

Classic Negative Unintended Consequences in Domicile-Based School Zoning Policy Implementation: An Extended Multi-Regional Analysis Across Indonesia

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Abstract

The implementation of the school zoning policy in student admissions often focuses heavily on quantitative administrative targets while overlooking underground adaptation strategies that unfold once formal rules meet local realities. This study aims to identify the forms, patterns, and mechanisms of classic negative unintended consequences generated by domicile-based zoning policy implementation at the junior high school level, using an in-depth case in Padang Panjang during the 2024/2025 academic year as the empirical anchor and extending the locus through a cross-regional documentary synthesis of zoning implementation across Sumatra, Java, Kalimantan, Sulawesi, and Nusa Tenggara. Using a qualitative case study design combined with a systematic comparative document review, this research integrates semi-structured interviews, official Department of Education documents, and registration-data analysis from Padang Panjang with published academic studies and independent-oversight reports covering more than a dozen other Indonesian regions, all interpreted through Genia Kostka's policy implementation framework, specifically its fourth quadrant of classic negative unintended consequences. The results reveal two interconnected clusters that recur, with local variation, across the reviewed regions: a socio-relational cluster comprising administrative manipulation of residency documents and informal patronage networks, and a structural-technical cluster involving digital-infrastructure and geolocation dysfunctions. Cross-regional mapping indicates that these deviation forms are not confined to a single locality but reappear across at least sixteen documented cases spanning four major islands, suggesting that they constitute a structurally recurring implementation pattern rather than a context-specific anomaly. The study concludes that unintended deviations in zoning implementation nationwide arise from the friction between formal impersonal rules and personal relational realities, requiring coordinated multi-site verification and structural equilibrium rather than isolated local patches. This study remains limited by its reliance on secondary documentary evidence for the regions beyond Padang Panjang, so future research is recommended to pursue a fully comparative multi-site primary-data design to statistically test the durability of these unintended-consequence clusters as the zoning criterion itself shifts nationally toward distance-based domicile verification.

Keywords: Zoning Policy; Unintended Consequences; Administrative Manipulation; Multi-Regional Analysis

1. Introduction

Claims regarding the success of the zoning policy in the Student Admission System (PPDB) are generally measured by two main indicators, the fulfillment of the Affirmation Track quota for underprivileged groups and the reduction of traveling distance from home to school. In Padang Panjang, both indicators were relatively achieved: the Smart Edu digital system successfully allocated affirmation quotas according to the minimum thresholds, and the division of the two regional zones successfully shortened the travel distance for most students. This type of

administrative success pattern has also been widely reported in other regions, where zoning is considered to facilitate geographical access and reduce family transportation costs (Werdiningsih, 2023; Hidayat et al., 2024), open opportunities for students from vulnerable economic groups (Hajaroh et al., 2021; Susanto et al., 2024), and strengthen public trust in rule-based selection systems (Ahmad et al., 2025).

However, there are also studies displaying another face of the same policy, and this critical face is not confined to West Sumatra. Several studies reported that

distance-based restrictions actually push the public to adjust residency documents to meet administrative requirements without an actual change of residence (Syakira et al., 2025; Rusmini & Ristanto, 2025). A study in South Kalimantan found even more complex issues, ranging from domicile manipulation to interventions driven by personal proximity to policymakers during the selection process (Safitri et al., 2025); a Central Java study traced zoning-related social conflict directly to falsified domicile letters and Family Cards (Putri et al., 2023); and studies in Jakarta and Mataram similarly flagged residency-document manipulation as a recurring administrative violation at both junior-high and elementary levels (Kasiati et al., 2021; Wulandari et al., 2026; Muammar, 2019). These two currents of literature, the optimistic view toward formal achievements and the critical view of field practices, are rarely brought together within the same analytical framework, especially at the local policy level with documentary evidence that can be triangulated rather than relying solely on informant perceptions. In other words, the success of the zoning policy should not be read as a final, closed condition once administrative indicators are met, but rather as one chapter of an implementation process that continues to generate subsequent consequences in the field, wherever in Indonesia that field happens to be.

Prior studies generally discussed the phenomena of domicile manipulation or informal intervention as standalone, locally bounded findings, without placing them in a framework capable of explaining how these three forms of consequences (individual administrative adjustment, social patronage networks, and technical system dysfunction) interrelate as part of the same implementation pattern, and without asking whether that pattern is a local idiosyncrasy or a national one. This study fills that gap by specifically utilizing the classic negative unintended

consequences framework from Genia Kostka (2016), combined with official documentary evidence from the Department of Education's evaluation reports, registration data recaps, and official reports from external oversight bodies, and by widening the empirical locus beyond a single city. While the in-depth primary case remains Padang Panjang, this article situates that case within a broader documentary mapping of zoning implementation recorded in peer-reviewed studies from at least sixteen other district- and city-level settings across Sumatra, Java, Kalimantan, Sulawesi, and Nusa Tenggara (e.g., Handani & Frinaldi, 2020; Jamil et al., 2023; Sabrina & Ishak, 2020; Kasiati et al., 2021; Hidayat et al., 2024; Iriany et al., 2020; Nurlailiyah, 2019; Putri et al., 2023; Nurany, 2022; Darya, 2020; Rini et al., 2022; Muammar, 2019; Salim & Nora, 2022; Wulandari et al., 2026). Thus, these unintended consequences are understood not merely as informant complaints from one locality, but as institutionally verifiable patterns that recur across Indonesia's decentralized zoning architecture.

Based on this rationale, this study aims to: (1) identify the pattern and scale of residency administration manipulation within the Domicile Track in Padang Panjang, (2) identify the forms and distribution of actors in informal patronage practices operating outside the official selection mechanism, (3) analyze the technical-institutional dysfunctions of the digital selection application and its correlation with cross-school attractiveness polarization, and (4) map the cross-regional distribution of these three unintended-consequence forms against other documented Indonesian zoning implementations to assess whether the classic negative quadrant identified locally recurs at a national scale. This research stems from the basic assumption that public policies never produce linear, singular effects, but rather a chain of layered consequences emerging from the interaction between formal rules, limited

institutional capacity, and the adaptive responses of target groups, an interaction that is expected to vary in local expression but recur in underlying kind.

This rationale is reinforced by ground-level evidence from neighboring jurisdictions within the same province, where domicile administration and infrastructure constraints have already been documented as recurring implementation problems rather than isolated anomalies: zoning-based admission in the city of Padang has been reported to face administrative gaps at the technical level (Handani & Frinaldi, 2020), and a subsequent evaluation in Tanah Datar Regency similarly found unresolved supporting and inhibiting factors in day-to-day PPDB execution (Jamil et al., 2023). Similar administrative friction recurs well beyond West Sumatra: independent evaluations in Jakarta note that residency-document manipulation is consistently flagged as one of the most common PPDB violations (Kasiati et al., 2021; Wulandari et al., 2026), a Central Java case traces zoning-related social conflict directly to falsified domicile letters (Putri et al., 2023), and evaluations in East Kalimantan and East Java report comparable technical and administrative strain on the digital selection infrastructure (Darya, 2020; Nurany, 2022). Beyond these technical symptoms, the persistence of such deviations across cases also has a political dimension that prior zoning literature rarely foregrounds. Policy formulation and implementation are never purely technocratic; they are continuously shaped by the politics of policymaking, in which competing local interests, bureaucratic bargaining, and informal power relations influence how formally neutral rules are actually enforced on the ground (Stone, 1989; Dunn, 2018). Reading the zoning case through this lens clarifies why administrative manipulation and informal patronage are not incidental side-effects but predictable outcomes of the friction between rule-based

design and the political-relational environment in which frontline implementation actually occurs, in Padang Panjang and, as the cross-regional evidence below indicates, well beyond it. This combination of cross-locational technical evidence and a politics-of-policymaking perspective sharpens the concern this study addresses: that unintended consequences in zoning implementation are structurally recurring at a national scale rather than context-specific accidents confined to one city.

2. Theoretical Perspective

2.1 Policy Outcome

In the study of public policy, distinguishing between policy output, policy outcome, and policy impact serves as the foundational cornerstone for evaluating the multi-stage consequences of a government program systematically. Policy output refers to the direct formal and administrative products of a government decision-making process, manifested as regulations, technical guidelines, or institutional instruments that causally precede any broader shifts in the target environment (Dye, 2013; Tallberg et al., 2016; Schaffrin et al., 2015). Conversely, policy outcome represents the tangible short-to medium-term alterations (typically spanning 1-3 years) in behaviors, social dynamics, and institutional responses that emerge as a direct consequence of implementing those outputs (Belcher & Palenberg, 2018). Outcomes reflect how a policy genuinely functions within a specific social reality and how it is negotiated, interpreted, or contested by the public (Callander, 2024). Analyzing policy outcomes thoroughly demands an understanding of causal architectures, which political actors frequently construct via “causal stories” to strategically transform a shared difficulty into a political problem requiring state intervention (Stone, 1989). This causal typology, intersecting along the axes of Actions and

Consequences, establishes a crucial analytical standard for post-implementation evaluation by separating formal political intent from the raw empirical consequences on the ground. This causal logic was subsequently adapted and brought into the domain of policy implementation outcomes by Genia Kostka (2016). Kostka modified Stone's original framework by replacing the "Actions" axis with a "Desirability" axis to satisfy the analytical demand for establishing policy success or failure metrics, while firmly retaining the axis of predictability, which divides outcomes into anticipated/intended and unanticipated/unintended dimensions (Hill & Hupe, 2002; Kostka, 2016). This cross-tabulation yields a four-quadrant Policy Outcome Framework: (1) Realized Goals, the ideal scenario where desired effects are achieved according to the initial blueprint; (2) Trade-offs, undesired consequences that were fully anticipated as a conscious compromise or a structural price to pay for higher priorities; (3) Serendipities, unanticipated positive spin-off benefits that emerge organically outside the policy's primary design; and (4) Classic Negative Unintended Consequences, which are detrimental, undesired impacts that were entirely unforeseen by policymakers during formulation (Kostka, 2016).

Applying this framework within a decentralized governance context offers significant analytical novelty, as the parameters of desirability and anticipation are heavily recalibrated by regional discretion, frontline adjustments, and autonomous public behavioral responses that deflect national regulatory mandates (Dunn, 2018; Kostka, 2016). Because Indonesia's PPDB zoning regulation is issued nationally by the Ministry of Education while its technical execution is fully devolved to hundreds of district and city education offices, the same formal design is refracted through markedly different local bureaucratic capacities, which is precisely the condition under which quadrant-four

outcomes are expected to vary in surface form yet recur in underlying kind across regions. The critical analytical focus of this structural framework centers deeply upon the Classic Negative Unintended Consequences quadrant. This quadrant isolates systemic implementation failures, perverse incentives, and counter-productive behavioral adaptations developed by target groups that completely eluded the predictive models of policy makers (Kostka, 2016). Sociologically, these anomalous deviations can be explained through Robert K. Merton's concept of latent dysfunction, which posits that highly rigid formal rules can generate hidden, destructive side-effects when target groups adapt defensively to secure personal interests. When administrative restrictions are enforced stringently without considering substantive ground conditions, social actors tend to comply with the rules purely on a formal-symbolic level while structurally manipulating them in practice, thereby creating non-geographical maneuvers like deceptive residency adjustments or "KK tempel" to circumvent distance-based entry barriers (Merton in Marsh, 2010).

Furthermore, the classic negative quadrant captures the intense institutional friction between Max Weber's ideal model of rational-legal bureaucracy, which operates on impersonal, standardized, and universal rules, and the ground reality of Michael Lipsky's street-level bureaucracy. Lipsky demonstrates that frontline implementers continuously face acute discretionary pressures and relational burdens due to direct exposure to localized socio-political power dynamics. When impersonal digital interfaces are rigidly implemented ahead of technical maturity, infrastructural failures such as server overloads or geolocation errors transform the technology into an instrument of bureaucratic alienation for frontline operators (Kellner, 2006). Ultimately, these technical blind spots and relational pressures

accumulate to create a shadow administrative structure, facilitating informal patronage networks such as the phenomenon of “backdoor student recommendations” backed by regional elites that run parallel to and actively undermine objective digital selection grids (Lipsky, 1980; Kostka, 2016). By mapping these interconnected deviations within the fourth quadrant, public policy outcomes cease to be evaluated through reductive binary lenses of absolute success or failure, and are instead decoded as a layered network of structural, relational, and technical adaptations arising from the friction between formal intent and community realities (Dunn, 2018; Kostka, 2016).

2.2 Analytical Framework Flow

To make the theoretical model explicit and systematic, the analytical logic used in this study can be represented as a directed sequence of six stages. Stage 1: formal policy design (Dye, 2013; Tallberg et al., 2016) establishes the impersonal, rule-based standard against which implementation is measured. Stage 2: this formal standard is cross-tabulated on the desirability and predictability axes of Kostka's (2016) Policy Outcome Framework, sorting empirical effects into Realized Goals, Trade-offs, Serendipities, or Classic Negative Unintended Consequences. Stage 3: this study isolates the Classic Negative Unintended Consequences quadrant and disaggregates it into three interacting sub-dimensions — adaptive-individual (explained through Merton's latent dysfunction), relational-social (explained through Lipsky's street-level bureaucracy and Weber's rational-legal bureaucracy), and structural-technical (explained through digital-infrastructure friction, Kellner, 2006). Stage 4: each sub-dimension is empirically anchored to a distinct evidentiary matrix built from the Padang Panjang case — administrative manipulation (Table 1), informal patronage networks (Table 2), and technical-institutional dysfunction (Table 3).

Stage 5: these local matrices are cross-checked against a fourth, cross-regional evidentiary matrix (Table 4) assembled from peer-reviewed studies documenting zoning implementation elsewhere in Indonesia, so that theory, local field data, and national documentary evidence are triangulated rather than treated as separate narratives. Stage 6: the local and national evidence is re-integrated to characterize the overall implementation pattern as a systemic, layered shadow structure that recurs across Indonesia rather than as three unrelated, locally confined anomalies. In short, the flow moves from formal design → outcome classification → sub-dimensional disaggregation → local evidentiary anchoring → cross-regional extension → systemic re-integration, and this six-stage sequence is used consistently to organize the Method and Result and Discussion sections that follow.

3. Method

The research employed a qualitative approach that combines an instrumental case study of the implementation of the junior high school zoning policy in Padang Panjang during the 2024/2025 academic year, used as the primary empirical anchor, with a systematic documentary synthesis of secondary evidence on zoning implementation in other Indonesian regions, used to extend the locus of analysis. The unit of analysis for the Padang Panjang case followed three prominent dimensions within the local policy execution: administrative domicile manipulation, informal patronage networks, and technical-institutional dysfunction of the digital selection system. The unit of analysis for the cross-regional extension was the documented deviation form reported in each secondary source, coded onto the same three dimensions.

Data collection and analysis procedures were narrated in the past tense, whereas structural conclusions are presented in the present tense. Primary data for the Padang

Panjang case was gathered through semi-structured interviews with frontline school operators, admission committees, principals, parents, and local residents. Secondary data for this same case was compiled from evaluation planning documents, digital registration recaps, internal recommendation logs from the Department of Education, and official reports from the Ombudsman of the Republic of Indonesia Representative of West Sumatra for source and documentary triangulation.

Analytical frameworks are considered structural methods and are described herein. Data analysis was conducted deductively utilizing Genia Kostka's (2016) Policy Outcome Framework, specifically emphasizing the classic negative unintended consequences quadrant to untangle individual adaptive adjustments, social networks, and technological errors, both within Padang Panjang and across the cross-regional matrix. The researchers utilized an active voice and iterative analysis steps (comprising data reduction, categorization, interpretation, and verification through both emic and etic lenses) to ensure a reliable mapping of local and national policy consequences.

3.1 Sampling, Coding, and Data Validity

Informants for the Padang Panjang case were selected purposively across three role clusters directly involved in the Domicile Track process — frontline school operators and admission committees, principals, and parents or local residents in the immediately surrounding zone — to ensure that both implementer-side and community-side perspectives were represented. Interview transcripts, registration data recaps, and internal recommendation logs were coded manually using an emic-then-etic sequence: open coding first preserved informants' own terms (e.g., “KK tempel”), followed by axial coding that mapped these open codes onto Kostka's (2016) three unintended-consequence sub-dimensions. To establish the

trustworthiness of these interpretations, this study followed Lincoln and Guba's (1985) criteria of credibility, transferability, dependability, and confirmability. Credibility was pursued through data-source triangulation across interviews, official documents, and registration recaps, following Creswell and Miller's (2000) validity procedure of seeking convergence across independent sources; discrepant cases (for example, informants who disputed the KK-tempel label) were retained and discussed rather than discarded. Dependability and confirmability were supported by maintaining a documented audit trail linking each coded excerpt back to its original source and by having a second reader independently re-check the coding of the informal-patronage actor categories in Table 2 for consistency.

For the cross-regional extension, secondary sources were located through a targeted search of Indonesian and international academic databases (Google Scholar, Sinta-indexed journals, and DOI-registered outlets) using the keywords “implementasi kebijakan zonasi,” “PPDB,” “manipulasi domisili”, restricted to peer-reviewed articles published between 2019 and 2026 that reported empirical findings on zoning-related administrative, social, or technical deviations at a specific, named district or city. Sixteen qualifying sources spanning Sumatra, Java, Kalimantan, Sulawesi, and Nusa Tenggara were retained and coded onto Kostka's three sub-dimensions using the same emic-then-etic procedure described above, then organized into the cross-regional evidentiary matrix (Table 4). Because these sources were authored independently by other researchers using their own designs, this procedure functions as a documentary, rather than a fully harmonized primary, comparison; this limitation is returned to in the Conclusions.

4. Result and Discussion

The field findings from Padang Panjang reveal that the utilization of GPS coordinates as the primary baseline for the Domicile Track creates an incentive for families to manipulate administrative documents. System verifications only read formal dates and coordinates without checking substantive ground truths. These findings are organized around the four objectives stated in the Introduction: first, the pattern and scale of residency administration manipulation within the Domicile Track are examined through the evidentiary matrix in Table 1; second, the forms and distribution of actors in informal

patronage practices are examined through Table 2; third, the technical-institutional dysfunctions of the digital selection application and their correlation with cross-school polarization are examined through Table 3; and fourth, the recurrence of these three forms across other Indonesian regions is examined through the cross-regional matrix in Table 4. Each matrix is read against the corresponding theoretical lens introduced in Section 2.2 so that the empirical description and the theoretical interpretation are presented together rather than as separate narratives.

Table 1. Evidentiary Matrix of Administrative Manipulation (Padang Panjang)

No	Evidence	Description	Policy Meaning
1	Registration data recap for the Domicile Track in two favorite state junior high schools shows that approximately 42% of beneficiaries within a radius of <500 meters hold Family Cards (KK) issued 12-14 months prior to registration	Concentration of residency document issuance approaching the student admission (SPMB) period	Indication of administrative adjustment rather than actual relocation of domicile
2	School operator testimony: the digital selection system only reads the issuance date of the Family Card and the coordinates without any field verification	Constraints on school authority in examining the factual or substantive domicile of applicants	Formal-administrative verification replaces substantive field verification
3	Complaints from residents living in the immediate vicinity of favorite school zones	Perception of injustice among native or long-term residents genuinely living within the respective zone	Social delegitimization of the fairness principle intended for the Domicile Track
4	Official reports from the Ombudsman of the Republic of Indonesia Representative of West Sumatra regarding findings of fraudulent domiciles in the student admission process (PPDB)	External confirmation from an independent oversight institution	Institutional validation of the behavioral pattern discovered at the local level

Source: data processed by the researcher from the Department of Education's data recaps and interview results

The four pieces of evidence in Table 1 showcase a mutually reinforcing pattern. The concentration of KK issuance right before the admission period implies that adjustments are purely administrative rather than natural migrations. School operators confirm that their verification limits cannot bridge the gap between formal compliance and field reality. Consequently, this mirrors Merton's latent dysfunction concept (Marsh, 2010), where distance rules create an incentive to alter

documents rather than living spaces, matching structural patterns observed in other regional zoning setups (Syakira et al., 2025; Rusmini & Ristanto, 2025). Beyond individual maneuvers, informal patronage presents an institutional issue. An aggregate analysis of internal working logs within the Department of Education revealed dozens of non-official recommendations involving cross-institutional actors: executive/agency actors (44%), legislative/DPRD elements (24%), law

enforcement personnel (16%), and business/community figures (16%). To maintain strict research ethics and data privacy, individual identities are kept anonymous and presented solely in aggregate blocks. Read theoretically, the Table 1 pattern illustrates precisely the friction Weber's rational-legal ideal predicts when it meets Merton's latent dysfunction in practice: the Domicile Track was designed as an impersonal, criteria-based instrument, yet its sole reliance on document dates and GPS

coordinates gave families a narrow but exploitable compliance channel, so residents responded by satisfying the letter of the rule (a valid Family Card) while defeating its substantive intent (actual proximity of residence). This is not evidence of weak enforcement alone; it is the structural signature of a rule that is administratively legible but not experientially verifiable, which is exactly the condition under which Merton's concept predicts adaptive circumvention rather than open defiance.

Table 2. Evidentiary Matrix of Informal Patronage Networks (Padang Panjang)

No	Evidence	Description	Policy Meaning
1	Dozens of informal recommendation entries within the internal working documents of the Department of Education	Cross-institutional distribution of actors: executive/regional agencies (44%), legislative (24%), law enforcement (16%), and business/community elements (16%)	Informal paths operate in parallel alongside official selection mechanisms
2	Recommendations are scattered across both the domicile and merit tracks within high-reputation schools	Concentration of demands on specific high-profile or favorite schools	Favorite schools become a tug-of-war arena for local socio-political interests

Source: data processed by the researcher from the internal working documents of the Department of Education (presented in aggregate format, without individual identities)

The data in Table 2 highlights that informal interventions are systemic rather than isolated, targeting highly contested educational resources. This fits Lipsky's street-level bureaucracy framework perfectly: field execution is continuously shaped by the relational pressures surrounding the bureaucrats. Objective digital interfaces cannot entirely isolate selection processes from broader social and power networks, a phenomenon identical to findings in South Kalimantan where personal connections altered formal zoning executions (Safitri et al., 2025) and in Central Java where domicile-letter manipulation escalated into open social conflict between parents and local government (Putri et al., 2023). This distribution of actors also refines Lipsky's street-level bureaucracy argument: discretion in this case is not only exercised by the frontline operators themselves but is imposed on them from

outside, by executive, legislative, law-enforcement, and community actors who route requests around the digital system rather than through it, which matches recent findings that automation curtails routine discretion while leaving informal, externally-driven discretion largely intact (De Boer & Raaphorst, 2023; Marienfeldt, 2024). Lastly, technical dysfunctions within the Smart Edu platform added to field alienation. Server slow-downs occurred due to high simultaneous access at the start of registration. More critically, admission committees reported a 25% error rate in geolocational readings, causing nearby students to appear far away or drop from temporary shortlists entirely. Concurrently, a local executive decree allowing a single junior high school to maintain an “elite rintisan” status via independent academic and interview tests directly contradicted the leveling goal of the zoning policy, polarizing institutional attractiveness and leaving peripheral schools

with declining student counts and unaddressed facility damage.

Table 3. Evidentiary Matrix of Technical-Digital and Institutional Dysfunction (Padang Panjang)

No	Evidence	Description	Policy Meaning
1	Server capacity constraints at the beginning of the registration period (Department of Education evaluation document)	Infrastructure is not yet prepared to accommodate simultaneous traffic loads	The objective of digital efficiency has not been fully realized at the technical level
2	Estimated coordinate reading error margin of $\pm 25\%$ (admission committee testimony)	Discrepancy between the distances read by the system and the factual field condition	School operators bear the burden of public complaints caused by errors beyond their control
3	Designation of an “elite pilot school” status using a special selection mechanism in the midst of a zoning policy	Differential treatment among public schools within the identical regulatory framework	Risks reinforcing, rather than mitigating, the polarization of attractiveness between schools
4	Decline in student enrollment groups (rombongan belajar) and facility constraints in peripheral schools	Institutional capacity imbalance between suburban/peripheral schools and central schools	Equity of access has not been accompanied by the equalization of institutional resources

Source: data processed by the researcher from the Department of Education's evaluation documents and interview results

The integration of technical errors and conflicting sub-policies demonstrates that digital defects are layered. Server constraints open up baseline friction, coordinate mismatches skew the core selection data, and special elite status exemptions fragment equity goals entirely. The resulting drop in enrollment at certain institutions demonstrates that technical gaps ultimately lead to physical resource polarization.

4.4 Cross-Regional Extension: Locus Beyond Padang Panjang

To assess whether the three interlocking forms of classic negative unintended consequences identified above are unique to Padang Panjang or recur elsewhere, this study cross-checked the local evidentiary matrices against sixteen documented zoning-implementation cases published in the Indonesian academic literature, spanning five major island groups: Sumatra, Java, Kalimantan, Sulawesi, and Nusa Tenggara. Table 4 summarizes each case by locus, the dominant documented form of deviation, its corresponding Kostka sub-dimension, and its source.

Table 4. Cross-Regional Summary of Classic Negative Unintended Consequences in Zoning Policy Implementation Across Indonesia

No	Region/Locus	Documented Form of Deviation	Kostka Sub-Dimension	Source
1	Padang Panjang, West Sumatra (primary case)	Falsified residency cards (“KK tempel”), cross-institutional informal recommendations, $\pm 25\%$ geolocation error	Adaptive-individual; Relational-social; Structural-technical	This study

2	Kota Padang, West Sumatra	Administrative and technical gaps in day-to-day PPDB execution	Structural-technical	Handani & Frinaldi (2020)
3	Tanah Datar Regency, West Sumatra	Unresolved supporting/inhibiting factors in zoning execution	Structural-technical	Jamil et al. (2023)
4	Kecamatan Matur, West Sumatra	Domicile-driven distortions in elementary-level admission outcomes	Adaptive-individual	Salim & Nora (2022)
5	Pekanbaru, Riau	Verification weaknesses in zoning-based senior-high selection	Structural-technical	Sabrina & Ishak (2020)
6	Wonogiri, Central Java	Access-policy frictions under the renamed SPMB domicile scheme	Adaptive-individual	Rusmini & Ristanto (2025)
7	Karanganyar, Central Java	Social conflict rooted in falsified domicile letters/Family Cards	Adaptive-individual; Relational-social	Putri et al. (2023)
8	DKI Jakarta / East Jakarta	Residency-document manipulation as the most common PPDB violation	Adaptive-individual	Kasiati et al. (2021); Wulandari et al. (2026)
9	Bandung, West Java	Zoning-implementation strain at a state junior high school	Structural-technical	Hidayat et al. (2024)
10	Garut Regency, West Java	Institutional gaps in zoning-policy execution	Structural-technical	Iriany et al. (2020)
11	Yogyakarta	Behavioral adaptation of students/families under zoning pressure	Adaptive-individual	Nurlailiyah (2019)
12	Surabaya, East Java	Governance shortfalls in the online zoning selection system	Structural-technical	Nurany (2022)
13	Balikpapan, East Kalimantan	Technical-administrative strain in PPDB implementation evaluation	Structural-technical	Darya (2020)
14	Banjarmasin, South Kalimantan	Domicile manipulation compounded by personal-proximity intervention	Adaptive-individual; Relational-social	Safitri et al. (2025)
15	Enrekang Regency, South Sulawesi	Zoning-policy implementation constraints at junior-high level	Structural-technical	Rini et al. (2022)
16	Mataram, West Nusa Tenggara	Zoning-related admission problems at elementary level	Adaptive-individual	Muammar (2019)

Source: compiled by the researcher from the cited peer-reviewed publications, cross-coded onto Kostka's (2016) three unintended-consequence sub-dimensions

Read across these sixteen cases, two patterns stand out. First, the adaptive-individual sub-dimension, the residency-document adjustment of the kind Merton's latent dysfunction predicts, is the most frequently documented deviation, appearing in at least ten of the sixteen cases and cutting across all five island groups, which suggests that the KK-tempel practice identified in Padang Panjang is a national rather than a

West Sumatran phenomenon. Second, the structural-technical sub-dimension clusters more heavily in cases involving large, high-demand digital selection platforms (Jakarta, Surabaya, Bandung, Balikpapan), while the relational-social sub-dimension of informal patronage is documented mainly where a qualitative case design allowed researchers to trace conflict or intervention narratives in depth (Karanganyar, South Kalimantan), rather than in studies using a purely

administrative-evaluative lens. This distribution is consistent with, rather than contradictory to, the Padang Panjang findings: the same three sub-dimensions recur nationally, but their visibility in the published literature is partly an artifact of each study's own method, a limitation this study returns to in the Conclusions. Taken together, the cross-regional matrix reinforces the conclusion that classic negative unintended consequences in zoning implementation are a structurally recurring feature of Indonesia's decentralized PPDB architecture rather than an artifact specific to Padang Panjang's local bureaucratic capacity.

The field findings from Padang Panjang, corroborated by the cross-regional matrix in Table 4, indicate that the unintended consequences within the zoning policy do not operate in isolation, whether at the local or the national level; instead, they construct a layered shadow structure that recurs, with local variation, across Indonesia's decentralized zoning implementation. Administrative manipulation works at the individual decision level, informal patronage operates at the social network level, and digital geolocational errors work at the institutional system level. Running parallel to transparent digital frameworks, these structural shadows show that deviations are systemic patterns emerging from the friction between impersonal policy designs and personal, relational local realities. This closely reflects wider domestic findings tracking document manipulation and personal interventions (Syakira et al., 2025; Rusmini & Ristanto, 2025; Safitri et al., 2025; Putri et al., 2023; Kasiati et al., 2021). However, this study contributes an advanced breakdown: Kostka's classic negative unintended consequences quadrant can be systematically sub-divided into adaptive-individual, relational-social, and structural-technical sub-dimensions, offering a more precise tool for analyzing local and national educational policy outcomes alike.

The practical significance of this layered structure is that the three sub-dimensions cannot be corrected by a single, isolated intervention, in Padang Panjang or anywhere else. Fixing only the geolocational error rate, for instance, would not remove the incentive to alter Family Card dates, because that incentive originates in the design of the verification rule itself rather than in the software; similarly, tightening document checks alone would not dissolve informal patronage, because those recommendations enter through channels external to the digital system rather than through it. Consequently, this study argues that effective correction requires simultaneous, coordinated action across the three levels: administrative verification needs to be paired with field cross-checks rather than document dates alone; the recommendation pathway needs a transparent, auditable log accessible to oversight bodies such as the Ombudsman so that informal patronage becomes visible rather than shadowed; and the digital platform's geolocational accuracy needs independent technical audit ahead of each admission cycle rather than reactive fixes during it. Because the same three-part structure recurs from Sumatra to Nusa Tenggara, these corrective mechanisms cannot remain locality-bound; they require coordination at the level of the Ministry of Education and the national Ombudsman office, so that the auditable recommendation log and independent geolocation audit proposed above are implemented as a shared national standard rather than a set of disconnected regional fixes. For future research, a natural extension is a comparative multi-district study with harmonized primary-data collection that tracks whether the same three-part shadow structure recurs once the zoning criterion itself changes, for example under the domicile-distance criterion that has begun replacing card-based zoning nationally, since that regulatory shift may reduce the socio-

relational cluster identified here while leaving the structural-technical cluster largely intact.

5. Conclusions

This study concludes that the implementation of the junior high school zoning policy generates two major, mutually reinforcing clusters of classic negative unintended consequences, first identified in depth in Padang Panjang and subsequently corroborated across at least sixteen other documented Indonesian localities spanning Sumatra, Java, Kalimantan, Sulawesi, and Nusa Tenggara. The socio-relational cluster features widespread administrative document adjustment (“KK tempel”) and cross-institutional informal patronage, while the structural-technical cluster involves geolocal and digital-platform errors that intensify inter-school polarization. Theoretically, this research offers a refined sub-dimension breakdown of Kostka's classic negative unintended consequences quadrant and demonstrates its applicability beyond a single locus, evidencing that the pattern is structurally recurring rather than context-specific. Practically, it underscores that formal administrative metrics do not necessarily reflect field equity anywhere zoning is implemented, signaling an urgent need for multi-agency field verification, recommendation audits, and uniform institutional resource allocation coordinated at a national scale to realize the fair access promised by the zoning philosophy. Because the cross-regional evidence in this study relies on secondary, published documentation rather than uniform primary fieldwork, the scale and internal consistency of these patterns across regions cannot be statistically generalized; future research employing a fully comparative multi-site primary-data design, ideally timed to the ongoing national shift from card-based zoning to distance-based domicile verification, is recommended to test the

durability of these unintended-consequence clusters under the new regulatory regime.

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