

## THE ISLAMIC BASIC-VALUES OF SUSTAINABILITY IN THE MANAGEMENT OF WATER RESOURCES IN PASURUAN EAST JAVA

Ahmad Djalaluddin<sup>1\*</sup>, Aunurrofiq<sup>2</sup>, Dewi Mumpuni<sup>3</sup>

<sup>1,2</sup>Universitas Islam Negeri Maulana Malik Ibrahim Malang

<sup>2</sup>STEBI Syaikhona Kholil Sidogiri

<sup>1,2</sup>Jalan Raya Ir. Soekarno No.1, Dadaprejo Junrejo Kota Batu Jawa Timur

<sup>3</sup>Sidogiri Kraton Pasuruan Jawa Timur

\*<sup>1</sup>[djalaludin@akuntansi.uin-malang.ac.id](mailto:djalaludin@akuntansi.uin-malang.ac.id), <sup>2</sup>[aunur@uin-malang.ac.id](mailto:aunur@uin-malang.ac.id),  
<sup>3</sup>[definast1234@gmail.com](mailto:definast1234@gmail.com)

### Abstract

This study aims to analyze the Islamic basic-values of sustainability in water resource management in Sumberrejo Village, Purwosari Sub-district, Pasuruan Regency, East Java, Indonesia. It was designed as a case study. The research subjects were the village officials, water resource managers, and water resource user communities. The data were collected through active participation, interview, observation, and documentation. In the data interpretation stage, this research employed the descriptive analysis method. The results showed that the Islamic basic-values of sustainability carried out by the people of Sumberrejo Village were that water management was a form of worship or obedience to Allah, gratefulness, fair distribution, balance (*mizan*), and care.

**Keywords:** Islamic sustainability; Water resources management; Local wisdom

\*Correspondent author

### I. Introduction

The contemporary approach to natural resource management recognizes the relationship between people and nature (McKay, 2013). This relationship pattern becomes the foundation in designing the concept of natural resource management. Sustainable management, which unites economic, social and environmental conditions has been used in law and policy to secure a balancing relationship between people and nature. Although it is recognized

that the concept of sustainable management of natural resources is nothing new. Traditional communities have developed this sustainability through local wisdom (Society, 2016).

The community realizes that natural resources are not only to sustain the lives of the present generation but also for the future generation. This principle is commonly understood by the community as an ethical system that grows, develops based on culture and religious belief. The ethical

system essentially is supporting effective sustainability (Jusoff & Alam, 2011).

Nevertheless, efforts to maintain sustainability in the management of water resources encounter a few difficult problems (Harmancioglu et al., 2013). The development of settlements, industries, education institutional, and tourism are part of those problems, particularly competition and conflict in water resource allocation. It also leads to the deteriorating condition of water resources, damage to the water catchment areas, pollution, and drought (Connell, 2018).

In the context of the water management, Putra and Wardani's research (2017) in Pandanrejo Village, Bumiaji, Batu City, East Java, reveals that water management by the community achieves sustainability. The community has succeeded in achieving integration among the environment, social and economy.

The model of communal management experiences such as fisheries in Turkey, irrigation in South India, the *Subak* system in Bali, *Sasi* culture in Maluku, etc. are examples of the successful of water communal management.

But, if the management of water resources does not involve the community, so it will be result in a low level of economic and social welfare. It occurred especially in

the Kaliurang Hamlet, Kembanglangit Village, Blado Batang District (Fakhrina et al., 2013). So Fakhrina et al's research proposed community participation in water management to preserve the sustainability of resources, meet community needs and ensure their rights.

However, community-based water management is not always successful as experienced by village water management in Wukirsari Bantul Yogyakarta (Hardjono et al., 2013). This research highlights weak institutional aspects. Clean water management does not have written regulations as guidelines. This resulted in customers not understanding the applicable regulations so that violations often occurred. Likewise, the service was unbalanced between the low and higher regions of the water supply booster. The clean water manager in this village did not involve the customer in determining the amount of contribution, planning, reporting, supervision, maintenance, and evaluation.

The sustainability problems according to Hasan (2002), implies three things: (1) maintaining long-term economic growth, (2) sharing between generations in natural resource management, and (3) maintaining the quality of the environment.

The main issues in the concept of sustainability are closely related to Islam

(Adebayo, 2014). Issues such as preservation of nature, fair distribution of natural resources between generations, moderate consumption and production behavior, poverty alleviation, which are of concern to sustainable concepts, are concerns of Islam as well. However, the two concepts have different motives and ways. In Islam, maintaining the sustainability of nature and the environment are not merely worldly, economic or material issues; natural resources are a matter of worldly-*ukhrawi* (related to the afterlife), material-moral-spiritual, economic-ideological, and so on.

As stated by Ghafory-Ashtiany (2009), sustainable management of natural resources is based on three things: faith, knowledge, and good deeds or good behavior. The expected good deeds must be guided by faith. This belief is expected to produce the best performance and awareness that management must follow God's instructions; this is then presented in law, regulations, and social and technical regulations.

Islam perceives that resource management and development are holistic, in which all programs must take the environment into account (Matali, 2012). For instance, forests must be preserved so that life and ecosystems are sustainable and protected. This requires knowledge that

supports sustainability (Djalaluddin, 2012; Zafar, 2019).

The phenomenons above invited concern to do research, how are the future and sustainability of water resources management in Sumberrejo Village. It is believed, however, that the people will be able to maintain the sustainability of their water resources.

The village, whose people are predominantly Muslim, has Islamic basic-values to maintain the sustainability of shared resources. Moreover, the Islamic concept of natural resources is in line with Article 33 of the 1945 Constitution; thus, the developed basic-values become the soul and spirit of water resources management.

Thereby, this study analyzed the Islamic basic-values of sustainability practices in water resource management in Sumberrejo Village Purwosari Sub-district, Pasuruan Regency, East Java, Indonesia.

This research was designed as a case study (Mizrahi, 2020). The researcher attempted to intensively examine the background of water resource management in Sumberrejo Village, Purwosari Sub-district, Pasuruan Regency, current position and the environmental interaction of social units in the village.

The research subjects were village officials, water resource managers, and

water resource user communities. The data were collected through active participation. Moreover, interviews were used to obtain primary data from village officials, user communities, and managers. As a naturalistic qualitative study, this research employed the direct observation method, while the secondary data were obtained through the documentation method.

In the data interpretation stage, the descriptive analysis method was used as it could describe data related to the basic value of Islamic sustainability in the management of water resources in detail and depth. After the data were qualitatively processed, they were described to clarify the final results.

## II. Discussion

Sumberrejo Village, Purwosari District, Pasuruan Regency is located in the highlands with an average height of 1000m-2000m. The area of this village extends to 574,665 hectares. The borders of this fertile village are Cendono Village in the North, Sekar Mojo Village in the South, Pager Village in the East, and Tambak Sari Village in the West.

Sumberrejo area is in hills consisting of 73.86% flat land. Around 180,267 hectares of the village is used for agriculture and plantations, while 150,200 hectares

(26.14%) are for residential areas. In 2019, the population reached 6,602 people divided into five hamlets: *Kucur*, *Pandansari*, *Manggihan*, *Rejoso*, and *Ketuwon*.

This village has large water resources spread across the five hamlets in the form of water sources and river flows. There are water sources on the location of the village, and some are on individual lands.

Table 1  
Location and Water Sources

Location (Hamlet)	Number of water sources	Number of rivers
Kucur	21	2 (Manggihan & Jempinang)
Pandansari	5	1 (Munung)
Ketuwon	3	
Manggihan	3	
Rejoso	4	
<b>Total</b>	<b>36</b>	<b>3</b>

The development of water resource management in Sumberrejo Village began from the *mushalla* (a small building to perform prayers in Islam). The community makes worship the main motive behind water management. Before praying, worshipers need water for purification or ablution. The desire to simplify the process of purification brings forth the idea of

making a reservoir in the *mushalla*, called *jeding* (a reservoir in a closed / semi-enclosed space). Karto told the beginning of this water reservoir:

"In the 1980s, the *mushalla* congregation discussed making *jeding* next to the *mushalla* so that it is near to perform the ablution, people do not need to queue in front of the *jeding* with those taking water. Eventually, a reservoir was made next to the *mushalla*, it was still made of bamboo (Interview, January 10, 2019)

Over time, the community utilizes *jeding* water in the *mushalla* for domestic use. Water for worship, as revealed by Karto, is a development of management that has traditionally taken place in Sumberrejo Village for household consumption, agricultural irrigation, and tourism. The people do not use water (river) as a means of transportation, just like almost all regions in Java that do not use it for population mobility. Water for the village community is used for household needs, soil conservation, purification, production, and energy. The people have used the water for lighting. As told by Doto Hatrib on March 3, 2019:

"Around the year 1984-1985s, Mbah Sidik encouraged us to make a waterwheel for additional lighting needs in the Kucur Hamlet utilizing the Jempinang River..."

However, it did not last long as the PLN (State Electricity Company) entered the village; the electricity cost was

considered more economical by the residents.

The management is for domestic purposes, especially for meeting the needs of cooking, drinking water, washing, bathing, and latrines, as well as for worship. Sumberrejo Village community currently has a bathroom inside the house, unlike in the past where MCK (*Mandi, Cuci, Kakus* - bath, wash, toilet) activities were done in the river.

Water management for animal husbandry mainly utilizes the flow of the Jempinang River, which is on the Kebon Durenan land. This farm is managed by around 20 young people who are members of the Kucur Hamlet youth group. This youth group independently made 1 hydrant unit and one water reservoir unit to maintain 194 goats for fattening and breeding them

The management of water resources for tourism in Sumberrejo Village began in 2018, although ideas have emerged since 2008. Tasuwi, the chair of RT 18 ('RT' is a neighborhood unit), said that:

"I already saw, in 2008, that the Kemado springs had abundant water because they had many sources, I had thoughts on how to manage this Kemado spring sources which would later be useful to develop the Kucur Hamlet and improve the economy of the community, also, the residents of Kucur Hamlet no longer need to seek jobs outside the area or to the city " (Interview, 8 February 2019).

Through community self-reliance, the people built a swimming pool with joint capital. Each citizen contributed by depositing a minimum of IDR. 100,000,- with the management and certain residents as its main financiers. In addition to the swimming pool, the community utilized the Jempinang River for rafting and tubing. It was Nulianto, Head of Manggihan Hamlet, who had the idea of rafting and tubing tourism; the project successfully involved 25 residents contributing to the capital as much as IDR. 1,000,000 per person.

The latest development shows that independent management by citizens managed to form 19 groups spread in Rejoso Hamlet (3 groups) and Kucur Hamlet (16 groups). The people of Rejoso Hamlet utilize water sources owned by the residents, while the people of Kucur Hamlet utilize water sources that belong to the village. The management groups now serve the domestic needs of citizens as many as 723 families. In addition, one group uses water resources for goat farming and two groups for tourism purposes.

Although the management is developing into the tourism sector, it is still simple and as currently drafted. Diqsono, the head of the village, admitted this and stated that:

"The management is run as it is today. It is managed individually or in groups by residents to meet household consumption needs, as well as agricultural irrigation managed by HIPPA in each hamlet. Besides, the development of tourism objects is still being performed by several groups of citizens and is still not coordinated by the village government".

This traditional management, which lacks coordination, encounters obstacles in the dry season. Decreased water discharge results in uneven distribution. Moreover, some people do not pay attention to the priority of utilization; so, there are areas with excessive water use which is not only for basic needs (cooking, bathing, washing). Besides, since the payment system is not based on usage volume, those using less water are burdened with the same costs as those using much. Paruwi complained about the inefficient use and inequity of this distribution, as well as the low awareness of maintaining sustainability:

"With the water management group, the need for water availability has been fulfilled. But in the dry season, there is often uneven water distribution; some use excessively and some use just a little amount of water. This is partly due to the simple use of water control devices which are buoys; the fees paid are the same for the excessive and little use of water".

Fairness in distribution becomes one of the essential values in the utilization of water resources, as Paruwi previously stated. It means that people have equal rights

to water to meet their basic needs. Every member of the community and every water consumer realizes that they have an equal right to obtain and use water based on their needs. Water is a basic human need, which is one of the basic rights in life. Moreover, the community has the same level of financial obligation; thus, they should also receive the same water benefits. Paruwi's aforementioned complaint is agreed by Partik, who thinks that the use of water ignores priorities and leads to inefficient practices as well as unfair distribution.

Nonetheless, the spirit of togetherness and sharing is still maintained by the community. Water resources, which are shared properties, encourage some of the hamlets to share with others. Ketuwon Hamlet residents who have limited water sources get permission from Kucur Hamlet to drain water from the Jempinang River block or the Padas Gempal River. Ketuwon Hamlet makes hydrants and pipes to meet the domestic needs of its citizens.

Jempinang River is another water source that is not only used for irrigation purposes in Sumberejo Village but also in surrounding villages. In 2010, villages traversed by the Jempinang River flow coordinated to form the Water User Farmers Association (GHIPPA or *Gabungan Himpunan Petani Pemakai Air*) named 'Sumber Urip'. Three GHIPPAs join Sumber

Urip: (1) HIPPA Sumber Makmur Sumberrejo Village, (2) HIPPA Sumber Lestari Desa Pager, and (3) HIPPA Sumber Karya Sekarmojo Village; these villages are in the Purwosari District area. The objectives of this coordinating institution are mentioned in the Statutes and the Household:

... to carry out the development and management of tertiary irrigation networks and participate in the development and management of irrigation networks to increase agricultural production to support food security and public welfare. ... Additionally, it is aimed to utilize the potential of local resources and the management of secondary irrigation networks to improve irrigation services to members in a transparent and accountable, fair, professional manner and to pay attention to environmental sustainability (AD/ART GHIPPA, 2010).

From the aforementioned data, the basic values of sustainability in water resources management in Sumberrejo Village, Purwosari Sub-district, Pasuruan Regency are worship and obedience to Allah SWT, gratefulness, fair distribution, balance, and care.

#### **a. Worship or Obedience to Allah**

Purification motives indicate that water is a gift of Allah that must be used to serve Him. Water is a crucial instrument for realizing monotheism, which is to make Allah as a worship destination (monotheism of worship) (Alousy & Al-Harasyah, 2013).

This motive begins with the belief that water is a gift of God, and God's creation, so it must function as desired by Allah. This was confirmed in the dialogue with the research subjects; they recognized that water was a creation and gift of Allah; it is just that the practice of maintaining and managing is considered a demand for survival (Sulphey, 2019).

The Islamic perspective states that water is created by Allah and functions as a source of life (Surah Al Anbiya: 21), basic needs (Surah Al Nahl: 10-11), land conservation facilities (Surah Al Baqarah: 164), purification (QS. Surah Al Maidah: 6), health (sanitation) (Zamzam water relieves fever, HR. Ahmad), transportation (Surah Al Baqarah: 164), production and energy (Surah Al Jatsiyah: 12) (Mawardi, 2014; Santoso, 2014; Sukarni, 2014). Moreover, Sumberrejo Village residents make the purification function (*thaharah*) a starting point for management and wider use.

#### **b. Gratefulness**

Lings (1968) and Siraj & Tayab (2017) mention that Quran talks of water's quality for life. it renders the soil fecund and paves the way for agriculture and other benefits. The rain is a gift of Allah. Allah uses the word 'sent down' which describes the rain (falling water) as the same word used to bring down the Qur'an revelation, which is 'anzala' (Thahir, 2021). This confirms that

revelation, which is God's mercy, is inseparable from water which is also His mercy. If the Qur'an is called the book of life, Allah makes everything that lives comes from water (Surah Al-Anbiya: 30). Qur'an and water are the cause of life (Radpour, 2019). Therefore, the teachings of gratitude for the blessings of the Holy Book (Surah Al-Kahf: 1) contains the command to express gratitude for the pleasure of water. Water management practices in Sumberrejo village motivated by *thaharah* for worship, which is developed for the benefit of life, are an implementation of gratitude; gratitude is not only expressed verbally but also with the use and management of water. Sumberrejo Village community uses water as a means of cleaning for worship, household needs, agricultural irrigation, tourism and animal husbandry.

#### **c. Fair Distribution**

Equal water distribution means that every member of the community has the same right to meet the needs of water. Fair distribution should be a reference for water resource managers and members must realize that every person has the right to water resources equally (Hefny, 2009; Mansoor, 2016). Complaints from some people in Sumberrejo Village regarding overuse and utilization neglecting priorities shows that the fair distribution of water is very essential for sustainability. However,

the low awareness of the community will affect the future of sustainability.

Sumberrejo village community is divided into two modes of thinking about water resources management, as stated in Maser (1998) categorization, namely linear and cyclical thinking. First, groups concerned with the production and accumulation of material products as a life goal consider that water is for present and contemporary satisfaction and humans are an integral part of the life cycle as well as the center of the life cycle. The second group believes that life is temporary, a phase, and the next generation will be born. Humans (who live now) are not the rulers of nature and the environment but are the bearers of the mandate. Thus, the opportunity is to use water for the happiness of yourself and the following generations.

#### **d. Balance (*Mizan*)**

Balance is a moderate behavior. In water utilization, balanced behavior is needed to avoid wasting water and water deficit. Water use balance considers the potential and availability of water and the level of community needs. The basic value of sustainability allows people to take advantage but reminds them of the obligation to maintain sustainability as well (Naiman, 1992). Balance as *qur`ani* behavior is in harmony with the creation of nature (QS. Al Rahman: 7-9) as well as the

status and quality of the best people characterized by *wasathiyah* (moderate) (Surah Al Baqarah: 143) (Al-Kubaisy, 2011). The value of balance is very essential as an effort to conserve and sustain water resources (McKay, 2013). Many destructive phenomena, such as erosion, flooding, and even climate change, are considered as a result of imbalance.

#### **e. Care**

Utilization and management of water must be framed for the nature of caring (Mawardi, 2014; Santoso, 2014; Sukarni, 2014). The value of caring is in line with the vision of sustainable development that also has values about caring for others and the universe (Tilbury et al., 2002). UNEP-WWF (McKay, 2013) mentions nine values of care: preserving community life, improving the quality of human life, preserving the life force and diversity of the earth, avoiding excessive use of non-renewable resources, not exceeding the carrying capacity of the earth, encouraging community innovation to preserve the environment, and building global synergy.

In Islam, because water is considered as common property, users are instructed to participate in thinking about the needs of others (Al-Amusy & Al-Atum, 2013; Husein, 2019). Usman bin Affan said Rasulullah SAW. said: "Who wants to buy the Ruma well, then make the scale like the

bucket of the Muslims (endow the well)?" . Then, Usman bin Affan bought the well and donated to the Muslims (HR al-Bukhari).

Care marks the basic value of sustainable water management practices in Sumberrejo Village. The community not only thinks about themselves and their needs but also for other communities, other hamlets and other villages. With the increasing need for water, residents from Ketuwon Hamlet, who have very limited water sources, ask for permission from the residents of Kukur Hamlet to channel water from the Jempinang river block or Padas Gempal source to the Ketuwon Hamlet which will be used to meet the domestic needs of households with a manufacturing system hydrant and piping. Likewise, GHIPPA practices with the visions of preservation and productivity. Care is also manifested in the form of funding, especially for domestic household needs such as (a) funding by individuals, (b) funding by community groups for the pipelines, hydrants manufacture, and water meter.

### III. Conclusion

Based on the results of research and discussion, it can be concluded that the people of Sumberrejo Village, Purwosari Sub-district, Pasuruan Regency have the

Islamic basic values of sustainability in managing their water resources. The basic values are that water management is worship or obedience to Allah, gratefulness, fair distribution, balanced use (Mizan), and care.

However, the 'care' is not perfect yet because ongoing efforts are needed through counseling about water and conservation, discussions about water use, and learning about water in schools, in *mushallas* and mosques, and so on. Discussions and counseling are limited among user groups and such practices have not been found in educational settings and religious institutions.

This research has limitations. Further research is needed to explore general principles in management and utilization behavior that reflect productivity and conservation.

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