

Research article

Luwangan: The Local Javanese Wisdom for Household Waste Management

Agus Sutono, Oktaviani Adhi Suciptaningsih*, Nuning Zaidah, and Dani Slamet Pratama

Universitas PGRI Semarang, Indonesia

Abstract.

Every community has local wisdom that becomes its cultural identity. This study analyzes "luwangan" as the local Javanese wisdom for managing household waste. Information, facts, and data are revealed to understand the concept of household waste management in Javanese society. The study uses a phenomenological approach. Javanese people, "sesepuh," and community leaders were chosen as research subjects, while the informants were cultural experts and Javanese language lecturers. Observational data, interviews, and documents were compared to determine the validity of the data. The data analysis technique used was the Colaizzi method. The results showed that "luwangan" is a form of local wisdom of the Javanese people for managing household waste. Garbage is disposed of in "luwangan" based on its type, namely organic and inorganic waste. Organic waste is left because over time it will decompose with the soil and fertilize it, while inorganic waste is burned because it cannot decompose naturally. This is pro-environmental behavior. However, nowadays, with the increase in globalization and the lack of land in the region, the waste is taken by the garbage officers and disposed of at the final waste collection point. There has been a shift in the meaning of "luwangan" which affects the behavior of throwing waste in Javanese society. Socialization and enculturation are needed to preserve the pro-environmental behavior using "luwangan" as a medium for managing household waste in Javanese society.

Keywords: *luwangan*, local wisdom, Javanese society, waste management, household

Corresponding Author: Oktaviani Adhi Suciptaningsih; email: osuciptaningsih@yahoo.co.id

Published: 28 September 2022

Publishing services provided by Knowledge E

© Agus Sutono et al. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the ICESRE 2021 Conference Committee.

1. Introduction

Indonesia is a country that has 1,340 ethnic groups spread from Sabang to Merauke [1], therefore it is rich in cultural diversity [2][3]. In addition to the many ethnic groups, Indonesia's cultural diversity can be seen in the many customs, languages, religions, races, traditional houses, traditional ceremonies, traditional clothes, dances, arts, special foods in each region, and other components [4][5].

Koentjaraningrat, an anthropologist from Indonesia, defines culture as a whole system of ideas, actions, and human creations in the context of social life which are made into the human property by learning. Koentjaraningrat divides culture into three forms,

OPEN ACCESS

namely ideas (system of ideas), artifacts (system of artifacts), and activities (system of activities) [6].

The form of culture as a system of ideas is very abstract, cannot be touched or photographed, and is contained in the minds of individuals who adhere to that culture. The form of culture as a system of ideas can only be felt in everyday life which is manifested in the form of norms, customs, religion, and laws or laws. An example of a form of culture as a system of abstract ideas in Javanese society is the "*ora ilok*" culture. "*Ora ilok*" is a taboo assumption about something that is included in the scope of politeness norms [7]. Examples of the implementation of "*ora ilok*" culture in the daily life of Javanese people are when eating at the door, fighting parents, "talking anchor" which is talking to older people without using the language of karma. In Baduy society, for example, "signs of the Badui base", namely speech spoken by the Badui community for a certain duration of time in a traditional ritual event, including proposals and farming, which contains 7 moral values, namely (1) polite and courteous, (2) effective, (3) honest and peaceful, (4) simple, (5) religious, (6) following the teachings of the ancestors, and (7) admitting mistakes [8]. In the Dayak community, for example, the application of Dayak customary law is accompanied by singer sanctions [9].

The form of culture as an artifact system is the most concrete form of culture, which can be seen and touched directly by the five senses. The form of this culture is in the form of physical culture which is the result of human culture in the form of a system-level of ideas or thoughts or patterned human activities [10]. Examples are architectural works, such as punden terraces such as the Borobudur Temple building; traditional houses such as the Joglo house, the Stage house, the Tongkonan house, the Banjar house, the Limasan house, the Tajug house; weapons/regional heirlooms such as "*keris, rencong, golok, celurit, kurambiak, belati, sumpit, and bambu runcing*".

The form of culture as an activity system is a patterned social activity of individuals in a society. This system consists of human activities that interact and relate continuously to each other. This form of culture is concrete, can be photographed, and can be seen.

One form of culture as an activity system is local wisdom. Local wisdom is a cultural product of the past that should be continuously used as a guide for life [11]. Indonesia is rich in various local wisdom values that have developed from generation to generation, some of which are "*Awig-Awig*" in West Lombok and Bali, which are customary rules that can be used as guidelines for acting and behaving in interacting in society and in matters such as processing natural resources and also the environment; Indigenous Forbidden Forests in Riau, namely local wisdom which aims to make the surrounding community together to preserve the forest, its implementation through rules such for

example the existence of regulations regarding the prohibition of arbitrarily cutting down forests, if this is done, the perpetrator will be subject to a fine of as much as 100 kg of rice or can be in the form of money in the amount of Rp. 6,000,000; Sasi in Maluku is a custom that becomes a guideline for every member of the Maluku community in managing the environment and is used as a guide in the use of natural resources, and there are many other forms of local wisdom. The local wisdom has a value, namely the value of environmental conservation which is implemented in several pro-environmental activities.

However, with the globalization culture, several pro-environmental activities began to fade [12], including rampant illegal logging and excessive use of natural resources as a result of increased production units in economic activities have caused environmental damage [13], massive penetration The global capitalist economic system that is very expansive and exploitative of natural resources causes landslides [14], the green revolution through agricultural intensification supported by the use of modern technology and global scenarios causing environmental degradation [15]. The community is no longer concerned with environmental conservation in utilizing the various resources in it [16]. They are more concerned with how to get the maximum benefit from environmental utilization activities.

The Javanese people have their way of utilizing the environment which is implemented in several pro-environmental activities, including by disposing of waste in "luwangan". "Luwangan" is a form of local wisdom possessed by the Javanese people in managing household waste. Therefore, an in-depth analysis of "Luwangan": Local Wisdom of the Javanese Community in Household Waste Management is needed, to identify how the form of Javanese local wisdom shows pro-environmental behavior in household waste management and how the existence of "luwangan" during the onslaught of currents is needed. globalization..

2. Literature Review

Culture comes from the Latin word "colere" which means to cultivate or work, especially cultivating rice fields. Then developed the meaning of "culture" which means all human efforts and actions to cultivate the land and change the soil and change nature in the process of human life. This is supported by Taylor who states that culture is the total complex of knowledge, belief, art, morals, law, customs, and all other capabilities and habits acquired by a person as a member of society [17].

In general, the core understanding of culture is 1). that the culture that exists between human beings is very diverse, 2). that culture is acquired and passed on socially through the learning process, 3). that culture is described from the biological, sociological, and psychological components of human existence, 4). that culture is structured, 5). that culture contains several aspects, 6). that culture is dynamic, and 7). that values in culture are relative [18]. The cultural diversity in Indonesia gives birth to various local wisdom for each region.

Local wisdom consists of two words, namely "wisdom" (wisdom) which means "wisdom" and "local" which means "local". In general, it can be said that local wisdom is local (local) ideas that are wise, full of wisdom, of good value which are embedded and followed by community members [19]. Local wisdom can also be interpreted as local knowledge that has been so integrated with belief systems, norms, and culture and is expressed in traditions and myths that have been held for a long time [20].

Law No. 32 of 2009 concerning Environmental Protection and Management mentions local wisdom as noble values that apply in the life of the community to, among other things, protect and manage the environment in a sustainable manner. Local wisdom is a philosophy and view of life that is manifested in various fields of life such as in social and economic values, architecture, health, environmental management, and many other applications.

According to Koentjaraningrat, local wisdom can be manifested in 1) ideas, ideas, values, norms, regulations, 2) behavior patterns, complex activities, 3) artifacts, culture, materials, and cultural products. In addition, local wisdom can be tangible in tangible and intangible forms. Forms of local wisdom that are tangible include: textual, buildings/architecture, and cultural/traditional heritage/artwork objects. Meanwhile, local wisdom is intangible, for example, advice that is conveyed verbally and from generation to generation which can be in the form of songs and chants containing traditional teaching values. Through this intangible local wisdom, social values are conveyed from generation to generation [21]. In local wisdom contained local cultural wisdom. Directly or indirectly, culture influences the formation of local wisdom [22].

Local wisdom is a cultural product of the past that should be continuously used as a guide for life. Culture or culture contains a very broad understanding and contains a very complex understanding of the feelings of a nation which includes knowledge, belief, art, morals, law, customs, habits, and other traits obtained from community members [23].

One of the values of local wisdom is the value of caring for the environment which is implemented through pro-environmental activities. The United Nations Commission

on Sustainable Development (UN CSD) International Work Program, defines pro-environmental behavior as the use of services and products to meet basic needs and bring about a better quality of life by minimizing the use of natural resources and toxic materials and emissions of waste and pollutants over the life cycle so as not to jeopardize the needs of future generations.

The definition of environmental behavior can be seen from two perspectives, namely impact-oriented and intent-oriented. Pro-environmental behavior in an impact-oriented perspective is defined as the extent to which such behavior changes the availability of materials or energy from the environment or changes the structure and dynamics of the ecosystem or the biosphere itself, for example, logging and disposing of household waste, which has a direct impact on environmental change. Meanwhile, in an intent-oriented perspective, pro-environmental behavior is defined as behavior that is carried out to change the environment.

Pro-environmental behavior can be seen in the perspective of the theory of planned behavior (TPB). According to TPB, individual behavior is goal-directed behavior and involves a conscious process of explaining individual behavior in specific situations. Thus, pro-environmental behavior is determined by conscious processes that occur in humans. The choice of individual behavior to protect the environment or not is determined by the individual's intentions. Humans have control to act or not to do it [24].

This conscious process is manifested in the form of intention, namely readiness to take any action, in this case protecting the environment. Intention to protect the environment or not is determined by three things, namely attitudes towards the environment, subjective norms related to the expectations of people around the importance of protecting the environment, and perceived control to be able to protect the environment [25].

The pro-environmental behavior of society globally has shifted and even changed due to the globalization process. Globalization refers to the concept of the integration of human consciousness in a single word as a whole [26]. Globalization is an advanced stage of modernization, which fundamentally remodels various aspects of life and involves interrelated elements, and forms a new global configuration of an order [27].

3. Method

This research uses a qualitative method with a phenomenological approach, which seeks to capture the "*luwangan*" phenomenon that exists in the Pageruyung Village community and reveal the meaning contained in it. Javanese people, "elders" and

community leaders were chosen as research subjects, while the informants were cultural experts and Javanese language lecturers. Observational data, interviews with in-depth interviews, and FGD techniques and documents were compared to determine the validity of the data. The data analysis technique used the Colaizzi method, with the stages: (1) researchers collected data from interviews in the form of primary and secondary data, (2) researchers read repeatedly the existing data transcripts so that researchers could find the meaning of significant data and provide an underline on the data. participant's important statements, (3) determine the category, and (4) write a report.

4. Results and Discussion

Pageruyung Village is one of the villages in Pageruyung District, Kendal Regency. The Pageruyung Village area is a hilly area with gentle and steep slopes. Most of the land is used for agricultural areas, so it can be called a peasant society. The total population of Pageruyung Village at the end of 2020 was 2,935 people, consisting of 1,484 men and 1,451 women. The number of family heads is 1,005 families and the number of family members is 2,098 people. While the density reaches 1,323 people/Km². The population growth rate is 1.98%. The livelihood of some of the population is farming, which is around 39.27%. Most of the people's education level has finished elementary school, which is around 27.77%. The income per capita of the residents of Pageruyung Village in 2020 is Rp. 1,933,000, - close to the regional minimum wage of the Kendal Regency Government. The social life of the community is semi-community, namely an open agrarian society with various changes. This allows for a shift and change in values and norms in society quickly, although there are some values and norms that are still adhered to by the community [28].

Society is a group of individuals who live together [29][30] in a certain area [31], have their own culture, have the same habits, traditions, attitudes, and feelings of unity [32], and socialize to the next generation [33]. This concept applies to the people of Pageruyung Village, Pageruyung District, Kendal Regency, Central Java Province. The Pageruyung Village community is a group of individuals who live together in Pageruyung Village, have Javanese culture, have the same habits, traditions, attitudes, and feelings of unity, and socialize values, norms, habits, traditions, customs to the next generation, including in terms of maintaining balance. environmental ecosystem by making "*luwangan*". "*Luwangan*" is a place to make garbage for the people of Pageruyung Village. Here's a picture of the "*luwangan*":

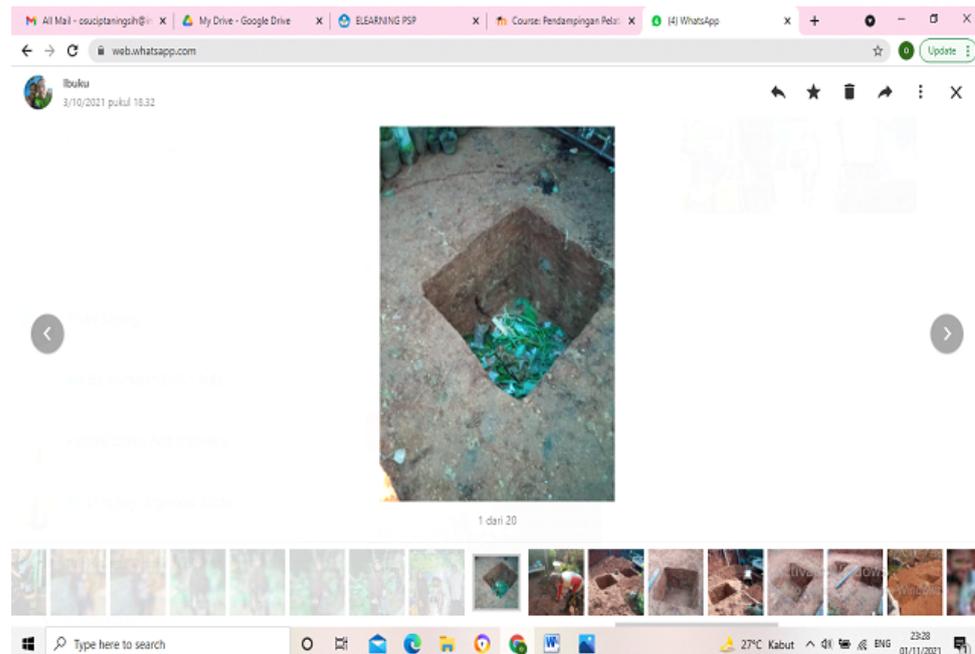


Figure 1: *Luwangan*.

Figure 1 is a picture of "*luwangan*" which is a place to throw garbage in the Pageruyung Village community. The houses inhabited by the older generation must have a "*luwangan*" as a place to dispose of garbage. "*Luwangan*" is usually behind the house. This is due to the Javanese philosophy of the view that everything bad is placed at the back, including in this case the concept of placing a trash can. The trash can is considered a bad place because it is a place to throw garbage, namely everything that is no longer used by residents of the house, or remnants of objects used by residents of the house, in the form of food scraps, plastic, paper and in other forms. In addition, the trash can usually has an unpleasant odor, so it is not good to place it in front of the house.

In Javanese society, not only trash cans are placed behind the house but also "*jedhing*" and wells. "*Jedhing*" is a toilet/shower place, while a well is a completeness of "*jedhing*", namely a water source. The three places in the Pageruyung Village community are also in the area behind the house.

"*Luwangan*" in the Pageruyung Village community is usually made two side by side. "*Luwangan*" is used to dispose of household waste in the form of food scraps. The types of food waste are vegetables, fruits, and other types of food that are perishable and can be decomposed by soil-decomposing bacteria, not causing pollution to the soil. This type of waste in modern society is referred to as organic waste [34]. The second "*Luwangan*" is used to dispose of plastic waste, stereo form, and other types of waste that are not perishable and cannot be decomposed by soil-decomposing

bacteria. Modern society refers to it as inorganic waste [35]. Inorganic waste will be burned once a week. Here is a picture of the two "luwangan":

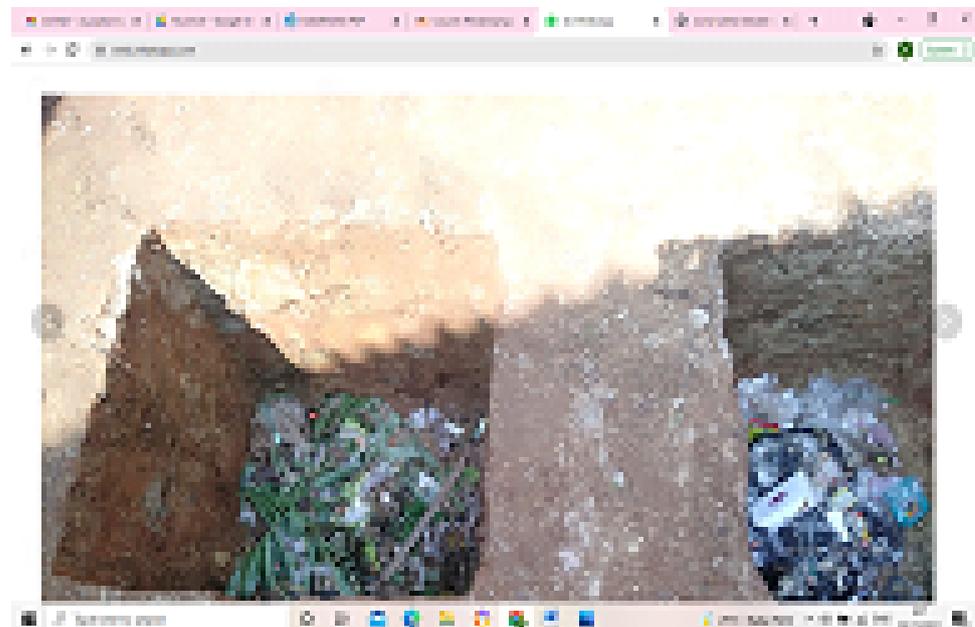


Figure 2: "Luwangan" organik dan anorganik.

The making of "luwangan" at first did not number two but only one. This is due to the times, where there is a change in the type of food consumed by the community. In the past, people's food consisted of vegetables and fruit and the goods used were environmentally friendly so that households did not produce plastic waste, stereo forms that cannot rot and cannot be decomposed. "Luwangan" organic will be left because it will become compost. This is different from the current household waste which is mostly in the form of plastic and stereo form because the goods used are made from these two objects which can cause pollutants to the soil.

"Luwangan" was created as an implementation of the Javanese philosophy of "Hamemayu Hayuning Bawana", namely that people must behave and behave that always prioritizes harmony, harmony, harmony and balance in the relationship between humans and nature, humans and humans and humans and Allah SWT in carrying out life and life so that the state becomes "long, arbor, gemah ripah loh jinawi, karta tur raharja" (sturdy and authoritative, wide-open seas and mountains, bustling ports and trade, cheap food and clothing, fertile and prosperous, orderly, safe, peaceful, peaceful, far from crime)"[36] [37].

Javanese society prioritizes harmony, harmony, and balance, including with the natural surroundings. "Luwangan" is one way for the Javanese people to maintain harmony, harmony, and balance, including with the surrounding nature, by not littering and not

causing soil pollutants so as not to damage nature. According to Koentjaraningrat this is included as a form of local wisdom of the Javanese community. The local wisdom of "*luwangan*" was formed from the habits of the people of Pageruyung Village in ancient times who got used to managing household waste as an actualization of one of the life philosophies of the people. This habit is passed down from generation to generation to their children and grandchildren.

The habit of throwing garbage in organic and inorganic "*luwangan*" according to the definition of environmental behavior is seen as an intent-oriented perspective of pro-environmental behavior, namely as behavior carried out to change the environment, namely turning household waste into compost and turning pollutants into clean. According to the perspective of the theory of planned behavior, the behavior of throwing garbage in "*luwangan*" is individual behavior that is directed by goals and involves a conscious process in explaining individual behavior in specific situations, namely preserving the environment. This behavior is formed because of a conscious process that occurs within the Pageruyung Village community. The choice of individual behavior to dispose of garbage in "*luwangan*" as a form of protecting the environment or not is determined by the individual's intentions because humans have control to take any action or not to do it.

In this era of globalization, there is a shift in the behavior of throwing garbage in the "*luwangan*". The people of Pageruyung Village, especially the younger generation, no longer throw garbage in "*luwangan*". This is because of the concept of a minimalist residence. Most of the land occupied is limited, small in size, so there is no place to make a "*luwangan*". Household waste is collected in plastic bags and then it will be picked up by garbage officers who go from house to house every 3 days. This method is considered more practical and easier to do. In this case, globalization has changed the order of the Pageruyung Village community in realizing pro-environmental behavior as an effort to preserve the natural environment while at the same time changing the actualization of the Javanese philosophy of "*Hamemayu Hayuning Bawana*".

5. Conclusion

Every community has its way of managing household waste. In Javanese society, household waste management is done by throwing garbage in the "*luwangan*" which is placed behind the house. This is related to the actualization of Javanese philosophy which is owned by the Javanese people in maintaining harmony, harmony, harmony, and balance

in the relationship between humans and nature. The behavior of throwing garbage in "luwangan" includes pro-environmental behavior in an intent-oriented perspective.

Acknowledgments

Thank you to LPPM PGRI Semarang University for funding this research. Thank you to the people of Pageruyung Village who have been the subject of research and provided scientific information in this research.

References

- [1] Tim Badan Pusat Statistik; Mengulik Data Suku di Indonesia; 18 November 2015. Available from: <https://www.bps.go.id/news/2015/11/18/127/mengulik-data-suku-di-indonesia.html>
- [2] Prayogi R, Danial E. Pergeseran nilai-nilai budaya pada suku Bonai sebagai civic culture di kecamatan Bonai Darussalam kabupaten Rokan Hulu provinsi Riau. *Humanika: Jurnal Ilmiah Kajian Humaniora*. 2016;23(1):61-79. <https://doi.org/10.14710/humanika.23.1.61-79>
- [3] Ali M, Riyanti R, Khomsiyatun U. Pendidikan moral anak usia dini berbasis kearifan lokal dalam keluarga. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*. 2022;6(3):2287-2295.
- [4] Rismayanti R, Nusarastrinya YH. Upacara adat pemakaman mengenang leluhur (ma'nene) di toraja, lembang bululungkan kecamatan rinding allo toraja utara. *Jurnal Adat dan Budaya Indonesia*. 2021;2(2):118-132. <https://dx.doi.org/10.23887/jabi.v2i2.30410>
- [5] Parlina D, Kasiwi A, Gumilar SA, Drahati A, Febian E. Kajian pengaruh adat istiadat, religi, dan alam pada bangunan adat, lembah kuta ciemis studi kasus: Bentuk massa, ruang dalam dan struktur bangunan kampung adat kuta, ciemis. *Jurnal Rekayasa*. 2014;2(4):1-12. <https://doi.org/10.26760/rekayasa.v2i4.602>
- [6] Koentjaraningrat K. Pengantar ilmu antropologi, edisi revisi PT. Jakarta: Rineka Cipta; 2009.
- [7] Yuniati Y, Bagianto A, Rustandi R. Pengendalian internal berbasis budaya jawa pitutur sinandi ora ilok: Implementasi mewujudkan kualitas laporan keuangan di pemerintahan kota kediri di jawa timur. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, & Akuntansi)*. 2021;5(3):741-757. <https://doi.org/10.31955/mea.vol5.iss3.pp741-757>

- [8] Kristianto D, Seha N. Nilai moral dalam tanda basa baduy. *Kandai*. 2016;12(2):269-282. <https://doi.org/10.26499/jk.v12i2.85>
- [9] Affandy S. Penanaman nilai-nilai kearifan lokal dalam meningkatkan perilaku keberagaman peserta didik. *Atthulab: Islamic Religion Teaching and Learning Journal*. 2017;2(2):201-225. <https://doi.org/10.26760/rekakarsa.v2i4.602>
- [10] Amri U. Globalisasi dan dampaknya terhadap lingkungan dan keamanan manusia di asia pasifik: Kasus China dan papua nugini. *Jurnal Kajian Wilayah*. 2016;2(1):56-71. <https://doi.org/10.14203/jkw.v2i1.321>
- [11] Kastama IM. Hukum adat dayak: Bentuk, penerapan dan sanksi singer di desa pendreh kecamatan teweh tengah kabupaten barito utara. *Belom Bahadat*. 2018;8(2):1-19.
- [12] M. Mashuri, "Proses Berarsitektur dalam Telaah Antropologi: Revolusi Gaya Arsitektur dalam Evolusi Kebudayaan.," *Ruang: Jurnal Arsitektur*. vol. 2, no. 2, pp. 53–58, 2010.
- [13] Narut YF, Nardi M. Analisis sikap peduli lingkungan pada siswa kelas VI sekolah dasar di Kota Ruteng. *Scholaria: Jurnal Pendidikan dan Kebudayaan*. 2019;9(3):259-266. <https://doi.org/10.24246/j.js.2019.v9.i3.p259-266>
- [14] Rochwulaningsih Y. Dinamika gerakan lingkungan dan global environmental governance. *Jurnal Sejarah Citra Lekha*. 2017;2(2):151-160. <https://doi.org/10.14710/jscl.v2i2.16188>
- [15] P.L. Pingali, "Institutional and Environmental Constraints to Agricultural Intensification.," *Population and Development Review*. vol. 15, no. 1, pp. 243–260, 1989.
- [16] Wulandari AD, Arifien M, Suharni E. Perilaku peduli lingkungan masyarakat dalam pengelolaan desa wisata kandri kecamatan gunungpati. *Edu Geography*. 2018;6(3):170-176.
- [17] N. Miller, *The child in primitive society*. Gale Research Co, Michigan, United States of America, 1975
- [18] I.G.A. Wiranata, *Antropologi budaya*. Citra Aditya Bakti, Bandung, 2002.
- [19] Nugroho W. Relationship between environmental management policy and the local wisdom of indigenous peoples in the handling of COVID-19 in Indonesia. *Oñati Socio-Legal Series*. 2021;11(3):860-882. <https://doi.org/10.35295/OSLS.IISL/0000-0000-0000-1193>
- [20] Umar MZ. Local wisdom of builders on the quality of making concrete in kendari city southeast Sulawesi province. *Local Wisdom: Jurnal Ilmiah Kajian Kearifan Lokal*. 2021;13(2):152-164. <https://doi.org/10.26905/lw.v13i2.5565>

- [21] Koentjaraningrat K. Pengantar Ilmu Antropologi. Jakarta: PT Rineka Cipta; 2009. 1–338 p.
- [22] Meliono I. Understanding the Nusantara thought and local wisdom as an aspect of the Indonesian education. *Tawarikh*. 2011;2(2):221-234. <https://doi.org/10.2121/tawarikh.v2i2.392>
- [23] T. Triyanto, “ART EDUCATION BASED ON LOCAL WISDOM.,” In: *Proceeding of International Conference on Art, Language, and Culture*. pp. 33–39 (2017)
- [24] I. Ajzen, “The theory of planned behavior.,” *Organizational Behavior and Human Decision Processes*. vol. 50, no. 2, pp. 179–211, 1991.
- [25] Fang WT, Ng E, Wang CM, Hsu ML. Normative beliefs, attitudes, and social norms: People reduce waste as an index of social relationships when spending leisure time. *Sustainability*. 2017;9(10):1-18. <https://doi.org/10.3390/su9101696>
- [26] Maiwan M. Memahami politik globalisasi dan pengaruhnya dalam tata dunia baru: Antara peluang dan tantangan. *Pamator Journal*. 2014;7(1):1-10. <https://doi.org/10.21107/pamator.v7i2>
- [27] R. Robertson, *Globalization: Social Theory and Global Culture*. SAGE Publications Ltd, 1 Oliver’s Yard, 55 City Road, London EC1Y 1SP United Kingdom, 2000
- [28] Pemerintah Desa Pageruyung. Profil desa pageruyung. Kendal: Pemerintah Desa Pageruyung; 2020.
- [29] Sumardjan S, Soemardi S. Setangkai bunga sosiologi. Jakarta: Fakultas Ekonomi Universitas Indonesia, 1974.
- [30] Srinivas MN. Social anthropology and sociology. *Sociological Bulletin*. 1952;1(1):28-37.
- [31] Gillin JL, Gillin JP. Cultural sociology. New York: McMillan; 1948.
- [32] Lopreato J, Rusher S. Vilfredo pareto’s influence on USA sociology. *Revue Européenne des Sciences Sociales*. 1983;21(65):69-122.
- [33] L.A. Coser, *The Idea of Social Structure: Papers in Honor of Robert K. Merton*. Routledge, 2012.
- [34] Jalaluddin J, Nasrul ZA, Syafrina R. Pengolahan sampah organik buah-buahan menjadi pupuk dengan menggunakan effektive mikroorganisme. *Jurnal Teknologi Kimia Unimal*. 2017;5(1):17-29. <https://doi.org/10.29103/jtku.v5i1.76>
- [35] Febriadi I. Pemanfaatan sampah organik dan anorganik untuk mendukung go green concept di sekolah. *Abdimas: Papua Journal of Community Service*. 2019;1(1):32-39. <https://doi.org/10.33506/pjcs.v1i1.348>
- [36] Djono D, Utomo TP, Subiyantoro S. Nilai kearifan lokal rumah tradisional jawa. *Humaniora*. 2012;24(3):269-278. <https://doi.org/10.22146/jh.1369>

- [37] Nurgiyantoro B. Penggunaan ungkapan jawa dalam kumpulan puisi tirta kamandanu karya linus suryadi (Pendekatan stilistika kultural). *Litera*. 2014;13(2):201-214. <https://doi.org/10.21831/ltr.v13i2.2575>