Original Research

Community Behavior Factors in Environmental Health Care: An Exploratory Study

Ni Nyoman Nuartini¹*, NLP Dina Susanti¹, I Made Sudarsana², & Ni Kadek Sutini¹

¹Institut Teknologi dan Kesehatan Bali, Denpasar, Indonesia
²Institut Teknologi dan Bisnis Stikom Bali, Denpasar, Indonesia

Article Info

Abstract

Introduction: Maintaining a universal balance is one goal of environmental cleanliness. Environmental cleanliness is difficult to handle in Bali, especially in Tabanan. The government involves the village to solve this problem. The goals are to explore the leading and inhibiting factors influencing people's behavior to maintain environmental health and realize the balance of tri hita karana.

Methods: This study employed qualitative and explorative. Ten participants were interviewed using in-depth interviews. Data was validated by source triangulation (community, community leaders, health workers) and analyzed thematically. Results: The themes were determinant factors that lead to community behavior, inhibiting factors of community behavior, and community perceptions in environmental health maintenance. The inhibiting factors were that many people had vacant land to dispose of garbage, access to information media needed to be improved, and facilities and infrastructure required to be added. The public's perception of environmental cleanliness associated with the tri hita karana concept was good and supported this effort.

Conclusion: Several factors influence people's environmental behavior toward tri hita karana. These factors include leading, inhibiting, and influencing people's perceptions of environmental cleanliness when associated with tri hita karana. When connected with efforts to tri hita karana, keeping the environment clean is expected to help create harmonious human relations with nature, which can directly or indirectly impact human-to-human relations and human relations with God.

Keywords: community behavior, environment, Tri Hita Karana

*Corresponding Author:
e-mail: nuartini88@gmail.com

This work is licensed under a Creative Commons Attribution 4.0 International License.
INTRODUCTION

Balinese culture believes that a balance between health and happiness will be created if the three orders of life are adequately maintained. This order of life consists of the environment, humans, and God [1]. Our ancestors maintained this for a long time. This is known as the relationship between the order of life in Bali and is often called tri hita karana. The word tri hita karana comes from Sanskrit, which means a balanced or harmonious relationship that can lead to happiness in human life. The relationship in question is the relationship between humans and God, the relationship between humans and humans, and what is no less important is the relationship between humans and the universe [2]. One of the things related to the tri hita karana concept is the creation of harmonious human relations with the universe. This can be realized by efforts to maintain cleanliness and environmental health. Maintenance of environmental cleanliness cannot be separated from waste problems. Bali is one island with a problem regarding high waste production. The waste composition in Bali shows a ratio of 70% organic and 30% inorganic waste. This requires serious handling and involves all parties, especially the community, as the leading waste producer [3].

The government has made various efforts, such as issuing several regulations and policies related to environmental health. Necessary regulations issued by the central government concerning environmental protection and management and environmental health further discuss environmental management, including waste. The regional regulations of the province of Bali related to environmental health are as follows: regional regulation No. 1 of 2017 concerning environmental protection and management and waste management. This regulation regulates waste management efforts as optimally as possible to protect the environment from pollution [4]. One of the districts in Bali that has practiced tri hita karana is Gianyar district, especially in terms of regulating rice field waters (subak), which has a positive impact on the rice field irrigation system [5].

Tabanan is one of the districts that also experiences environmental health problems, especially waste problems. The impact of this problem is a decrease in the quality of health, damage to nature, and risk factors of the disease. This problem must be solved immediately to prevent even worse impacts. Tabanan government issued regent regulation No. 12 of 2020 concerning household waste management and household-type waste processing. In an effort to accelerate the handling of this waste, the Tabanan regency government involves all sectors, including the government at the village level. This regulation also expects that waste has been managed at the household level [6].

A village known as Selemadeg Village in Tabanan Regency was one of the communities that participated actively in waste control activities. TPS Bumi Asri was the name of the waste processing facility located in this village. It is common practice to provide the residents of this hamlet with socialization regarding source-based trash
processing through the utilization of the reduce, reuse, and recycle (3R) method. This effort's success is highly dependent on community behavior to maintain cleanliness and environmental health. Knowing more about the supporting and inhibiting factors of this community behavior is necessary. That is the reason this research wants to know more deeply about the supporting factors and inhibiting factors of community behavior in maintaining environmental health towards a balance of tri hita karana in Selemadeg Village.

METHODS

Study design

This study used a qualitative design with an explorative approach. The research was conducted for two months, from July to August 2022. The research and interview location was in Selemadeg Village.

Participants

Interviews were conducted at each participant's home. The population of this research is all the people of Selemadeg village. The sample was taken using a purposive sampling approach with the inclusion criteria; the main participants were the Selemadeg village community who carried out waste processing using the 3R method, had heard about Tri Hita Karana, and were willing to become research participants. Meanwhile, the inclusion criteria for supporting participants were officers or community leaders who understand waste processing using the 3R method, understand Tri Hita Karana, and were willing to become research participants. The exclusion criteria for all participants were those who were absent when collected data was carried out and were not willing to become participants in this research. The sample consists of seven main participants and three supporting participants.

Data collection

All research participants were explained the research process before the interview and given informed consent to be signed by the participants before being interviewed. The interview was conducted for approximately 30 minutes using an in-depth guide with structured open-ended questions concerning the patient's comfort and privacy. The in-depth interview guide includes questions about the situation related to waste problems and environmental health in Selemadeg village, the impacts caused by waste problems, waste processing methods, especially using the 3R method, the role of the community, officers and community leaders in waste and environmental management, perceptions of the community, officers and community leaders regarding waste processing and the relationship with tri hita karana and the participant hopes for the existence of tri hita karana to help balance and preserve the environment. All samples selected as participants were willing to do in-depth interviews. Interviews were conducted by researchers directly as a main research measuring instrument. The researcher has received several pieces of training on qualitative research and completed several certificates of qualitative research data.
processing workshops. Researchers also always consult with experts in the field of qualitative research to maintain the accuracy of the data obtained.

**Data analysis**

The process of thematically analyzing data began with the repeated reading of interview transcripts, followed by the creation of codes, the identification of themes and sub-themes, and finally, the presentation of the data in narrative form, which can describe both the data and the outcomes of the analysis.

**Ethical considerations**

This research has received an ethical test certificate from the ITEKES Bali Ethical Commission research permits and ethical clearance with the ethical clearance letter No. 03.0482/KEPITEKES-BALI/VII/2022. Participants were given an explanation of the study's purpose, risks, and perks. Before beginning the interview, the informed consent form was completed. During the data-gathering process, respondents could decline or remove their participation.

**RESULTS AND DISCUSSION**

**Overview of Research Locations**

Selemadeg village is one of the villages in Tabanan regency, which is topographically a flat area with a height of 100-150 meters above sea level. This village is inhabited by more than 2668 people and around 593 heads of families. Selemadeg village consists of 1 Service village and 4 traditional villages with 7 Banjars (Balinese citizens association). In 2019, a waste disposal site (TPS) was planned to be built at 3R in Selemadeg village, which will be realized in 2021. Many people already use this waste processing site, but many people still choose to process their own waste. As an effort to maintain cleanliness and environmental health as an embodiment of the *tri hita karana* concept, it is necessary to improve people's behavior in this effort. So, strengthening the supporting factors and solving the inhibiting factors needs to be done optimally. In addition, the public's perception of environmental cleanliness as an effort to create a balance in *tri hita karana* still needs to be explored more deeply.

**Characteristics of Participants**

The characteristics of the main and supporting participants in this study include name, age, gender, education, and occupation. The participants studied totaled ten people, consisting of seven community members, one participant from the Village Office, one midwife in charge of Selemadeg Village health center, and one community leader.

The main participants in this study were over 30 years old, with a minimum education background in junior high school. This allows the main participants to provide information about several things that influence people's behavior regarding environmental health care and its relationship to efforts to create a balance of *tri hita karana* in society (Table 1). These data are in line with the research conducted by Erna Martiyani et al. in 2022, which found that there is a significant
relationship between the level of knowledge of waste management [7].

This data shows that supporting participants have competence according to the research objectives. This allows for more accurate data when data triangulation is carried out (Table 2). This data are in line with research conducted by Yani Kamasturyani and Devita Aryanti in 2023, which found that there is a significant relationship between the participants' occupations and role in waste management [8].

Determinant Factors Lead Community Behavior in Environmental Health Maintenance

The main theme is leading factors that influence community behavior with categories are community awareness and motivation for the importance of environmental health, the role, support, and outreach of the village and community leaders, the availability of facilities in the form of waste disposal site (TPS) in the village. This was stated by the participants below:

"We are aware that this environmental health problem is our problem, and we must solve it together. There has been an appeal to the public to collect and sort this waste into several types of organic and plastic waste, let alone ceremonial waste. This is what motivates us to try to keep the environment clean. (R001).

"I am aware that waste and environmental health are serious problems because they can impact all areas of life, not only for human health but also for preserving nature. Especially if we want to carry out a ceremony in a dirty environment that doesn't seem stable. For this reason, I also involve and motivate all members of my family to maintain cleanliness by sorting the garbage directly when disposing of the garbage. I also strategically place trash cans in my house, including the family, kitchen, and living rooms. I also always remind the whole family to maintain cleanliness and dispose of trash in its place." (R005)

Several other main participants supported these statements.

"In our village, there is also a waste processing site, Ma'am, that is TPS Bumi Asri; we have been notified by the TPS and also by the head of the hamlet to sort our waste, so I have sorted my waste from the start at home. Later, the TPS will take this garbage to the community. In addition to solving the waste problem and keeping the environment clean, it turns out that you also appreciate our waste in the form of waste savings, which we can collect later. (R002)

The following supporting participants also supported the statements of the main participants:

"From the village, we try to remind the community about this waste
management program and the role of managing the waste. We do this by routinely gathering Banjar leaders during village woman activities so that people don’t throw garbage in the fields anymore and try to sort their waste. If sorted, it will be taken to TPS and further processed there.” (P001)

“Because I am a health worker, I often convey about the dangers of this waste to the quality of our health. Usually, I participate in counseling and outreach about the importance of waste management at the posyandu.” (P003)

Based on the data, the factors that can support people’s behavior in environmental preservation are as follows: In general, all participants in this study realized that the problem of environmental hygiene and health is a problem that must be solved jointly by all parties, both from the government and the community itself. The results of this study are in line with the previous study research regarding the factors that influence people’s behavior in disposing of garbage, which stated that people’s attitudes, motivation, and knowledge, as well as the experience of getting counseling conducted by health workers, were some of the factors that can support people’s behavior to maintain cleanliness and environmental health [9],[10]. This is also supported by the results of Nino Heri Setyoadi’s research in 2018 concerning community behavior towards environmental cleanliness, which found a relationship between knowledge, the role of officers, facilities, and infrastructure with the behavior of keeping the environment clean [11]. In addition to the factors above, there are also factors of sufficient level of education and knowledge of the participants. The level of knowledge, attitudes, beliefs, values, and other things an individual believes can encourage someone to do something about a phenomenon [12], [13].

Inhibiting Factors of Community Behavior in Environmental Health Maintenance

The theme is inhibiting factors in community behavior in maintaining environmental health. The categories are many people who have vacant land to dispose of the garbage, access to information media needs to be improved, and facilities and infrastructure need to be added. The public’s perception of environmental cleanliness associated with the tri hita karana concept is good and supports this effort. This was stated by several participants below:

“We’ve been given counseling and information on how to process waste, but that was given at meetings and activities in the village and sometimes through the head of the banjar or village woman activities. If we are not present, we do not know the information. We hope there will be more accessible means of information whenever and wherever there are videos about waste management and the negative environmental health impacts sent through various media. So it can be viewed at any time for reminders and can be disseminated”. (P003)
“In this village, many people still have gardens and vacant land, which are often used to dispose of garbage, so they are lazy to sort their waste. Once upon a time, some residents burned their trash or just piled it up in the area behind their houses.” (R003)

“We know that our village has a waste processing site, but sometimes not all waste can be processed there because the equipment is not complete, he said. Apart from that, the sorting and enumerator staff at the TPS may still need to be added to make the waste processing process faster. This may require additional funding and support from the village government and higher levels of government. (R007)

The statements of the main participants were in line with the statements of the supporting participants below:

“In our village, TPS is still developing and trying to add tools and officers. We are also trying to seek financial assistance from the local government and optimize our village budget.”(P001)

“Many people still have fields where they dispose of their garbage, and some waste is burned. But many don’t realize that many of these fields are bordered by rivers, so the river currents sometimes carry the garbage scattered on the river's banks, which pollutes the environment of the people downstream of the river.” (P002)

“We still find several people who use gardens, vacant land, and dry fields to dispose of garbage. Garbage accumulated in the home environment is now piled up in gardens or fields. This garbage is not reduced but instead scattered, which can cause a bad smell, especially garbage from household waste. If we look at the health standards, it is clear that this is unhealthy, ma'am.” (P003)

Based on the data, the condition of the physical environment in the community, especially the unavailability of supporting facilities for community activities, can be a limiting factor in public health behavior. In addition, incomplete facilities and infrastructure can sometimes impede the smooth running of a process, which can affect people's behavior. Lack of access to information and a lack of attitude toward a phenomenon can also hinder an individual’s behavior from carrying out an activity [14]. Research conducted by Rio Julius Saputra & Shomedran in 2023 and Silolongan, R.F & Apriyono, T. in 2019 concerning the behavior of the community in disposing of garbage into the river found that the dominant factor causing the community's habit of littering to continue was the weak role of the village government regarding environmental hygiene and the lack of environmental cleaning facilities [15],[16].
Community Perceptions of Environmental Health Care to Create a Tri hita karana Balance

The Importance of Environmental Health

All participants in this study considered maintaining environmental health a must and very important. If this is not handled properly, it can cause more serious problems, both environmental and health problems. In addition, this environmental problem will also greatly affect all aspects of life in the natural environment, the human environment, and when we carry out religious ceremonies. This is often called the balance of the Tri hita karana concept. This was as stated by the participant below:

“This waste problem is serious in our village area, ma’am...a large amount of waste production will make it very difficult to find a place to dispose of it. It is tough to deal with everyday waste. Most of this waste is buried in the moor, and if there is time, some is burned. (R004)

“Not decomposed garbage, especially plastic waste, will be scattered and pollute the environment and soil. This does not include when residents start burning garbage, and air pollution will appear, Ma’am. This will damage the balance of the environment itself, Ma’am. Moreover, there was once a heavy rain, Ma’am, so that the garbage in the fields was washed away in the river and polluted the place to take holy water in this village“ (R006)

“One day, I was reprimanded by my neighbor, ma’am, because I had a baby, so the pampers trash I put in plastic was taken away by the dog to the neighbors, and it was scattered; I went awry, ma’am. Luckily, there is now a TPS, so there is a place to dispose of trash, especially since this pampers waste, ma’am." (R001)

The statements of the supporting participants below also support the statements of the main participants:

“Many do not realize that this waste can pollute the environment, which can directly or indirectly affect the quality of our health. Especially in Selomadeg Village, before TPS 3R was established, the garbage problem was serious because of the large waste production. Especially during religious ceremonies, trash will pile up, usually around the temple first. (P001)

“This is really unsightly and will reduce the sanctity of the temple. Apart from that, residents who are going to pray will feel uncomfortable and less confident seeing the trash in the area of the holy place.” (P002)

“Before TPS existed, the garbage problem in this village was very complicated, Ma’am. There is a lot of waste production, while there is no specific processing, so many people burn and dispose of it in the garden or
fields near their homes. I believe this does not solve the problem; it creates new problems because the waste is only moved and not processed. If there is a religious ceremony, a lot of waste is produced. Wet food leftovers, leaves, and flowers left over from the ceremony are mixed with plastic waste. The environment is filthy and smelly; there are many flies too, ma’am; I’m afraid this will become a source of spreading disease." (P003)

The Community perceptions

When conducting in-depth interviews regarding community perceptions of maintaining environmental health to create a balance of tri hita karana, most of the main participants strongly supported this effort. This is as stated by the participants below:

"I fully support this effort, Ma’am... environmental cleanliness is the basis of balancing all our life arrangements. If our environment is dirty, many diseases will arise, especially if we want to pray, it’s better to postpone it. Besides, if our holy place contains a lot of trash, it will become dirty and rundown, and the aura of purity will disappear." (R002)

"I have heard on TV and several media about Tri hita karana. In my opinion, this is a good thing to develop, madam. If our environment is dirty and smelly, we will feel uncomfortable. Well, if we look at the concept of religion again, of course, this is very suitable, isn’t it? Aren’t we advised to clean up our environment and ourselves before worshiping our God?" (R006)

The statements of these key participants were also supported by supporting participants who also agreed with the opinions of these key participants. As stated by the supporting participants below:

"We, from the village side with community leaders, always try to socialize and remind again about the importance of maintaining environmental health. Especially now that we have added to our understanding of the Tri hita karana concept." (P001)

“I think this is very suitable for development. Because we must maintain the harmony of our lives in all arrangements, both with nature, humans, and God.” (P002)

“Yes, Ma’am... this balance must be maintained because this will affect each other Ma’am....” (P003)

Based on the Data, improper waste management can seriously impact the environment and the people who occupy the environment. One of the impacts is the emergence of various diseases [17],[18]. Individual perception of a phenomenon will significantly influence the individual’s attitude and behavior. This also occurs in people’s behavior towards environmental preservation. Apart from that, society's
understanding of the concept of balance and harmony in the order of life, our relationship with the universe, our relationship with other human beings, and our relationship with God can also guide life. Perception is an individual's fundamental view of what is a stimulus, both positive and negative [19].

The concept of Tri Hita Karana is a Hindu philosophy that prioritizes harmony and balance in the relationship between humans and nature "palemahan," humans and humans "pawongan," humans and God “parhyangan” [20]. To maintain environmental cleanliness and health, this concept is excellent to be applied, considering that the environment is where humans and other creatures of God live. Humans, with their minds, can change the environment for the better and damage the environment for the worse. By understanding the concept of tri hita karana, it is hoped that humans will take on the role of guardian of the universe so that nature will have a good impact on humans. Apart from that, by preserving nature, we have also provided a comfortable and healthy place for other humans and living things. Apart from that, if we look at the concept of a relationship with God, if we maintain the cleanliness and health of our environment, we will also take good care of God’s creation [21].

The concept of tri hita karana is very suitable and relevant to Balinese life and culture. This concept prioritizes balance between human relationships with nature and god. If humans always remember to look after the universe, nature will directly or indirectly look after humans by fulfilling all their life needs [22],[23]. Protecting nature is also a form of human gratitude to God. Therefore, understanding and applying tri hita karana is highly expected to be implemented. Tri hita karana is closely related to preserving nature and the environment. This is especially true when analyzed from the "palemahan" (nature) component. If someone understands the components, they will try to continue to provide space for nature to grow and develop well, free from waste and pollution. This will be a good and healthy place to live for all living creatures, including humans. Therefore, this must continue to be understood and implemented.

The results of this study align with the results of research conducted by Eko Setiawan in 2022, which stated that tri hita karana is a spiritual concept, local wisdom, and at the same time, a community philosophy of life that aims to establish harmony in human life. This concept describes the balance and harmony of life that will be achieved if humans develop a good relationship with God, fellow human beings, the environment, or nature [24]. Research conducted by Syahriyah and Zahid in 2022 found that tri hita karana guides humans in humanizing nature by balancing the concepts of God, humans, and nature. It is hoped that by applying the tri hita karana concept, awareness will be created to protect nature because nature is part of human life [25],[26]. Hindus' people understanding of the "palemahan" concept is that Hindus interpret the surrounding environment as a friend that must be looked after and protected—nature as a source of materials necessary for life [27].
Table 1
Characteristics of Main Participants Community Members of Selemadeg Village

<table>
<thead>
<tr>
<th>Code</th>
<th>Age (Year)</th>
<th>Sex</th>
<th>Education</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R001</td>
<td>31</td>
<td>M</td>
<td>Bachelor</td>
<td>Self-employed</td>
</tr>
<tr>
<td>R002</td>
<td>36</td>
<td>F</td>
<td>Bachelor</td>
<td>Self-employed</td>
</tr>
<tr>
<td>R003</td>
<td>40</td>
<td>F</td>
<td>Senior High School</td>
<td>Self-employed</td>
</tr>
<tr>
<td>R004</td>
<td>60</td>
<td>M</td>
<td>Junior High School</td>
<td>Self-employed</td>
</tr>
<tr>
<td>R005</td>
<td>50</td>
<td>F</td>
<td>Bachelor</td>
<td>Teacher</td>
</tr>
<tr>
<td>R006</td>
<td>40</td>
<td>M</td>
<td>Senior High School</td>
<td>Self-employed</td>
</tr>
<tr>
<td>R007</td>
<td>65</td>
<td>F</td>
<td>Senior High School</td>
<td>Housewife</td>
</tr>
</tbody>
</table>

Table 2
Characteristics of Research Supporting Participants

<table>
<thead>
<tr>
<th>Code</th>
<th>Age (Year)</th>
<th>Sex</th>
<th>Education</th>
<th>Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>P001</td>
<td>46</td>
<td>M</td>
<td>Bachelor</td>
<td>Head of Village</td>
</tr>
<tr>
<td>P002</td>
<td>40</td>
<td>M</td>
<td>Senior High School</td>
<td>Public figure</td>
</tr>
<tr>
<td>P003</td>
<td>46</td>
<td>F</td>
<td>Diploma 3</td>
<td>Midwife</td>
</tr>
</tbody>
</table>

STUDY LIMITATION

This study adopted an exploratory qualitative methodology. The methods for gathering data used in-depth interviews despite the use of in-depth interview procedures and the fact that each participant’s circumstances and the interview's conditions were unique. Data may still be overlooked because of recollection bias and the challenge of being free from social values. Aside from that, it is challenging for authors to undertake in-depth analysis due to the scant data and outcomes of the tri hita karana study.

CONCLUSION

All participants in this study understand that environmental health problems are serious problems that must be handled by all parties, especially the community, by implementing clean and healthy behavior. Some factors encourage and inhibit the community from maintaining environmental health. When connected with efforts to create harmony and balance according to the concept of tri hita karana, all of these participants strongly agree that keeping the environment clean is expected to help create harmony in human relations with nature, which can directly or indirectly have an impact on human-human relationships and human relationships with God. Suggestions are given to the government from the village level to a higher level to continue increasing access to socialization.
with various media that are easily accessible and disseminated by the community. Therefore, understanding and applying tri hita karana is highly expected to be implemented. Nurses can use this theory in nursing practice to improve the quality of nursing services, especially in the community. It is hoped that other researchers can develop further research on this topic with different research methods and designs.

CONFLICT OF INTEREST

The authors declare that there are no conflict of interests related to the study.

REFERENCES


I. W. Artana, “Tri Hita Karana Meningkatkan Kualitas Modal Manusia
Dari Perspektif Kesehatan,” *PIRAMIDA*  
*Vol. X No. 2 100 - 105, 2016.*  

[27] IGM Suarnada, "Pemahaman Konsep Tri Hita Karana Umat Hindu Di Kota Palu,”  