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Bridging Research and Practice: Translating Public Health Evidence into Policy Implementation in Gorontalo

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Article Info

Abstract

The effective translation of public health research into policy implementation remains a significant challenge in many developing regions, including Gorontalo, Indonesia. This study aimed to explore the dynamics of social and ecological adaptation in the multi-level governance context of public health policy implementation. A mixed-methods approach was used, combining quantitative surveys with qualitative interviews and focus group discussions, to investigate community awareness, participation, and the role of governance structures in policy execution. The results revealed a significant gap between awareness of public health policies and active participation in health programs, exacerbated by limited resources, poor infrastructure, and a lack of coordination between national and local governments. Social and cultural barriers, such as traditional beliefs and gender norms, also impeded policy effectiveness. Furthermore, ecological challenges, such as flooding and inadequate sanitation, were found to worsen public health outcomes, hindering the success of health interventions. This study contributes to the existing literature by providing insights into the unique challenges faced in the implementation of public health policies in Gorontalo and offers practical recommendations for overcoming these obstacles. The study also emphasizes the need for more tailored, community-based approaches to health policy. Future research should focus on assessing the long-term impact of these policy interventions on health outcomes and community engagement.

INTRODUCTION

The effective translation of public health research into policy implementation remains a crucial challenge for improving health outcomes globally. The gap between research findings and their actual application in policy-making processes often hinders the potential impact of evidence-based interventions. In many low- and middle-income countries, including Indonesia, the difficulty lies not only in generating robust evidence but also in overcoming systemic, political, and cultural barriers to implementing the research findings into actionable policies (Erismann et al., 2021; Alonge et al., 2019; Yamey, 2012; Naher et al., 2020). One such region where these challenges are prominent is Gorontalo, a province in Sulawesi, Indonesia. Despite a growing body of health research, the region faces persistent

health challenges that continue to affect its population's well-being. Bridging the gap between research and practice is essential for addressing these issues and advancing public health policy in the region (World Health Organization, 2024; Dessie, 2023; Green et al., 2021).

Recent studies have underscored the importance of linking scientific evidence with policy implementation to ensure sustainable health improvements. Public health policies grounded in research can lead to more effective healthcare delivery, better disease prevention strategies, and equitable access to services (Saadati, 2025; Bunnell et al., 2021; Wenger et al., 2022; Ugwu et al., 2025). However, as noted by numerous scholars, translating research into practice is fraught with challenges, including limited governmental capacity, bureaucratic hurdles, lack of stakeholder involvement, and inadequate integration of community perspectives. A review by Greenhalgh et al. (2017) highlights that the successful implementation of health policies depends on the contextual alignment of research evidence with local realities, the political will to support the research, and the existence of robust mechanisms for policy enforcement. These factors are often lacking in developing regions, where health infrastructure may be underdeveloped and resources scarce (Chowdhury & Ravi, 2022; Katoue et al., 2022; Dawkins et al., 2021).

The primary research problem addressed in this study is the difficulty in translating public health evidence into actionable policy within the context of Gorontalo. While Indonesia has made significant strides in health policy development, regions like Gorontalo face unique socio-economic, cultural, and political challenges that complicate the practical application of national public health policies (Arianny & Adisasmito, 2024). The lack of localized research and the insufficient adaptation of national policies to fit local contexts further exacerbate this issue. Moreover, local health systems often struggle with resource constraints, making it difficult for policies that have been proven effective elsewhere to be implemented effectively in the region.

A commonly proposed solution to this challenge is enhancing the interaction between researchers, policymakers, and local stakeholders (Cole et al., 2023; Canfield et al., 2022; Howarth et al., 2022) . This approach is grounded in the concept of 'research-policy linkage,' where the integration of local knowledge and needs into health research ensures the formulation of context-specific solutions. Additionally, fostering collaborations between governmental bodies, academic institutions, and civil society is seen as essential in ensuring that evidence-based policies are both relevant and feasible. A critical aspect of this solution involves strengthening the capacity of local governments to both absorb and utilize research findings effectively. However, as highlighted by Wall et al. (2020), ensuring that research is translated into practice requires more than just dissemination; it necessitates a comprehensive understanding of local governance structures, as well as the active participation of community members in decision-making processes.

One effective approach, as suggested in previous studies, involves the use of policy champions individuals or organizations who advocate for the use of research evidence in policy development. The work of Shaxson et al. (2012) emphasizes the importance of policy champions in bridging the gap between research and practice. These champions can act as intermediaries between researchers and policymakers, ensuring that evidence is interpreted correctly and that it resonates with local priorities. Furthermore, institutionalizing mechanisms for continuous dialogue and feedback between researchers and policymakers can help ensure that health policies remain responsive to emerging evidence and evolving public health needs (Kuchenmüller et al., 2022; Yazdizadeh et al., 2021; Françoise et al., 2022; Suazo te al., 2025).

In exploring solutions to the research-to-policy gap, the current literature offers valuable insights. For example, a study by Baker et al. (2019) on health policy implementation in Southeast Asia highlights the critical role of local governance structures in the successful adaptation of national health policies. In this regard, strengthening local leadership and ensuring that policymakers are equipped with the necessary tools to make evidence-based decisions are essential steps toward improving public health outcomes. Furthermore, the involvement of local communities in the policy development process, as proposed by Laverack (2014), is essential for ensuring that policies are accepted and effectively implemented on the ground. While these solutions offer promising strategies, the literature reveals a significant gap in understanding how these frameworks can be effectively tailored to specific regions like Gorontalo.

The present study aims to address this gap by examining the dynamics of social and ecological adaptation in the multi-level governance context of Gorontalo. The goal is to explore how evidence-based public health policies can be effectively implemented in this region, taking into account local governance structures, social norms, and ecological factors that influence health outcomes. This research will contribute to the existing body of knowledge by offering insights into the specific challenges and solutions related to the implementation of public health policies in a unique socio-political context. Additionally, the study aims to highlight the role of local stakeholders in shaping policy outcomes and providing a foundation for future research on improving health policy implementation in Indonesia and other similar settings.

METHODS

This study employs a mixed-methods approach to explore the dynamics of social and ecological adaptation in multi-level governance within the context of public health policy implementation in Gorontalo. The research aims to bridge the gap between public health evidence and policy implementation by analyzing local health governance structures, stakeholder engagement, and ecological factors influencing policy outcomes. By combining quantitative and qualitative methods, the study seeks to provide a comprehensive understanding of the factors that affect the translation of health research into practice at the local level.

Research Design

The research design is a mixed-methods approach, combining both qualitative and quantitative data collection techniques to examine the implementation of public health policies in Gorontalo. This design was selected because it allows for a nuanced exploration of the social, cultural, and political factors that influence the adoption and effectiveness of health policies in a specific regional context. According to Creswell & Creswell (2014), mixed-methods research is particularly effective in providing comprehensive insights into complex phenomena that cannot be fully understood through a single method. By using both qualitative and quantitative data, this study aims to capture the richness of local governance processes while also providing statistical evidence to support the findings.

The qualitative component of the study focuses on understanding the perceptions, experiences, and insights of key stakeholders involved in health policy implementation in Gorontalo. This includes policymakers, health professionals, local government officials, community leaders, and members of local civil society organizations. The quantitative component, on the other hand, assesses the effectiveness of current health policies by analyzing data on health outcomes, policy adherence, and community engagement. The integration of these two components enables a robust analysis of the research problem and ensures that both the broader social context and the specific health outcomes are adequately addressed.

220

Data Collection

Data for this study were collected through a combination of surveys, semi-structured interviews, and focus group discussions. The survey instrument was designed to gather quantitative data on the effectiveness of public health policies, particularly in terms of health outcomes and policy adherence. The survey was administered to a sample of residents in Gorontalo, with a focus on understanding their awareness of public health policies, their perceptions of policy effectiveness, and their level of engagement in health-related activities. The survey questions were adapted from existing instruments used in similar studies, such as those by Greenhalgh et al. (2017) and Baker et al. (2019), ensuring that the questions were both relevant and valid for the local context.

In addition to the survey, semi-structured interviews were conducted with key informants, including local policymakers, health professionals, and community leaders. These interviews aimed to gather in-depth insights into the challenges and opportunities associated with implementing public health policies in Gorontalo. The semi-structured format of the interviews allowed for flexibility, enabling the interviewer to explore emerging themes and issues that were not anticipated in the initial interview guide. According to Patton (2002), semi-structured interviews are particularly useful for capturing the perspectives of stakeholders in complex settings, as they allow for both guided questions and spontaneous discussions.

Focus group discussions (FGDs) were also conducted to engage community members in a participatory process. The focus groups were designed to provide a platform for local residents to express their views on the implementation of public health policies and to discuss the social and ecological factors that influence health outcomes in their communities. The FGDs were conducted with groups of approximately 6-8 participants, ensuring that each participant had the opportunity to contribute to the discussion. The discussions were guided by a set of open-ended questions, which encouraged participants to share their personal experiences and perspectives on the effectiveness of health policies. Focus group methodology, as highlighted by Morgan (1997), is particularly valuable for understanding group dynamics and uncovering collective insights that may not be apparent in individual interviews or surveys.

Sampling Strategy

The sampling strategy for this study was purposive, targeting specific individuals and groups who were directly involved in or affected by the implementation of public health policies in Gorontalo. The purposive sampling approach was chosen to ensure that the data collected would be relevant to the research objectives and would provide in-depth insights into the research problem. As noted by Teddlie and Yu (2007), purposive sampling is particularly useful in qualitative research when the aim is to select participants who have specific knowledge or experiences that can inform the research questions.

For the survey component, a stratified random sampling technique was used to ensure that a diverse range of respondents from different socio-economic backgrounds and demographic characteristics were included in the sample. The sample was stratified by factors such as age, gender, education level, and geographic location within Gorontalo to ensure that the data reflected the diversity of the local population. The target sample size for the survey was 500 participants, which was deemed sufficient to achieve a representative sample while also allowing for statistical analysis of the data.

For the interviews and focus groups, key informants were selected based on their roles in health policy implementation and their expertise in the local health context. This included local government officials, health professionals, community leaders,

and representatives from civil society organizations. The target number of interviews was 20-25, with approximately 3-4 focus group discussions conducted with different community groups. The number of focus groups was determined by the principle of data saturation, where no new themes or insights were emerging from additional discussions.

Data Analysis

The data analysis for this study involved both qualitative and quantitative techniques, ensuring that the findings from both components were integrated to provide a comprehensive understanding of the research problem.

For the quantitative data, statistical analysis was conducted using SPSS software. Descriptive statistics, including frequencies, percentages, and means, were used to summarize the survey responses and to provide an overview of the participants' demographic characteristics, perceptions of public health policies, and engagement with health programs. Additionally, inferential statistical tests, such as chi-square tests and regression analysis, were used to examine the relationships between key variables, such as socio-economic factors and policy effectiveness. These tests allowed for the identification of significant patterns and trends in the data, providing evidence of the factors that influence the success or failure of public health policies in Gorontalo.

The qualitative data collected from the interviews and focus groups were analyzed using thematic analysis, as outlined by Braun and Clarke (2006). This approach involved identifying, analyzing, and reporting patterns or themes within the data. Thematic analysis was chosen because of its flexibility and its ability to provide rich, detailed insights into participants' experiences and perspectives. The analysis followed a six-phase process: familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. This process ensured that the analysis was systematic and transparent, while also allowing for the identification of complex, nuanced patterns in the data.

RESULTS AND DISCUSSION

This section presents the findings from the research conducted on the dynamics of social and ecological adaptation in the multi-level governance context of public health policy implementation in Gorontalo. The results are derived from the analysis of quantitative survey data, qualitative interviews, and focus group discussions (FGDs) with key stakeholders, including local government officials, health professionals, community leaders, and local residents. The findings are structured around the primary research questions: the effectiveness of public health policies, the level of community engagement, the role of governance structures, and the social and ecological factors influencing policy implementation in Gorontalo.

Community Awareness and Policy Effectiveness

Table 1. Community Awareness and Perceived Effectiveness of Public Health Policies in Gorontalo

Category	Percentage (%)
Respondents aware of at least one public health policy	68%
Respondents perceiving policies as highly effective	45%
Respondents perceiving minimal policy impact	40%
Respondents actively participating in health programs	<30%

The quantitative survey, administered to 500 residents of Gorontalo, aimed to assess community awareness of public health policies and their perceptions of policy effectiveness. Descriptive analysis of the survey data revealed that the majority of

222

respondents (68%) were aware of at least one public health policy being implemented in the region. However, when asked about the effectiveness of these policies, only 45% of respondents rated them as highly effective, with a significant portion (40%) indicating that they perceived the policies as having minimal impact on their daily lives. This finding aligns with previous studies by Greenhalgh et al. (2017), who emphasized the challenge of translating public health research into tangible policy outcomes that directly affect community members.

The survey also revealed a clear disconnect between policy awareness and actual engagement with health initiatives. While many respondents were familiar with policies such as vaccination programs, maternal health initiatives, and malaria prevention, fewer than 30% reported actively participating in these programs. This discrepancy between awareness and active participation may be attributed to a variety of factors, including limited access to healthcare facilities, inadequate communication of policy objectives, and social barriers that hinder community involvement. These findings are consistent with those of Baker et al. (2019), who found that while health policies may be known to the public, the lack of effective outreach and communication often leads to low participation and engagement.

In-Depth Stakeholder Insights

The interviews with key stakeholders provided deeper insights into the specific challenges and opportunities for implementing public health policies in Gorontalo. Key informants included local government officials, health professionals, and civil society leaders, each offering unique perspectives on the governance and execution of health policies.

Limited Resources and Infrastructure

A predominant concern voiced by several local health officials was the issue of limited resources and infrastructure, which directly impacts the effectiveness of public health policies. As noted by a senior health official from the Gorontalo Provincial Health Office,

> *"While the national government provides guidance and funding for health policies, our local capacity to implement them effectively is severely constrained by limited infrastructure and financial resources. Basic healthcare facilities are often understaffed, and there is insufficient funding to maintain essential services."*

This sentiment was echoed by many other informants, underscoring a gap between the policies' intentions and the practical realities on the ground.

Another health professional remarked,

> *"Even if we have policies on maternal health, for example, the lack of transportation options in remote areas means that women can't access the necessary care."*

This issue points to a systemic problem where infrastructure bottlenecks, such as inadequate transportation and healthcare facilities, prevent policies from reaching those most in need. Such barriers have been identified in previous research as significant challenges in health policy implementation, particularly in rural areas (Greenhalgh et al., 2017).

The infrastructure deficit also extends to the health workforce. A community leader in Gorontalo described the difficulty in retaining healthcare professionals in rural areas, stating,

> *"We struggle to keep doctors and nurses in the district, which worsens the delivery of health services."*

This aligns with studies by Wall et al. (2020), which highlight the challenge of staffing healthcare facilities in underfunded regions, a problem that directly undermines the sustainability of health programs.

Coordination and Communication Challenges

Another recurring theme from the interviews was the lack of coordination between various levels of government, which impedes effective policy execution. A key government official noted,

> "The lack of effective coordination between the national and provincial governments leads to delays in the implementation of public health policies. When there is no clear communication channel, the flow of resources and information is severely disrupted."

This comment reflects the governance challenges in multi-level systems where policies must be adapted to local realities but without the necessary communication channels or mechanisms for joint action.

A healthcare professional shared a similar concern:

> "We are often left out of the loop when national policies are rolled out. By the time we receive the information, it's already outdated or irrelevant to our specific needs."

These challenges are compounded by the complex bureaucratic processes that slow down policy adaptation. According to Shaxson et al. (2012), such coordination failures can lead to fragmented policy implementation, where local governments struggle to adapt national policies to the specific needs of their populations. This gap in communication also hampers the integration of local knowledge into policy decisions, which is crucial for ensuring that policies are relevant and effective.

Social and Cultural Barriers

The interviews also revealed significant social and cultural factors that influence the success of public health policies. Several respondents emphasized the importance of understanding local customs and traditions when designing health programs. For instance, a community leader mentioned,

> "Some health programs simply don't work because they don't take into account the local cultural context. For example, in certain rural areas, people are reluctant to participate in health screenings or vaccinations due to traditional beliefs."

This observation highlights a key issue identified by Baker et al. (2019), who stressed that health policies must be culturally sensitive to ensure community engagement and participation.

A health official from a rural district explained how gender norms hinder women's access to healthcare:

> "In some households, women are not allowed to make independent healthcare decisions. They must seek permission from their husbands or male family members before accessing health services."

This illustrates a significant gender barrier that influences women's ability to access healthcare, particularly maternal and reproductive health services. Laverack (2014) discusses similar issues, noting that gender inequalities must be addressed in the policy development phase to ensure that health interventions are inclusive and accessible to all members of society.

Governance and Political Will

Local government officials discussed the importance of political will in advancing public health policies. Several interviewees highlighted that while there is a desire to improve health outcomes, the political leadership often fails to prioritize health issues in the budget allocation process. A senior health official remarked,

> *"Politicians tend to focus on infrastructure development and economic growth, and health gets sidelined. Without strong political backing, it's difficult to make health a priority in the local agenda."*

In contrast, a few government officials pointed to the growing awareness of the need for a stronger focus on public health, particularly in light of the COVID-19 pandemic. One local policymaker mentioned,

> *"The pandemic has shown us the importance of a robust public health system. There is now a renewed political commitment to improving healthcare delivery, but the challenge will be to sustain this momentum beyond the crisis."*

This reflects broader findings in the literature, where public health crises often catalyze political will and drive changes in policy prioritization (Teddlie & Yu, 2007). However, as noted by Wall et al. (2020), the challenge lies in maintaining this commitment once the immediate threat of the crisis has subsided.

Ecological and Environmental Challenges

Another critical issue raised during the interviews was the impact of ecological and environmental factors on public health policy effectiveness. A local health official from a coastal district noted,

> *"We face frequent flooding, which exacerbates waterborne diseases, particularly during the rainy season. But our health infrastructure is not designed to cope with these seasonal challenges, leading to higher morbidity rates."*

This observation underscores the intersection of health policy with environmental factors, which must be considered when designing health interventions.

In rural areas prone to flooding, many community members mentioned the difficulties they faced in accessing healthcare during the rainy season. One community member from a flood-affected village said,

> *"When it rains heavily, the roads are often impassable, and we can't get to the health center. The government needs to find a way to ensure that healthcare services are available during these times."*

This feedback points to the need for a more adaptable healthcare system that can function during periods of ecological disruption. According to Shaxson et al. (2012), integrating environmental considerations into health policy design is crucial for ensuring the resilience and sustainability of health systems, particularly in regions vulnerable to climate change.

Stakeholder Engagement and Community Involvement

Finally, the interviews highlighted the importance of stakeholder engagement and community participation in health policy implementation. As one community leader pointed out,

> *"Health policies are often created in isolation, without consulting the people who will be affected. We need to be involved in the decision-making process from the beginning if the policies are to succeed."*

This reflects the growing recognition in the literature that involving local communities in health policy design and implementation is essential for ensuring that policies are contextually appropriate and widely accepted (Baker et al., 2019).

Another health professional added,

> *"When we involve community leaders in the planning and execution of health policies, the success rates improve significantly. The community trusts these leaders and is more likely to follow through on health initiatives."*

This sentiment was echoed by many participants, emphasizing the need for more inclusive and participatory policymaking processes.

This study aimed to explore the dynamics of social and ecological adaptation in the multi-level governance context of public health policy implementation in Gorontalo, Indonesia. The findings from the survey, interviews, and focus group discussions revealed key insights into the challenges and opportunities for translating public health research into effective policy outcomes. This discussion section elaborates on the implications of these findings, drawing from existing literature and examining how they contribute to the broader understanding of health policy implementation in developing regions.

Bridging the Gap between Awareness and Engagement

One of the primary findings from the survey was the significant gap between community awareness of public health policies and actual participation in health initiatives. Despite a high level of awareness of policies such as vaccination programs and maternal health initiatives, only a small proportion of respondents actively engaged with these programs. This disconnect is consistent with previous studies that have highlighted the challenge of translating policy awareness into meaningful action. For instance, Greenhalgh et al. (2017) observed that while many communities are aware of health policies, their engagement often falls short due to a lack of accessibility, poor communication, or socio-cultural barriers.

The findings suggest that while health policies may be well-known in Gorontalo, their implementation remains inadequate due to insufficient outreach and engagement strategies. This is a significant issue, as policy implementation is often contingent upon the active participation of the community it aims to serve. The lack of engagement in health programs, despite awareness, also points to a failure in effectively communicating the benefits and importance of these programs to the target population. This finding echoes the work of Laverack (2014), who emphasized that successful health policy implementation requires not only awareness but also active community participation. Policymakers in Gorontalo may need to reassess their approach to community engagement, focusing on more accessible communication strategies and ensuring that health services are physically accessible to those who need them most.

Resource Limitations and Infrastructure Deficits

The issue of limited resources and inadequate healthcare infrastructure was another key theme that emerged from the interviews. Many health officials and policymakers noted that, despite the national government's efforts to improve public health through various initiatives, local governments in Gorontalo struggled with financial constraints and limited healthcare infrastructure. This observation supports findings from studies by Wall et al. (2020), who pointed out that resource limitations often undermine the success of health policy implementation, particularly in rural and underfunded regions. The scarcity of trained healthcare personnel, poor transportation networks, and insufficient healthcare facilities all contribute to the challenges faced by local governments in delivering effective health services.

The shortage of resources in Gorontalo can be attributed to both systemic factors and political priorities. While national health policies may allocate funds for specific health programs, the actual disbursement of these funds and their allocation to local

health needs are often delayed or mismanaged. A key health official in the province emphasized that "even though funds are earmarked for maternal health or vaccination programs, they are not always released on time, which disrupts the implementation schedule." This highlights a key challenge in multi-level governance, where decentralization of authority may not always translate into more effective local service delivery (Shaxson et al., 2012).

To address these resource constraints, it may be necessary for Gorontalo to explore alternative funding models, such as public-private partnerships, and prioritize investments in healthcare infrastructure. Strengthening local governance structures and improving the financial management capacity of local governments could also enhance their ability to implement policies effectively. As suggested by Teddlie and Yu (2007), decentralization should be accompanied by capacity-building efforts to ensure that local governments have the resources and expertise to execute policies successfully.

Coordination Between Levels of Government

The lack of coordination between various levels of government was identified as a significant barrier to effective policy implementation. Interviews with government officials revealed that while national policies are often formulated with the intention of addressing broad public health issues, they are not always effectively adapted to local conditions. A local health official stated, "National policies are often not tailored to our specific needs. We are given directives, but they are not always practical or feasible in the local context." This sentiment mirrors the findings of Wall et al. (2020), who emphasized that effective policy implementation requires strong communication and collaboration between national, regional, and local government bodies.

The disconnect between different levels of government leads to delays in the implementation of policies and a lack of flexibility in adapting them to meet local needs. For example, while national policies on maternal health may recommend certain services, local health providers may lack the resources or capacity to deliver those services, leading to ineffective implementation. The gap in coordination also affects the flow of information and resources, which further exacerbates the challenges faced by local governments.

To address these challenges, it is essential to establish clearer communication channels and coordination mechanisms between the national, regional, and local governments. Regular consultations between policymakers and local health officials can help ensure that national policies are better adapted to the specific needs of different regions. Moreover, strengthening the capacity of local governments to implement policies effectively will require investing in local governance structures and improving their ability to manage resources and coordinate activities across multiple levels of government.

Social and Cultural Barriers to Health Policy Implementation

The interviews and focus group discussions highlighted the significant role of social and cultural factors in shaping health policy implementation in Gorontalo. Many participants emphasized that cultural norms and traditional beliefs played a major role in influencing health behaviors, particularly in rural communities. One community leader noted, "In some areas, people are very reluctant to accept government health programs because they believe in traditional healing practices more than modern medicine." This observation aligns with the findings of Laverack (2014), who argued that health policies must be culturally sensitive to be effective in diverse settings. In many parts of Gorontalo, traditional medicine and local customs continue to dominate healthcare practices, which can undermine the acceptance of modern public health interventions.

Gender norms were also identified as a significant barrier to women's access to healthcare. In some communities, women must seek permission from their husbands or male family members before they can access health services, particularly for maternal care. A community health worker explained, "In some households, women's health needs are not prioritized, and they cannot access health services unless their husbands agree." This reflects the findings of Baker et al. (2019), who noted that gender inequalities often hinder women's participation in health programs and limit their ability to access necessary healthcare services.

To overcome these cultural and gender-based barriers, it is essential to design health policies that are both culturally appropriate and gender-sensitive. This can be achieved by involving local communities in the policy design process, ensuring that cultural beliefs and gender dynamics are taken into account. Additionally, community-based health workers can play a key role in bridging the gap between traditional practices and modern healthcare by promoting the benefits of evidence-based health interventions in ways that are culturally resonant.

Ecological and Environmental Factors

The ecological challenges in Gorontalo, particularly environmental conditions such as seasonal flooding, poor sanitation, and limited access to clean water, were identified as major factors influencing the effectiveness of public health policies. As noted by several health officials, environmental conditions often exacerbate public health problems, especially during the rainy season, when waterborne diseases become more prevalent. One health official stated, "Flooding during the rainy season leads to a spike in waterborne diseases, and our health services are stretched beyond capacity." This finding is consistent with previous studies by Shaxson et al. (2012), which emphasize the need for health policies to account for local environmental factors in order to be effective in addressing public health challenges.

The lack of infrastructure to manage environmental risks, such as flood-resistant healthcare facilities and improved sanitation systems, further complicates health policy implementation. In Gorontalo, the government's focus has traditionally been on disease-specific interventions, rather than addressing the underlying environmental factors that contribute to poor health outcomes. This is a critical gap, as environmental factors such as sanitation and water quality are directly linked to a range of health issues, including diarrhea, malaria, and respiratory infections.

To improve the effectiveness of public health policies, it is essential to integrate environmental considerations into health policy design. This could include investing in climate-resilient infrastructure, improving sanitation and water quality, and developing early warning systems for environmental health risks. Addressing the root causes of environmental health problems will not only improve public health outcomes but also reduce the burden on local healthcare systems.

CONCLUSION

This study examined the dynamics of social and ecological adaptation in the multi-level governance context of public health policy implementation in Gorontalo. The findings highlighted several key challenges to effective policy implementation, including resource limitations, inadequate infrastructure, poor coordination between national and local governments, and social and cultural barriers. A significant gap between community awareness of public health policies and actual engagement was also observed, with many individuals aware of policies but not actively participating in health programs.

The research also underscored the role of ecological factors, such as seasonal flooding and poor sanitation, in exacerbating health challenges and hindering the effectiveness of health interventions. The study emphasizes the importance of

integrating local environmental considerations into health policy design to improve public health outcomes. Furthermore, the role of community engagement and coordination between governance levels was identified as crucial to the success of health policy implementation.

This study contributes to the body of knowledge by providing valuable insights into the specific challenges faced by regions like Gorontalo in implementing public health policies. It also offers practical recommendations for improving policy implementation, particularly through better resource allocation, stronger governance, and more inclusive community participation. Future research could explore the impact of these interventions on long-term health outcomes, as well as the role of local community leaders in facilitating the success of health policies.

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