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Food Sovereignty in an Age of Geopolitical Fragmentation: Corporate Power, Global Supply-Chain Vulnerabilities, and the Reconfiguration of Indonesia's National Food Politics

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ABSTRACT

Global food politics connects agrifood production and consumption to geopolitical conflict, corporate concentration, trade governance, climate instability, and contested claims over food sovereignty. This qualitative literature review examines how those transnational forces influence Indonesia's national food-policy orientation, especially its renewed emphasis on domestic production, public reserves, postharvest infrastructure, price stabilization, and village cooperatives. Drawing interpretively on peer-reviewed journal literature published during 2020–2026 and triangulating policy claims against official Indonesian regulations, the review identifies seven interconnected arenas of power: knowledge and seed technologies; agricultural inputs; trade and logistics; finance and corporate organization; rule-setting; narratives and information; and land, procurement, and territorial distribution. Findings indicate that external shocks expose real vulnerabilities, but neither autarky nor indiscriminate import liberalization provides a sufficient response. Indonesia's institutional challenge is to combine domestic productive capacity with diversified external sourcing, accessible nutritious diets, protected smallholder livelihoods, accountable reserves, ecological safeguards, and meaningful local participation. The review develops a conditional-sovereignty framework that treats autonomy as an ability to make effective, equitable choices under uncertainty rather than as the elimination of trade. It proposes a multidimensional policy scorecard and a research agenda for testing implementation outcomes. The principal contribution is a critical synthesis linking international political economy to Indonesia's concrete food-governance instruments while distinguishing verified legal intent from outcomes that still require empirical evaluation.

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Introduction

Background: Food As An Economic Good and Strategic Political Resource

Food is simultaneously a biological necessity, a traded commodity, a livelihood system, a cultural institution, and an object of public authority. Contemporary disputes over grain exports, fertilizer availability, seed technologies, shipping routes, and agricultural land reveal that food cannot be understood adequately through production statistics alone. Those disputes distribute risks and bargaining power across farmers, traders, states, corporations, and consumers. Recent research describes how a relatively small number of firms can influence input markets and policy agendas, while complex transnational networks connect local food prices to distant economic and political events. A rigorous account must therefore analyze power without assuming that all firms, states, or trade relationships operate in the same [1,2].

The COVID-19 pandemic illustrated how food insecurity can emerge from disrupted income, mobility, and access even when aggregate supplies remain relatively robust. Subsequent conflict in Ukraine affected commodity export routes and raised the cost of energy and fertilizer, revealing how direct disruptions and policy responses interact. Import-dependent economies experienced unequal exposure because purchasing power, inventories, alternative suppliers, and domestic production capacities differed considerably. The shock also showed that food prices are influenced not only by physical scarcity but by energy costs, expectations, exchange rates, and cross-border trade restrictions. These mechanisms demand analysis beyond the dramatic but analytically imprecise metaphor of food as a geopolitical weapon[3-5].

Indonesia occupies a particularly instructive position within these debates. As a large archipelagic economy with politically sensitive rice consumption, diverse local food cultures, an extensive smallholder agricultural base, and major commodity-export interests, it simultaneously encounters pressures for affordable consumer food, remunerative producer prices, efficient logistics, and sovereign policymaking. A country can import selected foods while producing substantial amounts of other crops, and household vulnerability may persist even in periods of strong national grain

procurement. Consequently, national production and household food access are related outcomes but require different indicators and sometimes different policy instruments [6-8].

Urgency and Problem Definition

The urgency of a new synthesis arises from the increasingly interconnected character of climate variability, geopolitical confrontation, global market concentration, and domestic agrarian change. Global food supplies can be disrupted by particular routes or suppliers; yet the absence of adequate transport, reliable storage, and remunerative local markets can also undermine self-sufficiency strategies. The policy question is not simply whether Indonesia should produce more food, but which foods should be produced where, under what conditions, at what ecological cost, by whom, and with which complementary safeguards for access and nutritional quality. A resilience lens helps identify how national policies distribute capacity to absorb and recover from disturbance [9-12].

Recent Indonesian policy instruments give this question unusual immediacy. Presidential Regulation No. 14 of 2026 focuses on accelerating postharvest infrastructure, while Presidential Instruction No. 2 of 2026 calls for coordinated measures addressing domestic production, distribution, access, consumption patterns, and sustainable agricultural practices. Presidential Instruction No. 9 of 2025 established a basis for accelerating the formation of Red-and-White Village/Urban Village Cooperatives. These are verifiable legal and institutional developments, but enactment is not proof of improved livelihoods, affordability, cooperative performance, or environmental outcomes. Each instrument must be evaluated against explicit mechanisms and observable implementation indicators [13-15].

Research Gap, Questions, and Contributions

Research on global food systems often examines trade vulnerabilities, corporate power, agroecology, food loss, or climate adaptation in separate disciplinary conversations. Indonesian studies, meanwhile, frequently address rice productivity, seed distribution, farming institutions, or the politics of particular food-estate projects. A gap remains in connecting these literatures systematically at the level of explanatory mechanisms while preserving the distinctions between sovereignty, security, and self-sufficiency. A qualitative literature review is particularly appropriate for integrating divergent theories, contradictory evidence, and policy interpretation without artificially claiming a pooled causal effect [16-18].

This article asks how transnational structures of economic and political power shape food-system vulnerability; how geopolitical and climate shocks are transmitted through commodity, input, and logistics networks; how those pressures have influenced Indonesia's national policy agenda; and which institutional design can reconcile local agency with national food security and necessary international cooperation. It contributes an integrated map of seven arenas of power, an assessment of Indonesia's post-2025 policy response, and a conditional-sovereignty framework. The argument is evaluative rather than celebratory: success is measured through capabilities and outcomes for people and ecosystems, not through claims of autonomy alone[19-20]

Literature Review: Conceptual and Theoretical Foundations

Food Security, Sovereignty, and Self-Sufficiency

Food security is commonly discussed through availability, access, utilization, and stability, with recent work also emphasizing sustainability and agency. Food sovereignty, in contrast, refers to the capacity of people and political communities to shape the rules, resources, and institutions of food systems. Self-sufficiency is a production-to-demand relation: it can matter for resilience, yet it cannot by itself establish whether lower-income households can buy food, whether diets are healthy, or whether smallholders have meaningful influence. Conflating these concepts risks treating an output target as a comprehensive social outcome and obscures the possibility that domestic producers and urban consumers may be affected differently by high staple prices.

Food sovereignty also cannot be reduced to national autarky. Its democratic dimension concerns who makes decisions, which rights are respected, and whether affected groups can shape priorities. Locally controlled seed systems, land tenure, cooperatives, procurement rules, and culturally appropriate diets are relevant even when selected food products continue to cross borders. Conversely, a domestically produced staple can be controlled by an exclusionary land arrangement or a concentrated procurement system. A serious sovereignty assessment therefore attends simultaneously to territorial capability, agency, distributive justice, and the accountability of both public and private.

International Political Economy and Corporate Power

International political economy draws attention to the unequal capacity of actors to determine prices, technological standards, access to finance, and regulatory frameworks. Corporate concentration in seeds and agrochemicals can influence which varieties receive investment, what kinds of farm data become commercially valuable, and how producers negotiate access to technologies. Yet concentration should not be casually described as universal monopoly: the relevant market must be specified, its boundaries identified, and effects distinguished across sectors. A concentrated seed market and an oligopolistic logistics network pose different forms of dependence and demand different remedies[22].

Power also operates through knowledge, classification, and narratives. Claims that a food system is modern, efficient, nationally secure, or environmentally sustainable may privilege certain projects and measurement conventions. Public debates sometimes present large-scale production and diversified smallholder systems as mutually exclusive models, although their performance depends on agronomic contexts, tenure, infrastructure, public services, and incentives. Historical institutionalism helps explain why inherited administrative arrangements shape contemporary agricultural policy choices, while political-economy analysis asks who bears transition costs and who can shape the policy agenda [23-25].

Recent political-economy scholarship further identifies financialization and agricultural digitalization as mutually reinforcing channels of influence. Data infrastructures may improve forecasting and traceability, but exclusive platform arrangements can shift control over farm information, product standards, and access to finance toward actors with greater technological resources. Therefore, assessments of food-system autonomy should ask who owns data, who can exit commercial contracts, and whether independent public-interest oversight remains feasible. This analysis extends conventional market-share measures to the institutional conditions under which farmers and communities exercise meaningful choice.

Interdependence, Resilience, and The Trade-Autonomy Tension

Trade creates interdependence, which can improve access to complementary food products and buffer localized harvest failures, but it can also transmit international shocks. The appropriate

distinction is between productive connectivity and concentrated dependence. When import shares rise while the number of reliable partner countries falls, the ability to switch suppliers can deteriorate. Cross-country research shows that a nation's potential domestic sufficiency and diversity of production have separate implications for risk, while network studies identify how disruptions travel through central trade connections [26].

Resilience further requires attention to multiple capacities: anticipation, absorption, recovery, adaptation, and institutional learning. Storage can buffer short-term shortages, but reserves are only as useful as their inventory accuracy, rotation, release rules, and last-mile distribution. Trade can provide recovery options, but only where finance, contracts, port access, and institutional cooperation make alternatives usable. Household resilience is also distinct from national aggregate resilience; a supply chain may recover while farmers or informal workers permanently lose assets. An analytically sound framework must specify whose resilience is being protected, against which shocks, and over which [27].

Recent resilience scholarship distinguishes restoring a disrupted supply chain from transforming underlying vulnerabilities. Community agency, local public institutions, and the distribution of adjustment costs can determine whether seemingly successful recovery protects those most exposed to insecurity. Such evidence supports treating social protection and participation as constitutive resilience capacities rather than downstream benefits to be considered only after physical supplies recover.

Geopolitical Shocks, Fertilizer, and Energy

Military conflict can affect food through damaged production areas, blocked ports, transport insurance, exchange rates, sanctions, and restrictions adopted by nonbelligerent states. Research on the Russia–Ukraine war found that effects differed across countries and often reached distant importers through price and network channels. The conflict also prompted urgent reconsideration of how commodity import dependence interacts with the exposure of poorer countries to volatile international markets. It also demonstrated that fertilizer and energy prices could be at least as consequential as direct crop-export losses. This evidence complicates a narrow focus on national grain imports and directs attention to the conditions under which domestic grain production itself depends on imported natural gas, potassium, fertilizer materials, machinery, or fuel [28-29].

The environmental consequences of the fertilizer system must be considered alongside its geopolitical vulnerabilities. Synthetic nitrogen remains important for crop yields, but poorly targeted fertilizer use can produce substantial greenhouse gas emissions and other pollution. Spatially differentiated nutrient management can reduce unnecessary application in nutrient-surplus settings while addressing severe deficits elsewhere. For Indonesia, resilience therefore requires more than stockpiling inputs: it requires agronomic advice, water management, soil-specific recommendations, nutrient recovery, transparent procurement, and a credible assessment of substitutability across farming systems [30-33].

Climate, Agrarian Rights, and Development Trade-Offs

Climate change modifies the probability of simultaneous production shocks, while land conversion reduces the acreage available for future food production. Efforts to compensate through new agricultural land can carry hidden costs when drainage, peat oxidation, ecological degradation, and insecure customary tenure are not integrated into project design. Research from Indonesia documents tensions between intensive agricultural expansion and local rights, while regional studies emphasize adaptation capacities and the value of indigenous rice landscapes. Food policy cannot be judged sustainable if short-run output increases are purchased through long-run deterioration of natural capital or the displacement of vulnerable producers [34-36].

A transition toward nutritionally adequate and environmentally compatible diets adds another layer of political complexity. Global food-system scenarios indicate that lower food losses, dietary change, and productivity improvements could alter future production structures substantially; however, the socioeconomic distribution of those transformations is not automatic. Policy must manage who invests, who adapts, and who may lose income. This is relevant to Indonesia's crop choices and to the competition between food, energy, and export uses of agricultural land and products, although the magnitude of trade-offs must be investigated rather than inferred from slogans [37].

Method: Qualitative Literature Review

Review Design and Scope

This study uses a qualitative literature review (QLR), not a systematic literature review or meta-analysis. It integrates theoretical explanations, empirical findings, critical political-economy arguments, and policy documents through iterative thematic interpretation. The purpose is not to estimate a single average effect of globalization on food security, nor to claim exhaustive identification of all eligible publications. Instead, it seeks conceptual clarification, explanation of mechanisms, examination of rival interpretations, and translation into policy-relevant propositions for Indonesia. The approach is suited to a question that spans agricultural economics, political science, rural sociology, trade governance, climate science, supply-chain management, and law [38].

The analytical window covers journal publications from January 2020 through October 2026. Search concepts included global food politics, food sovereignty, corporate concentration, agrifood value chains, export restrictions, fertilizer vulnerability, food system resilience, Indonesian rice policy, land conversion, postharvest loss, and producer cooperatives. Academic journal research supplied the main evidentiary foundation. Official Indonesian legal instruments were consulted separately to establish what the state formally prescribed; those documents were not misrepresented as peer-reviewed research. Older historical scholarship informed conceptual orientation indirectly, but the cited journal corpus was restricted to the stated recent period.

Interpretive Selection and Thematic Coding

The literature was purposively selected for conceptual relevance, publication credibility, methodological variety, geographic coverage, and capacity to challenge the initial thesis. Priority was given to peer-reviewed articles in established international journals, along with recent Indonesian empirical studies directly connected to the case. The review deliberately included evidence supporting trade diversification alongside evidence documenting concentrated corporate power and import risk. This negative-case principle reduced the danger of choosing only sources that validate a predetermined conclusion. The selection is transparent about its interpretive logic but does not claim PRISMA compliance, registration, or reproducible exhaustive database screening.

Coding proceeded in three interpretive passes. The first identified actors, assets, material dependencies, shocks, instruments, and affected groups. The second organized these observations into seven arenas of power: seed and knowledge systems; agricultural inputs; international trade and logistics; finance and corporate organization; rule-making; narratives and information; and land, procurement, and domestic distribution. The third linked transnational mechanisms to Indonesian responses and assessed each linkage against food access, farmer agency, ecological durability, fiscal feasibility, and institutional accountability. Contradictions were retained as substantive findings rather than suppressed as noise.

Limits and Credibility Checks

As an interpretive QLR, the analysis does not provide a formal certainty-of-evidence grade, statistical pooled estimate, or comprehensive database count. Some Indonesian initiatives began recently, so published impact evaluations may lag behind official announcements. Cross-country simulation results are not direct empirical estimates of Indonesian program effects, and evidence from one regional rice chain cannot automatically be generalized to all provinces. To strengthen credibility, the review distinguishes conceptual claims, findings directly established by cited studies, legal facts established by official records, and conditional policy propositions that require testing.

Results: Seven Thematic Arenas and Indonesia's Policy Response

Seed Systems, Intellectual Property, and Agricultural Knowledge

The first arena concerns access to seed, biological innovation, agronomic information, and technical expertise. Concentration among leading input firms raises questions about farmers' bargaining position, but the mechanisms differ from outright exclusion: technological licensing, procurement scale, proprietary data, and the direction of research can all shape available choices. Indonesian seed-system evidence points toward practical problems of producer capacity, coordination, and geographically appropriate varieties. Sovereign capacity is therefore better measured by reliable access to diverse, high-quality seed and public breeding expertise than by the absence of all foreign genetic material.

An inclusive national seed strategy would combine competitive markets, public breeding, locally adapted varieties, transparent quality certification, and participation by farmer organizations. It would also distinguish farmers' rights to maintain and exchange suitable genetic materials from the requirements of safe and traceable commercial distribution. Too little investment in research can produce dependence, while poorly designed restrictions can reduce access to productive varieties. Smallholder adoption studies and cooperative experience indicate that institutions, extension, and collective action are as important as the physical availability of technology [39,40].

Fertilizer, Energy, and Input-Geopolitical Dependence

The second arena is the fertilizer–energy nexus. Global energy prices and geopolitical restrictions can raise fertilizer manufacturing and freight costs, exposing farmers whose production depends on timely inputs. The consequences are uneven: farms already applying excessive nutrients have scope for efficiency gains, while nutrient-deficient farms may suffer serious yield losses if prices prevent adequate application. The literature therefore supports targeted subsidy design, soil testing, logistical contingency plans, and balanced nutrient use rather than an undifferentiated commitment to ever-greater fertilizer.

For Indonesia, centrally coordinated fertilizer policy may improve transparency or purchasing power under favorable implementation conditions; however, centralization alone does not guarantee correct allocation, timely delivery, or reduced rent-seeking. Evaluation should examine the accuracy of the farmer registry, fulfillment of orders, seasonal stockouts, cost per unit of nutrient effectively utilized, and differences in access across islands and farm types. Sustainable soil management and nutrient recycling can reduce external exposure over time, but their agronomic feasibility depends on cropping system and local conditions.

Trade Corridors, Export Controls, and Strategic Reserves

The third arena comprises trade routes, export restrictions, port capacity, and inventories. Pandemic-era interventions demonstrated that governments can restrict exports rapidly, and some measures produced substantial short-term trade effects. The conflict in Ukraine later reinforced the importance of diversified sourcing and international cooperation. An exclusive reliance on global spot markets can become risky during crises, but blanket retreat from international trade can also remove a valuable means of offsetting local climate shocks. Risk reduction requires multiple suppliers, transparent contracting, well-functioning ports, and credible reserve-release rules [41-43].

Indonesia's archipelagic geography complicates the distinction between national availability and effective access. A large national stockpile can coexist with local shortages when transport, storage, financing, or data coordination fail. Public reserves should thus be evaluated by geographic service coverage, spoilage, replenishment cost, response time, and whether releases reach households most exposed to inflation. Trade-policy studies suggest that emergency controls can protect particular interests but impose costs elsewhere; transparent triggers and sunset provisions are needed to avoid turning temporary stabilization into permanent distortion [44-45].

Corporate Networks, Finance, and Market Organization

The fourth arena concerns corporate structures and the financing of agrifood chains. Central firms may supply capital, standardization, and logistical capacity, yet market dominance can also narrow competitors' opportunities and weaken farmer agency. Network connectivity may improve adaptation at the corporate level while failing to distribute resilience equitably across small suppliers. Consequently, competition policy, contract transparency, accessible credit, and investment in producer organizations are complementary rather than mutually exclusive strategies. The policy objective is contestability and fairness, not the automatic replacement of every large.

Evidence from Indonesian rice value chains identifies limited farmer bargaining power, information asymmetry, and weak postharvest infrastructure as impediments to a more equitable allocation of value. Collective action can improve coordination, yet effective producer organizations depend on leadership, member voice, internal rules, and credible commercial services. Government-supported village cooperatives may be important delivery institutions, but registration numbers and physical construction targets do not show whether members receive better farm-gate prices or consumers receive lower retail prices. Institutional results, rather than organizational labels, must determine assessment.

Indonesia-specific econometric work raises an additional caution against inferring farmer prosperity from aggregate rice self-sufficiency. Report that their dynamic panel analysis did not find rice self-sufficiency to be a statistically significant determinant

of the farmers' terms of trade in the food-crop subsector, emphasizing instead producer prices, technology, and supply-chain inefficiencies. That result should not be generalized beyond the study design, but it reinforces the need for province-level evaluation of farm net returns, marketing margins, input costs, and consumer affordability .

Rule-Making, Standards, and International Policy Space

The fifth arena involves the authority to set standards governing trade, sanitary compliance, public stockholding, agricultural subsidies, and technological diffusion. Such rules may correct genuine safety or environmental harms, but costs of certification and compliance can be disproportionately difficult for small-scale exporters and producers. Similarly, international disciplines on public agricultural support involve trade-offs between domestic flexibility and the interests of other countries. It is analytically misleading to regard all international standards as instruments of domination or, conversely, all domestic intervention as efficiency-enhancing. Each rule should be evaluated against purpose, evidence, institutional capacity, distributive effects, and available safeguards.

For Indonesia, the practical question is how to maintain regulatory room for public reserves, farmer support, procurement, and ecological protection while preserving access to the international inputs and markets on which diversified domestic livelihoods also depend. International coordination can reduce panicked restrictions, and domestic oversight can limit the capture of public programs. The national strategy is stronger when the government can negotiate credibly, publish intervention rules, and explain trade-offs to farmers and consumers before crises intensify.

Narratives, Data, and Contested Definitions of Success

The sixth arena is informational power: how evidence is produced, interpreted, and communicated. Announcements of record harvests, abundant inventories, or complete sovereignty can be politically influential, yet none of these statements establishes the price or quality of food available to households. Conversely, narratives focused solely on import dependence can understate domestic productivity constraints or exaggerate the speed at which substitution is feasible. Scientific dashboards should therefore separate production, stocks, imports, accessibility, diet quality, smallholder income, and ecological indicators. Public trust increases when methods and revisions to official statistics are clearly communicated .

Narratives also shape the evaluation of large-scale food estates. Ambitious area targets can convey strategic resolve, while field evidence highlights site-specific challenges and the risks of displacing community land systems. Recent critical scholarship on Indonesian food estates argues that state–capital relationships and customary land rights require careful scrutiny. Those findings do not prove that every expansion project will fail; they do demonstrate why consent, environmental assessment, agronomic suitability, and independent evaluation belong inside the definition of strategic food policy rather than outside it.

Land, Postharvest Systems, and Territorial Food Distribution

The seventh arena combines control over agricultural land and the mechanisms moving food from farm to consumer. Indonesian land-use studies show that conversion and insecure rights can weaken future production capacity. Expansion onto marginal land may incur high rehabilitation, irrigation, and social costs; productivity improvement and protection of established farmland may be more efficient in appropriate settings. Evidence on newly opened tidal rice fields underscores how yields depend on coordinated agronomic management and local institutions rather than hectares alone. A policy that adds cultivated area but neglects soils, water, and farmer capacity risks disappointing results. New evidence on land ownership and rice-farm performance in Banten further underscores the need to distinguish expansion targets from equitable control of productive assets.

Postharvest infrastructure is an essential but often undervalued complement to land policy. Losses can arise from poor handling, insufficient drying and storage, fragmented logistics, quality deterioration, or coordination failure. Studies across food chains show that effective remedies vary by product and must consider incentives and collaboration, not just hardware. Consequently, Presidential Regulation No. 14/2026 has an intelligible economic rationale, while its performance must be tested through measurable reductions in quality losses, storage costs, geographic disparities, and delays. Public warehouses create value only when they operate reliably and reach intended beneficiaries [46-48]

Research also demonstrates that circular capabilities and supplier collaboration can help reduce food waste, yet there are situations in which additional redundancy increases costs or wastage. This is a warning against a simple assumption that more storage or more spare inventory is always beneficial. The appropriate design balances resilience, turnover, public expenditure, and product-specific deterioration. Improving supply-chain data, accountability for inventory management, and coordination between cooperatives, processors, and public procurement are therefore potentially as important as capital expenditure [49-51].

Summary of The Thematic Findings

Figure 1 summarizes the seven arenas through which global political-economic pressures can influence Indonesia's food system. The mechanism is neither exclusively external nor exclusively domestic: international shocks interact with production technologies, agricultural institutions, land rights, and public decisions. This interpretation explains why a coherent response requires joint attention to autonomy, competition, access, ecological limits, and institutional quality rather than simply substituting domestic goods for imports.

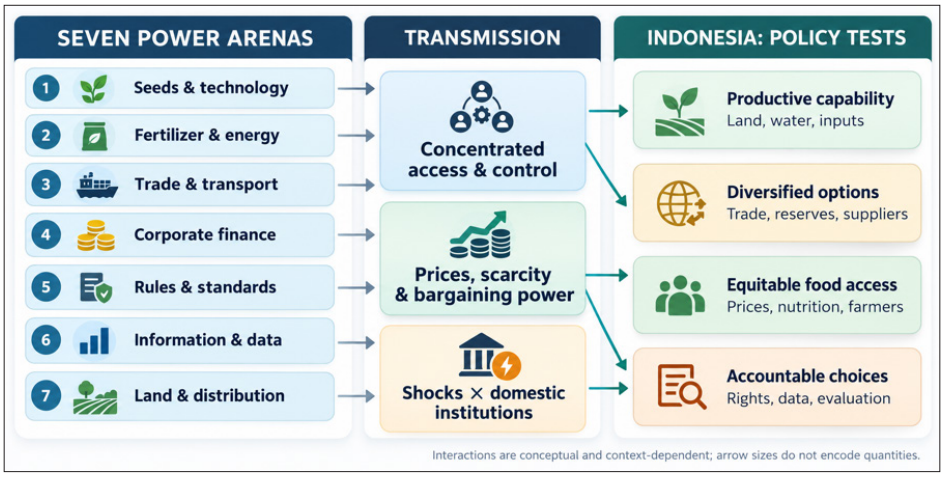


Figure 1: Seven Arenas of Global Food-System Power and their Transmission to Indonesian Food Policy.
Source: Author's Conceptual Synthesis Of The Cited Literature.

The framework in Figure 1 should be read as a conceptual map, not as a statistical estimate of the weight of each mechanism. For example, the impact of fertilizer disruption depends on local nutrient deficits and financial capacity, whereas the impact of trade disruption depends on reserves and supplier diversity. Different shocks can interact: climatic yield losses may coincide with shipping problems or currency depreciation. This reinforces the need for indicators that register both exposure and coping capacity at national, provincial, household, and producer levels.

Discussion and Analysis

Why Global Shocks Do Not Justify An Absolute Autarky Doctrine

The evidence provides persuasive reasons to reduce avoidable strategic dependence but does not justify treating all imports as a threat. When domestic harvests are disrupted by drought, flood, or disease, diversified international suppliers may protect consumers and reduce domestic price surges. Conversely, during export bans or geopolitical conflict, public reserves and domestic productive capacity become more valuable. These observations point to an optimization problem across different risks rather than a binary choice between laissez-faire trade and complete self-sufficiency. Supply diversity, market flexibility, and transparent contingency arrangements are three parts of the same resilience strategy. An East Java rice-sector analysis further emphasizes the potential relevance of import-volume optimization and coordinated supply-chain communication to a context-sensitive resilience agenda.

Food sovereignty adds an essential political test to this optimization problem. It asks whether the policy mix increases the genuine capacity of Indonesian institutions, farmers, and communities to make informed choices. Under this definition, selective imports compatible with domestic farmer protection can support sovereignty if they prevent severe malnutrition or provide inputs unavailable locally. A formally self-sufficient regime can undermine sovereignty if it suppresses local rights, excludes producers from governance, or produces unaffordable retail prices. Neither trade openness nor domestic production is intrinsically equitable; institutions determine whose freedom and welfare are [52].

Evaluating the 2025–2026 Indonesian Policy Package

The current policy package can be interpreted as an attempt to reassert public coordinating capacity across production, storage, and village distribution. Presidential Instruction No. 2/2026 addresses agricultural self-sufficiency and interagency coordination, while Presidential Regulation No. 14/2026 focuses on infrastructure needed to protect and distribute harvests. The Red-and-White Village Cooperative program introduces a potentially far-reaching local institutional component. These interventions correspond to real vulnerabilities identified in the literature, but their contribution to food sovereignty depends on whether they improve local participation, minimize unintended costs, and generate publicly verifiable food security.

Cross-national research finds that national food-system transformation documents often have limited policy scope or ambition relative to the complexity of the stated goals. This creates a useful comparison for Indonesia: the breadth of program announcements must be matched by funded implementation mechanisms, explicit responsibilities, public reporting, and opportunities for policy revision. The evaluation criterion is thus not whether objectives are politically prominent, but whether they produce traceable improvements in diets, livelihoods, ecological conditions, and institutional agency [53].

A first implementation concern is alignment between agencies. Production campaigns, procurement prices, reserve releases, consumer assistance, and retail price controls can pull in different directions if they are managed independently. High procurement prices may encourage production but burden consumers or the public budget unless productivity and efficiency improve; low consumer prices may protect purchasing power while weakening investment incentives for producers. Governance should thus evaluate policy combinations rather than isolated announcements. Transparent cost accounting and differentiated support for net-food-buying rural households are particularly important when the same population can be both farmers and consumers [54].

A second concern is the implementation gap between village cooperative design and viable economic operation. The number of registered cooperatives or completed buildings is an input indicator, not an outcome. Cooperatives require adequate working capital, accountable management, access to reliable buyers and logistics, professional bookkeeping, member participation, and oversight against elite capture. They should complement—not automatically displace—existing farmers' groups, traders, and village enterprises where those actors provide useful services. The relevant empirical comparison is whether a cooperative raises net farmer receipts, lowers transaction costs, improves service quality,

or strengthens bargaining power relative to feasible alternatives.

A third concern relates to the spatial design of new agricultural development. Conversion of forests, peatlands, or customary areas should not be presumed justified because the final crop is designated strategic. Indonesia's land-use studies suggest that protecting productive rice land and raising yields may reduce pressure for risky expansion; research on indigenous ricescapes further highlights forms of knowledge and social capital that are excluded by purely area-based planning. Site selection should include independent environmental assessment, tenure verification, farmer consultation, infrastructure cost, and realistic productivity scenarios that can be audited over time[55-61].

A fourth concern is the gap between national stocks and actual nutrition. A larger rice reserve can be useful during emergencies but cannot alone guarantee dietary diversity, adequate protein, micronutrients, or culturally appropriate food. Food assistance should use observable household needs and be monitored for coverage, leakage, timeliness, nutritional adequacy, and local market impacts. Farm diversification research indicates that diverse production, market opportunities, and nonfarm income can jointly improve dietary outcomes, especially among smaller farms. This makes food sovereignty a food-system question rather than only a rice balance-sheet question.

A Conditional-Sovereignty Model

The proposed framework defines conditional sovereignty as the demonstrable ability of public institutions and food-system communities to preserve essential choices under diverse shocks. Four capabilities matter: productive competence, diversified connectivity, distributive inclusion, and democratic accountability. Productive competence includes land, water, technology, skills, and ecological integrity. Diversified connectivity encompasses imports, transportation, reserves, and alternative suppliers. Distributive inclusion concerns prices, nutrition, farmer income, and regional access. Democratic accountability includes rights, participation, evidence transparency, and credible evaluation. An intervention is sovereign-enhancing only if it improves one or more capabilities without imposing disproportionate harm on the others.

Figure 2 depicts conditional sovereignty as a portfolio of complementary capacities rather than a single import-substitution target. The figure intentionally identifies trade as both a potential source of vulnerability and a possible buffer, while the arrows represent conceptual dependencies rather than estimated causal magnitudes. Domestic production provides a foundation, but it does not immunize consumers from fertilizer crises or local climate events. The policy design task is to keep choices available across scenarios, including the option of reserve releases, regionally differentiated production, diversified procurement, targeted assistance, and responsible trade.

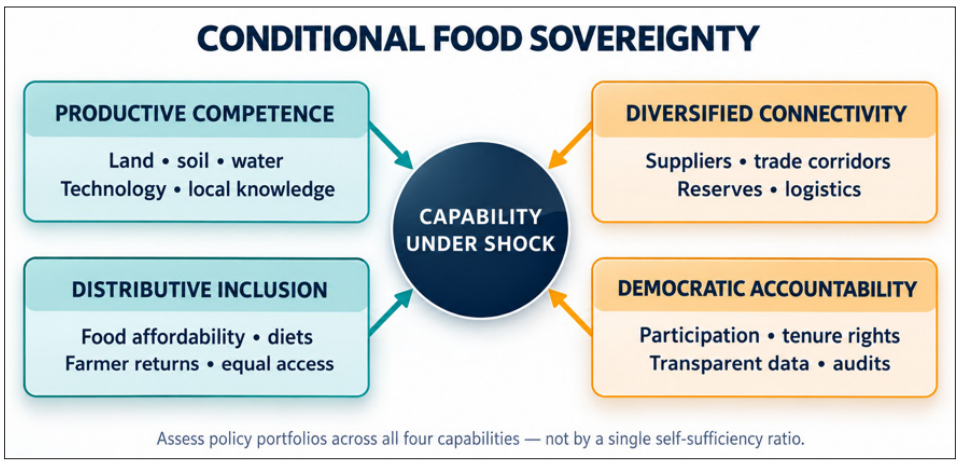


Figure 2: Four Mutually Reinforcing Capabilities of Conditional Food Sovereignty.
Source: Author's Conceptual Synthesis Of The Cited Literature.

The model also demands institutional realism. Investments that are technically promising can fail if monitoring data are unreliable, implementation rules are unclear, or administrative incentives reward activity rather than performance. A warehouse construction target, for example, is readily counted, but operational loss prevention is more difficult to measure. Likewise, a fertilizer allocation may be recorded as delivered even if it arrives after a critical application window. Conditional sovereignty therefore requires independent outcome measurement and corrective feedback rather than permanent commitment to whichever instrument currently carries the strongest political symbolism.

Policy Priorities: Sequencing and Feasible Trade-Offs

In the near term, Indonesia should prioritize accurate food balance information, dependable buffer stocks, targeted income support, and continuity of critical agricultural inputs. These measures can protect households and farmers while longer-term productivity programs mature. Authorities should test alternative supply corridors and trade arrangements before emergencies, establish transparent reserve triggers, and publish data on delivery speed and regional retail prices. Import decisions should use explicit risk and welfare criteria rather than binary symbolism. The literature emphasizes that when geopolitical shocks occur, delayed coordination and panic restrictions can amplify market stress.

In the medium term, productivity and land protection should take precedence over indiscriminate acreage expansion. Public breeding, extension, irrigation maintenance, soil testing, improved harvesting practices, warehouse maintenance, and competition-supporting infrastructure can raise effective output without proportionate growth in ecological pressure. Investment appraisal should compare the full social cost of new fields with that of preventing existing farmland conversion and reducing postharvest losses. Because local agroecological conditions differ, national targets should allow provincial adaptation and community participation. The key test is sustainably available and affordable food, not physical acreage .

Over the longer term, diversification of production and diets can reduce vulnerability to concentrated staples while improving nutrition and environmental outcomes. Smaller farms may benefit from crop diversification in combination with market participation and off-farm income, making a uniform monocrop strategy less attractive. Program design should support locally appropriate legumes, horticultural crops, aquatic foods, and other nutrient sources where feasible. This complements rather than negates rice security. Scenario research suggests that transforming diets and reducing waste requires careful political-economy management because changes in production patterns redistribute opportunities and costs.

Environmental consistency must become an operational criterion. Expanded cultivation that relies on degraded peatlands or creates new land conflicts may undermine the very capacity to feed future generations. Strong tenure protection, meaningful consultation, transparent permits, watershed analysis, and ecological thresholds should therefore be included in agricultural investment decisions. In fertilizer policy, more efficient and spatially targeted nutrient use can both lower external cost exposure and avoid pollution. This is not an argument for reducing inputs indiscriminately: the required balance differs across deficient and surplus areas.

A Multidimensional Monitoring Scorecard

A food-sovereignty scorecard should report separate indicators for system exposure, productive capacity, access, agency, and sustainability. Potential indicators include the concentration of suppliers for critical grains and inputs; stock adequacy and rotation losses; time from procurement to regional release; rice and non-rice productivity; share of protected productive farmland; household diet quality; the retail price burden of low-income households; smallholder net income; cooperative member participation; and independently verified environmental compliance. Reporting these as a dashboard preserves visibility of trade-offs that a single self-sufficiency ratio would hide.

A fuller monitoring architecture should also account for costs that are invisible in procurement prices and national crop balances. True-cost-accounting scholarship recommends treating environmental damage, health consequences, and social distribution as analytically distinct domains and being explicit about boundaries, valuation assumptions, and uncertainty. For Indonesia, a practical starting point is a nonmonetary companion dashboard tracking water stress, soil degradation, greenhouse gas emissions, nutrition, and livelihood outcomes before pursuing more demanding monetary valuation exercises.

Figure 3 organizes these indicators into an evaluation chain linking policy activities to delivered services, independently verified outcomes, and policy evaluation. Its principal implication is that public spending, planted hectares, and registered organizations should not be treated as final measures of success. More meaningful outcomes include lower risk-adjusted food insecurity, resilient farm income, functioning distribution across islands, legitimate community control, and limited ecological damage. Uncertainty should be reported explicitly, and results should be disaggregated by region, income group, gender, landholding status, and crop system where data permit.



Figure 3: A Policy-to-Outcomes Evaluation Chain For Indonesian Food-System Interventions.
Source: Author's Conceptual Synthesis Of The Cited Literature.

The monitoring system should include counterfactual thinking even when formal impact evaluations are not yet available. Were losses reduced because of new warehouses, improvements in transportation, more favorable weather, or changes in procurement timing? Did a higher farm-gate price reflect better bargaining power or a broad inflationary shock? Did cooperative members become better off relative to comparable nonmembers? Transparent answers require longitudinal administrative data, household surveys, spatial monitoring, qualitative fieldwork, and independent review. Observing an improved national stock level without tracing these pathways risks attributing success to the wrong intervention.

Rival Interpretations, Unresolved Evidence, and Future Research

One interpretation of recent disruptions is that countries should prioritize maximum domestic production. A rival interpretation is that reliable trade and international cooperation remain crucial because localized climate shocks and economies of scale make isolation costly. The evidence presented here supports neither extreme. Domestic capacity is strategically important for certain staples and inputs, yet excessive concentration within domestic production can itself create vulnerability. A resilient strategy is therefore a diversified portfolio shaped by risk, nutrition, ecological constraints, and the distribution of benefits.

Another disagreement concerns the role of the state relative to markets and community organizations. State procurement and intervention may correct missing infrastructure, price instability, and unequal bargaining power; however, centralized discretion can also create errors, opportunities for capture, and weak accountability. Markets can coordinate decentralized production and distribution effectively under competition, yet concentrated corporate structures may narrow the choices of weaker actors. Cooperative forms can broaden agency, but only when they are economically viable and internally democratic. The right balance is institution-specific and requires empirical evaluation rather than doctrinal certainty.

Future studies should test whether Indonesia's post-2025 programs improve risk-adjusted household food access and smallholder returns; whether village cooperatives reduce marketing margins after accounting for operating costs; whether postharvest infrastructure reduces measured physical losses; how policy-induced land changes affect ecosystem services; and whether diversified input procurement can protect yields during global fertilizer price shocks. Mixed qualitative and quantitative case studies across island regions would help identify contextual variation. The most important research principle is to distinguish program intentions from achieved outcomes and to include the perspectives of people whose land, livelihoods, and diets are affected.

Conclusion and Recommendations

Global food politics influences Indonesia through interconnected corporate, geopolitical, infrastructural, technological, regulatory, informational, and territorial relations. The literature shows that dependence becomes dangerous when supplier concentration, limited fiscal buffers, environmental exposure, and weak bargaining power reinforce one another. Yet international trade can also diversify food supplies and protect households from domestic production shocks. Food sovereignty should consequently be evaluated as effective and democratic policy capacity, not as an unqualified requirement to eliminate imports. Food security, self-sufficiency, and sovereignty overlap, but each captures a different dimension of national and household well-being.

Indonesia's recent emphasis on self-sufficiency, postharvest infrastructure, strategic reserves, and village cooperatives responds to identifiable vulnerabilities. These instruments have potential value but cannot be judged by legal enactment, announced budgets, planted hectares, or registered cooperatives alone. Their success depends on reliable governance, environmental suitability, equitable access, transparent monitoring, and participation by smallholders and consumers. Policy should protect productive farmland, improve yields and postharvest efficiency, strengthen genuinely accountable producer organizations, diversify critical input and trade relationships, and safeguard the affordability and nutritional quality of food for vulnerable households.

The integrated recommendation is a conditional-sovereignty strategy combining domestic productive capability, diversified external connectivity, distributive inclusion, and democratic accountability. Such a strategy resists both uncritical global-market dependence and rigid autarky. It treats food as a public concern requiring stewardship across economic, social, political, and ecological dimensions. Future assessment must move from narratives of national achievement toward independently measured outcomes, so that the protection of food systems becomes simultaneously a matter of national resilience, farmer rights, household nutrition, and intergenerational sustainability.

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