



Conditional social acceptance of peri-urban housing development: Socioeconomic benefits, flood risk, and environmental governance

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ABSTRACT

Background: Peri-urban housing expansion can create employment, service demand, and neighborhood development opportunities, but it can also intensify runoff, traffic congestion, waste generation, and conflict over environmental quality. This study examined how socioeconomic conditions, Bugis-Makassar cultural cohesion, and environmental risk perception shaped community acceptance around the proposed Sunville Residence development in Paccinongang, Gowa Regency, Indonesia. **Methods:** A cross-sectional descriptive case study combined 2024 official statistics, field observation, and a 2025 structured survey of 55 nearby residents. The analysis used frequencies, percentages, cross-checking of aggregated tables, and interpretive triangulation because the source report did not provide a probability sampling frame or individual-level dataset. **Findings:** Support for the project reached 96.36%, mainly because respondents expected local employment (56.36%) and contribution to area development (34.54%). Support coexisted with high concern about traffic congestion (85.45%) and flooding (70.91%). Respondents prioritized drainage and flood management (40.00%), construction and operational waste management (27.27%), and local labor recruitment (16.36%). Social cohesion was strong: all respondents reported continuing mutual cooperation and community meetings, while 96.36% reported that traditional practices remained active. **Conclusion:** Acceptance was therefore high but conditional. Environmental legitimacy requires demonstrable drainage capacity, waste and traffic controls, local benefit sharing, accessible grievance handling, and participatory monitoring. **Novelty/Originality of this article:** The article integrates social acceptance, environmental risk perception, and Bugis-Makassar social capital to explain why strong support for peri-urban housing can coexist with substantial environmental concern.

KEYWORDS: community participation; environmental risk perception; flood governance; peri-urban housing; social acceptance.

1. Introduction

Urbanization increasingly unfolds beyond the administrative core of cities. Housing estates, commercial facilities, road corridors, and service infrastructure often expand into peri-urban areas where rural land, urban land markets, and fragmented governance systems overlap (Surya et al., 2021). This transformation may generate better access to housing and new employment opportunities, yet it also changes surface permeability, increases mobility demand, expands household waste loads, and raises conflicts over the

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distribution of environmental costs (Husin et al., 2025; Smith et al., 2022). These issues are particularly important in rapidly transforming urban regions because land-use change and settlement densification can intensify pressure on infrastructure and environmental quality (Surya et al., 2020, 2021).

The Indonesian urban transition shows these tensions clearly. National and metropolitan growth has shifted development pressure toward suburban and peri-urban districts, including the Makassar-Gowa urban interface in South Sulawesi. In this type of corridor, housing development is not merely a physical land-use change (Amri et al., 2023a). It reworks settlement density, property relations, commuting patterns, community expectations, and exposure to hazards (Arifin et al., 2021; Arifin et al., 2023). Studies in the Makassar region have shown that new settlement growth and urban agglomeration are associated with spatial densification, transport pressure, environmental quality degradation, and uneven socioeconomic effects on local communities (Amri, 2013; Kumar et al., 2022).

Peri-urban housing must therefore be assessed as a socio-environmental process (Esteves et al., 2012). A project may be welcomed because it promises jobs, land value appreciation, neighborhood services, and local revenue, while at the same time being criticized because it may increase runoff, block drainage, concentrate traffic, or transfer maintenance costs to existing residents. A narrow approval-versus-rejection view cannot capture this mixed evaluation (Jijelava & Vanclay, 2017). The more useful analytical question is not simply whether residents support a project, but what conditions must be fulfilled for that support to remain legitimate, stable, and accountable over time (Moffat & Zhang, 2014).

Environmental governance is also a social process because residents interpret risks through lived experience, local knowledge, and perceptions of fairness (Winter & Karvonen, 2022; Santoro et al., 2023). Flood risk perception is a strong example. Residents often remember repeated ponding, blocked drainage, road overflow, sediment accumulation, and construction-related disruption in ways that may not appear in a rapid technical survey (Rentschler et al., 2022). Community perception does not replace hydrological modelling, drainage design, or traffic engineering, but it identifies the sites, seasons, and distributional concerns that technical analysis must examine. Recent flood risk and peri-urban climate governance studies emphasize that infrastructure planning is stronger when local knowledge is combined with formal assessment and transparent accountability (Winter & Karvonen, 2022).

Public participation is central to this governance challenge. Participation can improve environmental decisions when it provides information, allows affected groups to influence alternatives, and creates mechanisms to monitor promises (Glucker et al., 2013). In contrast, consultation that only communicates a decision already made is unlikely to build durable trust. Social impact assessment and stakeholder engagement literature show that legitimacy depends on procedural fairness, credible communication, benefit distribution, and the capacity of affected communities to raise grievances without being marginalized (Reed et al., 2018).

Social capital adds another layer to this problem. Communities with strong mutual cooperation, routine meetings, customary values, and trusted local organizations can disseminate information, maintain common facilities, and respond quickly to environmental disturbance (Aldrich & Meyer, 2015). However, social cohesion should not be romanticized. It can support monitoring and collective action, but it cannot substitute for accountable engineering design, developer responsibility, or government enforcement (Bodin, 2017). Collaborative environmental governance works when community networks connect to formal rules, transparent indicators, and meaningful decision-making authority (Bodin, 2017; Reed et al., 2018).

The proposed Sunville Residence development on Tun Abdul Razak (TAR) Road in Paccinongang Urban Village, Somba Opu District, Gowa Regency, offers an appropriate case for examining these issues. The area is part of the expanding Makassar-Gowa corridor and is situated near existing residential activity, transportation movement, and local drainage concerns. Official statistics indicate that Gowa Regency had 799,999 residents in 2023,

Somba Opu District had 156,098 residents, and Paccinongang Urban Village accounted for 24,722 residents. The district population was dominated by working-age residents, suggesting both labor availability and increasing demand for housing and infrastructure (Statistics Indonesia, 2019a).

The source environmental study also describes a socially heterogeneous community shaped by Bugis-Makassar cultural values and migrant networks. The source study identifies *siri' na pacce*, *lempu*, *getteng*, respect, dignity, and mutual assistance as values that remain relevant in neighborhood relations. These cultural resources may strengthen cooperation and dialogue, but they also raise the normative expectation that development should be respectful, reciprocal, and beneficial to the surrounding community. Cultural ecosystem and social impact research shows that development can generate conflict when cultural meanings and locally valued practices are treated as secondary to economic objectives (Hanaček & Rodríguez-Labajos, 2018).

Existing studies on Makassar and surrounding districts have examined land transformation, settlement densification, urban sprawl, transport pressure, and socioeconomic change. Less attention has been given to micro-level evidence on how residents around a specific planned housing site simultaneously express support for development, concern about environmental risk, and reliance on cultural-social cohesion. This article addresses that gap by asking three questions. What socioeconomic and cultural conditions characterize the affected community? What benefits and environmental risks shape community attitudes toward the proposed housing project? What governance measures are required to convert stated support into durable and accountable acceptance? The study argues that the case is best understood through the concept of conditional social acceptance: high support that depends on credible safeguards, locally visible benefits, and procedural fairness.

2. Methods

2.1 Study area and research design

The study used a cross-sectional descriptive case design focused on residents living near the proposed Sunville Residence site in Paccinongang Urban Village, Somba Opu District, Gowa Regency, South Sulawesi, Indonesia. A case design was appropriate because the objective was not to estimate regional opinion with statistical generalization, but to understand how social acceptance, socioeconomic expectations, cultural cohesion, and environmental risk perception interacted around a specific proposed housing development. The location was selected because it lies within a rapidly developing peri-urban corridor and because local concerns about flooding and traffic were recorded in the source environmental report.

The design integrated three domains that are often separated in project appraisal: socioeconomic condition, sociocultural continuity, and perceived environmental impact. This integration is important because residents do not evaluate housing projects only through income or employment benefits. They also consider whether the project will disturb mobility, drainage, waste management, cultural practices, neighborhood meetings, and the fairness of communication. The study therefore treats community acceptance as a relational and conditional outcome rather than a fixed attitude (Esteves et al., 2012; Moffat & Zhang, 2014).

2.2 Data sources and participants

Secondary demographic data were obtained from the official 2024 publications issued by BPS-Statistics of Gowa Regency (Statistics Indonesia, 2019b, 2025; Sanusi & Abdy, 2021). These sources provided population size, sex composition, age structure, labor context, and broader regional indicators needed to situate the local survey within the demographic and economic setting of Gowa Regency. The statistical data were used descriptively and were

not treated as a substitute for neighborhood-level infrastructure measurement (Boguniewicz-Zabłocka & Łukasiewicz, 2025; Chen et al., 2023).

Primary data came from a 2025 structured survey of 55 residents living around the proposed development site and from field observation documented in the source environmental study. The survey recorded age, education, occupation, income, continuity of customary practices, mutual cooperation, community meetings, project support, reasons for support, perceived traffic impact, perceived flood impact, and preferred mitigation measures. Field observations covered social interaction, community institutions, and the presence or absence of visible cultural or archaeological sites at the planned location.

2.3 Variables, measurement, and data collection procedures

The socioeconomic variables were age group, educational attainment, occupation, and monthly income (Krausmann et al., 2018; Nyakuwanika & Panicker, 2025). These indicators were selected because they help explain how residents may interpret the economic opportunities and costs of housing development. For example, economically active residents may be more attentive to employment opportunities, procurement opportunities, and commuting changes, while residents with different income levels may experience environmental disruption in different ways. The indicators were summarized using categorical response options in the source document.

The sociocultural variables were the continuity of traditional customs, mutual cooperation, and community meetings. These indicators were used as practical markers of social cohesion and collective capacity because social capital research treats networks, norms, and regularized cooperation as resources for collective action and resilience (Aldrich & Meyer, 2015; Bodin, 2017). They do not measure all dimensions of Bugis-Makassar culture, but they provide observable evidence of whether neighborhood interaction, customary practice, and collective deliberation remain active.

The acceptance and environmental perception variables included support for the proposed development, reasons for support, concern about traffic congestion, concern about flooding, and preferred mitigation measures. These variables were analyzed as stated perceptions rather than technical proof of impact. The survey captured what residents expected or feared based on their local experience. Technical confirmation of drainage capacity, traffic volume, runoff, and waste generation would require hydrological, transport, and engineering studies beyond the available dataset.

2.4 Data analysis and quality control

The analysis used frequencies and percentages because the source data were aggregated. Selected indicators were cross-checked against the respondent totals reported in the tables. Where the narrative text and table values could have produced different interpretations, the table values were retained because they contained explicit counts. No inferential statistics were applied because the source report did not provide an individual-level dataset, a probability sampling frame, questionnaire validation results, or response-rate documentation.

Triangulation was used to strengthen interpretation within the limits of the data. Official statistics described the wider demographic and economic context. The resident survey captured local socioeconomic characteristics, cultural continuity, support, and perceived environmental risks. Field observation supplied contextual information on social practices and visible site conditions. This combination allowed the study to connect household-level perceptions to the broader peri-urban transformation literature while avoiding unsupported causal claims.

2.5 Methodological boundaries

The findings should be interpreted as site-specific descriptive evidence. The 55 respondents cannot be assumed to represent all residents of Paccinongang Urban Village,

Somba Opu District, or Gowa Regency. The results are also limited because perceptions of flooding, traffic, and waste do not quantify flood depth, flood frequency, road capacity, travel delay, sediment load, or projected household waste volume. Nevertheless, perception data are valuable because they identify the conditions residents consider necessary for acceptance and the issues that formal technical studies should test before construction proceeds.

The article also avoids treating cultural cohesion as an automatic solution (Aldrich & Meyer, 2015; Bodin, 2017). Strong mutual cooperation and customary practice can support communication and participatory monitoring, but project accountability remains the responsibility of the developer and public authorities (Glucker et al., 2013). This distinction is important because community resilience literature emphasizes local capacity, while environmental governance literature emphasizes institutional responsibility and enforceable rules (Reed et al., 2018).

3. Results and Discussion

3.1 Demographic and socioeconomic capacity

Gowa Regency and Somba Opu District provide the demographic background for understanding the proposed development. Gowa Regency had 799,999 residents in 2023 (Statistics Indonesia, 2025), while Somba Opu District had 156,098 residents and Paccinongang Urban Village had 24,722 residents, consisting of 12,244 males and 12,478 females (Statistics Indonesia, 2019b). In Somba Opu, 65.03% of the population was aged 15-59 years. This working-age structure suggests a local labor base that could benefit from construction and operational employment, but it also indicates continuing pressure on housing supply, road use, drainage networks, waste services, and public facilities (Statistics Indonesia, 2025).

Table 1. Socioeconomic profile of respondents around the proposed housing site

Dimension	Category	n	%
Age	15-25 years	5	9.09
	26-45 years	37	67.28
	46-65 years	10	18.18
	> 66 years	3	5.45
Education	Elementary school	1	1.81
	Junior high school	1	1.81
	Senior high/vocational school	23	41.83
	Academy/university	30	54.55
Occupation	Private employee	17	30.91
	Entrepreneur	15	27.27
	Casual worker	7	12.73
	Civil service/military/police	6	10.91
	Trader/kiosk operator	5	9.09
	Other occupations	5	9.09
Monthly income	< IDR 1,000,000	4	7.27
	IDR 1,100,000-1,999,999	5	9.09
	IDR 2,000,000-2,999,999	17	30.91
	IDR 3,000,000-3,999,999	15	27.27
	IDR 4,000,000-4,999,999	9	16.36
	> IDR 5,000,000	5	9.09

The respondent profile was dominated by adults aged 26-45 years (67.28%). This age group is likely to be economically active, mobile, and directly exposed to construction and operational changes. It may also be attentive to opportunities for wage labor, small business, commuting efficiency, and household security. The sample therefore reflects a community segment that can evaluate development through both livelihood and environmental lenses.

Educational attainment was relatively high. Respondents with academy or university education represented 54.55% of the sample, while senior high or vocational graduates represented 41.83%. This composition implies that many respondents had the capacity to interpret project information, compare expected benefits and risks, and articulate mitigation priorities. In a public participation process, such educational capacity should be treated as an asset. It can support more informed consultation, but only if technical information is presented transparently and in language accessible to all affected residents.

Employment was diverse, particularly private employment (30.91%) and entrepreneurship (27.27%). This pattern is consistent with peri-urban transformation in which households combine wage work, small trade, service activities, and informal or casual labor. Monthly income was concentrated between IDR 2 million and IDR 3.999 million (58.18%). These economic conditions help explain why employment and local development were major reasons for project support (Amri, 2013; Amri et al., 2023b). They also indicate that environmental disruption could impose meaningful costs on residents if flooding, congestion, or waste problems reduce access, damage property, or increase household expenditure (Pratomo et al., 2020, 2022).

The socioeconomic profile supports a balanced interpretation. The community did not appear simply vulnerable or simply advantaged. Rather, it combined labor availability, educational capacity, entrepreneurial activity, and moderate income concentration. This profile can generate high interest in development benefits while also producing critical awareness of environmental risks. For this reason, policy response should not assume that community support eliminates the need for safeguards. Support may instead reflect a negotiated expectation that development will deliver benefits without worsening everyday environmental conditions.

3.2 Cultural continuity and collective capacity

The source environmental study described the community as culturally heterogeneous, including Bugis-Makassar residents and migrants from other areas of South Sulawesi and beyond. Indonesian and Bugis-Makassar languages were used in everyday interaction. Local values such as *siri' na pacce*, *lempu*, *getteng*, respect, dignity, mutual assistance, and customary conduct were expressed through religious activities, ceremonies, neighborhood meetings, security activities, collective maintenance of roads and drainage channels, and support for places of worship.

Table 2. Indicators of cultural continuity and social cohesion

Indicator	n	%
Mutual cooperation or gotong royong remains practiced	55	100.00
Community meetings remain practiced	55	100.00
Traditional customs remain practiced	53	96.36
Traditional customs are no longer practiced	2	3.64

All respondents reported that mutual cooperation and community meetings remained active, and 96.36% reported that traditional customs continued to be practiced. These indicators reveal strong bonding social capital within the neighborhood. They also suggest the presence of bridging capacity because the area includes both local cultural groups and migrants. In practical terms, these networks can help distribute information, convene meetings, coordinate environmental maintenance, and support rapid collective response when drainage, waste, or access problems occur (Aldrich & Meyer, 2015; Bodin, 2017).

The result is important because environmental governance is not only a matter of technical design. Drainage channels must be maintained, waste disposal rules must be observed, and grievances must be communicated before they become conflict. A community with active meetings and mutual cooperation has a stronger platform for these tasks. However, the existence of community capacity should not allow the developer or government to shift responsibility downward. Social capital works best when connected to

formal commitments, budgets, maintenance schedules, and public reporting (Bodin, 2017; Reed et al., 2018).

The cultural dimension also shapes the meaning of fairness. In a community where dignity, reciprocity, and mutual support remain normatively important, acceptance is unlikely to depend on economic benefits alone (Esteves et al., 2012). Residents may expect respectful communication, transparent recruitment, responsiveness to complaints, and recognition of local priorities. If these expectations are ignored, even a project with high initial support may experience declining trust (Hanaček & Rodríguez-Labajos, 2018). This interpretation aligns with social impact assessment and cultural ecosystem research, which shows that development conflict often emerges when community values are treated as intangible and secondary, rather than as part of the project's social environment (Hanaček & Rodríguez-Labajos, 2018).

Field observation did not identify visible cultural or archaeological sites within the planned location. This finding reduces one category of anticipated direct impact, but it does not remove the need for caution during earthworks. A chance-find procedure should be included in construction management. If objects, structures, graves, or other potential heritage materials are discovered, construction should stop in the relevant area, and the competent authority should be notified. This procedure would be consistent with the broader principle that project planning should respect both visible and latent cultural resources.

3.3 High support with explicit benefit expectations

Community support for the proposed housing development reached 96.36%, and no respondent selected outright opposition. The dominant reason was expected local employment, reported by 56.36% of respondents, followed by expected contribution to local development at 34.54%. A smaller share connected support to the reduction of unemployment. These findings show that the project possessed strong economic legitimacy among respondents at the time of the survey.

Table 3. Community attitude and stated reasons for supporting the proposed development

Response	n	%
Support the proposed development	53	96.36
Do not support	0	0.00
Leave the decision to the government	2	3.64
Reason: expected local employment	31	56.36
Reason: contribution to local development	19	34.54
Reason: reduction of unemployment	3	5.45
No stated reason	2	3.64

This result should not be read as unconditional approval. The reasons for support were tied to specific benefits, especially employment and local development (Jijelava & Vanclay, 2017). If these benefits are not realized, or if they are distributed in a manner perceived as unfair, acceptance may weaken. Social licence literature emphasizes that legitimacy, credibility, and trust depend on the relationship between promises and actual performance. A project can lose support when expected benefits remain vague or when residents feel that they bear the environmental costs while outsiders capture the gains (Moffat & Zhang, 2014).

The data therefore support the concept of conditional social acceptance. Respondents did not simply approve development in the abstract. They supported a project that they expected to improve employment and area development, while also expressing concerns about flooding, congestion, and waste. Conditional acceptance is analytically useful because it recognizes that support and concern can coexist. It avoids the weak interpretation that high support means there is no environmental problem, and it avoids the opposite weak interpretation that environmental concern means the project is socially rejected.

The Indonesian peri-urban literature reinforces this interpretation. New town and settlement development can transform property rights, livelihood strategies, perceived quality of life, and local opportunities (Pratomo et al., 2020, 2022). These changes may be

positive for some groups and burdensome for others. Community support becomes more durable when benefit-sharing mechanisms are explicit and when local people can participate in implementation oversight (Husamah et al., 2025; Permana & Winarso, 2025). In the Sunville Residence case, this means that local labor recruitment should not be presented as a general promise only. It should be translated into transparent recruitment criteria, reporting of local labor share, and grievance procedures for perceived exclusion.

The two respondents who left the decision to government are also analytically important. Their response suggests that some residents may defer to formal authority rather than express direct opposition or support. In a project context, deference should not be confused with informed consent (Glucker et al., 2013). Environmental governance requires that affected residents receive adequate information, have opportunities to question assumptions, and can monitor commitments after approval. Participation is meaningful when it influences decisions and implementation, not when it functions only as documentation of social acceptance (Aldrich & Meyer, 2015; Bodin, 2017).

3.4 Environmental risk perception and mitigation priorities

Traffic congestion was the most widely reported environmental concern. It was identified by 85.45% of respondents, while 14.54% were uncertain and no respondent stated that traffic was not a concern. This pattern is consistent with peri-urban development dynamics in which additional households, construction vehicles, access points, and service trips increase pressure on roads that may already carry commuter and local traffic. In Makassar, previous research has linked suburban development and urban agglomeration to changing mobility patterns and infrastructure pressure, making traffic management a central requirement rather than a secondary issue (Amri, 2013; Prashanti et al., 2024).

Table 4. Perceived environmental risks and preferred mitigation measures

Type	Response	n	%
Perceived risk	Traffic congestion at certain times	47	85.45
	No traffic concern	0	0.00
	Uncertain about traffic impact	8	14.54
Perceived risk	Flooding around the site and nearby housing	39	70.91
	No flooding concern	7	12.73
	Uncertain about flooding impact	9	16.36
Priority measure	Adequate drainage and flood management	22	40.00
	Construction and operational waste management	15	27.27
	Prioritize local labor recruitment	9	16.36
	Annual community social responsibility program	5	9.09
	Pre-construction community consultation	2	3.64
	No recommendation	2	3.64

Figure 1 integrates the study's principal indicators of social cohesion, project support, and perceived environmental risk. Community meetings and mutual cooperation were maintained by all respondents (100%), while traditional customs and support for the proposed housing development were each reported by 96.36%. At the same time, 85.45% of respondents identified traffic congestion as a concern and 70.91% identified flooding as a concern. This simultaneous pattern of strong social cohesion, high project support, and substantial environmental concern provides direct empirical support for the concept of conditional social acceptance: respondents recognized potential socioeconomic benefits without discounting environmental costs. The figure therefore indicates that strong community cohesion should function as an institutional resource for participatory monitoring rather than as a substitute for drainage, waste, and traffic safeguards (Moffat & Zhang, 2014; Reed et al., 2018).

Flooding was also a major concern, identified by 70.91% of respondents. The result should be interpreted as a record of local risk perception and experience, not as an engineering measurement of flood probability. It does not establish flood depth, duration, return period, flow direction, or drainage capacity (Rentschler et al., 2022). Yet it is highly

relevant for planning because residents often know which road segments overflow, which drains are blocked, and which areas retain water after heavy rain. Flood exposure research shows that risk is shaped by both hazard and infrastructure inequality, while peri-urban climate governance studies show that edge areas are often vulnerable because responsibility is fragmented across project boundaries and jurisdictions (Winter & Karvonen, 2022).

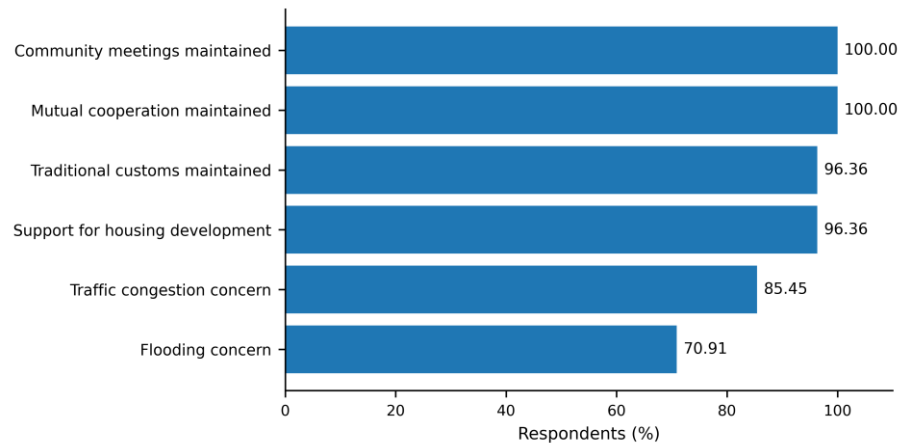


Fig. 1. Community support, social cohesion, and perceived environmental risks among respondents (n = 55)

The mitigation priorities confirm that environmental acceptance is conditional. Adequate drainage and flood management ranked first at 40%, followed by construction and operational waste management at 27.27%. Local labor recruitment ranked third at 16.36%. These priorities integrate environmental safeguards with socioeconomic benefit-sharing. Residents were not asking only for compensation or employment. They were also identifying the infrastructure and management conditions that would make the project less harmful to the surrounding neighborhood.

Drainage should therefore be treated as a design obligation before construction approval. A project-specific drainage and flood assessment should cover current drainage pathways, pre-development and post-development runoff, infiltration loss, site grading, downstream channel capacity, design rainfall, emergency overflow routes, sediment control during construction, and maintenance responsibilities after occupation (Le et al., 2024). The assessment should be shared with residents in a form they can understand, because trust depends not only on calculation but also on communication and verifiability (Meerow & Newell, 2019). This approach is consistent with the view that climate adaptation and resilience require both technical infrastructure and inclusive governance (Santoro et al., 2023).

Waste management was the second most important mitigation priority. Construction can produce excavated material, cement bags, packaging, scrap metal, timber, and residual building materials, while the operational phase produces continuous household waste. Poor handling can obstruct drains, attract pests, generate odor, and shift cleanup costs to nearby residents (Ferronato & Torretta, 2019). A project-specific waste plan should define temporary storage, segregation, licensed transport, construction debris handling, operational collection schedules, prohibited dumping areas, and measurable performance indicators. This requirement is consistent with peer-reviewed evidence that waste mismanagement in developing contexts creates public health and environmental burdens when collection and disposal systems are weak (Ferronato & Torretta, 2019).

Traffic management should be planned for both the construction and operational phases. During construction, truck routes, delivery schedules, worker parking, wheel-wash procedures, and access control can reduce disturbance. During operation, the design of entry and exit points, pedestrian safety, parking management, and connections to existing roads can determine whether the project adds manageable movement or creates recurring bottlenecks. Because respondents identified traffic as the most visible concern, traffic

commitments should be monitored through complaints, incident records, peak-hour observation, and consultation with local road users.

These risk perception findings also show why simple support percentages are insufficient for decision-making. A project can have 96.36% support and still face serious governance requirements. The apparent paradox disappears when acceptance is understood as conditional. Residents support expected benefits but want safeguards against predictable environmental burdens. A technically weak project could therefore lose legitimacy even if it begins with high support. Conversely, a project that demonstrates drainage capacity, manages waste, controls traffic, and recruits locally could transform initial support into durable trust.

3.5 Environmental governance framework for implementation

The results support an implementation framework built around five linked commitments: drainage and flood management, waste management, traffic management, local benefit sharing, and participatory monitoring. These commitments should not be treated as separate administrative items. They interact in everyday life. Waste can block drainage, traffic can delay emergency response, weak communication can intensify conflict, and unrealized employment promises can reduce trust even when technical works are completed.

In the Indonesian environmental permitting context, these five commitments can be translated into the environmental approval process rather than treated only as voluntary community-relations measures. Government Regulation No. 22 of 2021 establishes environmental approval as part of the environmental protection and management framework, while Ministerial Regulation of Environment and Forestry No. 4 of 2021 determines whether a proposed business or activity requires Environmental Impact Assessment/*Analisis Mengenai Dampak Lingkungan Hidup* (AMDAL), Environmental Management and Monitoring Efforts/*Upaya Pengelolaan Lingkungan Hidup dan Upaya Pemantauan Lingkungan Hidup* (UKL-UPL), or Letter of Commitment to Environmental Management and Monitoring/*Surat Pernyataan Kesanggupan Pengelolaan dan Pemantauan Lingkungan Hidup* (SPPL) according to the applicable screening criteria. Because the available case data do not establish the project scale and regulatory classification, this study does not presume that Sunville Residence is necessarily subject to AMDAL. Instead, the proposed framework identifies substantive issues that should enter the applicable environmental document and its management and monitoring commitments.

Table 5. Proposed environmental governance commitments and implementation indicators

Governance area	Required commitment	Monitoring indicators
Drainage and flood management	Complete site and neighborhood-scale drainage assessment; maintain channels before, during, and after construction.	Drainage design disclosed; maintenance schedule; number of flood complaints; response time; evidence of cleared channels.
Construction and operational waste	Control debris, sediment, temporary storage, licensed transport, and household waste collection.	Waste collection records; no illegal dumping; construction debris removed; drain blockage incidents recorded and resolved.
Traffic and access management	Regulate truck routes, delivery hours, site access, parking, pedestrian safety, and peak-hour operations.	Traffic complaints; incident log; compliance with working hours; access point safety checks; peak-hour observation notes.
Local benefit sharing	Prioritize transparent local labor recruitment and local procurement where feasible.	Local labor share; recruitment announcements; selection criteria; wage-payment records; grievance records on recruitment.
Participation and grievance handling	Hold scheduled consultations, disclose commitments, and operate an accessible complaint mechanism.	Meeting minutes; publicly available commitments; complaint resolution time; follow-up actions reported to residents.

This regulatory linkage has direct practical implications. For developers, drainage capacity, construction and operational waste control, traffic management, local benefit sharing, and grievance handling should be converted into measurable commitments, responsibilities, schedules, and monitoring indicators within the applicable environmental instrument, including the Environmental Management Plan and Environmental Monitoring Plan/*Rencana Pengelolaan Lingkungan Hidup-Rencana Pemantauan Lingkungan Hidup* (RKL-RPL), where AMDAL is required, or UKL-UPL where this instrument applies. For local government, the framework provides a practical basis for checking whether community concerns have been incorporated into environmental review, coordinating drainage, waste, and traffic oversight across agencies, and following up complaints against observable performance indicators. The competent authority for issuing environmental approval must also follow the current allocation of authority under Ministerial Regulation of Environment/Environmental Control Agency No. 22 of 2025. Accordingly, Table 5 can function as an implementation bridge between conditional social acceptance and formal environmental compliance.

The first commitment is verified drainage performance. The project should demonstrate that its design does not increase flood risk for existing residents. This requires analysis at both site and neighborhood scales because water does not stop at the project boundary (Meerow et al., 2016; Sobhaninia et al., 2025). The developer should define who is responsible for maintenance, how often drains will be inspected, and how resident complaints will trigger corrective action. These measures are consistent with urban resilience research emphasizing that resilience should identify the affected population, relevant risks, and the governance mechanisms through which risk reduction will occur (Meerow et al., 2016).

The second commitment is waste control across the construction and operational phases. Construction waste requires immediate site management because debris and sediment can quickly affect drains and roads. Operational waste requires coordination with local collection systems because new households will add recurring waste volumes. A credible plan should include segregation, storage, transport, disposal, documentation, and community reporting. Without these controls, the project may externalize costs to the surrounding community and reduce its social legitimacy (Ferronato & Torretta, 2019).

The third commitment is traffic and access management. Traffic concerns were reported by more respondents than any other risk. This means that traffic should be addressed before construction begins, not only after congestion emerges. A practical plan should identify delivery routes, avoid sensitive hours where possible, control worker parking, protect pedestrian movement, and maintain access for nearby residents. The plan should also include a mechanism for revising access arrangements if monitoring shows recurring conflict or safety problems (Amri, 2013).

The fourth commitment is transparent local benefit sharing. Employment was the main reason for support, so recruitment must be operationalized through public announcements, clear criteria, documentation of local labor participation, and complaint channels. Corporate social responsibility programs can complement employment but should not replace it, because respondents explicitly prioritized jobs and local development. Benefit sharing should also avoid elite capture by ensuring that information reaches different neighborhood groups, including casual workers, women, small traders, and households not directly connected to local leaders.

The fifth commitment is participatory monitoring. Existing mutual cooperation and community meetings provide a ready institutional base for resident involvement (Glucker et al., 2013). Nevertheless, participation must be connected to information, decision influence, and follow-up. Meeting minutes, drainage completion reports, waste records, traffic complaints, local labor data, and grievance resolution times should be shared periodically. Environmental commitments become credible when residents can compare promises with observable action (Reed et al., 2018).

The proposed framework also responds to the wider challenge of sustainable peri-urbanization. Environmental legitimacy depends not only on infrastructure provision but also on fair participation, the distribution of risks and benefits, and accountable governance

(Reed et al., 2018; Winter & Karvonen, 2022). In peri-urban areas, this question is particularly important because ecological systems, settlement patterns, transportation flows, and administrative authority extend beyond a single development site (Winter & Karvonen, 2022).

The case also contributes to the social acceptance literature by showing that acceptance can be high and fragile at the same time. High support is a valuable starting point, but it does not remove project obligations. In fact, the high level of support increases the ethical importance of fulfilling promises, because residents have attached their support to employment, development, drainage, waste, and traffic expectations. Conditional social acceptance should therefore be incorporated into environmental approval, construction supervision, and post-occupation monitoring.

4. Conclusions

The proposed Sunville Residence development received strong support from surveyed residents because it was expected to create local employment and contribute to area development. However, this support was conditional because many residents also anticipated traffic congestion and flooding. Their main expectations focused on proper drainage and flood management, construction and operational waste control, and local labor recruitment. This study shows that community acceptance is not only based on economic benefits, but also on visible environmental safeguards, fair benefit distribution, and accountable project implementation. Strong social cohesion, including mutual cooperation, community meetings, and Bugis-Makassar customary practices, can support participatory monitoring, but it cannot replace proper technical planning and regulatory oversight. Therefore, durable project legitimacy requires verified drainage capacity, effective waste and traffic controls, transparent local recruitment, accessible grievance mechanisms, and community participation in monitoring. The study is limited by its small site-specific sample, aggregated data, and lack of probability sampling, validated instruments, hydrological data, and traffic measurements. Future research should use larger georeferenced samples, validated perception scales, drainage and traffic analysis, waste estimates, and longitudinal monitoring to examine how actual environmental performance affects trust and acceptance over time.

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Author Contribution

Conceptualization, I.S. and W.; methodology, I.S. and A.R.; validation, I.S., W., and A.R.; formal analysis, I.S.; investigation, I.S. and W.; resources, W.; data curation, A.R.; writing-original draft preparation, I.S.; writing-review and editing, W. and A.R.; visualization, I.S.; supervision, W.; project administration, A.R. All authors have read and agreed to the submitted version of the manuscript.

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During the preparation of this manuscript draft, the authors used generative AI assistance to improve English academic structure and to format the manuscript according to the IASSSF template. The authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

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