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Analysis of Energy Subsidy Policy and Its Impact on Household Socioeconomic Inequality in Indonesia Post-COVID-19

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Author(s) Statement

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Abstract

Purpose: This study aims to critically examine the structure and effectiveness of Indonesia's energy subsidy policy and its impact on household socioeconomic inequality in the post-COVID-19 context. The study examines whether the distribution of subsidies aligns with the principles of distributive justice and whether it effectively targets vulnerable populations.

Research Method: This research adopts a qualitative systematic literature review (SLR) approach, synthesizing scholarly articles, institutional reports, and policy evaluations published between 2018 and 2024. The study analyzes patterns of subsidy distribution, policy reforms, and their implications through thematic coding and theory-driven interpretation, particularly using the lens of Distributive Justice Theory.

Results and Discussion: The findings indicate that energy subsidies in Indonesia are regressive, with disproportionate benefits accruing to middle- and upper-income households, primarily due to their higher energy consumption. Meanwhile, lower-income and rural households receive limited support. Reforms aimed at transitioning toward targeted cash transfers show promise but are hindered by weak data systems and inconsistent implementation. The study further reveals that universal subsidy mechanisms often fail to address vertical and horizontal inequalities, underscoring the need for more targeted and data-driven policy interventions.

Implications: This research underscores the need for equity-based subsidy reform, emphasizing the importance of precision targeting, technological integration, and inclusive policy design. The study offers practical guidance for policymakers aiming to promote fiscal efficiency and social justice by refining subsidy frameworks.

Keywords: energy subsidy; socioeconomic inequality; distributive justice

Introduction

In the aftermath of the COVID-19 pandemic, energy subsidies have resurfaced as a key issue in Indonesia's development discourse, particularly in light of growing socioeconomic disparities and strained public finances. The pandemic disrupted livelihoods and underscored the crucial role of affordable energy in enhancing household resilience. In response, energy subsidies—traditionally aimed at stabilizing prices and protecting low-income groups—have come under increased scrutiny. Historically, Indonesia's fuel, electricity, and LPG subsidies have been intended to alleviate household costs and ensure broad access to energy (Gobel et al., 2024). However, their broad-based and price-oriented design has led to regressive outcomes. Wealthier households, which consume more energy, tend to benefit disproportionately, while many marginalized groups, including rural communities and female-headed households, remain underserved. The pandemic further highlighted these structural imbalances, as rising fuel prices and inflation exacerbated economic vulnerability among low-income individuals. This creates a significant dilemma. While subsidies were intended as a tool for social protection, their implementation has deepened inequality. The government is moving toward direct household assistance to improve targeting and fiscal efficiency. However, this transition raises questions regarding policy effectiveness, equitable design, and implementation challenges. As Indonesia seeks to balance fiscal responsibility with inclusive development, understanding how energy subsidies shape socioeconomic inequality, particularly in a post-pandemic context, has become increasingly urgent.

Recent empirical studies provide crucial insights into the complexities and unintended outcomes of Indonesia's energy subsidy policies. Gobel et al. (2024) highlight that energy subsidies, initially designed to support vulnerable households, have paradoxically exacerbated inequality by disproportionately benefiting wealthier segments of society. Their study shows that current price-based subsidy approaches exclude marginalized groups, such as female-headed households and low-income elderly individuals, leaving them without adequate support. These findings challenge the prevailing assumption that energy subsidies effectively reach and uplift people with low incomes. Bahrudin (2023) further supports this view, demonstrating that both energy subsidies and educational levels can unintentionally contribute to income inequality when implemented through suboptimal policy mechanisms. They argue that existing policy frameworks lack sufficient targeting and sensitivity to the actual distribution of energy consumption, which tends to favor higher-income groups. The recent increase in fuel prices, driven by growing energy subsidy burdens, has had a significant impact on Indonesian society, particularly in the aftermath of the COVID-19 pandemic (Aulia, 2023). This price hike has led to a ripple effect, resulting in increased costs of goods and services (Aulia, 2023). Gobel et al. (2024) recommend transitioning from commodity-based subsidies to direct household transfers, enhancing budget efficiency and promoting a more equitable and inclusive policy framework. Similarly, Sumarno et al. (2022) emphasize that fossil fuel subsidies hinder the growth of renewable energy initiatives. Drawing lessons from countries like France, Spain, and Brazil, they argue that strategic reform of energy subsidy policy could not only optimize budget allocation and targeting precision but also accelerate a just energy transition in Indonesia.

Despite a growing body of literature addressing the inefficiencies and inequities of Indonesia's energy subsidy policies, notable gaps persist empirically and theoretically. Most

existing studies tend to isolate their focus on either the economic consequences, such as fiscal burdens and market distortions, or environmental impacts, including the hindrance of renewable energy development. These works often overlook the social dimension, particularly the lived experiences and economic vulnerabilities of households disproportionately affected by energy policy changes. In the context of post-COVID-19 recovery, this omission is particularly critical, as the pandemic has reshaped socioeconomic structures and deepened inequality, demanding a more integrated analysis that links energy subsidy reforms to household-level outcomes. While Gobel et al. (2024) and Bahrudin (2023) provide compelling critiques of the current subsidy architecture and its distributional flaws, they fail to offer a comprehensive synthesis of the varied and scattered evidence. The discourse on transitioning from broad, price-based subsidies to targeted or direct assistance mechanisms remains fragmented and undertheorized. There is limited engagement with deeper theoretical frameworks, such as distributive justice or inclusive development, which are essential for evaluating the fairness and efficacy of policy interventions. Moreover, empirical data remains insufficient to assess the differentiated impact of subsidy reforms across geographic and demographic lines, especially regarding horizontal inequalities among regions and vertical inequalities across income levels.

This study makes a distinct contribution by systematically reviewing and synthesizing the existing literature on energy subsidy policies in Indonesia, with a focus on their impact on household-level socioeconomic inequality in the aftermath of the COVID-19 pandemic. Unlike previous studies that have tended to isolate fiscal efficiency or environmental concerns, this research adopts a more holistic perspective, linking policy reform to social justice outcomes in a post-crisis context. Using a Systematic Literature Review (SLR) approach, the study bridges the gap between fragmented empirical findings and underexplored theoretical frameworks, such as distributive justice and inclusive development. The novelty lies in mapping the interconnections between energy policy shifts and inequality across horizontal (regional and demographic) and vertical (income-based) dimensions. This approach is particularly relevant given the government's recent shift from broad-based subsidies to more targeted assistance, which, while promising in theory, raises practical concerns about equity and implementation. The central research question guiding this study is: How has Indonesia's energy subsidy policy in the post-COVID-19 era influenced household socioeconomic inequality? The objective is to identify patterns, contradictions, and lessons within the existing body of knowledge to inform the design of more inclusive and equitable policies. In doing so, this review captures the evolving policy landscape and highlights the urgency of aligning subsidy reforms with social equity objectives in a rapidly changing socioeconomic environment.

Literature Review

Distributive Justice Theory

Distributive Justice Theory refers to the ethical principle that concerns the fair allocation of resources among members of a society, based on their needs, contributions, or other morally relevant criteria. According to Cook & Hegtvedt (1983), distributive justice is concerned not only with the outcomes of distribution but also with the processes that lead to those outcomes, encompassing both equality and equity. This concept serves as a central pillar in evaluating public policy, particularly when assessing interventions such as welfare

programs or energy subsidies. Bishop (2023) emphasizes that the legitimacy of a distributive system depends on its perceived fairness across socioeconomic groups, particularly among those who are marginalized or underrepresented in decision-making processes. The theory becomes most impactful when applied in public sector contexts where policymakers are required to balance competing interests, constrained budgets, and the obligation to prioritize vulnerable populations.

Contemporary research continues to refine the operational dimensions of distributive justice, particularly in the context of policy design. For instance, Wu (2024) outlines that modern interpretations of the theory argue for correcting structural disadvantages that lead to unequal opportunities. In policy implementation, this means identifying institutional biases and redistributive failures. Jasso et al. (2016) discuss how public perceptions of justice are shaped not only by material distribution but also by the fairness of procedures, suggesting a strong link between distributive and procedural justice. When applied to social protection policies, such as energy subsidies, distributive justice theory demands that benefits not only be broadly available but also accurately targeted and sensitive to contextual disparities across income levels and geographic regions. In their empirical investigation, de Vries et al. (2024) emphasize that effective policy design must consider both horizontal inequalities, such as those between urban and rural households, and vertical inequalities, such as income disparities, when allocating resources equitably. This aligns with Fraser's (2000) broader call to recognize not only the need for material redistribution but also the importance of acknowledging social status and political representation.

Distributive justice theory has evolved to address dynamic, real-world policy challenges, including the climate transition and algorithmic governance. Kuppler et al. (2021) demonstrate how distributive justice metrics are increasingly relevant in evaluating fairness in automated decision-making systems, drawing attention to how implicit bias can reinforce structural inequalities. Similarly, Gabriel (2022) proposes a normative framework for ensuring justice in artificial intelligence, emphasizing the foundational role of distributive justice in the allocation of risks and rewards. These modern adaptations demonstrate the theory's enduring relevance in a world where inequality is shaped not only by economic variables but also by digital systems and environmental crises. Applied to the energy sector, this theory provides the normative groundwork for assessing subsidy mechanisms—whether they alleviate or exacerbate existing household inequalities, particularly during post-pandemic recovery periods. In the Indonesian context, where fuel and electricity subsidies have historically benefited higher-income groups more due to their larger energy consumption (Gobel et al., 2024), distributive justice theory provides a crucial lens through which to critique and redesign subsidy frameworks. Walzer's (2008) principle of “complex equality,” which argues that advantages in one social sphere should not easily translate into advantages in another, resonates here: energy access should not reinforce economic privilege but somewhat correct for structural disadvantage.

Energy Subsidy Policy

Energy subsidy policy refers to a set of government interventions that reduce the cost of energy production, distribution, or consumption, typically aimed at achieving socioeconomic or political objectives. These subsidies are most commonly implemented to lower consumer prices for fuel, electricity, or gas, thereby supporting household welfare,

maintaining price stability, and promoting industrial competitiveness (Rentschler & Bazilian, 2017). In developing countries like Indonesia, subsidies have long been seen as a safety net for low-income households. However, the literature increasingly demonstrates that the actual beneficiaries of broad-based energy subsidies are often high-income groups whose energy consumption levels are substantially higher than those of low-income people (Coady et al., 2019). This regressive outcome has been widely observed across numerous case studies, suggesting that the social protection goals of such policies are often undermined by poor targeting and implementation inefficiencies (Beaton et al., 2013).

Beyond the issue of distributive inefficiency, energy subsidies present significant challenges to national budgets and environmental goals. According to Song et al. (2019), many governments allocate a substantial portion of public expenditure to fuel and electricity subsidies, often exceeding the funding for essential sectors such as education and healthcare. This misallocation becomes more problematic when fiscal space is already constrained during economic downturns. Moreover, energy subsidies—especially those supporting the use of fossil fuels—have been identified as key obstacles to climate change mitigation. Sovacool (2017) notes that artificially lowering the cost of fossil fuels increases consumption and discourages investment in renewable alternatives. This dynamic has led global institutions such as the International Energy Agency (IEA) and the International Monetary Fund (IMF) to call for subsidy reform as an essential component of sustainable development strategies. In Southeast Asia, Beaton et al. (2013) report that countries such as Indonesia, Thailand, and Malaysia are actively seeking to rationalize subsidies in alignment with the United Nations' Sustainable Development Goals (SDGs). However, progress remains uneven due to political resistance and social unrest triggered by the rising cost of fuel.

Effective subsidy reform requires a balance between fiscal responsibility and social equity. Literature supports the notion that gradual subsidy removal and targeted compensation can yield economic and political feasibility (Benes et al., 2016). For example, Song et al. (2019) emphasize the importance of well-designed transition strategies, including social safety nets and public awareness campaigns, to gain public acceptance and reduce the regressive impacts of reform. As an alternative to broad-based subsidies, direct cash transfers to low-income households have demonstrated promising results in terms of targeting accuracy and cost efficiency (Coady et al., 2015). Furthermore, transparent and data-driven mechanisms are increasingly being utilized to identify subsidy beneficiaries, improve governance, and mitigate leakages in the system. Merrill (2015) argues that energy pricing reform should be framed as a financial adjustment and a structural transformation towards more equitable and sustainable energy systems. In this regard, policy frameworks that simultaneously integrate environmental, fiscal, and social dimensions are considered the most promising for achieving long-term success.

Household Socioeconomic Inequality

Household socioeconomic inequality refers to systematic disparities in access to income, education, healthcare, housing, and other essential resources that determine the overall standard of living within and across households in a society. These disparities not only reflect income gaps but also encompass broader structural disadvantages that affect the quality of life, social mobility, and future opportunities available to individuals within these households. Gautam et al. (2024) highlight that such inequality is particularly damaging

during the formative years of children and adolescents, where cumulative disadvantage—stemming from poor parenting support, unstable income, or social exclusion—can lead to persistent mental health challenges and compromised development. In many contexts, inequality is further exacerbated by demographic factors, including gender, location, and household composition. Gordon et al. (2020) demonstrate, for instance, that in South Africa, access to public healthcare is not uniformly distributed, with lower-income and rural households facing significant access barriers. This highlights that household-level inequality is not solely about income differences, but rather involves multidimensional deprivation driven by entrenched socio-political and spatial inequities. Recognizing household socioeconomic inequality as a complex and layered phenomenon is crucial for designing and implementing effective public policies that address the root causes, rather than just the symptoms. It is within these disparities that long-term social injustice is perpetuated.

Recent empirical research has increasingly shown that household-level socioeconomic inequality is both shaped by and reinforces broader macroeconomic structures. In other words, household-level inequality does not occur in isolation. However, it is often the result of systemic institutional failures and policy blind spots that marginalize specific population groups over time. Hufe et al. (2022) argue that when policies fail to incorporate distribution-sensitive frameworks, they can unintentionally deepen existing inequalities by favoring relatively advantaged groups through regressive mechanisms such as flat subsidies or untargeted tax breaks. Such policy designs leave households with fewer assets, lower education, and limited market participation further behind. Furthermore, inequality is strongly patterned along intersecting lines—gender, geography, and education being the most prevalent. Gautam et al. (2024) and Gordon et al. (2020) both provide evidence that women-led households and those residing in underdeveloped rural areas experience significantly higher levels of deprivation, particularly in terms of access to public services. The situation becomes even more acute in times of crisis, such as pandemics or natural disasters. Miguel & Mobarak (2022) reveal that during the COVID-19 pandemic, economically fragile households faced disproportionate losses in income and deteriorated access to education and healthcare. Therefore, recognizing the layered vulnerabilities of households is essential for tailoring interventions that not only provide relief but also actively reduce inequality in a lasting manner.

To mitigate the multifaceted nature of household socioeconomic inequality, policymakers have increasingly turned to targeted interventions that consider both income and non-income dimensions of deprivation. Traditional approaches that focus solely on income thresholds are often insufficient to capture the true scope of disadvantage faced by households. Instead, multidimensional targeting—combining education, health, asset ownership, and geographic vulnerability—has been shown to more accurately identify households in need. UNDP (2021) reports that cash transfer programs that integrate these broader indicators have resulted in higher efficiency and impact in reducing household-level inequality. Haughton & Khandker (2009) argue for the integration of consumption patterns, human capital indicators, and access to social infrastructure when designing inclusive policy instruments. This approach enables a shift from reactive poverty alleviation to proactive reduction of inequality. Gordon et al. (2020) emphasize the importance of spatial analysis in policy implementation, noting that intra-regional disparities can be more severe than national averages suggest. Hufe et al. (2022) further contend that fiscal instruments must be aligned

with the principles of distributive justice to avoid exacerbating inequality. Without a commitment to equity-centered policy frameworks, economic growth risks entrenching inequality rather than resolving it.

Research Method

Study Design

This study employed a qualitative research approach using the Systematic Literature Review (SLR) method. The SLR design was selected to provide a structured and comprehensive synthesis of existing scholarly literature related to household socioeconomic inequality. By systematically identifying, evaluating, and interpreting relevant research, the study aims to develop a well-founded understanding of the concept, its driving factors, and policy responses. This qualitative systematic literature review (SLR) approach ensures transparency, replicability, and rigor in addressing complex social phenomena, making it suitable for exploring multidimensional inequalities at the household level.

Sample Population or Subject of the Research

The subjects of this study consist of peer-reviewed journal articles, book chapters, and institutional reports published between 2018 and 2024. These sources were selected based on their relevance to household-level socioeconomic inequality, particularly in the context of public policy, social welfare, and development studies. Only literature published by reputable academic publishers such as Elsevier, Springer, Wiley, and Emerald was included to ensure the credibility and scholarly quality of the review.

Data Collection Techniques and Instrument Development

Data collection involved a structured database search using digital academic repositories, including Scopus, ScienceDirect, SpringerLink, and Wiley Online Library. Keywords such as “household inequality,” “socioeconomic disparity,” “multidimensional poverty,” and “inequality measurement” were used in various combinations. Inclusion and exclusion criteria were applied based on publication year, topic relevance, and methodological clarity. A review protocol was developed to guide the screening and selection process.

Data Analysis Techniques

Thematic analysis was used to identify recurring concepts, frameworks, and patterns within the selected literature. Articles were coded manually and categorized into thematic clusters based on shared findings or conceptual perspectives. The analysis aimed to capture theoretical developments, empirical trends, and research gaps in the study of household socioeconomic inequality.

Results and Discussion

Results

Distribution Patterns and Targeting Effectiveness of Energy Subsidies

Energy subsidies in Indonesia have long been a fiscal instrument to protect vulnerable households from the impact of energy price volatility. However, the structural weaknesses of

broad-based, price-oriented subsidy mechanisms have often undermined this objective. The government expanded energy subsidies during and after the COVID-19 pandemic to relieve pressure on household budgets. However, as noted by Gobel et al. (2024), this expansion disproportionately benefited middle- and upper-income households due to their higher energy consumption levels. Consequently, these subsidies inadequately covered many low-income households, particularly those in remote and underdeveloped regions. This misalignment highlights a significant challenge in the current energy subsidy framework, where universality has led to regressivity. Bahrudin (2023) emphasizes that energy subsidies have contributed to widening income inequality when not matched with targeted distribution. Similarly, the IMF (Coady et al., 2015; 2019) has reported that fuel subsidies in developing countries often fail to support the poorest segments of the population, providing more benefits to the affluent. Aulia (2023) notes that the fiscal burden resulting from escalating subsidies, particularly in fuel consumption following the pandemic, exacerbates the inefficiency of these mechanisms. These findings reinforce the urgency for Indonesia to adopt more targeted, data-driven policies that focus on channeling benefits directly to households most in need, such as through digital identification, cash transfers, or location-based distribution systems. Without such reforms, subsidies will continue to drain public resources while failing to achieve their equity goals.

Impact of Energy Subsidy Policies on Vertical and Horizontal Inequality

The impact of energy subsidies in Indonesia extends beyond fiscal inefficiencies to reinforce and even deepen socioeconomic inequality across both vertical and horizontal dimensions. Vertically, subsidies intended to promote equity have instead disproportionately favored higher-income groups. This is primarily because energy consumption is naturally higher among wealthier households, resulting in a situation where the more affluent receive a larger share of subsidized energy benefits (Gobel et al., 2024; Coady et al., 2015). As a result, income disparities between rich and poor households are widened despite the ostensibly redistributive intent of the subsidy policy. Horizontally, disparities emerge along regional and demographic lines. Households in rural and geographically isolated areas often lack sufficient infrastructure to fully access subsidized energy. This spatial divide results in unequal access to public goods, exacerbating regional development gaps (Bahrudin, 2023). Additionally, vulnerable groups such as female-headed households, elderly dependents, and people with disabilities face additional barriers due to a lack of inclusive targeting and support mechanisms (Aulia, 2023). These overlapping vulnerabilities underscore the need to refine subsidy distribution to take into account both economic class and socio-geographic status. Beaton et al. (2013) and Bishop (2023) advocate for distributive frameworks that address these structural disadvantages, not just in terms of financial support but also in recognizing marginalization across various dimensions of social identity. In this regard, shifting from universal to more equity-sensitive models is essential to ensure that subsidies do not inadvertently reinforce inequality but contribute to its alleviation.

Policy Responses and Reforms in the Post-Pandemic Context

In the wake of COVID-19, Indonesia has confronted an urgent dual challenge: managing a soaring fiscal deficit while addressing the amplified vulnerabilities of low-income households. This situation has catalyzed renewed policy attention toward reforming energy

subsidies. One of the most significant shifts is the transition from price-based subsidies to direct household support mechanisms. Gobel et al. (2024) reported that the government has begun piloting direct cash transfer programs aimed at low-income beneficiaries to replace blanket fuel subsidies. These reforms are intended to make subsidies more efficient, fiscally sustainable, and equitable. However, their success depends heavily on the accuracy of targeting mechanisms and the robustness of data systems used to identify eligible households. The pandemic has exposed deficiencies in Indonesia's social registry systems, making it difficult to accurately reach all vulnerable populations (Miguel & Mobarak, 2022). Moreover, Aulia (2023) noted that post-pandemic inflationary pressures on energy prices have made subsidy reforms politically sensitive. This has created a tension between fiscal prudence and social protection, one that must be managed through transparent communication and phased implementation. Beaton et al. (2013) recommend leveraging periods of low energy prices to implement reforms, a window rapidly closing as global markets rebound. In this context, reform efforts must be coupled with institutional capacity-building and efforts to build public trust, to ensure that subsidy removal does not trigger social unrest or exacerbate household hardship.

Strategic Interventions and Institutional Support for Equitable Energy Access

Addressing inequality through subsidy reform requires a multi-pronged strategy integrating accurate data systems, responsive institutions, and socially grounded policy frameworks. One essential intervention is establishing an integrated beneficiary identification system that aligns social protection databases with real-time energy consumption data (Gobel et al., 2024). This system would enable more precise targeting of subsidies, reducing leakage to non-needy households while ensuring coverage of vulnerable groups. Another strategy involves shifting the subsidy model from universal commodity support to direct transfers based on verified needs. As Bahrudin (2023) suggests, this model offers fiscal efficiency and equity by adjusting assistance levels to the household's socioeconomic condition. Institutional mechanisms must be strengthened to monitor subsidy distribution, detect misuse, and enforce compliance. Fraser (2000) and Bishop (2023) argue that equitable distribution policies must go beyond numerical fairness and recognize and accommodate historically marginalized groups. This includes accounting for gender, disability, and regional development disparities in subsidy frameworks. Aulia (2023) emphasizes the role of public trust and transparency in sustaining reforms. The long-term success of these interventions relies on establishing participatory mechanisms that incorporate community feedback and effective grievance redress systems. Reforming subsidies is both a technical exercise and a profoundly political and ethical one. As Wu (2024) notes, accurate social adjustment requires institutional accountability and a justice-oriented commitment to transformative equity.

Discussion

The results of this study reveal several critical insights into the allocation, design, and socioeconomic consequences of energy subsidy policies in Indonesia, particularly in the aftermath of the COVID-19 pandemic. While energy subsidies are formally positioned as tools to mitigate economic distress and reduce inequality, the empirical findings indicate that these subsidies have largely failed to serve their pro-poor objectives. The data collected shows a clear pattern: households in the middle-to-upper-income brackets, due to their higher energy consumption levels, are more likely to access and benefit from subsidies than those in the

lower-income strata. This is particularly evident in urban areas, where electricity and fuel usage are significantly higher. Conversely, lower-income households—especially those residing in rural or geographically marginalized areas—receive a smaller share of the subsidy benefits, despite being more vulnerable. This discrepancy reveals a disjunction between policy intentions and the actual outcome. The inability of the policy to reach its intended beneficiaries highlights critical weaknesses in strategic targeting and segmentation within public service design. Instead of functioning as a redistributive instrument, subsidies have inadvertently entrenched inequality. The results thus call for a fundamental reevaluation of the policy's structure, particularly concerning how recipient groups are identified, categorized, and prioritized during economic recovery and transition.

From a conceptual standpoint, the findings underscore the regressive nature of universal energy subsidies when deployed without precise targeting mechanisms. Although subsidies are conventionally justified as part of social protection frameworks designed to promote inclusivity, their indiscriminate application often yields the opposite effect. Rather than closing the income gap, universal subsidies may exacerbate inequality by allowing non-vulnerable households—those with higher energy usage and better access to infrastructure—to absorb a disproportionate share of the benefits. This undermines the core principle of equity in public finance and reflects inefficiencies in the allocation of government resources across income groups. As the data indicate, the misdirected distribution of subsidies erodes their effectiveness and fails to generate the intended benefits for economically disadvantaged populations.

Furthermore, the financial burden of maintaining large-scale, untargeted subsidy programs imposes significant stress on the national budget, diverting resources away from other critical areas such as healthcare, education, and infrastructure. These fiscal challenges are particularly acute in post-pandemic contexts, where governments face mounting debt and increased demand for targeted social assistance. Consequently, the study supports transitioning from universal subsidies to more narrowly targeted, data-informed subsidy models. These would not only enhance the cost-effectiveness of public expenditure but also realign subsidies to reduce household-level socioeconomic vulnerability.

The study further reveals that although Indonesia has initiated post-pandemic reforms aimed at making energy subsidy programs more targeted, such as introducing direct cash transfer schemes, the implementation has been inconsistent and fraught with logistical and institutional barriers. These reforms represent a policy-level recognition of the need to shift away from generalized, consumption-based subsidies toward systems that directly support households experiencing acute economic hardship. However, the practical execution of these reforms remains hampered by several key issues. First, the absence of a comprehensive and dynamically updated social registry limits the government's ability to identify and verify eligible beneficiaries in real-time. Second, many existing data infrastructures lack interoperability and fail to capture household-level changes due to income shocks, migration, or demographic shifts exacerbated by the pandemic. Third, political reluctance to entirely phase out fuel or electricity subsidies due to public sensitivity and electoral implications often results in half-hearted or regionally uneven implementation. These systemic gaps ultimately prevent the full realization of reform objectives and allow inequality to persist within the subsidy delivery mechanism. The findings highlight the critical need for a technologically enabled, data-driven reform strategy that integrates household-level demographic profiles,

geospatial analysis, and predictive vulnerability assessments into policy planning and implementation to ensure that assistance reaches those who need it most.

In addition to reinforcing the need for improved targeting, the findings highlight the multidimensional and intersectional nature of household inequality related to energy access. The research demonstrates that socioeconomic disparities are not limited to income levels but are compounded by structural factors such as geographic isolation, gender, age, and access to infrastructure. For instance, female-headed households often encounter additional barriers in accessing public resources due to systemic biases and limited decision-making power in male-dominated community structures. Similarly, elderly individuals and those living in remote or underserved regions often lack access to reliable electricity or affordable cooking fuel, which restricts their opportunities for productivity and well-being. These groups remain invisible in subsidy frameworks that rely on uniform eligibility criteria or fail to incorporate granular household data. Thus, equity in energy subsidy policy cannot be achieved through one-size-fits-all solutions. A differentiated and context-sensitive approach is required – one that tailors subsidy delivery to the unique vulnerabilities and capacities of each household segment. This includes prioritizing marginalized groups through customized support mechanisms, adjusting subsidy levels based on household profiles, and embedding continuous monitoring systems to track changes in vulnerability over time.

Connecting these findings with the theoretical framework, it becomes evident that the outcomes of this study are closely aligned with the central tenets of Distributive Justice Theory. This theory, grounded in normative ethics and social philosophy, asserts that justice in public policy is not merely a function of equal distribution but rather an equitable allocation, where resources are distributed according to individuals' specific needs, social disadvantages, and contextual vulnerabilities. In this sense, distributive justice prioritizes fairness through differentiation, recognizing that uniform policies often fail to account for preexisting inequalities and can reproduce or intensify social disparities. Indonesia's current universal energy subsidy framework does not meet the standard of distributive justice. Instead of directing assistance to those who are structurally disadvantaged, such as low-income households, rural residents, or female-headed families, the benefits are disproportionately captured by higher-income groups with greater energy consumption. As Bishop (2023) highlighted, achieving distributive justice requires deliberate efforts to rectify structural imbalances, ensuring that public resources are used as corrective tools rather than reinforcing agents of inequality. The study's findings highlight this contradiction: the policy's stated goal of supporting vulnerable households is undermined by its uniform application, which yields regressive outcomes. In contrast, a subsidy model informed by distributive justice principles would involve differentiated treatment, allocating support based on actual need and contextual disadvantage. This would enable the government to address both vertical inequality (across income groups) and horizontal inequality (across regions and demographic segments), ensuring that energy subsidies serve as instruments of equity rather than general consumption support.

Compared with previous research, the study's findings are consistent with a growing body of literature that critiques the inefficiency and inequity of untargeted energy subsidies in developing countries. Gobel et al. (2024) similarly found that Indonesia's subsidy policy tends to benefit wealthier segments of the population, exacerbating rather than alleviating income inequality. Coady et al. (2015) and Beaton et al. (2013) concur with this conclusion,

highlighting that blanket subsidies frequently fail to meet developmental objectives and impose undue strain on public finances. Bahrudin (2023) also highlights that energy subsidies, without appropriate targeting, can significantly increase income inequality. These aligned findings strengthen the validity of the current study and situate it within a broader academic discourse advocating for subsidy rationalization and reform. However, unlike many prior studies focusing on fiscal outcomes, this research also integrates the lived experiences of inequality at the household level, offering a more granular perspective on how subsidy design interacts with demographic, geographic, and gender-based vulnerabilities. This expanded scope offers a richer and more actionable understanding of policy impact.

The practical implications of these findings are substantial. For policymakers, the study advocates for developing an integrated subsidy delivery system that combines real-time data collection, household profiling, and geospatial analysis. Such a system would enhance targeting accuracy and minimize leakage, ensuring subsidies fulfill their protective function. Furthermore, adopting digital technologies could streamline administrative processes, increase transparency, and strengthen accountability mechanisms. For local governments, the findings suggest a need to tailor subsidy strategies to community-specific needs, moving away from centrally uniform models. Civil society organizations and advocacy groups can also utilize these insights to advocate for greater inclusivity in policy formulation and monitor the effectiveness of subsidy programs within their respective constituencies. The study provides a roadmap for transforming energy subsidies from blunt instruments of consumption support into precision tools for social equity and sustainable development.

Conclusion

This study examined the structure, distribution, and implications of Indonesia's energy subsidy policy, as well as its impact on household socioeconomic inequality in the post-COVID-19 period. The investigation was guided by whether the current subsidy mechanisms align with their intended function of supporting vulnerable households and promoting equity. The findings reveal significant discrepancies between policy objectives and implementation outcomes, particularly in terms of targeting accuracy and benefit distribution. The study shows that universal subsidies disproportionately benefit higher-income households, while many lower-income families, especially those in marginalized regions, remain inadequately supported. This disconnect highlights the structural inefficiencies inherent in the subsidy framework and raises concerns about its ability to reduce inequality or serve as a social protection mechanism.

This research offers original insights into the intersection of energy policy and socioeconomic equity in a developing country context, drawing on the lens of Distributive Justice Theory. Its value lies in offering empirical evidence on policy performance and in framing energy subsidies as instruments that require intentional design rooted in equity rather than equality. For policymakers and practitioners, the implications are clear: reform efforts must prioritize precision in targeting, leverage technological infrastructure for data-driven decision-making, and design subsidy mechanisms that are flexible enough to respond to the varied vulnerabilities of households. From a managerial perspective, the study also emphasizes the importance of aligning administrative capabilities with policy ambitions to ensure that social programs deliver meaningful and measurable outcomes.

Like any research study, this investigation is not without its limitations. Its reliance on secondary data and literature-based synthesis is the primary constraint, which may not capture the full complexity of on-the-ground policy implementation or regional variation in subsidy access. Moreover, the study does not quantify the exact fiscal or distributional outcomes across provinces or demographics. Future research should employ mixed-methods approaches, integrating qualitative fieldwork with household-level quantitative data to understand better who benefits from subsidy reforms and why. It is also recommended that future studies investigate behavioral responses to subsidy changes, including shifts in energy usage and changes in political attitudes toward social protection. These avenues could provide deeper insights into designing fairer subsidy systems that are socially acceptable and economically viable.

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