Future Scenarios for Thai Families in 2040

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Background of the study

This future study, conducted by the Institute for Population and Social Research at Mahidol University, plays a crucial role in the expansive Grand Thailand Challenges project initiated by the National Research Council of Thailand (NRCT). The overarching objective of this project is to foresee various dimensions, including rural development, urbanization, economic conditions, trade and investment, language and culture, education, environment and energy, politics, national security, as well as demographic structure and family dynamics within Thai society over the next two decades (2040). The study employs a future scenario planning technique to envision the potential future landscapes of Thai families. This technique generates multiple scenarios, rather than a singular future, based on the conditions of selected driving forces.

Many applications of this foresight technique rely on environmental scanning, often referred to as deep horizon scanning, of relevant factors, coupled with group discussions involving experts from various fields. This study enhances the approach by incorporating a quantitative projection of household types (living arrangements) from 2020 to 2040. This addition serves to provide a contextual backdrop for envisioning the future scenarios of Thai families.

Methods

(I) Projection of the household structure

Understanding Thailand's future living arrangement (household) structure in 2040 is crucial for family foresight, providing a foundational context for envisaging future scenarios. As of the study period (2020), no such projection was available. The latest living arrangement report of Thai society was conducted by the United Nations Population Fund (UNFPA) extending only until the year 2013.

The projections relied on three primary datasets: Multiple Indicators Cluster Survey (MICS) spanning the years 2005, 2006, 2012, 2015, and 2016; the Labor Force Survey from 1990, 1995, 2000, 2005, 2010, 2015, and 2019; and the Thai Elderly Survey from 2007, 2011, 2014, and 2017. These projections comprehensively delineated the living arrangements of children, adolescents, working-age individuals, and older persons.

(II) Scenario planning process

To formulate the future scenarios for Thai families in 2040, a series of meetings involving 25 experts from diverse fields were organized. This panel comprised demographers, family medicine specialists, financial planners, family and community social workers, urban planners, legal specialists, student activists, novelists, and economists. The utilization of deep horizon scanning techniques facilitated an exploration of the social, technological, environmental, and political trends (STEEP) that bear consequential impacts on family well-being [1]. In preparation for the workshop, the research team conducted a preliminary analysis of the environmental scanning, laying the groundwork for subsequent discussions.
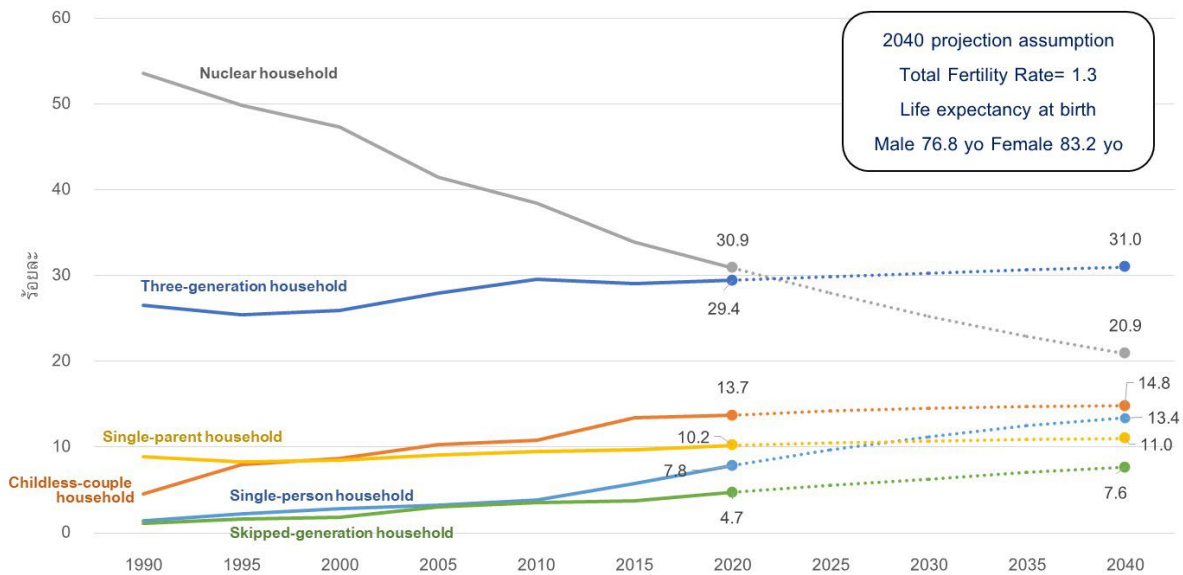
The workshop itself served as a platform for experts to delve into the analysis and discussion of the gathered information. Emphasizing a comprehensive examination, experts were tasked with detailing the driving forces influencing families across various dimensions. The workshop also assessed the levels of uncertainties and their impacts on family well-being. Through thorough deliberation and consensus-building, two particularly significant

uncertainties were singled out from the discussed driving forces, forming the basis for a future compass. This compass delineated quadrants representing alternative futures for Thai families in 2040 [2].

Following this stage, the workshop entered a four-week intermission, allowing experts the opportunity to contemplate the intricacies of each family scenario within the designated quadrants. Throughout this intermission, the research team sustained communication via a chat platform, providing pertinent information to keep the experts focused on scenario development. Experts were then tasked with drafting the narratives for each future scenario based on their individual perspectives. Subsequent discussions during the workshop centered on refining and finalizing the envisioned future scenarios for Thai families.

Household projection

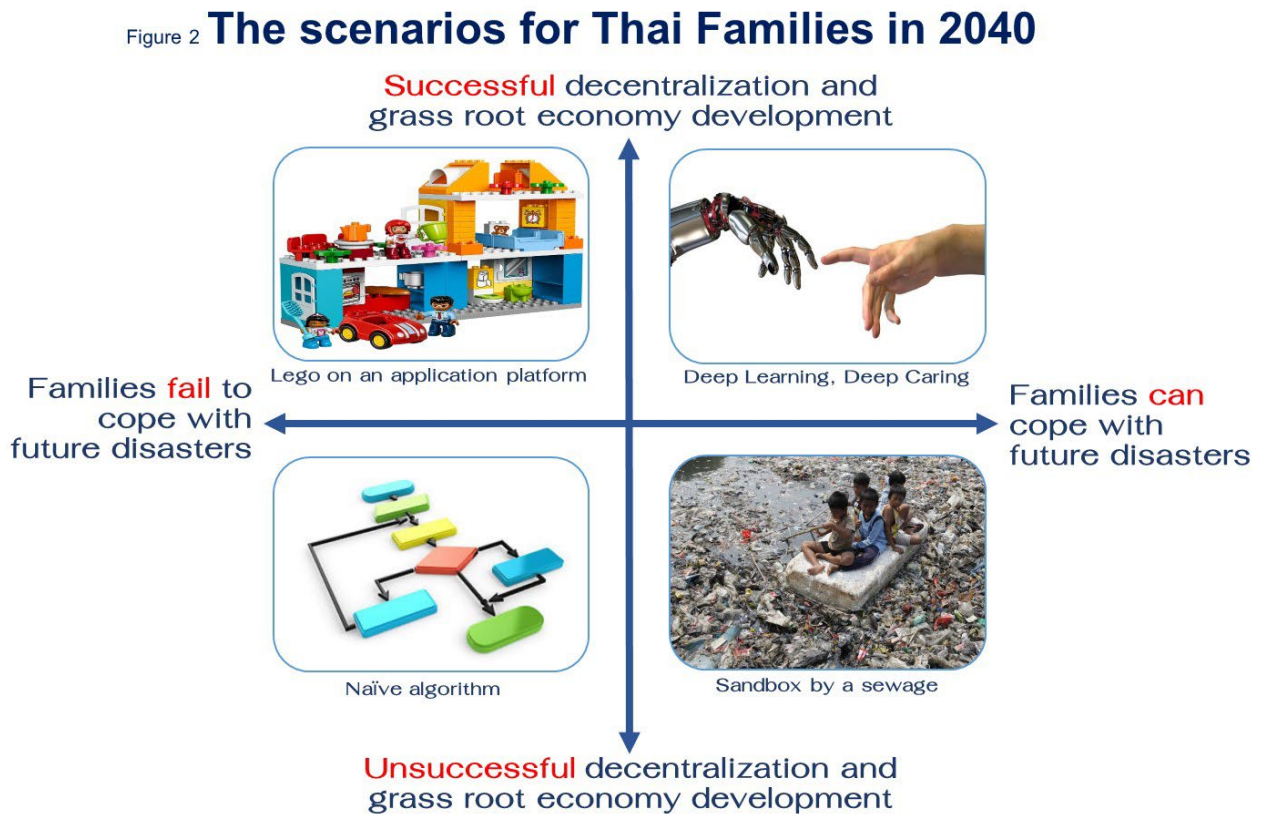Figure 1 **Projected proportion of Thai households 2020-2040**

Data source for projection: Labor Force Survey, Q 3, National Statistical Office of Thailand 1990, 1995, 2000, 2005, 2010, 2015, 2019
Projection from: The Future of Thai Families 2040, Institute for Population and Social Research, Mahidol University, Thailand

Figure 1 illustrates the summary of household projections, offering a panoramic view of the landscape of Thai families in 2040 through the lens of household living arrangements. This perspective provides This perspective provides valuable insights into the future well-being of Thai families. Notably, there is a sharp decline in nuclear families, primarily attributed to the sustained decrease in the birth rate [3, 4]. On the other hand, multi-generation households, showcasing efficiency in terms of inter-generational support, show general stability with a marginal upward trend [5].

An intriguing observation is the rising prevalence of other household types, which are relatively more vulnerable. This includes single-parent households, childless-couple households, single-person households, and skipped-generation households. Particularly noteworthy is the significant increase in single-person households, especially among older individuals, reflecting a steep rise attributed to a historical preference for having fewer or no children over the past fifty years [6, 7].

The driving forces and scenarios

During the workshop, the experts were tasked with identifying and providing detailed explanations for 2-3 driving forces. These driving forces constitute the primary uncertainties that will significantly impact family situations in the year 2040, whether in a negative or positive manner. The discussion and subsequent rating of these driving forces aimed to pinpoint the two most influential factors affecting families: (1) the success of government decentralization and grassroots economic development, and (2) the adaptive capacity of families in dealing with future disasters, such as pandemics and severe climate conditions. The two identified driving forces were used to construct a future compass comprising four scenarios as outline below (Figure 2).

Figure 2 **The scenarios for Thai Families in 2040**

Lego on an application platform

Lego's reputation as a catalyst for imagination is well-established. In an effort to enhance creative thinking, the company has introduced an application-based Lego platform. Creating family images on this digital platform using Lego can inspire a broad spectrum of creativity. However, the inherent geometric nature of Lego shapes may limit the outcomes to appear somewhat artificial.

In this scenario, Thailand in 2040 has successfully decentralized government control, empowering local authorities and bolstering grassroots economies. Despite this progress, Thai families struggle to adapt to impending disasters. While the country's administrative platform

has advanced significantly, the populace lags behind, resulting in a disparity. Major cities have evolved into smart cities with cutting-edge technologies, but rural areas only achieve a semi-smart status. The digital landscape remains distant from the Internet of Things (IoT), characterized more by an Internet of Something for Someone (IoST4SO), highlighting a persistent digital divide.

Migration to larger cities and urban areas has slowed down, particularly in the countryside where Thai families successfully keep their younger generation close to home. Online platforms become crucial for earning a livelihood, and local assets are efficiently utilized. Formal, school-based education transitions to informal online education. While fertility rates see a modest improvement due to closer familial proximity, the allure of a convenient and efficient lifestyle in smaller households remains strong among the younger generation.

The nation finds itself in the midst of a super-aged society, with approximately one-third of the population aged 60 or older. However, the lack of emphasis on preventive measures for crises leaves Thai families vulnerable to severe hardships whenever crises occur. Furthermore, the likelihood of crises taking on new forms and occurring more frequently poses an ominous challenge for the future. Thailand's effort to bridge the middle-income gap fails. Despite facing disaster-prone situations, older individuals still need to wear protective gear and venture out to earn a living.

Sandbox by the sewage

The concept of a sandbox extends beyond its role as a tool for fostering innovation and creativity in children; it has been adapted to facilitate experiments with new ideas across various domains. The optimal results, however, are hindered when this approach is employed in an unsupportive or restrictive environment, analogous to situating a sandbox next to sewage.

This scenario provides a glimpse into Thai families in 2040, showcasing their ability to adapt and manage in the face of disasters, largely relying on their own resources due to limited government support. The government's lack of improvement and proactive measures leaves Thai politics and administration in a reactive state, maintaining a centralized power structure around the capital and major cities. The prevalent coalition government hinders the formulation of long-term, sustainable policies, placing the onus on Thai people and families to independently develop crisis prevention mechanisms.

The government's reach is constrained, hindering timely assistance, especially at the local level where budgets are limited and primarily centralized. This centralized approach results in an uneven distribution of wealth, with grassroots economies struggling to thrive. Although internal migration from rural to urban areas persists, there is a slight improvement as individuals leverage digital platforms for livelihoods.

The emergence of skipped-generation families continues to grow, as children remain with grandparents while parents seek work in urban centers. Family ties weaken as relationships are maintained primarily through online platforms. Individuals remain vigilant about hygiene and health to preempt potential pandemics, and families actively work to safeguard against environmental threats such as climate change and pollution. These proactive measures rely heavily on personal funding, with minimal government assistance, placing a considerable financial burden on households. This financial strain further exacerbates inequality, as the costs disproportionately affect lower-income families, influencing fertility rates and amplifying the environmental challenges faced by future generations.

Naïve algorithm

An algorithm refers to a procedure or defined set of rules that guides calculations or problem-solving operations, particularly when executed by a computer. It plays a critically important role behind artificial intelligence tools designed to serve human needs. Employing algorithms to address naïve or simple problems, indicates underutilization and a waste of advanced technologies.

In this scenario, the failure of government decentralization, grassroots economic development, and family adaptability to disasters paints the worst-case picture. The Thai economy stagnates, and families repeatedly face crises with little preventive measures in place. Each crisis inflicts severe adverse effects on families, incurring high costs for both individuals and the nation. Family confidence in government efficiency wanes, leading to a passive approach where they await aid without taking preventive actions.

The government's disaster response is reactive, responding only when disasters strike rather than proactively preventing them. This insecurity discourages parents from having children and push the fertility further down. Uneven development exacerbates social and economic gap between urban and rural areas. The countryside remains underdeveloped, relying on outdated and inefficient agriculture practices. Aged farmers, left to care for grandchildren while parents seek higher pay in industrialized areas, continue to lead the typical life of rural dwellers.

This scenario also highlights a significant social gap, with rural children using digital technology without proper guidance, contrasting with their urban counterparts who leverage advanced technologies for learning and livelihood from a young age. Intermittent disasters hinder socialization, straining human-touch relationships among family members and peers.

The projected super-aged society in 2040 will feature a large number of older individuals living alone. For those residing in the rural area are less vulnerable as social capital remains robust. However, truly vulnerable older individuals living alone are those in suburban areas where essential facilities are poorly developed, and social capital is sparse. Pets are increasingly humanized (pet humanization), being treated and cared for as family members, especially by older individuals living alone who rely on them to uplift their spirits in daily life. Welfare and security for pets will be ensured. Well-to-do older individuals can also enjoy additional assistance from robots and advanced bionic and prosthetic technologies.

Deep learning, deep caring

Deep learning, a subset of machine learning within the broader field of artificial intelligence (AI), signifies a significant advancement in AI, emulating the learning capacity and abilities of the human brain. Its notable successes include achievement in image and speech recognition, natural language processing, and strategic game playing. While the remarkable capabilities of AI are widely acknowledged, there remains a persistent skepticism regarding its ability to embody human-touch and heartfelt sensitivity. Integrating deep caring capabilities into deep learning may be considered a groundbreaking achievement of the century.

This scenario gives an ideal picture of Thai families in 2040. Successful government decentralization and grassroots economic development, coupled with the ability of Thai families in handling and adapting to imminent disasters, result in a flourishing grassroots economy that significantly reduces social and economic inequality. The society experiences increased harmony as social gaps narrow, and rural-urban economic disparities lessen which discourage internal migration (from rural to urban areas). Multi-generational households become more

prevalent, while skipped-generation households decrease. In the wake of the detrimental consequences of COVID-19 and looming climate disasters, Thai families recognize the importance of preparedness, particularly in financial aspects. People work harder, taking on additional (second and third) jobs and saving more, while actively seeking reskilling and new skill development through new media and informal education systems.

The rise of virtual workspaces become more pronounced due to the convenience and cost-effectiveness of working from home. Nonetheless, the decline in on-site socialization has led to numerous mental challenges. A substantial portion of earning is allocated towards preventive measures against pandemic and climate-related disasters. Younger generations have greater health and environmental consciousness, making them more mindful in their daily activities such as eating, exercising, and recreation. The improvement of public health systems in rural areas, resulting from decentralization and increased budgets for local administrative units, facilitates the management of the super-aged society situation in 2040. Despite the apparent society security, young couples remain hesitant to have more children, uncertain about the future disasters.

Recommendations

1. Government measures and policies, spanning all sectors, should underscore the growing diversity within society. It is imperative that these policies embrace family-friendly approaches, encouraging family members to reside together and provide mutual support. Incentives should be established to discourage the dispersion of family units. This can be achieved by promoting quality education across all localities and dispersing economic and industrial development to mitigate population concentration in a few megacities. This strategic shift aims to curb the migration of the working-age population from their home provinces and regions, reducing the need to send children to larger urban centers for higher education.

2. The significance of technologies aiding older individuals, including bionic and prosthetic technologies, is poised to increase in the future, particularly as the country transitions into a super-aged society with approximately one-third of the population being elderly. Given that many scenarios predict the persistence of economic inequality in Thailand, it is anticipated that these technologies will primarily be accessible to affluent older individuals. To address this disparity, establishing a fund aimed at providing underprivileged older persons with access to these technologies becomes crucial. This initiative aims to empower them to live independently and enjoy the benefits of technological assistance.

3. It is imperative for all smart city projects to effectively incorporate designs that foster a multi-generation-friendly environment, ensuring inclusivity and not leaving any vulnerable groups, such as children and older persons, marginalized.

4. Government decentralization plays a pivotal role in empowering local administrative units and catalyzing grassroots economic development, contributing to improved wealth distribution and a reduction in inequality. To enhance grassroots economies in localities and promote a reverse brain drain, it is crucial to establish financial assistance, infrastructure support, and mechanisms to enable young, capable individuals to work effectively in their local contexts. This approach aims to maximize the utilization of hometown resources and foster sustainable economic growth.

5. Family members need education and guidance to be alert in dealing with the anticipated future disasters, which are expected to arise in diverse forms and occur more frequently. Safeguarding against diseases, pandemics, and climate-related disasters may incur significant costs, but it is essential for sustaining a semblance of normalcy in life. This information should

be disseminated through various platforms, and preparations should be made, including the availability of necessary instruments.

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