Sosiohumaniora: Jurnal Ilmu-ilmu Sosial dan Humaniora Vol. 26, No. 1, March 2024: 106 - 116
ISSN 1411 - 0911 : eISSN: 2443-2660

SOCIAL PRACTICES IN WATER USE DRIVE VULNERABILITY IN FOREST EDGE VILLAGE COMMUNITIES IN SUMEDANG REGENCY

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ABSTRACT. This research focuses on social practices of water resource use in forest fringe communities. The existence of human water needs interacts with and forms patterns of relationships, with human water forming social institutions and social institutions, and the existence of social practices that abundant water encourages social change in communities facing scarcity. Old knowledge that is maintained and the assumption that water will never run out is seen in water use habits and ignoring water conservation practices. Potentially causing water vulnerability, especially in families working as farmers and families who do not have water reservoirs. The theory used looks at the social practices of Antony Giddens. The qualitative approach with the PRA method, with observation, interview, mapping, and FGD techniques, helps map practices in water use, and then the qualitative analysis is carried out. The results of this study show that there are water groups in hamlet areas that maintain old management practices, where group members who contribute early to finding springs have "patent" rights to obtain water while living in the area. However, this right has yet to adapt to changes in physical environmental conditions, such as reduced forest land cover and changes in the social environment where the village population continues to grow. While the rules made by the "patent" group give dominance to members materially, therefore individual practice still views that abundant water will not run out, so water use tends to be wasteful. Then, the practice of agents perpetuates or maintains a habit, which means that not much effort has been made by the community to carry out preventive practices to protect water resources, as seen from the Competence, namely knowledge and skills of water use are still simple and do not have the Competence to prevent vulnerability risks caused by the water crisis. So, it has the potential to face vulnerability, especially in families that do not have large-capacity shelters and farmer groups that rely on agricultural products. Agents as transformative actors, their practices passive, recursive, and discursive practices continue to be reproduced, maintaining old patterns.

Keywords: potential vulnerabilities; social practices; water group "patents".

PRAKTIK SOSIAL DALAM PENGGUNAAN AIR MENDORONG KERENTANAN DI MASYARAKAT DESA TEPI HUTAN DI KABUPATEN SUMEDANG

ABSTRAK. Fokus penelitian ini melihat praktik sosial penggunaan sumber daya air pada masyarakat pinggiran hutan. Adanya kebutuhan air manusia berinteraksi dan membentuk pola hubungan, dengan air manusia membentuk pranata sosial dan kelembagaan sosial, dan adanya praktik sosial bahwa air melimpah mendorong perubahan sosial masyarakat menghadapi kelangkaan. Pengetahuan lama yang dipertahankan dan anggapan air tidak akan pernah habis dilihat dari kebiasaan penggunaan air dan mengabaikan praktik konservasi air. Hal ini berpotensi menyebabkan kerentanan air khususnya pada keluarga yang bekerja sebagai petani dan keluarga yang tidak memiliki penampungan air. Dalam penelitian ini digunakan teori praktik sosial dari Antony Giddens. Peneliti menggunakan pendekatan kualitatif dengan metode PRA, dengan teknik observasi, wawancara, pemetaan, serta FGD yang membantu memetakan praktik-praktik dalam penggunaan air. Hasil kajian ini menunjukkan ada kelompok-kelompok air perwilayah dusun mempertahankan praktik pengelolaan pola lama dimana anggota kelompok yang berkontribusi awal mencari sumber mata air, memiliki hak "paten" untuk mendapatkan air selama tinggal di wilayah tersebut. Namun hak tersebut belum menyesuaikan dengan perubahan kondisi lingkungan fisik seperti berkurangnya tutupan lahan hutan, dan perubahan lingkungan sosial dimana penduduk desa terus bertambah. Sedangkan aturan yang dibuat oleh kelompok "paten" memberikan dominasi pada anggota secara material, oleh karenanya praktik individu masih berpandangan air melimpah tidak akan habis sehingga penggunaan air digunakan cenderung boros. Kemudian praktik agen melanggengkan atau mempertahankan suatu kebiasaan yang maknanya belum banyak upaya dilakukan masyarakat untuk melakukan praktik preventif perlindungan sumber daya air, terlihat dari kompetensi yakni pengetahuan dan keterampilan penggunaan air masih secara sederhana dan belum memiliki kompetensi untuk mencegah resiko-resiko kerentanan yang disebabkan oleh krisis air. Situasi ini berpotensi memunculkan kerentanan, khususnya pada keluarga tidak memiliki bak penampungan berkapasitas besar dan kelompok petani yang mengandalkan hasil pertanian. Agen sebagai aktor transformatif, praktiknya pasif, praktik rekursif dan diskursif terus direproduksi mempertahankan pola lama.

Kata kunci: kelompok air "paten"; potensi kerentanan; praktik sosial.

DOI: https://doi.org/10.24198/sosiohumaniora.v26i1.50982
Submitted: 09 November 2023, Accepted: 02 April 2024, Published: 05 April 2024

INTRODUCTION

This paper describes what kind of social practices developed by forest fringe village communities in utilizing water have the potential to cause vulnerability. That is because repeated practices have not responded to threats, so there is a risk of a water crisis, primarily for farming and middle-income families. Some of the underlying assumptions why social practices are seen as a factor causing vulnerability that occurs in forest-fringe rural communities, namely: First, water is everyone's paramount basic need, and there are different ways and behaviors in using water that each person despite the practice of using water that is carried out by each person done similarly. Second, parties outside the village community use the same water source, such as drinking water companies, with customers. This continues to increase with the increasing number of residents in urban areas and several adjoining villages. Third, agricultural practices in using water have changed due to the use of shared water in forestry rural communities, especially in agriculture.

Vulnerability research is caused by social practices developed by the community in water use, so this study wants explicitly to see how social practices developed by the community in utilizing water can potentially cause vulnerability in the community, especially in rural communities that use water from springs in forest areas. This is interesting to study because, especially in West Java, Indonesia, most rural communities that inhabit the periphery of forests directly use water sources in forest areas. On the other hand, groups and organizations outside the village community also use many of the same water sources. The increasing population growth in villages and urban areas is also influential because most urban residents are customers of drinking water companies whose water sources are also taken in the same area sourced from forestry forests. This will increase the intake of water from the spring source. To see how social practices cause vulnerability, this study focuses on the practices developed by forest-fringe village communities that utilize water from forest areas to meet their household and agricultural needs. Therefore, in looking at the vulnerability due to water use carried out by individuals in the community, in addition to seeing how the practices of individuals and agents need to also look at the practices carried out by institutions, in this case, water groups and village government organizations.

In the last two decades, research focusing on vulnerability issues has become one of the themes that interest many researchers (for example: Alwang et al., 2001; Cutter et al., 2003; Bankoff et al., 2013; Wisner et al., 2003; Downing et al., 2005; Adger, 2006; Eakin & Luers, 2006; O'Brien et al., 2007; Rufat, 2013; Tate, 2012; 2013; Rufat et al., 2015; Dilshad et al., 2019). The significant interest of these researchers also shows the diversity of fields studied and disciplines that research vulnerability (Ford et al., 2018). In-depth, it can be seen that the focus of the vulnerability study studied is only divided into two: studies that focus on vulnerabilities arising from natural events (disasters, climate change) and those that focus on vulnerabilities caused not by natural events that correlate with climate change. This is because vulnerability assessment is generally concerned with identifying and understanding factors that put people and places at risk and reduce the ability to respond to threats (Cutter et al., 2003).

Many disciplines examine vulnerability, but there is no standard definition of vulnerability (Downing et al., 2005); the fact remains that the word 'vulnerability' means different things to different researchers (O'Brien et al., 2007). So many traditions define vulnerability such as danger, poverty, and climate change (Downing et al., 2005). The tradition of vulnerability is related to risks, political ecology, and social-ecological systems (Eakin & Luers, 2006). In vulnerability studies and their correlation with poverty, many researchers focus on the extent to which current poverty and predictions of future poverty make a society vulnerable due to natural events or as a result of selected development policies (Philip, 2004). In poverty analysis, vulnerable individuals are those exposed to poverty, either because they have some structural characteristics that determine low consumption or because they cannot risk becoming poor (Gallardo, 2018). Therefore, vulnerability can be seen as a cause and symptom of poverty and a dimension of poverty (Philip, 2003; Sakdapolrak, 2007).

As for the field of climate change, climate researchers have also developed their interpretations and approaches (see Kelly and Adger, 2000; Smit et al., 2000; Burton et al., 2002; Brooks, 2003; Füssel & Klein, 2006). In this field, vulnerability is seen as a function of exposure, sensitivity, and adaptability (McCarthy et al., 2001; O'Brien et al., 2007); vulnerability research has sought to identify human systems affected by climate change (Ford et al., 2018).

Social scientists also continue studying and developing interpretations of vulnerability socially. Vulnerability appears widely throughout the social science literature as a kind of sociological abbreviation or designation for worthiness, understood generally as an innate, physical, connection to the course of life (Brown et al., 2017). Vulnerability studies are increasingly developing with the opinion that vulnerability occurs not only due to catastrophic factors but also recognizes that vulnerability has a dimension of time built into it (Downing et al., 2005; Blaikie et al., 2005). Vulnerability can be seen not only in the individual's socioeconomic status but also in the activities of daily living and the dimension of his time (Wisner et al., 2003). Vulnerability is not solely seen as a condition that occurs because of natural events but rather in how something is socially constructed so that when something meets a natural event/disaster, that is when vulnerability arises. Although vulnerability studies in the social sciences have proliferated, studies have yet to be found examining Community social practices and possible vulnerabilities that occur due to the community's development of water-related social practices. Thus, social practices developed by the community in everyday life also cause vulnerability in the community itself. This includes social practices in using water. The assumption is that social practices can cause vulnerability because practices have a social nature and practices are similar for different individuals at different points in time and locations (Reckwitz, 2002).

Therefore, this paper will show that social practice refers to daily practice; this method is usually done in forest fringe communities. Practices such as activities of using water while farming, cooking, and bathing have meaning for people as part of the activities of their daily life; these activities are routinely carried out and integrate different types of elements, such as bodily and mental activities, material artifacts, knowledge, emotions, skills, and so on (Reckwitz, 2002; Holtz, 2014). In forest fringe village communities, the practice of water use is also associated with water groups as informal groups that manage and have control over water distribution because they have the authority as pioneer groups to find water resources and procure initial facilities to distribute water to their members, outside the membership of other population groups are not entitled to water, this phenomenon is interesting because the group survives amid environmental changes, population growth and also other organizations such as drinking water companies also take water sources of forest areas and distribute them to urban communities or outside the village. This condition can cause potential vulnerability when water use is not anticipated, which could lead to vulnerability hazard risks. This study benefits the community and government in making a policy formula that allows sub-districts and villages to shelter and carry out efforts to prevent vulnerability risks.

Moreover, water difficulties are felt during the dry season of more than five months; during the rainy season, water is abundant but faces the danger of landslides, which has implications for turbid water. Meanwhile, not all communities have enough shelter to do Pratik saving water. This underlies the paper examining social practices and vulnerability in water use in forest fringe communities.

Social practice and vulnerability: Theoretical framework

To explain how water use causes vulnerability to communities in forest fringe villages, the structuration theory was developed by Anthony Giddens (2010). In many ways, the structuration theory of Giddens offers a new perspective in understanding the social practices that cause vulnerability due to the structuration theory Giddens "focusing on social practices which repeats" (Whittington, 2015). In addition, structuration theory is a theory that seeks to reveal that social reality is continuously (re) produced and arranged in space and time by competent actors in their daily practice. Thus, given this theory, society is formed within and through human agents, which must be considered structured. Therefore, the conclusion has implications on the basic assumption of structuring theory, namely that the social sciences should not explore society or social life in structural categories but rather in institutionalized concepts of action and practice. Thus, structure is not the main object of social research but structuration actions (Lippuner & Werlen, 2009). Thus, the starting point of Giddens' analysis is the human practice or action; practice can be seen as a loop generated by actors continuously and recreated.

Anthony Giddens does not explicitly explain social practice, but observable features exist. These characteristics include regularity, habitual nature, repetition, and recursive (Giddens, 2010; Schatzki, 2002; Reckwitz, 2002; Smagacz-Poziemska et al., 2021). Furthermore, based on the development of social practice,

the weakness of the concept of social practice is that Giddens only explains "repetitive practice" but does not describe in detail what is meant by repeated social practice. The development of the concept of practice, as described by (Warde, 2005; Reckwitz, 2002; Shove, 2004; Shove, and Pantzar 2005; Røpke, 2009), explicitly explains that those aspects of practice are material, meaning, and Competence. The material covers all physical aspects of the performance of a practice, or the various forms of practice of individual communities in using water, the practice of agents in perpetuating or maintaining a habit in structure. Meaning refers to issues that are considered relevant about the matter; for example, what is meant by matter here is water; this meaning is issues or problems related to water; in the context of Giddens, this can be interpreted as issues related to matter (water) that continue to experience repetition. Competency refers to the skills and knowledge required to perform the exercises. Related to the capacity or ability of individual communities, agents, and structures to preserve patterns that encourage water security, or vice versa, encourage potential water vulnerability.

METHOD

This study uses the qualitative PRA method to explain social practices, aiming to map practices that encourage social vulnerability. Data collection is also done through observation and field data collection using several techniques (participatory rural appraisal) such as mapping water resources, trend and change charts, seasonal calendars to see water use patterns, and Venn diagrams to see water institutions in forest suburban villages. Data analysis is carried out in tandem with the data collection process, especially by connecting it with the theoretical framework that has been done above. Field activities for this study were carried out from 2022 to 2023 by looking at the pattern of the rainy season and dry season. The informants selected in this study were 11 people adjusted to the composition of the village community with criteria that represented the diversity of the population living in the forest fringe villages. Key informants: all informants are selected based on criteria set to find out the daily practices of the community in using water from forest areas. Information is also triangulated during the FGD process in a water user and management group. This research was conducted in Genteng Village, Sukasari District, Kadakajaya Village, Tanjungsari District, Sumedang Regency. The two locations were chosen with the consideration that the village is a forest fringe close to the forestry water source area, and both villages have experienced symptoms of water shortage, especially during the long dry season, which has decreased water discharge, while agricultural activities are very dependent on water sources. The qualitative analysis goes down the field by processing field records, coding and sorting data, and triangulating techniques and sources until finally displaying data, compiling reports, and drawing conclusions comprehensively.

RESULTS AND DISCUSSION

Social condition community and practice in water utilizing at edge forest villages

Villagers who live on the forest's edge, especially in the Sumedang district, West Java, Indonesia, are very dependent on forest conditions. One of the primary needs taken from forest areas is water. Water from this forest area is a significant need for rural communities on the outskirts of the forest. The following are social conditions that describe the land left, and there is no agricultural activity because there is no water. Then, the condition of the sluice gates, where the water is distributed to rivers for PDAMs and agriculture forest fringe communities, is described. Furthermore, the mapping process and FGD are the PRA techniques in data mining research.

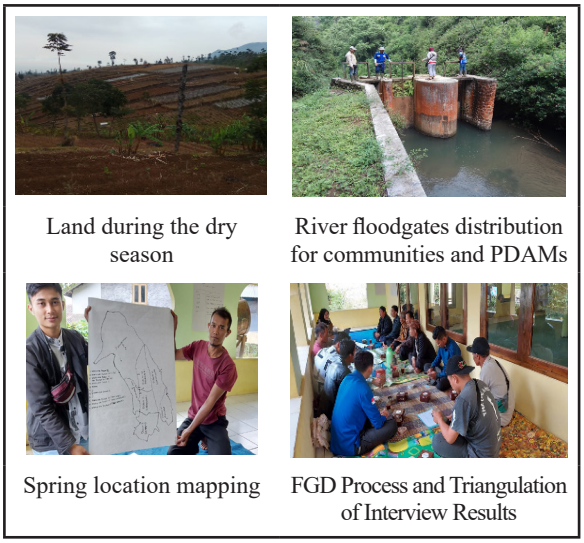
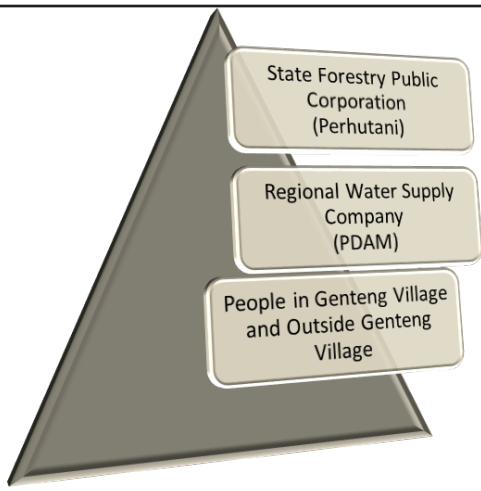


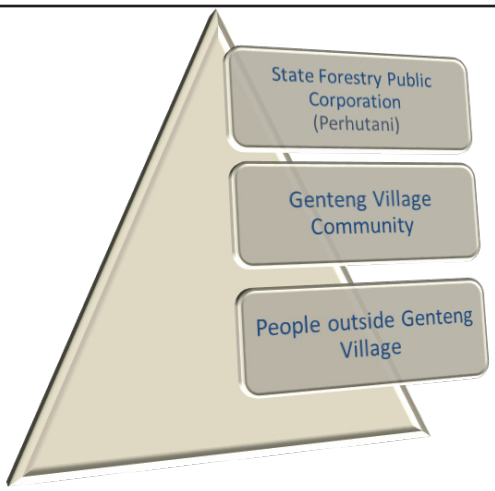
Figure 1. Water source, mapping process and FGD

These water resources form water groups per hamlet area according to the distribution of spring lines, where each group initially seeks springs, which contribute from the beginning in procuring piping and reservoirs to the distribution of water to the group members'

homes. Group members who contribute to the search and procurement of facilities are groups with "patent" rights and forever entitled to water. This is also the background of water use practices carried out by the community, most of which state that water never runs out and will always be available. Water resources are divided into two purposes: water from springs for household needs (consumptive), and water flowing into rivers is used for agricultural needs and PDAM (productive). In using water for household needs, the community has developed a piped network system from water sources directly distributed to each house. The piping system used by the village community is a simple piping system that relies on gravity directly distributed to homes; this simple piping system requires water to flow continuously because if the water does not flow, there will be damage to the piping network. In rainy and dry season conditions, water will continue to flow without any shelter, so water will be wasted to avoid damage to the piping network used by the community. However, the villagers do not consider it an act of waste because water will flow into agricultural lands owned by residents. However, water use practices remain the same. At the same time, the same water source is also used by parties outside the village, such as regional drinking water companies and several companies; it is proven that at the beginning of the PDAM entry, around ± 30 hectares of rice fields could not be irrigated So it was converted into crop agricultural land. While the patterns that take place in the community are still old ways, in the future, there is the potential for vulnerability in rural communities because the urban area of Sumedang district is currently experiencing rapid growth. In contrast, the urban area is very dependent on drinking water companies to meet its water supply. The following water utilization structure has changed after the PDAM:



Water utilization after PDAM and wider water distribution outside Sukasari District and Tanjungsari District.



Water utilization before there was a PDAM water distribution in Genteng Village, Kadakajaya Village and surrounding areas.

Figure 2. Space and Time Dimensions of Water Utilization

The two structures as a representation depict layers after there are changes with the entry of PDAMs, encouraging the structure of village communities as water users to be at the bottom of the community. There have been several leaders in the community who want to update the ways and patterns of water utilization and management in the community, as the following expression of the railway informant:

> "Some communities have realized that the water needs of this forestry area are not a monopoly of us Genteng villagers alone, but all communities have the same right to get clean water. In addition, we also realize that we use water from this forestry area and do not pay to share it with the State Forestry Public Corporation. In the future, the State Forestry Public Corporation will likely not pay for it.
>
> We will also open access for parties outside the village to use the water, as long as there is income sharing for State Forestry Public Corporation that will provide benefits for them, which in that position, we cannot do anything because the managed area where we take the water is indeed a necessity State Forestry Public Corporation, therefore, in anticipation of management changes,

or the form of management carried out by Perhutani, the residents of Genteng village should start to change themselves. After all, the form of utilization is very inefficient water."

However, the community has consistently opposed the statement that the distribution system and pattern of water utilization should be updated. These changes include setting *a water weter* to avoid distributing wasted water freely. By using this water meter, there will automatically be changes in water utilization in the community. However, the use of this water meter has constantly been challenged by the community because almost all residents have been comfortable with the pattern that has been there; the condition of water shortage is only felt in the anticipated dry season with a turn system to get water, so that each household still gets enough water even though they have to wait their turn because of the division of schedules, This shows that the symptoms of water shortage have occurred.

Daily water use practices by forest-fringe villagers rely heavily on forest water sources, with no efforts to develop sustainability-oriented use mechanisms, or use mechanisms that can encourage savings in water use have so far been rejected by community members, such as the installation of *water meters*), it is known that some figures/agents in the community have an understanding that if the current pattern of use continues, it will have a long-term impact. However, the community is challenged to be invited to save water; it is challenging to change. Agents become passive because they are powerless to break the maintained cultural system; in addition to the patent group maintaining the old pattern, the practice of water use practices, the robust kinship system finally continues to reproduce the system of recursive and discursive practices with old patterns.

The practice now community residents who live on the edge of the forest still think that water is abundant so that people feel they can still freely use water for all their needs, running water for 24 hours. The majority still need water taps. Not all of them have enough water reservoirs or water storage containers to store or save water. Competency in current practice only thinks about current needs without considering how other residents or communities in urban areas will get water. By not using the meter, people still freely drain the water flowing to their homes into fish ponds or vegetable nurseries that they have in their yards or for any purpose, even though now they have felt that the water discharge is further reduced, even during the dry season 5 to 9 months agricultural activities will be significantly disrupted.

Water Utilization Practices for Agricultural Needs

It is known that there are different locations for water collection for household and agricultural needs. The water used to irrigate agricultural land has been dammed so that it can be divided into three flow points: flowing to the agricultural land of Genteng villagers living in Hamlets 1, 2, 3, Hamlets 4, 5, 6, and for drinking water companies. From the dam, it can be seen that the largest allocation of water is given to drinking water companies.

During the rainy season, using water for agriculture is almost no obstacle. Flowing water Normal conditions of water discharge ± 150 liters per second and which is flowed to PDAM ± 60 liters per second because, in addition to getting water supply from water sources, it also gets direct supply from rainwater. However, this condition is very different during the dry season. When the dry season is more than five months for PDAM cases, only 60 liters per second, the water distributed to PDAMs drops to 20 liters per second (Jabartoday.com, 2012), and the source of water flowing for agricultural needs will be significantly reduced, so to anticipate water needs, it must carry out a distribution pattern in rotation so that all water utilization interests between community residents and drinking water companies both get supply. The results also revealed that most communities have also built water reservoirs to meet the water needs of their agricultural land in the dry season, so in practice in agriculture, rural communities living on the edge of the forest have also developed resilience efforts by saving water to irrigate their agricultural needs, it is just that during a very long drought the reservoir does not function. As a result, agricultural land on an extreme slope above 40º cannot be irrigated. Of the impact on the land, good agriculture, rice fields, and crop farms are abandoned. Furthermore, agricultural practices that change terracing due to the need for mulch for maximum yield, with extreme slopes and land cover conditions are no longer protective such as trees, it is straightforward for rainwater to carry pesticide residues carried by flowing water currents, some enter the primary spring source, and also the largest enter the river.

In the long term, water use practices that do not pay attention to the condition of water quantity and quality have the potential to cause

social and environmental vulnerability in the community. However, currently, the form of vulnerability is not yet clear; from social water use practices carried out by the community, the potential vulnerability has emerged, in addition to population growth in the forest suburban villages themselves, which also has an impact on migrant populations Those who cannot access the patent group's water, unless there is a decision of the patent group's membership to allow water, in this case, the migrant population is in a vulnerable position because of the difficulty of obtaining water. At the same time, there is no management integration or regulatory mechanism at the village level. In addition, influences that occur outside the village community, such as the population in several sub-districts becoming customers of PDAMs such as Tanjungsari, Jatinangor, Pamulihan, and Cimanggung which occur very quickly due to growth and increase in development, as well as infrastructure development that continues to grow. Because of the increasing population, primary and secondary needs will increase. Activities to meet these needs will also increase in economic, social, and environmental dimensions, which have consequences for excessive natural exploitation, land use changes, and decreased environmental carrying capacity. The associated impacts of these activities cause a tendency to increase disasters in quantity and quality (Kodoatie, 2005, p. 188).

This description shows that the phenomenon that occurs and develops, especially in rural communities on the edge of the forest, shows that the perspective and knowledge of the community that the water sources they have used so far have experienced much pressure so that the quantity and quality of water today will also be affected both directly and indirectly. The paradox between increased population growth and reduced water availability is not yet apparent, but indications point to the direction in which reducing water availability has been seen. Therefore, integrated water resources management is needed, at least at the community level, so that the community can feel long-term continuity and availability of water.

The social practice of water use and Vulnerability: Material, meaning and Competence

Social practices on water use carried out in forest fringe village communities are used by communities in households, such as cooking, bathing, washing, and other activities related to meeting water needs. Water as a needed material has formed an established daily pattern in society because it has been done repeatedly for a long time. Using water without a 'water meter' carried out by communities in forest fringe villages repeatedly shows that individual practices, such as bathing, washing, and cooking, are not determinants of vulnerability. However, the similarity of practices on how to get water is one of the practices that can potentially cause vulnerability in the community itself. How to get water by flowing directly from a water source without any management, which is the same as what is applied to get water, also encourages the same water use pattern in struktur masyarakat desa forest fringe. This same pattern of obtaining water has also shaped the same practices throughout society: letting the water continue. It constantly flows and becomes wasted. Using water is consciously considered by some figures or agents in the community as a waste. However, the community's economic condition and reluctance to switch to a mechanical piping system, because it will increase household expenses, make any efforts to make changes towards more effective and efficient water use very difficult to achieve. However, the community realizes how it has done it can cause harm to the village community itself.

The reluctance to switch from existing water use patterns, in addition to the fear of increasing expenditure on clean water needs, is also based on the assumption in the community that water from forestry forests is still abundant so that established patterns so far do not need to be changed. This assumption is not valid because the existence of drinking water companies that also use water from forestry forest areas has also caused changes in community agricultural patterns, from rice farmers to crop farmers. After all, agricultural land no longer gets sufficient water supply for rice field farming. In addition, it is also known that there are 30 hectares of rice farming land that can no longer be irrigated by water from water sources in the forest. These findings prove that the existence of drinking water companies that utilize the same water source has affected people's lives. So, with the increasing population in urban areas that depend on their water needs from drinking water companies, the water taken to meet the needs of urban communities will increase, so rural communities living on the outskirts of the forest will be affected automatically.

The community's assumption that water resources are still abundant is the meaning

attached by the community to water, with the meaning that water resources are still abundant is what shapes the patterns and ways in which rural communities on the edge of the forest develop forms of water use as practiced in people's daily lives. The meeting of the interests of drinking water companies to meet the needs of people in urban areas and the interests of rural communities to meet their living needs through agriculture. Households are an aspect that needs to be found a solution because with the development of drinking water companies that continue to increase the number of customers, of course, it will inevitably cause vulnerability.

Furthermore, the increasing number of users by developing more advanced piping systems from the community directly influences the vulnerability that arises in forestry suburban village communities. The pattern and method of water use carried out by the forest fringe village community also shows the extent of their ability and knowledge in developing resilience-oriented water use efforts; the community still interprets that water sources will never run out and utilization practices so far do not need to be changed, and this can be seen from household water utilization practices, has not shown a form of community anticipation of scarcity, This can be seen from the unavailability of materials or water reservoirs at home, mainly middle to lower families and with the type of work that relies heavily on agricultural products. Families with this condition are the most vulnerable community group because they competently meet the water needs of limited household consumption, do not have large reservoirs, usually only buckets of water or plastic paint cans with a capacity of about 50 kilos,

During the rainy season, the water is murky, and during the dry season, the water discharge decreases; this family needs more water savings to take at most three days. Then, for agriculture, there is no choice but the dry season by switching professions to odd jobs. Not to mention because of natural events such as landslides that disrupt the water supply to homes. As for agriculture, although some farmers have built reservoir facilities on the edge of the land, the reservoir is only used to collect water that has been mixed with chemical fertilizers at watering times only, while in the dry season, the reservoir is not used because the water discharge is reduced.

This description reveals that the increasing use of these water sources has factually increased the chances of rural communities on the forest's edge to experience vulnerability. This can be seen from the material meaning and Competence in the community in the forest fringe village. On the other hand, despite efforts to change the practices developed by the community in utilizing water by the agent, the efforts made by the agency have yet to be able to change the community. This is because the vulnerability caused by water use has not occurred, although the symptoms of such vulnerability have been seen.

Social practices arising from the intention of actions, actions, or practices in water use are included in water management, both consumption and agriculture in production. They are reproduced in a structural duality approach. In this case, the agencies are *ulu-ulu*, heads of water groups, or, at the same time, community leaders will always mobilize resources in the structure. For example, when an elite or group leader in a specific hamlet area says there is no need to use a water meter, then the agent creates an interpretive scheme or meaning scheme communication with or which is then symbolized as a code of meaning that "no need to use a meter" means that it is creating the meaning that it agrees to use water with the old pattern or agrees not to use the meter, Then it will be followed by "domination" (patent group) because this code of meaning will mean nothing if there is no domination which is a resource that can create power for agencies that say using fixed water in the old pattern without a meter is okay because water is still widely available. At a later time, legitimacy is also raised; of course, all the resources in the structure are then expressed in the form of language, e.g., water is a lot tastier than older models. It is the duality of structure that agency uses the resources of structures bound by space and time to produce and reproduce various social practices. Using water is governed by a "Patent" group bound by space and time. The group maintains a longstanding pattern where early contributing group members are entitled to perpetual water. However, unfortunately, the agency here is stuck with the "patent group," so the agent is passive, encountered some open agents with forward-thinking are also trapped in the locality of kinship culture, so it is challenging to make awareness and carry out change movements, and finally the relationships formed remain with the old patterns. There have been improvements in governance, such as recording and socialization of water saving awareness, but only a few hamlets, and also not optimal. Meanwhile, agricultural practice only makes rules for water distribution during the dry season,

when the rainy season is not constrained; it's just that agricultural practices prefer mulching methods and use pesticides for agriculture, the more intensive, and there is an increase in cropland and types of crops grown.

Production relations When patent groups are formed based on who contributes at the beginning, citizens or early actors form an agreed pattern of relationships regarding water use management, including who is entitled and how distribution is carried out; some of the informants interviewed are second and third generations where they are also members of water groups or institutions in the process of relationships between being reproduced Descendants of patent groups in the social system of water users in both villages.

Practice Agents with the capacity to know related to balance and environmental threats to water because dealing with agents maintains the old pattern with a ratio of more agents that hold. Agents with "environmentally sensitive" knowledge capacity are powerless to change traditions in water use (existing social structures) with long-maintained cultures of social practices and the historical background of such agents because there is a linkage between the background and social system.

Stagnant social structures are "vulnerable" when they produce old patterns and are maintained by actors who also maintain old patterns where old patterns do not support the environment's carrying capacity for the preservation of "water." The relationship between structure and agent is dynamic and cyclical, a social structure that has resilience when agents can break down the system with regimes able to intervene to make social changes to meet community water resources sustainably. Conversely, it is in a vulnerable cycle when agents in social settings and regimes are bound by maintained negative locality. Social practices can be distinguished analytically into reasons, motives, and intentions.

Here is a chart of practices that drive vulnerabilities:

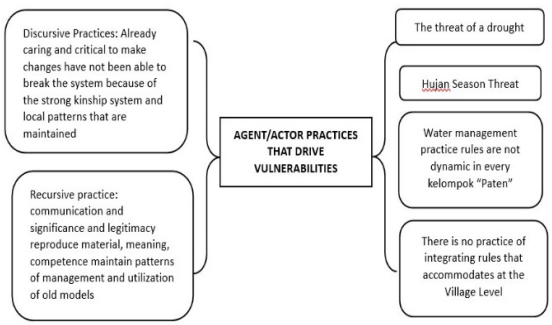


Figure 3. Practices that drive vulnerability

To see vulnerability influenced by structures in society in the form of recursive and discursive practices developed by the community in the use of water from spring sources, relationship patterns, or a phenomenon that is a visual image of the community that can encourage vulnerability by looking at the structural properties of community ways or practices that encourage vulnerability. The problem of vulnerability that occurs in the community due to the use of water by individuals occurs because individuals, as agents, on the one hand, are inseparable from the structure. In contrast, the structure consists of rules and resources. To see how the vulnerability process occurs, one must see the extent of the practice where individuals are agents who have freedom in utilizing water that is restrained by the structure. The constraints in question are rules developed by structures in water use, as well as authoritative and allocative resources. Where rules are values, norms, and beliefs, as well as normative elements and codes of significance, authoritative resources coordinate water management agents and allocative resources, including water distribution and control. Vulnerability is a focus because it cannot be separated from the relationship between individual/agent practices and institutional practices where rules and resources are managed together as a social structure, which, in the application of these rules and resources, certainly greatly influences how recursive and discursive practices ultimately continue to be reproduced by the system by maintaining practices with old patterns that cross the dimension of space and time.

Suppose you look at the meaning of the value of water for society. In that case, society has a value related to water, namely water from the creator, as a source of life, which must be cared for so that it is not lost and can encourage society to be orderly. Theoretically, although Gidens does not detail the practice, Gidens' weakness can be a strength with the reconstruction of a new structure, namely modifying patent institutions with the integration of rules such as parades at the village level, so that water institutions have the strength and power to protect groups in subordinate positions so that they can be used as a strategy to anticipate the risk of vulnerability threats, It is necessary to build a systemic mechanism regarding patterns

Management that can ensure that all beneficiary communities get water supply that reflects a sense of justice. Building a water institutional network so water-using communities can discuss, participate, and coordinate for joint, profitable, and sustainable management patterns. Encourage the government to make a strategic plan for water management so that it can be a reference that can ensure the fulfillment of water for all communities.

CONCLUSION

Vulnerability is no longer seen as a person or institution of people who are vulnerable due to a catastrophic event. However, vulnerability is examined in terms of what structure drives vulnerability and how it drives it. Namely, the water management structure is termed "patent" water institutions that are not dynamic, passive agent practices because they cannot break the old pattern system without water regulation integration. Social practices in water use cause vulnerability in forest fringe village communities, as seen from the material, meaning, and Competence of forest fringe village communities. Repetitive practices occur because they are constantly reproduced by systems that retain old ways.

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