



## Revitalizing Rural Healthcare: A Case Study of Village Maternity Cottages in Indonesia

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### ABSTRACT

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Disparities in health facilities between urban and rural areas significantly hamper health services in rural communities. Due to the high maternal and newborn mortality rates in East Nusa Tenggara Province, the Indonesian government revitalized health services through the Village Maternity Cottages Program. This study seeks to describe the index of community satisfaction with the quality of service at the Village Maternity Cottages. In addition, it provides strategic planning for the program in realizing long-term sustainable development of health services. This research uses a Mix Method approach. Data collection methods included observation, interview, and questionnaire distribution. Primary data were collected from 78 participants who accessed the Village Maternity Cottages health services in Suanæ Village, East Nusa Tenggara Province. The results showed that the Village Maternity Cottages User Community Satisfaction Index obtained an average rating of good, to very good in fourteen categories of health services. Strategic planning can be done by the Regional Head must develop a Village Maternity Cottages Policy that sets out steps to achieve sustainable health service development goals. The government's ability to empower groups, build partnerships, develop strategic planning, funding stability, program evaluation, and environmental support as sustainable program development in the future.

## 1. INTRODUCTION

A fundamental problem in the delivery of health services in rural areas is the gap in access to health facilities between urban and rural communities [1]. Geographical and economic conditions also affect the unequal distribution of health services in remote areas of Indonesia. Despite having adequate health infrastructure, a large number of primary healthcare institutions lack doctors, especially in Papua (45.2%), Maluku (44.9%), West Papua (40%), Southeast Sulawesi (29.5%), and East Nusa Tenggara (20.5%) [2]. In addition, around 2.9 million people do not have access to health services [3]. Therefore, the Indonesian government has integrated and revitalized health services at the village level through the Village Maternity Cottages (Polindes) program.

Village Maternity Cottage are Indonesian village maternity clinics or birth centres that provide maternal and child health services such as postpartum care, delivery, growth monitoring, and health education [4, 5]. "Polindes" stands for "Village Maternity Cottage". The Village Maternity Cottage is a form of community participation in providing maternity care [6]. Village Maternity Cottage can be found across Indonesia, particularly in East Nusa Tenggara Province. This condition is due to the high maternal and infant mortality rate in the area [7].

According to a 2022 study, there were 63 maternal deaths and 426 newborn deaths in the South-Central Timor District of East Nusa Tenggara (NTT) Province as of June 2021 [7]. In

2020, NTT experienced 149 maternal fatalities and 744 newborn deaths [8]. The leading causes of maternal and newborn mortality in East Nusa Tenggara (NTT) differ. According to a report, the leading causes of maternal death in NTT are hemorrhage and eclampsia [9]. Injustice in services and medical conditions have also been recognized as factors contributing to NTT's high maternal and newborn death rates [10, 11]. According to one study, the infant mortality rate in East Nusa Tenggara increased from 7 to 11.7 per 1000 live births [12]. Overall, the causes of mother and infant mortality in NTT are complicated and multidimensional. Thus, building sustainable health services, particularly the Village Maternity Cottage, is critical to overcoming them.

A previous study has demonstrated the significance of healthcare development policies in lowering mother and child mortality [13]. Furthermore, research in the Bulukumba and Takalar areas demonstrates that public health strategies have been implemented to minimize maternal and newborn mortality [14]. However, in Indonesia, regional health sector development only sometimes positively influences attempts to reduce maternal, baby, and toddler mortality [15]. The government may play an essential role in lowering maternal mortality through well-sustainable development, such as increasing access to health services, enhancing the quality of health services, and raising public understanding of the importance of maternal and child health. Without exception, Village Maternity Cottage can play an essential role in lowering mother and child mortality by developing sustainable

quality health services [5].

The community requires health services because it is an intrinsic feature of life, particularly for women and children, and Suanæ Village, East Nusa Tenggara Province, is no different. The Village Maternity Cottage serves an uncommon function in that it not only assists pregnant women in giving birth but also serves the local community's health in general, particularly in improving the quality of a healthy life. Previous research has indicated that assessing people's satisfaction with health care is critical in sustainable development [16, 17]. Healthcare sustainability measures have been explored for policy, practice, and other development research [18, 19]. Thus, this study aims to examine the satisfaction index of the people of Suanæ Village, East Nusa Tenggara Province, with the quality of Village Maternity Cottage and to give strategic planning as the primary measure of sustainable development in health services.

## **2. LITERATURE REVIEW**

### **2.1 Health service sustainability development**

SDGs (Sustainable Development Goals) are 17 goals that all countries adopted to achieve sustainable development [20]. Thus, Goal 3 focuses specifically on health, and almost all SDGs are directly or indirectly related to health [21]. Furthermore, the SDGs aim to ensure healthy lives and promote well-being at all ages, which is essential for sustainable development [22]. Similarly, high-quality health systems are a cornerstone of sustainable development, and research has been conducted on public health needs and expectations, health sector governance, and partnerships [17]. In addition, there are systematic studies on the implementation of health and sustainable development goals related to health services [23]. Therefore, sustainable development and public health are highly correlated and conditioned to each other [24].

Research on the development of healthcare sustainability is an important topic in healthcare. As per research in Nigeria, the implementation of health services poses challenges due to environmental support [25]. Thus, health services and medical social facilities have a great responsibility in society, namely the quality of services, but it is also important to develop a sustainable development system [26]. There are concerns about maintaining a sustainable healthcare system while providing high-quality, effective, and safe healthcare [27]. Furthermore, health sustainability metrics are being developed to address these issues [28]. Thus, the need for further understanding and guidance for healthcare sustainability is the importance of community intervention [29].

### **2.2 Development of village maternity cottage health services**

Village Maternity Cottages (Polindes) provide monitored accommodation for pregnant women who live far from public health centers and must wait for delivery or postpartum care [30]. Previous research has shown that such programs increase access to skilled professionals and improve maternal and newborn health outcomes [31]. Similarly, other studies have been conducted to assess the experiences and expectations of women who use the facilities and strengthen the services they provide [32]. Nevertheless, previous research on Village Maternity Cottages in Indonesia has only looked at the

usability and management of these health services [33]. Thus, it is vital to implement a debriefing program of Village Maternity Cottages in rural areas as part of the public health development framework [34].

### **2.3 Community satisfaction index of health service users on sustainable development**

Research on the Public Satisfaction Index of Health Service Users is critical to development as it can help identify areas where health services can be improved to better meet the needs of the public. Previous studies have explored the relationship between various dimensions of satisfaction, such as perceived quality, perceived value, public expectations, public trust, and public satisfaction [35]. Similarly, other studies have found that it is important to establish a quality evaluation index system for specific healthcare services, such as Internet medical and health information platforms [36]. In line with previous research, how understanding the factors that influence satisfaction can complement studies on accessibility to health services and help improve overall health outcomes [37]. Thus, the Public Satisfaction Index can be used as an evaluation tool to ensure the continuity of health service quality [38].

## **3. METHOD**

This research design combines qualitative and quantitative methods to describe or explain the problem being investigated accurately and systematically interpret and explain existing data based on visible facts or as they are [39]. The author integrates data to strengthen the research results by displaying the results quantitatively and qualitatively. This technique involves creating figures, tables, or graphs to compare and contrast quantitative and qualitative data or findings. In addition, the author prioritizes qualitative data to expand quantitative data by exploring areas not covered by quantitative data. Data collection methods include observation instruments, interviews, field notes, and the use of documents. Primary data sources are information collected directly from informants or other direct sources. Primary sources are data sources that provide data to data collectors directly.

The primary data sources of this research are informants and respondents as service users (customers) who utilize all health services of the Village Maternity Cottages in Suanæ Village, West Miomaffo District, North Central Timor Regency, and East Nusa Tenggara Province, Indonesia. The population is a large category that contains objects/subjects with specific qualities and attributes. The population of this study was people who had received the Village Maternity Cottages Service in Suanæ Village. Research respondents were used because the questionnaire was used as a data collection tool in this study. According to information from the Village Maternity Cottages in Suanæ Village, which serves three visitors per day who need health services for one month, three times 26 days equals 78 residents. If the population is less than 100, all samples are obtained; however, if the population is significantly more than 100 individuals, 10-15% or 20-25% of the entire population can be taken. After that, the entire population can be sampled [40]. The analysis technique used to create this frequency distribution table limits the classification of answers to four classes, with the understanding that the classification of answers is adjusted to

the number of categories/classes used in making the Likert scale questionnaire.

#### 4. RESULTS

Regulation of the Minister of Health of the Republic of Indonesia Number 4 of 2019 concerning Technical Standards for Fulfilling Quality of Basic Services in the Minimum Service Standards in the Health Sector are as follows: First, the Regulation establishes technical standards for essential health services in Indonesia. Second, the Regulation of the Minister of Health aims to improve the quality of primary health services in Indonesia and ensure that they meet the standards set by the government. Third, the Regulation applies to all health facilities providing essential health services in Indonesia. Furthermore, Regulation of the Minister of Health of the Republic of Indonesia Number 8 of 2019 Concerning Community Empowerment in the Health Sector emphasizes the importance of the central government working with local governments in providing empowering health services, especially for mothers and children. This is intended to support the Village Maternity Cottage Program, which aims to improve the health of mothers and children in rural areas by providing essential health and education health services. Table 1 contains supporting regulations for the Village Maternity Boarding program, including:

**Table 1.** Village maternity cottage supporting regulations

No	Regulation	About
1	Government Regulation of the Republic of Indonesia Number 7 of 1987	Delegation of Some Government Affairs in the Health Sector to the Regions
2	Law of the Republic of Indonesia Number 23 of 2014	Local government
3	Regulation of the Minister of Health of the Republic of Indonesia Number 4 of 2019	Technical Standards for Fulfillment of Basic Service Quality in Health Sector Minimum Service Standards
4	Regulation of the Minister of Health of the Republic of Indonesia Number 8 of 2019	Community Empowerment in the Health Sector

Data processed by the author, 2022.

Village Maternity Cottage (Polindes) are health service facilities supported by Indonesian government policy (see Table 1). Law No. 23 of 2014 concerning Regional Government grants rights, authorities, and obligations to autonomous regions to regulate and manage their government affairs and regional interests. As with mandatory government affairs related to essential services, regional heads are the regions' leading sector in health services. Thus, Village Maternity Cottage Program in several regions in Indonesia, the Regional Heads made special regulations to support the program, such as Batam Mayor Regulation Number 41 of 2010 and Pangandaran Regent Regulation Number 2 of 2016, which regulates the operation of Polindes and other health. However, the author's search has yet to obtain or find a Regional Regulation of the Province of East Nusa Tenggara concerning Village Maternity Cottage (Polindes) that could hinder this initiative.

#### 4.1 Satisfaction of community users of village maternity cottage in Suanae Village

User satisfaction is used as a critical performance metric to assess how effective the Village Maternity Cottage program in Suanae Village is for the community as a whole. A survey or questionnaire can be conducted to assess community satisfaction with the Village Maternity Cottage to assess their experience and satisfaction with the health services provided. The author refers to the Decree of the Minister of Administrative Reform Number: Kep/25/M.PAN/2/2004 concerning General Guidelines for Compiling the Public Service Satisfaction Index for Government Service Units, where 14 relevant and valid elements must be present in Polindes services. To determine the level of satisfaction, namely: (1). Service Procedure. (2). Terms of Service. (3). Clarity Service Officer. (4). Service Officer Discipline. (5). Responsibilities of Service Officers. (6). Service Officer Ability. (7). Service Speed. (8). Justice Gets Service. (9). Politeness and Friendliness of Staff. (10). Fairness Service fee. (11). Certainty of Service Fees. (12). Certainty of Service Schedule. (13). Environmental Comfort. (14). Service Security. The table below shows the size of the Community Satisfaction Index on the Overall Quality of Village Maternity Cottage Services in Suanae Village, West Miomaffo District, North Central Timor District, and East Nusa Tenggara Province from 78 health service users.

**Table 2.** Community satisfaction index of users of village maternity cottage services in Suanae Village

No	Element	Score Range	Category
1	Service Procedure	3.62	Very good
2	Terms of Service	3.62	Very good
3	Clarity Service Officer	3.62	Very good
4	Service Officer Discipline	3.34	Good
5	Responsibilities of Service Officers	3.42	Good
6	Service Officer Ability	3.74	Very good
7	Service Speed	3.42	Good
8	Justice Gets Service	3.62	Very good
9	Politeness and Friendliness of Staff	3.62	Very good
10	Fairness Service fee	3.38	Good
11	Certainty of Service Fees	3.64	Very good
12	Certainty of Service Schedule	3.34	Good
13	Environmental Comfort	3.64	Very good
14	Service Security	3.64	Very good
Total		49.66/14=3.54	Very good

Data processed by the author, 2022.

Village Maternity Cottages are a type of health facility that provides maternal and child health services in rural Indonesia. Table 2 shows the Satisfaction Index of Community Users of Village Maternity Cottage in Suanae Village, obtaining an average in the good and very good categories of the fourteen elements of health services. According to research, access to midwives' services at the Village Maternity Cottage is higher than other health services for dealing with complaints of pregnancy and delivery assistance [41]. Measuring community satisfaction using the Village Maternity Cottage in Suanae Village can be used as a regional sustainable development plan, especially in maternal and child health services. Evaluation of program services aims to ensure compliance with the performance indicators set by the central

government and local governments [42].

The results of this evaluation will then be used as feedback for sustainable development in formulating the Governor's policy to realize consistency of Village Maternity Cottage Health services between policy implementation and regional development plans in East Nusa Tenggara Province. Even though the Village Maternity Cottage Program in Suasane Village has been running very well, at least it can become a pilot area for villages in North Central Timor District, East Nusa Tenggara Province. Because in several regions in Indonesia, Regional Heads make special regulations to support the Village Maternity Cottage program. Meanwhile, the author's observations have yet to find a Regional Regulation of the Province of East Nusa Tenggara regarding Village Maternity Cottage (Polindes), which could hinder most other villages from participating in the initiative.

#### 4.2 Strategic planning sustainable development of village maternity cottage

Strategic Planning for Sustainable Development of Village Maternity Cottage (Polindes) aims to improve health services, especially for mothers and children. The main components of this health service model include contextual solutions that address various conditions, systemic solutions that address

interrelated problems, community participation, management of health programs by the community itself, and provision of basic needs. In addition, it is crucial to focus on preventing illness and death for both mother and child. Furthermore, it is vital to increase access to care while building a sustainable health strategic plan for the people of East Nusa Tenggara, especially in Suasane Village. Thus, strategic planning measures for the Village Maternity Cottage Policy as an effort to develop sustainable health services in Suasane Village can be seen in Table 3.

Strategic planning for the sustainable development of Village Maternity Cottage health services should involve policymakers by outlining steps and focusing on stakeholders to achieve goals and fulfil plan objectives [43]. The main components of strategic planning for the sustainable development of health services include identifying critical needs and solutions to meet the needs of Village Maternity Cottage. Strategic planning for the sustainable development of Village Maternity Cottage Health services is the central and regional governments' responsibility to empower the people of Suasane Village. The strategic plan must address health disparities and advance health equity for the people of Suasane Village. Large-scale changes must be integrated into long-term plans, and Regional Leaders must be wise in planning the future of health services in East Nusa Tenggara Province.

**Table 3.** Strategic planning for village maternity cottage policies

No	Actors	Strategic Planning Action
1	Central and Regional Government Strategic Planning	1. Develop and disseminate policies, guidelines, and technical instructions for Village Maternity Cottage.
		2. Forming a Village Maternity Cottage coordinating forum integrated with cross-sectoral and relevant stakeholders.
		3. Creating an integrated information system for the Village Maternity Cottage.
		4. Increasing the capacity of Village Maternity Cottage at the Central and regional levels.
		5. Provide guidance and assistance in the implementation of Village Maternity Cottages for Provinces, Regencies, and Cities
		6. Monitoring and evaluating the implementation of Village Maternity Cottage nationally and regionally regularly.
2	Community empowerment	1. Educating the community on recognizing and resolving the health issues that mothers and children confront.
		2. Raising public awareness through community mobilization.
		3. Community building and organizing, particularly for mothers and children.
		4. Expanding collaborations and engagement across sectors, social institutions, community organizations, and the commercial sector.
		5. Expanding the use of local wisdom-based potential and resources.
		6. Align existing Village Maternity Cottage programs and activities with community needs and agreements.

Data processed by the author, 2022.

**Table 4.** Inhibiting and supporting factors of strategic planning for sustainable policy development of village maternity cottage

Supporting Factors	Inhibiting Factor
1. The Central/Regional Government and the community are the three main indicators that support the Village Maternity Cottage Health Service policy.	1. Inability to understand, empower, and communicate effectively with the Village Maternity Cottage Program.
2. There is a work program that is the target of the program for implementing sustainable development policies for Village Maternity Cottage Health Services.	2. There is no work program that has become the target of the program for implementing sustainable development policies for Village Maternity Cottage health services.
3. Availability of regulations on the basis and work structure as stated in the main tasks and functions.	3. There is no regulation on the foundation and work structure as stated in the main duties and functions.
4. There is authority to formulate and determine, as well as management of resources in the management of Village Maternity Cottage.	4. Still relying on central government decisions to provide health care facilities.
5. Budgets and resources are available in each agency, as well as support from the central and regional governments that can be allocated synergistically.	5. There is no network or synergy between local governments in cooperating with the Village Maternity Cottage Program.

Data processed by the author, 2022.

Several factors can inhibit and support the development of sustainable policies in the Village Maternity Cottage health services (see Table 4). Several supporting factors, including the Central/Regional Government and the community, are the three leading indicators that support the Village Maternity Cottage Health Service policy. Thus, the ability of the central/regional government to build partnerships and develop strategic planning, funding stability, program evaluation, and environmental support are essential factors in program success. Identified inhibiting factors include risk knowledge, empowering groups, communicating programs, program goals and objectives, local government political support, work foundation and structure, funding stability, partnership networks, and environmental support. Community participation can be incorporated into a model of sustainable health services in rural areas by involving community members in the design, implementation, and evaluation of health services [44]. This can be achieved through a community development approach that prioritizes community participation, community profiling to target services, and community management programs to sustain the Village Maternity Cottage Program in Suanae Village.

## 5. DISCUSSION

Community satisfaction, service quality, provider availability, and patient outcomes are interrelated factors influencing program success and health services' sustainable development. Previous studies have shown that physician behavior significantly moderates the effect of healthcare services on patient satisfaction [45]. Similarly, other studies have shown that the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey is designed to generate data on patient care perspectives that allow objective and meaningful comparisons of hospitals [46]. At the same time, previous studies showing patient involvement in the delivery or redesign of health services can inform patient and provider education and policy and improve service delivery and governance [47]. Policymakers should consider patient satisfaction with the quality of care, involving patients in the delivery or redesign of health services, and ensuring the availability of providers are all crucial steps for planning and implementing the Village Maternity Cottage Program in Suanae Village.

Recommending strategic planning for the sustainable development of Village Maternity Cottage in Suanae village is very important. This plan helps the central and regional governments provide Village Maternity Cottage health services to be proactive rather than reactive, anticipate changes, and better meet the demands for effective patient care amid increasing maternal and child mortality in East Nusa Tenggara Province, Suanae Village. In line with previous studies proving that patients who have a full-time doctor or healthcare provider receiving care from the same provider over time tend to feel comfortable and confident in their care, which can result in higher satisfaction with the healthcare experience [48, 49]. Therefore, strategic planning must overcome disparities in health services and advance health equity by encouraging stakeholders to assess whether the program's goals, objectives, and success have been achieved in addressing public health in Suanae Village. Significant changes must be made in the long-term plan to establish an effective health service strategic plan to unify the understanding that the involvement of the

Central/Regional Government and the community indicates the success of the Village Maternity Cottage Program in East Nusa Tenggara Province, in Suanae Village.

Identifying supporting and inhibiting factors is crucial in developing sustainable Village Maternity Cottage Health services in Suanae Village. The importance of the ability of the Central/Regional Government to build partnerships, develop strategic planning, stability of funding, program evaluation, and environmental support as essential factors in the success of the program. At the same time, social aspects such as active communication and community participation, human-centered development, environmental factors, and health services are still limited. In line with previous research, policy implementation, preventive and promotive strengthening, and community empowerment are needed to improve health services. Therefore, essential policy implementers prioritize a community development approach that prioritizes community participation, community profiling to target services, and community management programs to sustain the village maternity hut program in Suanae village [50]. So that increasing access to and quality of health services at the Village Maternity Cottage is a critical factor in the development of sustainable health in East Nusa Tenggara Province in Suanae Village.

## 6. CONCLUSIONS

The study results show that there has yet to be an initiative by the Regional Head to make a Regional Regulation concerning Village Maternity Cottage, which could hinder the program's sustainability. In addition, the community satisfaction index with the Village Maternity Cottage Program in Suanae Village averaged the Good and Very Good categories of the fourteen elements of health services. The evaluation results recommended that the Head of the Region develop a Village Maternity Cottage Policy, which stipulates steps to develop sustainable health services. Even though the Village Maternity Cottage Program in Suanae Village has been running very well, at least it can become a pilot area for East Nusa Tenggara Province villages. Thus, it is essential to identify strategic planning for the sustainable development of health services by looking at critical needs and solutions to meet the needs of the Village Maternity Cottage in Suanae Village.

Strategic planning for the sustainable development of Village Maternity Cottage Health services is the responsibility of the Central and Regional governments to provide community empowerment. Several factors can support or hinder the development of sustainable policies in the Village Maternity Cottage health services in Suanae Village; first, the central/regional government and the community are the three leading indicators that support the Village Maternity Cottage health service policy. Second, the ability of the central/regional government to build partnerships, formulate strategic planning, funding stability, program evaluation, and environmental support as essential factors in program success. Identified inhibiting factors include risk knowledge, empowering groups, communicating programs, program goals and objectives, local government political support, work foundation and structure, funding stability, partnership networks and environmental support. Future research must replicate this research by seeing community participation in social, technological, economic, and cultural aspects as the

primary performance indicator for a sustainable health service model in rural areas.

The strength of this study lies in combining quantitative and qualitative data to draw conclusions. It not only explains the index of public satisfaction with health services, but also provides strategic planning for the program. Limitations of this study include the relatively small sample size, and not conducting in-depth interviews with stakeholders. Future research should replicate this study by looking at community participation in social, technological integration, economic, and cultural aspects by looking at other regions in Indonesia. In the future, this research can be used as a key performance indicator for sustainable health service delivery models in rural Indonesia.

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