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Implementation of Stunting Management Policies in Minahasa Regency

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ABSTRACT

This article analyzes the implementation of stunting management policies in Minahasa Regency. The study uses a descriptive qualitative approach to examine the policy process, the delivery of health services, community empowerment, health-supporting infrastructure, and determinant factors influencing policy performance. Data were obtained through observation, in-depth interviews, and documentation involving local government actors, district and village officials, health workers, community cadres, and community representatives. The analysis follows an interactive qualitative model consisting of data condensation, data display, and conclusion drawing. The findings show that stunting management has been implemented through structured planning, primary-health-service mechanisms based on puskesmas and posyandu, food supplementation, maternal and child health monitoring, community education, and village-level support. However, the implementation has not yet achieved full effectiveness because cross-sector integration remains weak, community participation is uneven, infrastructure and data quality are still limited, and program execution often depends on the capacity and commitment of local implementers. Determinant factors include policy communication, human and financial resources, bureaucratic coordination, implementer disposition, and socio-economic conditions. The article argues that stunting policy implementation requires stronger convergence governance, integrated local data, continuous cadre capacity building, culturally grounded health communication, and a family-centered service model that links specific nutrition interventions with sensitive interventions in sanitation, poverty reduction, education, and local economic empowerment.

Keywords: community empowerment, local government, Minahasa, policy implementation, public health service, stunting.

INTRODUCTION

Human development is a central orientation of regional development. The quality of development is no longer measured only by economic growth, infrastructure expansion, or administrative output, but also by the extent to which public policy improves the health, education, productivity, and welfare of citizens. In this context, child nutrition is a strategic issue because it determines the quality of future human resources. Stunting, as a chronic growth failure caused by prolonged nutritional deficiency and repeated exposure to health, sanitation, and care problems, represents a serious threat to the development of children and communities. Its consequences are not limited to physical growth; it also affects cognitive development, school readiness, future productivity, and the long-term competitiveness of a region.

Stunting is a multidimensional public problem. It cannot be reduced to a clinical issue or solved solely through curative health services. The causes involve household poverty, limited access to diverse and nutritious food, inadequate maternal and child health services, weak sanitation, low health literacy, suboptimal parenting practices, and unequal access to public facilities. Therefore, stunting management demands a policy approach that combines specific nutrition interventions with sensitive interventions across sectors such as health, village development, education, sanitation, food security, family planning, and social protection. The policy challenge lies in translating this multidimensional agenda into coordinated action at the local level.

The policy agenda for stunting reduction in Indonesia has encouraged local governments to integrate national priorities into regional development planning. In Minahasa Regency, local government has implemented various programs, including maternal and child health services, growth monitoring through posyandu, food supplementation, nutrition education, sanitation-related interventions, and the utilization of village resources to support prevention and handling activities. These efforts indicate institutional commitment. Nevertheless, policy presence does not automatically produce policy success. The gap between planned programs and actual results remains an important concern, especially when implementation varies across subdistricts and villages.

The implementation problem emerges from the complexity of actors and institutions involved. Stunting policy requires collaboration among regional apparatus organizations, subdistrict authorities, village governments, puskesmas, posyandu cadres, family welfare groups, community leaders, and households. Each actor has different resources, authority, interests, and levels of understanding. When coordination is weak, programs may be implemented in a fragmented way: the health sector focuses on anthropometric measurement and supplementation, village government focuses on activity budgeting, family-planning officers focus on family assistance, and community organizations carry out education without a unified data and monitoring system. Fragmentation reduces the ability of policy to address the real causal chain of stunting.

The empirical problem is also visible in community perception. In several communities, stunting is still interpreted as a natural condition, a hereditary characteristic, or a normal variation in child growth rather than a public health problem requiring early intervention. Such perceptions reduce the urgency of participating in posyandu, attending nutrition education, improving feeding practices, or following up referrals. In addition, socio-economic vulnerability limits the ability of families to provide diverse food, maintain sanitation, and access health services regularly. These realities show that policy implementation must be understood not only as an administrative process but also as a social process that involves behavior, trust, culture, and household capacity.

From the perspective of public administration, stunting is a public problem because its impacts are collective and long term. Government intervention is justified by the state obligation to protect child rights, improve public health, and ensure equitable access to basic services. The issue also has a normative dimension: a successful stunting policy embodies social justice, protection of vulnerable groups, and investment in human capability. Local governments have a strategic role because they are closest to the population and have authority to integrate national programs with local needs. Thus, the quality of local implementation becomes the decisive point between policy intention and public benefit.

This article focuses on the implementation of stunting management policies in Minahasa Regency. It examines how the policy is carried out through planning, health services, community empowerment, infrastructure support, and program execution. It also analyzes determinant factors that support or hinder policy implementation. The article is organized in a journal format consisting of introduction, theoretical framework, method, regional and policy context, findings and discussion, conclusion, and references. The contribution of the article is to show that the effectiveness of stunting management depends on the integration of administrative capacity, health-service delivery, community empowerment, and socio-economic intervention.

THEORETICAL FRAMEWORK

Public policy is a series of government actions or inactions directed toward solving public problems and achieving collective goals. In the public administration tradition, policy is not merely a written regulation; it is a structured response to social needs, resource allocation, and the definition of priorities. Wahab (2021) explains policy as an action oriented toward objectives within a particular environment in which obstacles and opportunities shape implementation. Agustino (2018) emphasizes that public policy contains proposed actions by government or other actors in a specific environment to address difficulties and use opportunities to achieve intended objectives. This understanding is relevant because stunting management involves goals, instruments, actors, and constraints that must be managed in a real local context.

Implementation is the stage where policy decisions are translated into operational activities. Mazmanian and Sabatier (2017) define implementation as the execution of basic policy decisions that identify problems, specify objectives, and arrange the process through which those objectives are pursued. Van Meter and Van Horn, as discussed by Winarno (2021), understand implementation as actions conducted by public or private actors directed toward the achievement of goals established in prior policy decisions. Thus, the implementation of stunting policy in Minahasa Regency must be assessed by observing how formal policy priorities become concrete actions in planning, service delivery, community education, coordination, budgeting, data use, and monitoring.

The model of Van Meter and Van Horn provides a useful lens because it relates implementation performance to policy standards and objectives, resources, inter-organizational communication, characteristics of implementing agencies, economic-social-political conditions, and implementer disposition (Winarno, 2021). For stunting management, policy standards include prevalence-reduction targets, coverage of maternal-child health services, completeness of child growth data, and village convergence commitments. Resources include health workers, cadres, budget, equipment, and infrastructure. Communication is reflected in socialization to villages and households, coordination among agencies, and data synchronization. The model highlights that a

technically correct policy may still fail when resources, communication, and local conditions do not support execution.

Edward III's implementation framework is also relevant because it emphasizes communication, resources, disposition, and bureaucratic structure (Edward III, 1980; Wahab, 2021). Communication determines whether implementers and target groups understand what must be done. Resources determine whether they have the capacity to perform the task. Disposition refers to the willingness, commitment, and orientation of implementers. Bureaucratic structure concerns standard operating procedures and fragmentation of responsibility. These dimensions are directly observable in the stunting case: uneven socialization, limited cadres, varied commitment among implementers, and fragmented cross-sector coordination all influence outcomes.

Grindle's perspective complements these models by distinguishing the content of policy and the context of implementation. Policy content includes interests affected, types of benefits, degree of change expected, site of decision-making, program implementers, and resources committed. Implementation context includes power, interests, strategies of actors, institutional characteristics, and compliance or responsiveness. In a stunting policy, the content is ambitious because it requires behavioral change, service improvement, and socio-economic support. The context is complex because families, village institutions, health facilities, and regional agencies interact within different constraints. Therefore, implementation must be analyzed as a political, institutional, and social process rather than a simple administrative sequence.

Public service theory provides a second theoretical foundation. Public services should be clear, accessible, timely, responsive, accountable, and oriented to the needs of users (Sinambela, 2017; Ratminto & Winarsih, 2007). In stunting management, users are not only patients but families, pregnant women, children under five, community cadres, and village governments. A public service perspective shifts attention from program availability to service experience. It asks whether mothers and families understand the service, can access it regularly, trust the providers, receive useful information, and experience follow-up when a child is identified as at risk.

Community empowerment is equally important. Chambers (2014) argues that development must strengthen local capacity and participation rather than treat communities as passive recipients. In the stunting context, empowerment means that families understand the importance of the first 1,000 days of life, cadres can conduct basic monitoring and education, village institutions can allocate resources, and community leaders can reshape social norms. Arnstein's participation ladder, although originally developed for urban planning, is useful in distinguishing symbolic participation from substantive participation. If community members attend meetings without influencing priorities or changing household practices, participation remains superficial.

Health behavior theories help explain why information alone is insufficient. The Health Belief Model assumes that individuals act when they perceive susceptibility, seriousness, benefits, and barriers, and when cues to action support behavioral change. In stunting prevention, families may not attend posyandu or change feeding practices if they do not perceive stunting as serious, if they believe short stature is hereditary, or if economic barriers make nutritious food inaccessible. Therefore, policy communication must be continuous, interpersonal, culturally sensitive, and supported by practical assistance. It should not only tell people what stunting is but also help them understand risks and feasible actions.

The social determinants of health perspective broadens the analysis by emphasizing that health outcomes are shaped by income, education, occupation, housing, water, sanitation, food systems, gender relations, and social norms. WHO (2020) and human development perspectives underline that child nutrition is connected to structural inequality and household capability.

Stunting management therefore requires an integrated approach. Specific interventions such as supplementation and growth monitoring must be linked with sensitive interventions such as poverty reduction, sanitation improvement, maternal education, food security, and local economic empowerment.

Based on these theories, this article uses an integrative analytical framework. First, implementation is examined through five policy-process dimensions: policy planning, health-service model, community empowerment, health-supporting infrastructure, and program execution. Second, determinant factors are examined through communication, resources, bureaucratic structure, implementer disposition, and socio-economic environment. Third, the discussion interprets findings through public administration, policy implementation, public service, empowerment, and social determinants of health perspectives. The theoretical framework allows the case to be understood as both a governance problem and a public health problem.

METHOD

This study uses a descriptive qualitative approach with an inductive orientation. The approach is appropriate because implementation of stunting policy is embedded in administrative routines, social interaction, health-service practices, and local community behavior. A qualitative design enables the researcher to understand not only whether programs exist, but how they are planned, communicated, implemented, experienced, and constrained. The study was conducted in Minahasa Regency with attention to regional government agencies, subdistrict and village institutions, health-service actors, community cadres, and households affected by or vulnerable to stunting.

Data were collected through observation, in-depth interviews, and documentation. Observation was used to understand service practices, posyandu activities, coordination patterns, and the availability of supporting facilities. Interviews were conducted with government officials, village actors, health workers, cadres, and community representatives to capture different experiences of policy implementation. Documentation was used to examine planning documents, health program references, informant data, and institutional records related to stunting management. The use of multiple data sources strengthened triangulation and allowed the findings to be interpreted from administrative, service, and community perspectives.

Informants represented relevant actors in the implementation chain. They included officials from community and village empowerment institutions, family planning coordinators, subdistrict leaders, village officials, treasurers, family welfare team members, vulnerable community members, community leaders, and village facilitators. This composition reflects the multidimensional character of stunting policy, which cannot be explained only by the health sector. Table 1 summarizes the informant categories used in the study. See table 1.

Table 1. Informant categories.

No	Informant category	Number
1	Head of community and village empowerment affairs in Minahasa Regency	1
2	Family planning coordinator at subdistrict level	1

3	Subdistrict leaders in the Kawangkoan Raya area	4
4	Village head	1
5	Village treasurer	1
6	Head/member of village family welfare team	1
7	Community member vulnerable to stunting	1
8	Community leader	1
9	Village facilitator	1
	Total informants	13

Data analysis followed the interactive qualitative model of Miles and Huberman, consisting of data reduction or condensation, data display, and conclusion drawing or verification (Miles & Huberman, 1994; Miles, Huberman, & Saldana, 2014). Data condensation was conducted by selecting statements, observations, and documents relevant to the implementation process and determinant factors. Data display was conducted through matrices and thematic tables to compare patterns across informants. Conclusion drawing was carried out through continuous interpretation, verification, and comparison between field data and theory.

Trustworthiness was strengthened through credibility, transferability, dependability, and confirmability principles (Lincoln & Guba, 1985). Credibility was supported by triangulation of interviews, observation, and documentation. Transferability was supported by a detailed description of context and informant roles. Dependability was supported by a clear analytical procedure, while confirmability was supported by the use of field evidence and documentation. The method therefore supports an interpretive but systematic analysis of policy implementation.

RESULTS AND DISCUSSION

Regional and Policy Context

Minahasa Regency has diverse geographical and socio-economic characteristics. The region includes areas with different topography, settlement patterns, access to health facilities, and household economic conditions. Such diversity affects the implementation of stunting policy because service coverage, transportation, sanitation, and access to nutritious food are not equally distributed. In more accessible areas, families can attend posyandu and health services more regularly. In areas with geographic or economic constraints, attendance, follow-up, and service continuity may be weaker.

The policy context is shaped by the national agenda for accelerated stunting reduction and by regional development planning. Stunting management is placed within health development, human resource development, and village development priorities. Programs include maternal and child health services, growth monitoring, supplementary feeding, nutrition education, family assistance, sanitation-related activities, and village-level budgeting. At the same time, the findings indicate that the existence of these programs does not guarantee integration. Each institution may carry out its responsibilities, but the convergence of planning, data, service delivery, and monitoring remains a persistent challenge.

At the village level, stunting management depends heavily on local leadership, cadres, and community participation. Village governments can support activities through planning forums and

budget allocation, while cadres and family welfare groups become the closest actors to households. However, local capacity varies. Some villages can mobilize cadres and conduct activities more consistently, while others face limited facilities, low participation, and weak follow-up. This variation explains why implementation performance differs between locations even when the policy framework is formally the same.

The problem of data quality is also central. Stunting management requires accurate data by name and by address to identify target children, pregnant women, at-risk families, service needs, and intervention outcomes. When data from health facilities, village institutions, and other agencies are not synchronized, the targeting of interventions becomes less precise. Data integration is not only a technical task; it is a governance requirement because it connects planning, budgeting, service delivery, and accountability.

Findings Results

The findings are organized into two major areas. The first area explains the policy implementation process: planning, health-service model, community empowerment, infrastructure support, and program execution. The second area explains determinant factors: communication, resources, bureaucratic structure, implementer disposition, and social-economic environment. These areas are interdependent. Planning without adequate resources produces weak implementation; services without community empowerment produce low participation; infrastructure without data integration produces fragmented delivery; and communication without socio-cultural sensitivity fails to change household behavior. See figure 1.

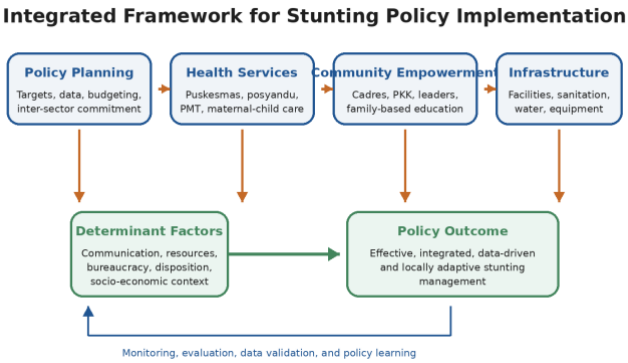

Figure 1. Integrated framework for stunting policy implementation in Minahasa Regency

Policy planning

The findings show that planning for stunting management in Minahasa Regency already refers to national programs and regional development priorities. Planning activities include identification of target groups, formulation of health and nutrition programs, coordination with village institutions, and allocation of resources for relevant activities. This indicates that stunting has entered the formal policy agenda and is recognized as a strategic public problem. From the perspective of Mazmanian and Sabatier (2017), the clarity of policy objectives is a necessary condition for implementation because it provides direction for actors and evaluation criteria.

However, the planning process is not yet fully integrated across sectors. Stunting is frequently planned as a health program, while its determinants also involve sanitation, food access, parental education, household income, and local infrastructure. As a result, planning sometimes emphasizes routine activities such as weighing, measuring, and food supplementation while giving less

attention to structural interventions. In public administration terms, the planning process still faces a sectoral tendency. Collaborative governance should become stronger so that health agencies, village empowerment institutions, family planning actors, social agencies, public works, education institutions, and village governments can work with shared targets and shared data.

Another planning issue concerns local specificity. The needs of villages are not identical. Some villages require better posyandu facilities, others require improved water and sanitation, while others need stronger nutrition literacy and household assistance. Evidence-based planning requires accurate local data and village-level problem mapping. Without data by name, by address, and by risk category, policy may be administratively correct but not sufficiently targeted. Agustino (2018) emphasizes that policy implementation must respond to obstacles and opportunities within a specific environment; therefore, planning must be adaptive to local conditions rather than merely uniform across areas.

Health-service model

Health services are implemented primarily through puskesmas, posyandu, maternal-child health activities, growth monitoring, supplementary feeding, immunization support, and nutrition counseling. Posyandu functions as the frontline mechanism because it brings services closer to families and allows regular monitoring of child growth. The presence of puskesmas and posyandu indicates that the service infrastructure exists and that routine service delivery has become institutionalized. This is a positive foundation for policy implementation.

Nevertheless, service effectiveness remains uneven. Some families do not regularly attend posyandu, and some communities still have limited understanding of the importance of early detection. Distance, economic activities, low awareness, and cultural perceptions can reduce attendance. The service model is still relatively facility-based: families are expected to come to service points. For households with low motivation, limited access, or children already at risk, a family-centered and community-based service model is needed. Home visits, targeted counseling, and follow-up by cadres can reduce the gap between service availability and service use.

From a public service perspective, the main question is not merely whether services exist but whether they are responsive, accessible, and trusted (Sinambela, 2017). In stunting management, responsiveness means that growth problems are identified early, families receive clear explanations, and referrals or assistance are followed up. Accessibility means that families can reach services without excessive time, cost, or social barriers. Trust means that families believe cadres and health workers provide useful advice. The findings suggest that these dimensions are present but require strengthening through better communication, cadre training, and follow-up mechanisms.

Service quality also depends on the competence of health workers and cadres. Measurements must be accurate, data must be recorded consistently, and counseling must be understandable. If equipment is incomplete or cadres are not confident, errors may occur in measurement or interpretation. The service model should therefore combine technical training with supportive supervision. Cadres need not only procedural knowledge but also communication skills, cultural sensitivity, and problem-solving capacity.

Community empowerment

Community empowerment has been carried out through cadres, family welfare groups, village institutions, nutrition education, and the involvement of local leaders. These actors are essential because stunting prevention occurs largely within households: feeding practices, hygiene, maternal health behavior, health-service attendance, and child care are shaped by daily routines.

A policy that does not reach household behavior will have limited impact even when government programs are formally implemented.

The findings indicate that empowerment remains incomplete. Community participation is not yet fully substantive, and some residents still misunderstand stunting. The perception that stunting is caused mainly by heredity reduces the perceived need for prevention and treatment. This is a serious barrier because behavior change requires recognition of risk. The Health Belief Model helps explain this problem: families act when they perceive that their child is susceptible, that the condition is serious, that action will bring benefit, and that barriers can be overcome. If these perceptions are weak, socialization activities may not produce behavioral change.

Empowerment should therefore move from event-based socialization to continuous community learning. Cadres, religious leaders, community leaders, and local organizations can become agents of change if they are systematically involved. In Minahasa, social and religious networks can help transform health messages into trusted community narratives. This is consistent with Chambers (2014), who stresses that local participation and capacity are central to development. It is also consistent with contemporary governance thinking, which treats citizens not only as beneficiaries but as co-producers of public value.

A substantive empowerment strategy should include family-based counseling for the first 1,000 days of life, cooking demonstrations using locally available nutritious food, peer learning among mothers, male involvement in child nutrition, and community monitoring of at-risk families. Such activities can transform empowerment from an administrative activity into a behavioral and social process. The policy should also acknowledge that families with limited income cannot change feeding practices only through information; they also need access to food, livelihood support, and social assistance.

Health-supporting infrastructure

Infrastructure is a key input in implementation. The study found that health facilities such as puskesmas and posyandu are available, but the distribution and adequacy of facilities are not fully even. Some posyandu still face limitations in space, equipment, measurement tools, and supporting facilities. Sanitation and access to clean water also remain important because stunting is affected by environmental health. Repeated infections, poor hygiene, and unsafe water can weaken nutrition outcomes even when food support is provided.

In the implementation framework of Van Meter and Van Horn, infrastructure is part of policy resources. In the CIPP evaluation logic, infrastructure belongs to the input dimension needed to support the process and product of the program. The findings show that infrastructure limitations make implementation vulnerable. Without adequate anthropometric equipment, measurement quality declines. Without sufficient posyandu facilities, service comfort and participation may decrease. Without water and sanitation improvements, sensitive interventions remain weak.

The policy implication is that stunting infrastructure must not be limited to medical facilities. It should include community sanitation, water supply, transportation access, digital data tools, and village-level service spaces. Investment should be based on local needs mapping rather than equal distribution alone. Villages with higher risk and weaker access should receive priority support. Village funds can be optimized for health-supporting infrastructure, but this requires technical guidance, accountability, and alignment with regional stunting targets.

Program execution and monitoring

Program execution includes posyandu services, food supplementation, nutrition education, maternal and child health monitoring, family assistance, and coordination activities. These programs demonstrate that stunting management is already operational. However, implementation is still more structural than substantive in several aspects. Programs exist and activities are conducted, but integration, follow-up, and outcome orientation require strengthening.

Monitoring and evaluation are particularly important. Stunting reduction requires continuous tracking of child growth, identification of at-risk families, verification of intervention coverage, and assessment of behavioral and environmental change. If monitoring is limited to activity reports, the program may appear active without showing whether children improve, families change practices, or services reach the most vulnerable households. Performance-based monitoring should include clear indicators, data verification, cross-sector meetings, and corrective actions.

The findings also reveal that implementation tends to be affected by the commitment of local actors. Where village leaders, cadres, and health workers are active, activities are more consistent. Where commitment is weak, the program becomes routine and administrative. This shows that leadership and implementer disposition matter. Edward III's model explains that even when communication and resources exist, weak disposition can reduce implementation quality. Therefore, leadership should institutionalize responsibility through clear roles, incentives, supervision, and accountability mechanisms. See table 2.

Table 2. Process findings on stunting policy implementation

Implementation dimension	Key empirical finding	Theoretical interpretation	Improvement direction
Policy planning	Planning refers to national and regional programs but is not fully integrated across sectors or adapted to village-specific needs.	Clear goals support implementation, but fragmented planning weakens policy coherence (Mazmanian & Sabatier, 2017).	Strengthen data-based planning, village risk mapping, and synchronization between regional and village plans.
Health-service model	Puskesmas and posyandu provide services, but participation, access, and communication remain uneven.	Service quality requires responsiveness, accessibility, and certainty (Sinambela, 2017).	Shift from facility-based routines to family-centered and community-based follow-up.
Community empowerment	Cadres, PKK, and community leaders are involved, but public understanding and behavior change remain limited.	Participation must move beyond tokenism toward empowerment (Chambers, 2014).	Develop continuous community learning, home visits, and culturally sensitive health communication.
Infrastructure	Facilities, equipment, sanitation, and clean water support are not evenly adequate.	Resources are a core implementation variable (Van Meter & Van Horn; Winarno, 2021).	Prioritize needs-based infrastructure, posyandu strengthening, sanitation, and water access.

Program execution	PMT, monitoring, education, and coordination have been implemented but remain sectoral and insufficiently performance-based.	Implementation quality depends on communication, resources, disposition, and structure (Edward III, 1980).	Use integrated service delivery, active convergence teams, and performance-based monitoring.

Determinant factors

The first determinant factor is policy communication. Communication has been conducted through formal socialization, meetings, health education, and cadre interaction. However, socialization is not evenly received by all villages and households. Some communities still do not understand stunting as a chronic nutritional problem, and information between agencies is not always synchronized. Van Meter and Van Horn emphasize that implementation requires clear and consistent communication. In this case, communication must operate at two levels: inter-organizational communication among agencies and interpersonal communication between implementers and households.

Policy communication should therefore be redesigned as a continuous process rather than a one-time dissemination activity. Regional agencies need integrated data and clear messages, while village actors and cadres need practical communication tools. Community messages should be simple, repeated, visual, and linked to local language and cultural references. Religious and community leaders can help transform technical nutrition messages into persuasive social norms. Home visits are especially important for families that do not attend posyandu or that have children already identified as at risk.

The second determinant factor is resources. The study identifies limitations in health personnel, cadres, budget allocation, facilities, and measurement tools. Resources also include competence, time, data systems, and operational support. Edward III argues that resources are crucial for implementation effectiveness. A policy can be communicated clearly, but without staff, funds, facilities, and competence, implementation will remain weak. Resource limitations are especially important in rural or geographically varied areas, where service delivery requires additional time and logistical support. See figure 3.

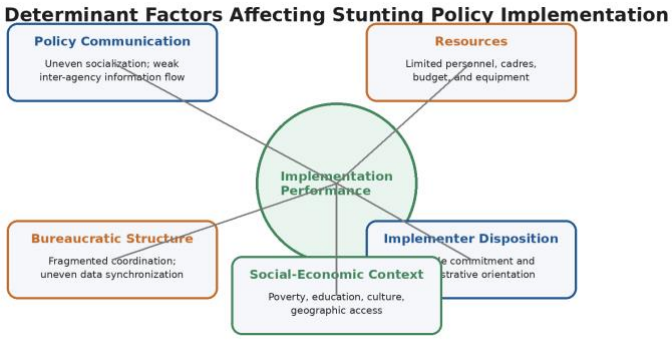

Figure 3. Determinant factors affecting stunting policy implementation.

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Capacity building should be continuous and competency-based. Cadres need training in measurement, counseling, home-visit techniques, data recording, and referral procedures. Village officials need guidance on how to allocate and account for funds for stunting-related activities. Health workers need supportive supervision mechanisms to ensure that cadres are not left alone in addressing complex household problems. Incentive systems for cadres should also be considered because volunteer-based implementation can become fragile when workload increases.

The third determinant factor is bureaucratic structure. Stunting management requires coordination across agencies, but the findings show that programs remain sectoral in several respects. Data from different institutions may not be synchronized, and responsibilities may overlap or become unclear. Fragmentation is a classic problem in public administration. Standard operating procedures and coordination forums exist, but their effectiveness depends on whether actors use them consistently and whether decisions are followed by action.

A stronger bureaucratic structure should include a functional convergence team from the regency to village level, shared indicators, integrated databases, routine coordination, and clear escalation mechanisms when problems arise. The aim is not to create more meetings but to ensure that meetings solve implementation problems. Data synchronization is essential because it determines who receives intervention, which family needs support, which village has priority needs, and whether program coverage is improving.

The fourth determinant factor is implementer disposition. Most implementers show commitment to reducing stunting, but the level of understanding and initiative varies. Some actors still treat stunting activities as administrative obligations rather than substantive efforts to change family behavior and child outcomes. Disposition includes commitment, motivation, problem-solving orientation, and willingness to coordinate. Edward III's framework suggests that negative or passive disposition can weaken implementation even when resources and structures exist.

Strengthening disposition requires leadership. Regional and village leaders should demonstrate that stunting is a priority, not a ceremonial agenda. Implementers need feedback on results, recognition for good performance, and corrective support when performance is weak.

Monitoring should not only count activities but also examine whether implementers follow up at-risk families and coordinate across sectors. When implementers see concrete results and receive institutional support, their commitment is more likely to be sustained.

The fifth determinant factor is the social and economic environment. Poverty, low education, food insecurity, limited sanitation, cultural perception, and geographic access all influence implementation. Families may understand nutrition messages but lack resources to apply them. Communities may attend counseling but still depend on affordable low-diversity food. In such conditions, stunting management cannot rely only on specific health interventions. It must be linked with sensitive interventions that address household capability and environmental health.

The social determinants of health perspective shows that stunting is a manifestation of wider inequality. Therefore, local stunting policy should be integrated with poverty reduction, family economic empowerment, maternal education, sanitation improvement, clean water access, and food security. Community-based agriculture, local food diversification, social assistance targeting, and livelihood programs can strengthen the enabling environment for nutrition behavior. Without these sensitive interventions, health-sector efforts may produce limited and uneven results. See table 3 and 4.

Table 3. Determinant factors in stunting policy implementation

Factor	Main problem	Theoretical basis	Policy solution
Policy communication	Uneven socialization, low public understanding, weak inter-agency information flow, and ineffective cadre-to-household communication.	Communication is a key variable in policy implementation (Van Meter & Van Horn, 1975; Winarno, 2021).	Develop integrated communication systems, repeated community education, interpersonal counseling, and involvement of local leaders.
Resources	Limited health workers, cadres, budget, posyandu facilities, and measuring equipment; uneven competence among implementers.	Resources determine whether implementers can perform tasks effectively (Edward III, 1980; Wahab, 2021).	Provide competency-based cadre training, optimize village funds, improve equipment, and create operational support.
Bureaucratic structure	Cross-sector coordination is not optimal, data are not synchronized, and programs remain fragmented.	Implementation structure affects policy effectiveness (Mazmanian & Sabatier, 2017).	Strengthen convergence teams, shared SOPs, integrated data, and routine problem-solving coordination.
Implementer disposition	Commitment varies, some actors understand stunting partially, and some activities remain administrative.	Disposition influences willingness and commitment to implement policy (Edward III, 1980).	Strengthen leadership, performance monitoring, incentives, technical supervision, and accountability mechanisms.
Social-economic context	Poverty, low health literacy, cultural misconceptions, low participation, and	Context influences implementation outcomes (Grindle,	Integrate stunting policy with poverty reduction, sanitation, education, food

	geographic access barriers.	1980) and health outcomes (WHO, 2020).	security, and local economic empowerment.

Table 4. Synthesis of implementation gaps and strategic responses

Implementation gap	Observed consequence	Strategic response
Gap between planning and implementation	Programs are planned formally but may not address village-specific risk and household barriers.	Use village-level risk mapping and by-name-by-address data to guide planning and budgeting.
Gap between cross-sector design and sectoral practice	Health, village, sanitation, and social interventions are not always integrated.	Create a single convergence dashboard and shared indicators for all relevant sectors.
Gap between service availability and service utilization	Posyandu and puskesmas are available, but attendance and follow-up remain uneven.	Expand home visits, family assistance, flexible service outreach, and targeted counseling.
Gap between information delivery and behavior change	Community members may receive information but continue old feeding and care practices.	Use behavioral communication, peer learning, cooking demonstrations, and trusted local figures.
Gap between activity reporting and outcome monitoring	Reports may show activities without clear evidence of improved child growth or household capability.	Monitor coverage, follow-up, nutritional status change, sanitation progress, and family behavior outcomes.

Toward an integrated local implementation model

The overall findings indicate that stunting management in Minahasa Regency has entered the implementation stage with a recognizable institutional structure. Planning documents, health services, village activities, cadres, and program routines are present. This means that the problem is not policy absence. The main problem is implementation quality. The policy has not fully transformed into an integrated, data-driven, family-centered, and locally adaptive system. In public administration terms, the implementation gap is located between formal institutional commitment and operational convergence.

The case also shows that stunting policy should be understood as a socio-technical system. The technical part includes data, service procedures, measurement tools, budgets, facilities, and monitoring indicators. The social part includes family perception, cultural belief, cadre motivation, leadership commitment, inter-agency trust, and community participation. If the technical system works without the social system, programs become formal and administrative. If the social system is mobilized without technical accuracy, participation may not lead to measurable outcomes. Effective implementation requires both systems to be aligned.

A local implementation model for stunting management should begin with accurate data. Data should identify pregnant women, children under five, at-risk families, sanitation conditions, food-security vulnerabilities, service coverage, and intervention history. This data should be shared across relevant sectors, while respecting administrative responsibility and privacy. Data should

guide planning, budgeting, home visits, supplementation, referrals, and evaluation. Inaccurate or fragmented data produces inaccurate targeting and weak accountability.

The second component should be family-centered service delivery. Posyandu remains essential, but it should be complemented by outreach for families who do not attend or who need additional support. Family-centered service means that counseling is adapted to household conditions, not delivered as generic instruction. It also means that mothers, fathers, grandparents, and caregivers are all considered part of the behavior-change environment. Stunting is not prevented only by the mother; it is prevented by a household and community system that supports nutrition and care.

The third component should be community empowerment through trusted local networks. Cadres, PKK, religious leaders, community leaders, and local organizations should be equipped with consistent messages and practical tools. Their role is to reduce misinformation, encourage posyandu attendance, support vulnerable families, and normalize healthy practices. Community empowerment should be evaluated not by the number of meetings alone but by changes in knowledge, attitudes, attendance, feeding practices, sanitation behavior, and follow-up compliance.

The fourth component should be integrated sensitive interventions. Specific nutrition actions are necessary but not sufficient. Families need access to affordable nutritious food, clean water, sanitation, maternal education, income support, and social protection. This requires coordination beyond the health sector. Village funds, regional development programs, and social assistance should be linked with stunting risk data. Such integration turns stunting reduction into a development agenda rather than a narrow health program.

The fifth component should be performance-based governance. The convergence team should not only coordinate activities but also solve bottlenecks. Performance indicators should include service coverage, follow-up of at-risk families, availability of measurement tools, cadre activity, sanitation progress, data synchronization, and child growth trends. Routine evaluation should identify why some villages perform better than others and what support weaker villages need. This approach is consistent with adaptive public administration, which treats implementation as a learning process rather than a fixed procedure.

The implications for policy are clear. First, local government should strengthen cross-sector coordination through integrated planning and shared data. Second, the health-service model should be expanded toward home visits and family-centered assistance. Third, cadre capacity should be improved through continuous training and incentives. Fourth, village-level stunting programs should link health, sanitation, food security, and economic empowerment. Fifth, monitoring should shift from activity compliance to outcome-oriented learning. These strategies can improve the effectiveness, equity, and sustainability of stunting management in Minahasa Regency.

Policy implications and research contribution

The findings have several practical implications for local government. The first implication concerns the institutionalization of convergence. Convergence should be understood not only as the presence of a coordination team but as the ability of agencies to plan, budget, implement, monitor, and evaluate programs using the same target data. A convergence mechanism is meaningful only when it changes decisions in practice: which villages receive priority, which families receive home visits, which sanitation problems are handled first, which cadres need training, and which budget items must be adjusted. Without this operational meaning, convergence risks becoming an administrative label rather than a governance instrument.

The second implication concerns the use of village-level data. Stunting management requires micro data that are accurate, updated, and actionable. Data should not stop at aggregate prevalence. It should identify children, pregnant women, household risks, intervention history, nutrition status trends, sanitation condition, and socio-economic vulnerability. Such data can connect health services with village planning. For example, if a child is identified as at risk, the system should show whether the family has received counseling, whether the household has sanitation problems, whether social assistance is needed, and whether follow-up has been completed. This kind of data turns policy from a general program into targeted public service.

The third implication concerns cadres. Cadres are often treated as supporting actors, but in stunting management they are frontline public service agents. They are closest to families, understand local communication patterns, and can detect changes in attendance and behavior. Therefore, cadre development should be systematic. Training must cover anthropometric measurement, interpretation of growth charts, interpersonal communication, nutrition education, home-visit procedures, referral pathways, and basic data reporting. Incentives and recognition are also important because the workload of cadres increases when policy becomes more targeted and family-centered.

The fourth implication concerns public communication. Stunting policy communication should be redesigned from information transfer to behavior change. Formal socialization is important, but it is not sufficient. Families need repeated cues to action, practical examples, locally relevant food solutions, and trusted messengers. Communication should address myths directly, especially the belief that child shortness is merely hereditary. It should also avoid blaming families. Many households face economic barriers, so communication must be combined with supportive interventions. A respectful and empowering communication style can strengthen trust and participation.

The fifth implication concerns the integration of specific and sensitive interventions. Specific interventions such as growth monitoring, supplementation, maternal health services, and nutrition counseling directly address health and nutrition. Sensitive interventions such as water, sanitation, food security, education, and household income indirectly shape nutrition outcomes. The findings indicate that both types of interventions are necessary. When specific interventions are implemented without sensitive support, vulnerable families may not be able to sustain recommended practices. When sensitive interventions are not connected to stunting data, they may not reach the families that need them most. Integration is therefore the core strategy.

The contribution of this article lies in its integrated public administration perspective on stunting management. Many discussions of stunting focus on health indicators, while this analysis emphasizes implementation capacity, coordination, resources, local governance, and community behavior. The article shows that stunting reduction is not only a health-sector target but also a test of local government capacity to manage complex, cross-sector, and behavior-sensitive policy. The case of Minahasa demonstrates that policy success depends on the interaction of administrative systems and social realities. It is precisely this interaction that should become the focus of future policy improvement.

Future studies may develop comparative analysis across villages with different performance levels. Such studies could identify why some localities achieve better participation, better data quality, or stronger convergence than others. Quantitative or mixed-method studies may also measure the relationship between intervention coverage, sanitation access, household food diversity, cadre activity, and changes in stunting prevalence. However, qualitative analysis remains essential because implementation depends on meanings, relationships, motivation, and context. A

combined evidence base can help local government design interventions that are both technically sound and socially acceptable.

CONCLUSION

The implementation of stunting management policies in Minahasa Regency has been carried out through structured planning, puskesmas and posyandu-based health services, community empowerment, health-supporting infrastructure, and program activities such as growth monitoring, food supplementation, education, and coordination. These processes show that the policy has a clear institutional foundation and that local actors have made efforts to address stunting as a strategic public problem. Nevertheless, implementation has not yet achieved full effectiveness because integration across sectors remains limited, community participation is uneven, infrastructure and data quality are not fully adequate, and program execution is sometimes more administrative than transformative. The determinant factors influencing implementation include policy communication, resources, bureaucratic structure, implementer disposition, and social-economic environment. Communication is constrained by uneven socialization and weak synchronization of information. Resources are constrained by limited personnel, cadres, funds, facilities, and equipment. Bureaucratic structure is constrained by fragmented coordination and data differences. Implementer disposition is constrained by varied commitment and partial understanding of stunting. The social-economic environment is constrained by poverty, low education, cultural misconceptions, limited sanitation, food insecurity, and geographic access barriers. The article concludes that effective stunting management requires an integrated local implementation model. This model should combine accurate local data, family-centered health services, continuous community empowerment, strengthened cadres, cross-sector convergence, sensitive interventions in sanitation and poverty reduction, and performance-based monitoring. Stunting reduction should not be treated as the responsibility of the health sector alone. It must become a shared regional development agenda that links public administration capacity with household behavior change and social-economic support.

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