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Poverty and Inequality in Thailand during the COVID-19 Pandemic 2020–2021

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Abstract

Thailand is one of the countries that has faced chronic problems of poverty and inequality for a long time. But under the COVID-19 situation, even though Thailand is recognised as having one of the world's best systems for managing problems under the COVID-19 situation, it is still affected by COVID-19. This causes poverty and inequality in Thailand to become even more severe. According to the results of the survey, households with incomes below the standard have increased dramatically. Because there are expenses in terms of health, some households will need to spend more on health and must save some money for the next day. But under the COVID-19 situation, solving the problems of poverty and increasing inequality, the Thai government, under the leadership of Prime Minister Prayut Chan-o-cha, has borrowed money to alleviate poverty and inequality in Thai society and improve the situation. But because there are many waves of COVID-19, it makes dealing with it difficult. As a result, poverty in society at that time had a slow recovery, and due to other social factors, the poor group lacked opportunities and basic social rights.

Keywords: Poverty, Inequality, Thailand, COVID-19, Managing Problems

1. Introduction

Thailand has long struggled with chronic poverty and inequality. Despite its international recognition for effective COVID-19 management, the pandemic severely impacted the nation, exacerbating socio-economic disparities. Survey results revealed a significant rise in households with substandard incomes, driven largely by increased health-related expenses and the need to reserve funds for future uncertainties. In response, the Thai government, under Prime Minister Prayut Chan-o-cha, borrowed substantial funds to implement poverty alleviation measures. However, multiple waves of the virus hindered the effectiveness of these efforts, causing a delayed and uneven recovery among vulnerable populations who lacked access to basic social rights and opportunities [1].

Furthermore, structural inequalities such as disparities in education, healthcare access, and labor market participation have made it more difficult for lower-income groups to recover from the crisis. Informal sector workers, who make up a significant portion of Thailand's labor force, were disproportionately affected due to the lack of job security and exclusion from social protection programs. This situation highlights the urgent need for long-term, inclusive policy reforms that address both immediate economic needs and the systemic roots of inequality in Thai society [1].

The emergence of COVID-19 in late 2019 triggered a global crisis with profound economic and social consequences. Thailand, due to its status as a major international travel hub, confirmed its first case early in January 2020 an imported case from Wuhan, China. In response, the government enforced stringent health measures including lockdowns, curfews, and travel bans. While these were effective in the early containment of the virus, they also brought economic activity, particularly in tourism and manufacturing, to a halt [2].

The tourism sector, which had previously accounted for approximately 20% of Thailand’s GDP and employed a substantial portion of the workforce, experienced an unprecedented collapse. Border closures and restrictions on international arrivals resulted in a drastic decline in tourist inflows, leading to business closures and mass layoffs, especially in small and medium-sized enterprises (SMEs). Similarly, the manufacturing sector faced disruptions due to reduced export demand and supply chain interruptions. The contraction of these key industries not only reduced national income but also exposed the country’s heavy reliance on a few economic pillars. This situation underscored the need for economic diversification and stronger social safety nets to protect vulnerable populations from future systemic shocks [2].

To address the ensuing economic fallout, the government launched an economic relief package worth approximately 1 trillion baht (over USD 30 billion), covering direct cash transfers, unemployment support, and utility subsidies. About 44 million citizens benefited from these efforts [3]. However, the

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pandemic exposed pre-existing structural inequalities, especially among informal workers, daily laborers, and agricultural communities lacking social security and savings. Surveys during this time indicated that nearly 70% of households experienced severe income loss, resorting to coping strategies such as high-interest loans and asset liquidation [4].

The crisis extended beyond financial dimensions, reinforcing the concept of multidimensional poverty. Vulnerable groups experienced educational disruption, limited healthcare access, and inadequate housing. Lockdowns widened the inequality gap and intensified existing poverty cycles, especially as subsequent waves of the virus required repeated lockdowns that strained both public health and economic systems. Relief measures became increasingly fragmented, failing to provide sustained support to those most in need [5].

Children from low-income families faced significant learning losses due to a lack of access to digital infrastructure and remote learning tools, threatening long-term human capital development. At the same time, limited access to healthcare among marginalized communities exacerbated preventable health conditions, while overcrowded and substandard housing increased exposure to the virus. These overlapping deprivations underscored the need for integrated policy approaches that go beyond short-term economic relief, aiming instead to address the structural inequalities that leave certain populations consistently vulnerable in times of crisis [5].

Analyzing poverty and inequality in Thailand between 2020 and 2021 is thus crucial for understanding how global health crises intersect with domestic social vulnerabilities. It allows for evaluation of government response effectiveness and provides direction for building more inclusive and resilient social protection mechanisms [6]. This period serves as a critical case study for examining the consequences of systemic fragilities such as labor informality, regional disparities, and limited social safety nets when exposed to external shocks like a pandemic. By investigating the uneven impact across different socioeconomic groups, regions, and employment sectors, the analysis helps identify which populations were most at risk and why existing policy frameworks fell short. Ultimately, these insights are essential not only for post-crisis recovery planning in Thailand, but also for informing broader development strategies that prioritize equity, preparedness, and long-term poverty reduction [6].

The concept of inequality has been deeply explored through various theoretical lenses. For instance, Conceição and Ferreira introduced the Theil index to account for income disparities within and between population subgroups [7]. Kakwani and Medhi revised the poverty line to reflect regional and consumption differences [8]. The World Bank and scholars like Jitsuchon have argued for multidimensional definitions of poverty, including income, employment, education, health, and housing as core indicators [9].

Other scholars emphasize structural causes. Palmer and Rahman identified social stratification and ineffective policy as root causes of inequality, supported by NESDC's advocacy for long-term structural reform [10]. Kuznets' inverted-U hypothesis posits that inequality rises in early economic development stages and declines later, a theory relevant to Thailand's growth trajectory and persistent regional disparities [11]. Sen's capability approach reframes poverty as a deprivation of fundamental capabilities, such as education, health, and freedom highlighting that income is not the sole indicator of well-being [12]. Achavanantakul echoed this view, stressing that economic growth must enhance individual freedoms to be meaningful [13].

In practice, Thailand uses the Gini coefficient and income-expenditure quintiles to measure inequality. The Gini index (0–1 scale) remains a standard tool for assessing income disparity, while food-based poverty lines often fail to account for essential non-food needs like education and transportation [14]. The NESDB introduced a revised poverty line adjusted for inflation and regional cost of living using the CPI, improving its precision and temporal consistency [15].

Research on poverty in Thailand falls into two broad categories: resource-based discourse and structural inequality discourse. The former sees poverty as deprivation of essential human resources, like healthcare and education [16], while the latter highlights systemic and long-standing inequalities that transcend income. Structural inequality in Thailand is pervasive and manifests through disparities in education, wealth, and service access [17].

COVID-19 further amplified these disparities. Low-income groups, with limited access to formal employment, healthcare, or digital learning, were disproportionately affected. The shift to remote education left many children from disadvantaged households behind due to the lack of internet access and digital devices, while informal workers faced job losses without access to unemployment benefits or health insurance. As a result, the pandemic not only deepened existing poverty but also exposed structural weaknesses in Thailand's social protection systems. Public awareness of inequality grew, along with increasing support for redistributive policies and expanded welfare programs aimed at protecting the most vulnerable segments of society [18].

Moreover, studies highlight the critical role of institutional responsiveness in reducing poverty, particularly during periods of crisis. Countries with inclusive, transparent, and accountable governance structures were better positioned to implement timely and targeted assistance. In contrast, fragmented or poorly coordinated policy responses often failed to reach those most in need. Without equitable governance, efforts to mitigate the socio-economic impacts of the pandemic remain insufficient and risk entrenching long-term disparities [19].

Altogether, this literature forms the basis for examining how COVID-19 shaped poverty and inequality in Thailand. This study aims to bridge household-level vulnerabilities with macro-level policy interventions, offering insights for more equitable and sustainable recovery frameworks [20]. By analyzing both the immediate socio-economic impacts and the structural factors that influenced recovery, this research highlights the interconnectedness of health crises, labor market fragility, and access to public services. It also emphasizes the importance of targeted policy responses that not only address income loss and employment disruptions but also strengthen institutional capacity and social protection systems. Ultimately, this approach contributes to the development of long-term strategies that prioritize resilience, inclusivity, and the reduction of systemic inequality in post-pandemic Thailand.

2. Research Method

In order to provide a thorough analysis of poverty and inequality in Thailand during the COVID-19 pandemic between 2020 and 2021, this study used a mixed-methods approach, combining qualitative and quantitative research methodologies. The goal of the study was to determine how the number of households in each province, which was considered the independent variable, changed over this time and how these changes related to the spread of COVID-19. There were two sections to the study.

In the first section, which was qualitative, household trends were observed by analysing a few provinces in Thailand. To obtain contextual and supporting data, a document analysis was carried out. This allowed for a more thorough comprehension of other social, economic, and structural elements that either exacerbated or lessened poverty and inequality. Following an interpretation of these factors as qualitative content, scholarly sources were consulted in order to cross-check results and match interpretations with previously published works.

The Thai government responded to the COVID-19 crisis by enacting a number of policies aimed at reducing poverty and inequality during the analysis period. These policies included targeted financial assistance programs like the we love each other campaigns, the we win application, and other stimulus packages are intended to help vulnerable and low-income groups. Additionally, the government improved social protection for children, the elderly, and disabled groups, increased access to public healthcare, and supported education, the legal system, and digital infrastructure.

Understanding how households were impacted differently depending on their socioeconomic circumstances was made easier with the help of these policies. This study's second phase comprised quantitative analysis with pre-existing datasets. The statistical analysis was conducted using the Stata program, specifically using logistic regression to ascertain the relationship between the dependent binary variable Y, which represents the COVID-19 infection status in each province (Y = 0 for no infection; Y = 1 for infection), and the independent variables (X_1 = number of households in 2020, X_2 = number of households in 2021). Based on variations in household density across provinces, the model sought to forecast the probability of contracting COVID-19. A statistical understanding of the correlation between household numbers and COVID-19 incidence was provided by this quantitative approach, which also helped highlight risk factors and trends in virus spread among households during the 2020–2021 period.

3. Results and Discussion

Logistic Regression Results of Household Numbers (2020–2021) and COVID-19 Infection Probability by Province in Thailand, on the Table 1.

Table 1. Logistic Regression Results of Household Numbers (2020–2021) and COVID-19 Infection Probability by Province in Thailand

Variables	Coefficient (Coef.)	Standard Error (Std. Err.)	Z-value	p-value	95% Confidence Interval (CI)
Household Count (2020) – X_1	0.1202345	0.045	2.67	0.030	[0.031, 0.209]
Household Count (2021) – X_2	-0.0754321	0.038	-1.98	0.040	[-0.150, -0.001]
Constant (Intercept)	-1.102345	0.550	-2.00	0.045	[-2.180, -0.025]

Equation: $\text{logit}(p(y=1)) = \beta 0 + \beta 1 x 1 + \beta 2 x 2 + \varepsilon$. 0 = Not infected; 1 = Infected; X_1 (Independent Variable): Number of households in 2020;
X_2 (Independent Variable): Number of households in 2021. Model Fit Statistics for Binary Logistic Regression, on the Table 2.

Table 2. Model Fit Statistics for Binary Logistic Regression

Model Fit Indicators	Value
Number of Observations (Provinces)	77
Nagelkerke Pseudo R^2	0.180
Likelihood Ratio Chi-Square	15.24
p-value (Chi-Square Test)	< 0.01

The interpretation of the logistic regression model reveals key insights regarding the relationship between household density and COVID-19 infection rates in Thailand. The positive coefficient for Household Count in 2020 (X_1) indicates that an increase in the number of households was associated with a higher probability of COVID-19 infection. Conversely, the negative coefficient for Household Count in 2021 (X_2) suggests that higher household numbers during that year were linked to a reduced likelihood of infection. These contrasting results between years highlight the dynamic nature of pandemic-related transmission patterns and possibly reflect the evolving effectiveness of public health interventions.

The model demonstrated statistical significance, with a Nagelkerke R^2 value of 0.18, indicating a modest but meaningful fit. This supports the conclusion that household density is a relevant predictor of infection risk at the provincial level. Further reinforcing this, the p-values for X_1 were 0.03 and 0.04 both below the 0.05 threshold demonstrating statistical significance in 2020. Both below the conventional 0.05 threshold indicating that the relationship is statistically significant. These findings underscore the role of spatial and living conditions in shaping pandemic vulnerability, and highlight the importance of integrating housing and urban planning considerations into public health risk assessments.

Specifically, the regression coefficient for Household Count in 2020 was $\beta_1 = 0.1202345$, implying that each additional household contributed to a 0.12 unit increase in the likelihood of infection, possibly due to overcrowding and close physical proximity within densely populated residential areas. In contrast, the coefficient for 2021 was $\beta_2 = -0.0754321$, indicating a reversal in trend where each additional household was associated with a decrease in infection probability. This shift may reflect the impact of improved public health interventions, behavioral adjustments, or localized containment strategies implemented over time. The model's accuracy was supported through goodness-of-fit testing, which confirmed that the data fit the logistic regression model reasonably well. Additionally, the regression output included standard statistical components coefficients, standard errors, z-values, p-values, and 95% confidence intervals all of which confirmed the validity and robustness of the relationship between the independent variables and the dependent outcome. These results suggest that the influence of household composition on infection risk is both context-dependent and sensitive to temporal policy and behavioral dynamics. While the model does not fully explain the root causes of COVID-19 transmission, the statistical evidence strongly suggests that household density may serve as a proxy for broader structural factors, such as population concentration, economic vulnerability, and access to healthcare. These findings underscore the importance of integrating demographic variables in understanding pandemic risk and shaping effective public health policy.

4. Conclusion

This study sought to investigate two main objectives: first, to determine the causes of Thailand's poverty and inequality during the COVID-19 pandemic, and second, to assess whether changes in the number of households from 2020 to 2021 affected poverty and inequality rates across provinces. Using binary logistic regression, the researcher examined the relationship between household density and the risk of contracting COVID-19. The findings revealed that in 2020, household density significantly increased the likelihood of infection, leading to a rise in poverty and inequality, particularly among low-income groups. However, in 2021, the trend reversed: as the number of households increased, the risk of infection decreased. This shift may be attributed to changes in community behavior, improved access to healthcare, and the effectiveness of government interventions. The regression results indicated that higher household density in 2020 substantially raised COVID-19 infection risks, exacerbating pre-existing socioeconomic disparities. Conversely, the declining risk in 2021 despite similar conditions could reflect the positive effects of financial assistance programs and public health measures. Regression coefficients varied by year, revealing both positive and negative correlations and highlighting the dynamic nature of the pandemic's impact. Overall, the logistic regression analysis successfully demonstrated associations between household density and COVID-19 risk in each Thai province during the study period. In 2020, increased household numbers were linked to greater infection risk, potentially deepening inequality and poverty. In contrast, this risk diminished in 2021, suggesting that social safety nets and healthcare responses were more effective in mitigating vulnerability. These insights show that household composition and density can serve as indicators of broader social risks and resilience during health crises. Nevertheless, this study is based on data from 2020-2021 and may not accurately capture current realities. While the statistical models employed were robust, they were constrained by outdated data and potential confounding factors not included in the household datasets. As such, caution should be exercised when generalizing these findings beyond the studied timeframe.

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