwelling older adults. Readiness for ACP is influenced by cultural beliefs, prior health experiences, and the perceived role of family and community (Etkind et al., 2018, 2019; Fujimoto et al., 2025; Tan et al., 2024a, 2024b). The integration of ACP within community structures can enhance autonomy and quality of life, but successful implementation requires addressing barriers such as limited health literacy, insufficient stakeholder engagement, and infrastructural constraints (Hopkins et al., 2020; van Lummel et al., 2022; Zhou et al., 2022). These findings resonate with Wang et al. (2023) and Zwakman et al. (2018), who highlighted the necessity of context-sensitive strategies for effective care planning among frail older adults.

Overall, the findings suggest that community readiness is a multidimensional construct encompassing structural, social, technological, and policy-related factors. Comparisons with prior studies indicate that while Trang Province exhibits significant strengths, including strong social cohesion, active elderly participation, and emerging technological integration, persistent challenges remain, particularly in disaster preparedness, resource allocation, and advance care planning (Dalton & Gottlieb, 2003; Sasiphat et al., 2016; Piyawat et al., 2019). Addressing these gaps requires a holistic approach that combines local engagement, policy alignment, technological support, and culturally informed interventions to foster sustainable preparedness for an aging society.

CONCLUSION

In conclusion, the present study provides empirical evidence supporting the necessity of integrated, community-driven strategies for managing the demographic transition toward an aging society. The convergence of ecological, continuity, and participatory frameworks offers a robust theoretical basis for understanding and enhancing community readiness. Future research should explore longitudinal outcomes of community interventions, assess digital inclusion strategies, and investigate culturally tailored ACP programs to strengthen resilience and quality of life for older adults in semi-rural and rural Thailand.

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