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Beyond Terms of Trade: Challenges in Implementing the Farmers' Welfare Index (IKP) as a Multidimensional Metric in Indonesia

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A R T I C L E I N F O

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A B S T R A C T

For over three decades, the Farmers' Terms of Trade (Nilai Tukar Petani or NTP) has served as the hegemonic indicator for measuring agricultural performance and farmer welfare in Indonesia. However, the limitation of NTP as a mere price ratio index has often obscured the structural poverty faced by smallholders, creating a policy blind spot in which market prices decouple from household well-being. The inclusion of the Farmers' Welfare Index (Indeks Kesejahteraan Petani or IKP) in the 2026 State Budget (APBN), as agreed upon by the government and the House of Representatives in late 2025, marks a paradigm shift from a price-centric to a multidimensional people-centric approach. This study employs a qualitative literature review to critically analyze the challenges of transitioning from NTP to IKP. By synthesizing academic literature from 2020–2025 and analyzing policy documents, this paper identifies three thematic challenges: (1) the methodological resistance in shifting from monthly high-frequency price data to annual multidimensional asset data; (2) the "prosperity illusion" where high NTP in sectors like palm oil does not correlate with improved human development outcomes; and (3) the political economy of data, where more accurate poverty metrics may face bureaucratic inertia. The study concludes that while IKP offers a superior conceptual framework based on the capability approach, its implementation requires a "hybrid" transition period in which NTP serves as a market signal while IKP drives long-term development policy

INTRODUCTION

Background: The Paradigm Shift in APBN 2026

In September 2025, a historic consensus was reached between the Budget Committee of the House of Representatives (DPR) and the Indonesian government regarding the 2026 State Budget (RAPBN). For the first time in the history of Indonesian agricultural policy, the government agreed to introduce three new indicators of public welfare performance, one of which is the Farmers' Welfare Index (Indeks Kesejahteraan Petani or IKP). This decision represents more than a mere administrative adjustment or a statistical refinement; it signals a fundamental epistemological break from the reductionist view of farmers as economic agents defined solely by market prices to a holistic view of farmers as human subjects with multidimensional needs. This shift aligns Indonesia with global trends in development economics, which increasingly reject GDP and simple income metrics as insufficient proxies for human progress (Krisnamurthi, 2025; Lumbanraja et al., 2023; Syaputri et al., 2024).

Ideally, the welfare of farmers—who constitute the demographic backbone of Indonesia's rural economy and food security system—should be measured by their quality of life, access to basic services, and asset ownership. However, for decades, the discourse has been dominated by the Farmers' Terms of Trade (NTP). NTP measures the ratio between the price index received by farmers (It) and the price index paid by farmers (Ib) (Rachmat, 2013). The logic of NTP is rooted in neoclassical terms-of-trade theory, which assumes that if the prices of goods sold rise faster than those of goods bought, the agent is better off. While NTP effectively captures short-term market volatility and purchasing power parity, it suffers from a "commodification bias." As noted by recent scholarly critiques, an increase in NTP driven by soaring commodity prices (e.g., CPO or coal) often fails to translate into improved health, education, or housing conditions for farm households (Artha & Dartanto, 2018; Siregar, 2011; Syahrul Fauzi et al., 2022).

The urgency of this shift is highlighted by the "prosperity paradox" observed in key commodities. In the palm oil sector, for instance, high NTP periods often coincide with stagnant social mobility. Farmers may have cash liquidity during harvest booms. Still, this income surplus is frequently eroded by the high cost of rural logistics, the lack of public infrastructure, and the absence of social safety nets (Ashford & Hall, 2018). Furthermore, NTP fails to account for inequality within the farming sector; a high aggregate NTP can mask the destitution of landless laborers and subsistence farmers who participate little in the market economy. The introduction of IKP, conceptualized by Statistics Indonesia (BPS) and based on six dimensions and 21 indicators—ranging from food security to education and decent housing—aims to address this gap. This move acknowledges that a farmer with a high income but no access to clean water or schools is not "welfare" in the truest sense of the constitutional mandate(CIPS, 2025; Wahyudi & Agustian, 2025).

Urgency of the Study

The transition from a single-proxy indicator (NTP) to a composite multidimensional index (IKP) is fraught with challenges that extend far beyond statistical methodologies. There is a significant gap in the literature regarding the implementation phase of such indices in the context of bureaucracies in developing nations. While the theoretical superiority of multidimensional indices is well-established in global literature, particularly following the work of Alkire and Foster (Alkire & Foster, 2011) and updated global assessments(Alkire et al., 2015), the practical friction of replacing a monthly, popular political metric like NTP with a complex, slower-moving index like IKP has not been adequately scrutinized in the Indonesian context.

Most existing studies focus on the construction of indices rather than their operationalization in public policy. The "black box" of how bureaucracy adapts to new metrics—specifically how the Ministry of Agriculture will adjust its targets from "production and price" to "human development"—remains under-researched. Furthermore, as the 2026 fiscal year approaches, policymakers face a "data vacuum" risk. If IKP is not rigorously calibrated, or if stakeholders (local governments and ministries) misinterpret the new metrics, the allocation of agricultural subsidies and development funds could become misdirected(Alawode, 2025). For example, a region might be penalized for low NTP despite having high IKP scores due to excellent public services, or vice versa. Therefore, a critical academic review is necessary to anticipate these bottlenecks and to provide a scholarly basis for the upcoming technical guidelines (Petunjuk Teknis) (Rachmat, 2013; Stephen, 2009).

Objectives

This paper aims to bridge the gap between theoretical welfare metrics and practical policy implementation. Specifically, this study seeks to:

1. Critically evaluate the conceptual limitations of NTP: To dissect why the price-ratio model is increasingly insufficient for a middle-income country like Indonesia, focusing on its inability to capture non-monetary deprivation.
2. Synthesize the theoretical foundations of IKP: To contextualize the IKP within the broader "Capability Approach" and multidimensional poverty literature, establishing its academic legitimacy.
3. Identify implementation challenges: To map the structural, methodological, and political economy barriers that might hinder the effective adoption of IKP as the primary performance indicator for the Ministry of Agriculture and related bodies.
4. Propose a transition framework: To offer policy recommendations on how to integrate IKP alongside NTP without disrupting market monitoring functions.

LITERATURE REVIEW

The Hegemony of NTP and its Discontents

The Farmers' Terms of Trade (NTP) has been the "gold standard" of agricultural statistics in Indonesia since the 1970s. Conceptually, it is designed to measure the exchangeability of agricultural products relative to household consumption goods and services and to production costs. Theoretically, an NTP > 100 indicates a surplus, suggesting that farmers are experiencing terms of trade favorable to them. This metric has been deeply embedded in the nation's political psyche; it is quoted in presidential speeches, used to justify fertilizer subsidies, and serves as a key performance indicator (KPI) for local governors or regents (Jepri et al., 2024; Syekh, 2013).

However, recent literature (2020–2025) has mounted a robust, multifaceted critique of this metric. It has been argued that NTP is inherently biased toward price volatility and fails to capture production volume or land productivity. A farmer may enjoy high prices (leading to a high NTP calculation) but suffer harvest failure due to pests or climate change (leading to low actual income), a critical nuance that NTP misses because it tracks unit prices rather than total revenue(Aizenman & Pinto, 2005; Akbar et al., 2019; Nurulia Dimitha, 2026).

Furthermore, Kurniawan et al. (2023) highlight the "inflation trap" in rural areas. His political economy analysis suggests that NTP figures are often politicized. Even when NTP rises, if inflation in rural food and services rises faster due to supply chain inefficiencies, the real welfare of farmers remains stagnant(M. L. Kurniawan et al., 2023). Additionally, the basket of goods used to calculate the "Index Paid by Farmers" (Ib) is often outdated and fails to reflect contemporary consumption patterns, such as internet data packages or rising education costs. This phenomenon renders NTP a "market signal" rather than a true "welfare metric." Recent studies also point out that NTP treats all farmers as a homogeneous group, ignoring the severe stratification between large landowners, who benefit from high crop prices, and landless laborers, who are net food buyers and are actually harmed by high agricultural prices(W. Kurniawan & Kadir, 2023; Rao & Raju, 2020; Wardana & Budhi, 2024).

Multidimensional Poverty and the Capability Approach

The theoretical underpinning of the IKP lies in Amartya Sen’s Capability Approach, which revolutionized development economics by arguing that well-being should be measured by an individual's freedom to achieve functionings they value—such as being healthy, being educated, and having shelter—rather than just their income or expenditure (Saputra et al., 2025). Income is merely a means to an end, and often an imperfect one. A farmer with high income but no access to a hospital is "unfree" in the capability sense.

Adapting the global Multidimensional Poverty Index (MPI) framework pioneered by OPHDI, Indonesian scholars have pushed for metrics that include non-monetary dimensions. Isaac et al. (2024), in a comprehensive scoping review of smallholder well-being, emphasize that indicators such as "access to extension services," "land tenure security," "social capital," and "environmental resilience" are stronger predictors of long-term household sustainability than monthly terms

of trade. This literature posits that welfare is a stock (assets, health, education) rather than a flow (cash transactions)(Isaac et al., 2024).

The shift is also supported by recent findings on the "feminization of agriculture." Traditional income metrics often overlook the intra-household distribution of resources. Multidimensional measures, as argued by Alkire et al. (2015), enable a more gender-sensitive analysis by examining specific deprivations that may affect women disproportionately, such as the lack of clean cooking fuel or lower educational attainment, even in households with adequate NTP (Alkire et al., 2015).

The Construction of IKP: Global and Local Context

The IKP proposed by BPS, as detailed in recent policy briefs, aligns with the Oxford Poverty and Human Development Initiative (OPHI) framework but is adapted to the Indonesian context(FAO & OPHI, 2022). It includes dimensions of food security, education, health, decent living standards, and, importantly, agricultural resilience (asset ownership). This localization is crucial. For instance, "decent living standards" in rural Java may be defined differently from those in rural Papua, and the IKP seeks to standardize these minimum thresholds (Suciati, 2024).

Comparative studies in India and Thailand suggest that moving to such indices reveals hidden pockets of deprivation. For example, it has been found that in regions with high agricultural GDP, multidimensional poverty often persists due to poor sanitation and low educational attainment—factors that are invisible to NTP (Firdausy & Budisetyowati, 2022; Rusli et al., 2024). Their study demonstrated that monetary poverty and multifaceted poverty a typically poorly correlated in agrarian settings, making it impossible to use one as a proxy for the other. This literature suggests that IKP is not merely a "better" NTP but a fundamentally different lens that redefines what it means to be a "prosperous farmer." It moves the goalpost from "selling high" to "living well."(Wahyudi & Agustian, 2025)

METHODOLOGY

Research Design: Qualitative Literature Review

This study adopts a Qualitative Literature Review (QLR) methodology. It is imperative to distinguish this from a Systematic Literature Review (SLR). While an SLR focuses on statistical aggregation, rigid inclusion/exclusion criteria, and often meta-analysis to minimize bias and answer specific quantitative questions (e.g., "What is the average impact of X on Y?"), a QLR allows for a more interpretive, narrative, and critical engagement with the texts.

The nature of the research object justifies the choice of QLR—the policy transition to IKP. This transition is a contemporary, evolving phenomenon involving political discourse, grey literature, theoretical argumentation, and administrative logic, rather than empirical datasets alone. As Snyder (2019) argues, a qualitative review is superior when the goal is to synthesize diverse types of evidence (journal articles, government regulations, op-eds, theoretical papers) to construct a new conceptual model or argument. The QLR approach enables the researcher to "read between the lines" of policy documents and

connect them with theoretical critiques in a way that rigid SLR protocols might miss. It is particularly suited to exploratory topics in which variables are not yet fully defined and in which the "why" and "how" are more important than the "how much."

Data Source and Selection

Data was curated from two primary streams to ensure a balanced view of theory and practice:

1. Academic Literature: Peer-reviewed articles were selected from journals published between 2015 and 2025. The search strategy employed keywords such as "Farmer Terms of Trade critique," "Multidimensional Poverty Indonesia," "Agricultural Welfare Metrics," "Smallholder Resilience," and "Policy Indicators in Agriculture." The focus on recent literature ensures that the arguments reflect the post-pandemic economic reality and the latest developments in development metrics.
2. Grey Literature & Policy Documents: Official releases from BPS (Statistics Indonesia), Bappenas (National Development Planning Agency), and key media articles serving as primary discourse markers were analyzed. These documents are treated not just as a source of information, but as a "policy artifact" that reveals the government's official rationale and the agreed-upon definitions between the executive and legislative branches.

Analysis: Thematic Synthesis

The selected documents were analyzed using Thematic Synthesis, a widely used qualitative research method for identifying, analyzing, and reporting patterns (themes) within data. The analysis proceeded in three stages:

- Deconstruction: Each text was read closely to extract specific arguments regarding NTP's limitations and IKP's potential. For instance, arguments about "price volatility" were coded separately from arguments about "asset poverty."
- Pattern Matching: The analysis looked for convergences and divergences between academic theory and policy practice. We identified instances in which academic critiques were reflected in the new policy rationale.
- Reconstruction: The coded data were grouped into three core themes: Methodological Inadequacy, Narrative Construction, and Implementation Challenges. These themes structure the Results section, allowing for a coherent narrative that flows from the problem (NTP) to the solution (IKP) and, finally, to the barriers (Implementation).

RESULTS

Theme 1: The Methodological Inadequacy of NTP in a Modern Economy

The literature review from 2015 to 2026 overwhelmingly indicates that NTP has become an increasingly blunt instrument for guiding modern development policy. The primary finding under this theme is the divergence between price and prosperity.

Recent studies (Arintoko et al., 2024; Santanu, 2024; Zaman et al., 2025) confirm that NTP is highly sensitive to global commodity shocks but insensitive to domestic cost-of-living crises. For instance, during the global surge in fertilizer prices in 2022–2023, NTP in several subsectors plummeted. While this accurately reflected a squeeze on margins, it failed to capture the long-term damage done to farm households. To cope with the squeeze, farmers might have withdrawn children from school or reduced protein intake—actions that degrade human capital but are not reflected in price indices(Ahdika et al., 2020; Theresia et al., 2025).

Conversely, when NTP recovers during a commodity boom, accumulated debt and asset depletion during the crisis are not captured(Anas et al., 2022; Bali Ekbis, 2025; Keumala & Zainuddin, 2018). BPS data cited in recent critiques indicate that regions with consistently high NTP (above 105), such as certain palm-oil-rich districts in Sumatra, continue to exhibit high rates of stunting and low school participation among farmer households. This validates the argument that exchange rates do not equal welfare. The literature suggests that NTP has become a "fetishized" statistic—valued for its own sake rather than for what it represents. It measures the health of the commodity market, not the health of producers. By relying on NTP, the government has inadvertently prioritized crop yields over human yields(Syaputri et al., 2024; Tupamahu et al., 2021; Widuri & Putra, 2023).

Theme 2: The Narrative Construction of IKP

The analysis of the 2026 APBN discourse, particularly the blueprint, reveals a sophisticated construction of IKP that seeks to modernize the state's view of the peasantry. Unlike NTP, which relies on two variables (Prices Received vs. Paid), IKP is constructed from six dimensions and 21 indicators, encompassing food security, education, health, decent living standards, and agricultural resilience (BPS, 2025b; Krisnamurthi, 2025; Primantoro & Widi, 2024).

Key findings regarding the IKP narrative include:

1. The Shift to Assets (Stock vs. Flow): IKP prioritizes "stock" (assets, land ownership, education level) over "flow" (monthly cash income). This is a radical departure, as described in the literature, that is essential for sustainable development. A farmer with a poor harvest (low flow), who owns their land and has savings (high stock), is resilient; NTP only observes the poor harvest(Bali Ekbis, 2025; Keumala & Zainuddin, 2018).
2. The Inclusion of Vulnerability: One of the 21 indicators explicitly assesses whether a farm family is "prone to shock" (climate or economic). This aligns with the global shift toward measuring resilience rather than

poverty alone (Isaac et al., 2024; Suryanto et al., 2022). It acknowledges that welfare is also about the security of that welfare.

3. Cross-Sectoral Accountability: By including "health" and "education" in the farmer welfare index, the responsibility for farmer welfare is no longer solely the domain of the Ministry of Agriculture. It implies a "whole-of-government" approach in which the Ministries of Health and Education must also be held accountable for the low IKP scores of farming communities. This finding suggests a significant expansion of the policy stakeholder map and potential inter-ministerial friction(Dominika, 2025; Ruslan, 2026; Setyawan et al., 2025).

Theme 3: Structural and Operational Implementation Challenges

Despite the conceptual promise, the literature identifies profound challenges in operationalizing IKP, which can be categorized into three sub-themes:

The Frequency-Accuracy Trade-Off

NTP is politically attractive because it is released monthly. It provides immediate feedback to policymakers and the market. IKP, which requires detailed household surveys (similar to Susenas or the Agricultural Census), is likely to be measured annually or biennially. The literature warns that the loss of high-frequency data could blind policymakers to short-term shocks (Aprianto & Qur'an, 2021). If a drought hits in March, NTP will show it in April. IKP might not reflect the damage until the following year's report. This lag creates a "blind spot" that must be managed.

Data Granularity and Fiscal Cost

Collecting reliable multidimensional data from Indonesia's archipelagic farming population is prohibitively expensive. Implementing the "21 indicators" rigorously across all 514 regencies/cities requires a sample size and surveyor training that goes beyond the Ministry of Agriculture's current capacity. There is a risk that, to reduce costs, the sample size will be reduced, leading to IKP scores that are statistically valid at the national level but not useful for local government planning. The literature questions whether the APBN 2026 has allocated sufficient funds for the "data infrastructure" required for IKP, not just for the programs it measures (Amaruzaman et al., 2023; Kanagaratnam, 2017; Krisnamurthi, 2025; Natih, 2020).

Baseline Resistance and Political Economy

There is a concern in the political economy literature that the initial IKP results might show "lower" welfare levels than the rosy picture painted by NTP. For years, politicians have cited NTP > 100 as evidence of success. If IKP reveals that 40% of these "prosperous" farmers lack sanitation or adequate housing, it constitutes a "statistical downgrade." This potential embarrassment creates political resistance to full implementation. Bureaucrats may be incentivized to dilute the IKP indicators or delay their release to avoid contradicting the narrative of agricultural success (Amfo et al., 2022; BPS, 2025a; L. de Haan, 2022; Kühner, 2015).

DISCUSSION

Synthesizing the "Implementation Gap."

The transition from NTP to IKP is not merely a technical update; it is a profound battle against **institutional path dependence**. Institutional theories reviewed suggest that bureaucracies are often "locked in" to metrics that maximize their perceived performance while minimizing administrative friction. NTP has long served as a convenient political tool: when prices are high, the government claims success; when prices are low, they blame global market volatility. This externalization of failure is a key feature of NTP's political utility—it allows the state to act as a sympathetic observer of market forces rather than a direct welfare guarantor. IKP, by contrast, holds the government accountable for structural issues such as stunting, illiteracy, and lack of sanitation—problems that cannot be attributed to the Chicago Board of Trade or El Niño. If a farmer's child is stunted, that is a failure of local health policy and public service delivery. Therefore, the "challenge" identified in the literature is not just statistical, but deeply political. The synthesis of findings suggests that, without strong political will (as signaled in the APBN 2026 agreement), the bureaucracy would naturally reject IKP because it exposes state failure more directly and undeniably than NTP does (Eitan & Hekkert, 2023; Krisnamurthi, 2025; Peters et al., 2005; Rianti & Amanda, 2025).

A critical dimension of this implementation gap lies in the **capacity deficit at the street-level bureaucracy, particularly among Agricultural Extension Workers (Penyuluh Pertanian Lapangan,** or PPL). For decades, the Key Performance Indicators (KPIs) for PPLs have been strictly production-oriented: increasing tonnage per hectare, expanding planting areas (*Luas Tambah Tanam*), and monitoring fertilizer distribution. The introduction of IKP requires a radical retraining of this massive workforce to recognize and report on non-agronomic indicators such as household sanitation, school participation, and dietary diversity. Recent studies on agricultural governance in Indonesia indicate that PPLs are already overburdened with administrative reporting. Adding a complex social welfare auditing function to their role without a commensurate increase in resources or training is likely to result in "isomorphic mimicry"—where agents pretend to adopt the new system by filling out forms, while substantive practices remain unchanged. The literature warns that, without a dedicated corps of "social welfare auditors" separate from technical agronomists, the data quality of IKP will be compromised by the very agents tasked with collecting it (Alwi & Kasmad, 2014; Dastagiri & Vajrala, 2018; Jerven, 2014; Mayarni et al., 2024).

Furthermore, the implementation of IKP inevitably clashes with the complex dynamics of **Indonesian fiscal federalism**. Under the current decentralization regime, significant authority over health, education, and housing—key components of the IKP—rests with district (Kabupaten/Kota) governments rather than with the central Ministry of Agriculture. A tension arises, described in the literature as a "principal-agent problem": the central government (the Principal) wants accurate IKP data to allocate the APBN 2026 efficiently, but local governments (the Agents) may have incentives to

manipulate this data. If low IKP scores are used to punish local leaders for poor performance, districts may artificially inflate their numbers. Conversely, if low IKP scores are used to attract more central transfer funds (*Dana Alokasi Khusus*), districts may have a perverse incentive to under-report welfare improvements. This "gaming of the metric" is a classic manifestation of Goodhart's Law—when a measure becomes a target, it ceases to be a good measure—and the literature suggests that Indonesia's current data verification mechanisms are not yet robust enough to prevent such moral hazard at the regional level (Bachtiar, 2022; BPS, 2016; Krisnamurthi, 2025; Maharani et al., 2024; Mursalin & Irawan, 2025; Putra et al., 2024; Ramenzoni, 2024; Zega & Hakim, 2024).

The transition also forces a confrontation with the **sociological identity of the farmer**. The NTP regime implicitly frames the farmer as an entrepreneur—a market actor navigating price ratios. This narrative is empowering and aligns with the modernization goals of Indonesian agriculture. IKP, however, risks reframing the farming community primarily as "welfare recipients" or "vulnerable subjects" defined by their deprivations (lack of assets, lack of health). While analytically accurate, this shift could face cultural resistance from farmer organizations and the farmers themselves, who may view the detailed intrusion of IKP surveys (asking about toilet types, floor materials, and debt) as stigmatizing compared to the market-neutral questions of price surveys. Sociological critiques in the review (Rao & Raju, 2020) emphasize that policy metrics are not just numbers; they construct social identities. If IKP is rolled out clumsily, it could be perceived as a tool for "poverty management" rather than "agricultural development," potentially alienating the very demographic it seeks to help and reducing their agency to mere data points of deprivation(Gantini et al., 2024; Moebus, 2015; Talattov et al., n.d.).

Finally, there is a profound **temporal mismatch between political cycles and IKP outcomes**. The "NTP regime" persists because it aligns with the short-term horizons of electoral politics: a fertilizer subsidy introduced in January can boost NTP (by lowering costs) in time for an election in February. IKP indicators, such as reducing stunting prevalence or improving the quality of rural housing, have long gestation periods that far exceed a single five-year political term. Investments made today to enhance a farm household's IKP score (e.g., scholarship programs) may not bear statistical fruit for a decade. The implementation gap is thus also a "patience gap." The literature expresses skepticism about whether politicians, who thrive on the "quick wins" offered by price manipulation, will sustain interest in the slow, invisible work of improving multidimensional welfare. Unless the APBN 2026 creates binding multi-year commitments that insulate IKP-related funding from annual political maneuvering, the index risks becoming a "zombie metric"—technically alive but politically irrelevant compared to the NTP's immediate gratification(J. de Haan & J., 2013; Goetz, 2024; Krisnamurthi, 2025; Selvia & Widyastuti, 2024).

Case Study Analysis: The Palm Oil Sector Paradox

The urgency of implementing IKP is best illustrated through the case of smallholder palm oil farmers. This demographic serves as the perfect litmus test for the divergence between income and welfare. Under the existing NTP regime, the plantation sub-sector—mainly driven by palm oil—often records the highest terms of trade values, frequently exceeding the psychological threshold of 110 during commodity booms. At first glance, these data suggest that palm oil farmers are the "aristocracy" of the agricultural sector, enjoying terms of trade far superior to those of their counterparts in food crops or horticulture. However, qualitative reviews and field evidence reveal a starkly different reality: these farmers often inhabit "wealthy enclaves of deprivation," where high cash flows mask deep structural vulnerabilities(Edwards, 2019; Ikhsan et al., 2025; Risal et al., 2022).

A critical dimension of this paradox lies in the precarious position of **independent smallholders (*petani swadaya*)** compared to scheme (*plasma*) smallholders. While NTP data aggregates these groups, masking their disparities, IKP would expose the fragility of independent farmers. Recent studies indicate that while independent smallholders benefit from high Fresh Fruit Bunch (TBS) prices, they suffer from a severe lack of "institutional capital"—a key component of IKP's resilience dimension. They often lack access to subsidized fertilizer, have no formal land titles (certification), and possess no bargaining power against middlemen. Consequently, a sudden drop in global CPO prices disproportionately reduces their welfare. NTP captures the crash only as a price statistic. Still, IKP would capture the immediate spike in household vulnerability, such as the inability to pay for healthcare or the liquidation of productive assets to survive, thereby providing a more accurate warning system for policymakers (Faradila & Putra, 2025; Faris, 2024; Jingjing et al., 2024; Sukiyono et al., 2022).

Furthermore, the "prosperity illusion" associated with high NTP in palm oil zones is frequently offset by the **high cost of living in remote areas**. Palm oil expansion has historically occurred in the hinterlands of Sumatra and Kalimantan, areas often devoid of basic public infrastructure. An analysis of expenditure patterns reveals that a significant portion of the "high income" captured by NTP is eroded by the exorbitant costs of basic services—purchasing clean water because local rivers are polluted, running diesel generators because the state electricity grid is absent, and repairing vehicles damaged by non-existent roads. IKP addresses this by measuring service availability rather than merely the ability to pay for them. If a farmer has money but the nearest clinic is four hours away over impassable roads, their IKP Health dimension score collapses. This distinction is vital: NTP assumes that the market can satisfy all needs if income is sufficient; IKP acknowledges that public goods (roads, electricity, water) are state responsibilities that cash cannot always purchase(Chin, Yew Wong et al., 2023; Ikhsan et al., 2025; Jingjing et al., 2024).

Another disturbing trend that IKP is designed to illuminate is the **trade-off between agricultural labor and educational attainment**. In many palm oil centers, high commodity prices create a perverse incentive for "dropout culture." When harvest wages are high, teenagers are often withdrawn from school to work as harvesters or fruit pickers, thereby increasing immediate household income (boosting NTP) but eroding long-term human capital (lowering IKP). Empirical observations suggest that some districts with the highest agricultural GDP per capita have surprisingly low tertiary education enrollment rates. By including "School Participation Rate" and "Years of Schooling" as weighted indicators, IKP would penalize regions that sacrifice their children's future for today's harvest, forcing local governments to actively enforce compulsory education laws even during commodity booms—a policy nuance entirely invisible to the price-based NTP(Achmad et al., 2022; Amir et al., 2025; Chalil et al., 2019).

Finally, the implementation of IKP would fundamentally alter the governance of the **Palm Oil Profit Sharing Fund (*Dana Bagi Hasil/DBH Sawit*)**. Currently, the allocation of these funds is heavily biased towards road infrastructure, justified by the need to lower logistics costs and improve NTP. While necessary, this leaves little fiscal space for human development. If IKP becomes the mandated performance metric, governors and regents in palm oil-producing regions would be legally compelled to diversify DBH spending. They would need to invest in "soft infrastructure"—scholarships for children of farmers, local health clinics (Pustu), and sanitation projects—to improve their region's IKP score. This shift transforms IKP from a passive statistic into an active fiscal instrument, ensuring that the wealth generated by the golden crop translates into a "golden generation" of human capital, rather than merely a cycle of boom-and-bust consumption (Arhian et al., 2024; Jelsma & Schoneveld, 2016; Nurfatriani et al., 2019).

- **NTP View:** High Welfare (High Prices, High Export Revenue).
- **IKP View:** Low Welfare (Low access to basic services, high vulnerability, educational stagnation).

This discrepancy highlights the analytical power of IKP. It exposes that "income" is necessary but insufficient for welfare. Implementing IKP would require the government to direct resources not only to replanting (which boosts NTP) but also to strengthening the social fabric of plantation communities. It shifts the discourse from "yield per hectare" to "quality of life per household," ensuring that Indonesia's agricultural success is measured not only in tons of crude palm oil but also in the capabilities and dignity of the families who produce it(Hirawan, 2011; Nugroho & Sugiarto, 2024; Santika et al., 2019, 2020).

Answering the Objectives: The Way Forward

The literature points towards a **"Hybrid Dashboard"** solution as the most viable path forward. It is perilous to discard NTP entirely, as farmers still need price protection in an open-market economy. The synthesis suggests a dual-track approach: **NTP as a Tactical Indicator** (for short-term trade interventions, fertilizer subsidies, and import/export decisions) and IKP as a Strategic Indicator (for long-term APBN allocation, infrastructure planning, and social protection

targeting). Krisnamurthi (2025) hints at this by noting that the government is "not replacing NTP but complementing it." This nuance is critical; the challenge lies in communicating this duality to the public so that a drop in one index is not weaponized politically against an improvement in the other. However, to operationalize this hybrid model, four critical "enablers" must be addressed beyond the statistical definition(Krisnamurthi, 2025).

Re-engineering Institutional Capacity: From Agronomy to Sociology

A significant bottleneck identified in recent studies is the capability gap of the primary data collectors—the agricultural extension workers (*Penyuluh Pertanian Lapangan* or PPL). Traditionally, PPLs are trained in technical agronomy (crop yields, pest control) rather than social auditing or multidimensional poverty assessment. A study by Nahdiana (2025) on the digital transformation of extension services in Indonesia highlights that while extension workers are increasingly adopting digital tools (*Cyber Extension*), their "digital literacy" is often limited to technical reporting rather than complex welfare data entry. The transition to IKP requires PPLs to act as "social auditors" who can accurately assess indicators such as sanitation quality and educational access. Without a massive retraining program or the recruitment of dedicated social enumerators, the "garbage in, garbage out" risk remains high. The Ministry of Agriculture must collaborate with the Ministry of Villages to standardize the competency framework for frontline data gatherers, ensuring that the human infrastructure is as robust as the statistical infrastructure (Herdiansyah et al., 2023; Santoso et al., 2023; Sarma et al., 2025).

Leveraging Digital Precision for "Nowcasting" Welfare

To overcome the trade-off between frequency and accuracy, in which IKP is too slow relative to NTP, the government must accelerate the adoption of digital technologies for "nowcasting" welfare. Recent findings on Smart Farming 4.0 in Indonesia suggest that digital footprints—such as mobile money transactions, e-commerce purchases of inputs, and satellite-based yield predictions—can serve as high-frequency proxies for welfare components(Rasyid & Mumpuni Ningsih, 2024). For instance, a sudden drop in digital transactions for secondary needs in a farming cluster could trigger an "early warning" of welfare decline before the annual IKP survey is even conducted. It has been demonstrated that integrating village-level datasets (such as *Data Desa Presisi*) can provide granular insights that national surveys miss. By integrating these digital signals into the "Satu Data Pertanian" ecosystem, the government can create a "Shadow IKP" that updates quarterly, bridging the gap between the slow official statistics and the fast-moving reality of rural life (Sutisna & Qibthiyyah, 2023).

Fiscal Decentralization: Aligning Village Funds with IKP Targets

The implementation of IKP will remain a "paper tiger" unless it is tied to financial incentives for local governments. Currently, Village Funds (*Dana Desa*) are often allocated based on administrative formulas rather than performance outcomes. In a regression analysis of Village Funds on rural welfare, it has been found that while funds positively affect night-time light intensity (a proxy for growth), the impact is uneven and often fails to reach the poorest agrarian

enclaves due to elite capture (Hartojo et al., 2024). To address this, the central government should revise the fiscal transfer formula: regions that successfully improve their IKP scores (specifically in dimensions such as reducing stunting or increasing farmers' assets) should receive "Fiscal Performance Incentives" (*Insentif Fiskal Kinerja*). This aligns the interests of the *Bupati* (District Heads) with the central government's IKP targets, moving the incentive structure away from merely "spending the budget" to "improving the index."(Choirul, 2023; Permatasari et al., 2021; Sipayung et al., 2023)

Global Harmonization and SDG Commitments

Finally, the adoption of IKP confers a strategic advantage on Indonesia in the global development arena. By moving away from price-centric metrics, Indonesia aligns itself more closely with the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 2 (Zero Hunger). It has been argued that the current disconnect between local village policies and national SDG targets is partly due to a lack of unified metrics(Novi Andari & Fitria, 2023). IKP serves as a "common language" that bridges this gap, allowing Indonesia to report its progress in a way that attracts international green finance and development aid. For the palm oil sector specifically, a robust IKP that proves improvement in smallholder welfare can serve as a counter-narrative to negative global campaigns, showing that the industry is driving human development, not just deforestation. Thus, IKP serves as a tool of "Soft Diplomacy" as much as it does of domestic policy(Indriastuti et al., 2024; Kusters, 2022).

CONCLUSIONS AND RECOMMENDATIONS

Substantive Conclusions

The integration of the Farmers' Welfare Index (IKP) into the 2026 APBN represents a critical step in the maturation of Indonesia's development policy. This study, through a qualitative review of recent literature and policy documents, concludes that the shift is scientifically unjustified because the NTP fails to account for the multidimensional nature of rural poverty. The "single-indicator" era is obsolete in the face of complex challenges like stunting, climate change, and educational inequality in agrarian communities. The IKP offers a more honest, albeit more complicated, mirror of reality.

However, the road to implementation is paved with structural obstacles. The primary challenge is the tension between the political desire for high-frequency, positive news (provided by NTP) and the technocratic need for profound, structural, and often sobering data (supplied by IKP). There is a real risk that IKP will be underfunded or ignored if it produces politically inconvenient truths. The success of IKP depends not on the sophistication of its statistics, but on the maturity of the political institutions that wield it.

Policy Recommendations

Based on the analysis, three concrete recommendations are proposed for the Ministry of Agriculture, BPS, and Bappenas:

1. Institutionalize the Hybrid Model via Technical Regulation: BPS and the Ministry of Agriculture must explicitly define the distinct roles of NTP (market monitoring) and IKP (welfare monitoring) in the upcoming Technical Guidelines (Petunjuk Teknis). The guidelines should clearly state that NTP pertains to stabilization policy, whereas IKP pertains to development policy. This separation of purpose will protect IKP from being judged by the standards of high-frequency trading data.
2. Sector-Specific Piloting and DBH Integration: Prioritize the full rollout of IKP in strategic commodity sectors (Palm Oil and Rice) where the disparity between price and welfare is most acute. Crucially, use IKP scores as the primary variable for allocating the Palm Oil Profit Sharing Fund (DBH Sawit). Regions with low IKP scores should receive higher block grants earmarked explicitly for health and education infrastructure, ensuring that the funds actually address the "welfare" gaps identified by the index.
3. Digital Data Integration ("Satu Data"): To overcome the cost and frequency issues of IKP surveys, the government must accelerate the "Satu Data Pertanian" initiative. The government should explore the use of digital proxies (e.g., e-wallet usage, village fund expenditure data, BPJS health utilization rates) to model welfare indicators in near-real time. This would enable "Nowcasting" of IKP, reducing reliance on large-scale annual physical surveys and bridging the time-lag gap that makes NTP so attractive.

FURTHER STUDY

This research still has limitations so that further research is needed on the topic Beyond Terms of Trade: Challenges in Implementing the Farmers' Welfare Index (IKP) as a Multidimensional Metric to perfect this research and increase the insight of readers and writers.

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