



Social and Tradition In Local Knowledge For Dealing With Nature Disaster

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Abstrak

Bencana alam sebagai akibat dari kerusakan alam karena perilaku manusia dan perilaku alam secara alamiah. Tujuan utama penelitian ini yaitu untuk menemukan tradisi dan bentuk modal sosial yang diterapkan oleh masyarakat adat Urug perspective tokoh kunci dalam menghadapi bencana. Sekaligus menemukan mitigasi yang dilakukan dalam menghadapi bencana. Metode penelitian yang digunakan yaitu metode Etnografi secara kualitatif. Teknik Pengumpulan Sampel dalam penelitian ini menggunakan teknik Purposive Sampling. Hasil penelitian menunjukkan yaitu tolong menolong sebagai tradisi untuk menolong warga yang terdampak bencana. Masyarakat yang tidak terdampak memberikan kebutuhan pokok termasuk beras, makanan, pakaian, selimut dan tempat tinggal sebelum pertolongan dari pemerintah datang. Tradisi ini berkaitan dengan prinsip persaudaraan dalam masyarakat. Temuan yaitu terdapat literasi bencana yang dilakukan untuk merespon kejadian bencana seperti hubungan kawasan sungai dengan potensi terjadi bencana. Cara merespon lainnya yaitu menjadi pedagang diluar desa seperti pergi berdagang ke kota besar sehingga mendapatkan tambahan pendapatan untuk mengatasi masalah perekonomian. Bahkan, terdapat cara bijak yang dilakukan yaitu ketika seseorang berhutang kepada orang lain, seseorang yang memiliki hutang bisa mengganti hutang tidak dengan uang namun dengan cara lain seperti bekerja pada tempat seseorang tersebut hingga hutang bisa lunas.

Keywords: Tradisi, Budaya, Bencana, Pengetahuan Lokal

Abstract

Natural disasters as a result of natural damage due to human behavior and natural behavior. The main objective of this research is to find out the traditions and forms of social capital applied by the indigenous people of Urug from the perspective of key figures in dealing with disasters. At the same time find the mitigation that is done in the face of disasters. The research method used is the ethnographic method qualitatively. The sample collection technique in this study used the purposive sampling technique. The results of the study show that helping is a tradition to help residents affected by disasters. The unaffected community provided basic needs including rice, food, clothing, blankets, and shelter before aid from the government arrived. This tradition is related to the principle of brotherhood in society. The findings are that there is disaster literacy carried out to respond to disaster events such as the relationship between river areas and the potential for disasters to occur. Another way of responding is to become a trader outside the village, such as going to trade in big cities so that they get additional income to overcome economic problems. There is a wise way to do this, namely, when someone owes a debt to someone else, someone who has debt can replace the debt not with money but in other ways such as working at the person's place until the debt can be paid off.

Keywords: tradition, culture, disaster, local knowledge

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DOI : <https://doi.org/10.31004/edukatif.v4i1.1830>

ISSN 2656-8063 (Media Cetak)

ISSN 2656-8071 (Media Online)

INTRODUCTION

A natural disaster is a natural event that has a major impact on the human population. Natural events can include floods, volcanic eruptions, earthquakes, tsunamis, landslides, blizzards, droughts, hail, heatwaves, tropical storms, typhoons, tornadoes, wildfires, and disease outbreaks. Like Padangsidempuan City, natural disasters often occur such as floods, landslides, and earthquakes (Hardiyanto & Pulungan, 2019). The occurrences of environmental disasters are related to the shortage of human consciousness in environment conservation (Elyawati & Fatmawati, 2021). Disasters have a catastrophic social and economic impact on human life (Genç, 2018). Even it leads to harm the small and medium enterprises (Sharif, 2021). The other effect is to alter society work because disaster has vanished last work and the society looks another job as new livelihood sources (Indah Yuliasari, 2018). The detrimental impact of disaster requires some disaster mitigation. Mitigation can be categorized as the endeavor to contain nature disaster obstacles. Some methods can be utilized for disaster management like social media. Twitter as social media can be implemented for government to understand the implementation of disaster management policies quickly and accurately (Wahyuningsih & Suswanta, 2021). The other mitigation can be released by building monitoring and early warning systems exerting an internet-based based Arduino microcontroller (Danang et al., 2019). Even disaster mitigation can be released through the curriculum. Curriculum products can jump the disaster response capability of students through extracurricular and extracurricular activities as well as refine the disaster response capabilities of students in Indonesia (Putra et al., 2021).

Furthermore, literacy of disaster is perpetrated by education of disaster which is educated by disaster agency enable to improve attitude, knowledge, and behavior of mother's student in disaster (Bahagia, Mangunjaya, Wibowo, & Rangkuti, 2021). It is regarded with environmental literacy, as the student receives education for environment, it increases the knowledge of the student in disaster. The students accept environment literacy through digital learning where the action is enabled to cease sewage products, as well as the students, receive garbage training processing. In addition, some mitigations are conducted by Local disaster agencies including mapping, inspection, investigation, monitoring, and socialization (Susanti & Ikgang Putra Anggara, 2020). One mitigation is to strengthen the capacity of the community to overcome complicated (Yulianto et al., 2021). The knowledge of the community in a disaster can underpin preparedly for disaster and the knowledge can be valuable for the next generation to overcome the disaster (Nurjanah & Apriliani, 2021). Then, disaster management is also performed by the Yusuf prophet by way of saving rice for overcoming unprecedented (Mujahidin et al., 2020). Besides that, local knowledge which is owned by customary societies enables it to include in disaster management. In Urug societies store paddy instead of trading paddy. The goal of this action is to ensure fundamental needs as there is unpredicted catastrophe occurs (Bahagia et al., 2020).

The other is Urug societies avoid greedy principle, it enacts Urug societies avoid from the environment devastated typically land because they farm paddies only one time in a year rather than 3-4 periods in a year (Irfani et al., 2021). Lastly, home gardens possess the fundamental function to adjust the environment typically for the stabilization of climate change. Home gardening has several functions, including protecting water from the surface flow. It avoids the environment from flooding disasters, reduces emissions caused by global warming or climate change, produces oxygen, and safeguards soil fertility. It must be boosted by tradition or mutual assistance to clean the river from garbage because the river which is contained by sewage leads to natural disasters (Bahagia et al., 2021). Based on the theory mentioned, disasters of nature include sliding, swelter, climate change, and flooding. To deal with the natural disaster can be released through community development, ecological literacy, and local customary community where they have a tradition to overcome the case including protecting the nature from devastating and creating some norm which it is restricted the member of the community to ravage the nature. In this research, the research planning will discover the social capital of Urug community to combat the natural disaster. Another goal as the target is to

find out the tradition that has the potential to reduce the risk of natural disasters. Lastly to find about the literacy of disaster which is released by the disaster agency in the community after nature catastrophe strikes the Urug Village.

METHODS

Research on social and cultural values for combating natural disasters in the Urug community is conducted in Urug village West Java Province. The research uses qualitative with the ethnographic method. This is qualitative research in which the researcher investigates a cultural group in a natural environment over a long time in collecting primary data, observation data, and interview data (Kusumastuti & Khoiron, 2019). While qualitative research is the research that is used to explore and understand the value that comes from human and social issues. There are several stages in qualitative research including rising the question, adjusting the procedure, gathering data from informants (Nugrahani, 2014). Qualitative research arises because there is a change in the paradigm in viewing a reality, phenomenon, or symptom. In this paradigm, social reality is seen as something holistic, complex, dynamic, and full of meaning (Nursanjaya, 2021). The sample collection technique in this study used the purposive sampling technique. Purposive sampling is a sampling technique with certain considerations. The sample in Urug societies is the key person of Urug community namely Abah Sukardi. The researcher decides the respondents as fundamental sources of data because the person is high in knowledge in the community and unable to reply to all the questions that the researcher researches to his.

There are three methods that researchers use to gather the data from the field. To begin with, observation is the first method to observe directly the location. Also to envisage the real situation in the research place. Another way is to perpetrate in-depth-interview with the main respondent. They are some questions that the researcher accesses to respondents including social capital like mutual assisting as the tradition in the community to embedded to all of the people. In this research, how mutual assisting as social capital and tradition to aid the impacted person from a natural disaster. Another question is the researcher attempt to gather the information or the mitigation based on tradition and culture of the community to overcome the natural catastrophe. The last question is to gather the method for literacy of disaster in the community. It led to making the community understand the clue of disaster and the way to deal with the issues. After the data have been collected from the in-depth interview, the researcher tries to combine some sources of research data such as the data from Interviews, observation and documentation. Data can be reliable when the result is based on the blending of some sources in numerous methods namely triangulation analyses. When the combination of data sources, makes the data more reliable and look at the persistence of respondents when an in-depth interview is conducted, it will be tightened by the other data sources like observation. Once the data is checked, we trust that it results in expected data.

RESULT AND DISCUSSION

Ecology disasters such as flooding, sliding and Once after a disaster occurs, the people must be identified about the level house damaged. After they identify. When disaster combat Urug societies, the location can't be reached for several days. The assistance from the government must differ in temporary time. The location can't attain because Indigenous of Urug societies can be categorized as the mos damaged village when flooding and land sliding strike to the location. The impact is Urug societies rely on their social and cultural values for combating eco-catastrophe. As disaster occurs, the adverse impact to societies can't be avoided, Urug societies experience losing their houses and even hard ravaged. Besides that, some people as victims lose their entire wealth. As a consequence as many people must be homeless. However, Urug societies have social capital and culture for overcoming this circumstance. One social capital is a social relation among members of societies, whoever of the member is impacted by disaster, the other person must assist to people

who they house is carried out by water when flooding and sliding. The people who they house still in good condition have responsible to share their house before another helping coming. Once the victim has been saved, the neighbor distributes basic food and gives cloth to them.

Despite the people who are impacted by disaster don't have family, the neighbor understands to assist the people. The fundamental need is provided as well as daily needs after the other government assists them. When the victim loses their house because of disaster, the night is willing to render shelter for the person. It shows that the community has a strong social connection among the community. It enables to occur when they don't close to others. Krisdiyanto (2019) disaster management will work well if all elements can coordinate well. Increasing community capacity through the use of effective social capital is very important in disaster management projects. Social capital is an indicator that solidarity among the community is very stringent. Some social capital aspects are trusting, high cohesiveness, cooperation, networking, and working together in societies. It contributes to achieving public interest, increasing public involvement, decreasing the rate of conflict as well as emerging the rate of social harmony in societies (Muhamad et al., 2017).

Social capital covering values and norms, commitment, trust, networking, and sharing of information or knowledge provides benefits in the form of increased community awareness of disaster, social solidarity, and disaster knowledge of the citizens (Tohani & Wibawa, 2019). The other is to imply the tradition like gotong royong or cooperation based on collective behavior rather than individual action. Cooperation has been a habit for Urug people. Collective helping has a part of their life before disaster strikes the community life, it is a heritage from their forefather. For instance, cooperation applies to rebuilding the again house. All the people contribute to building a house which is categorized as heavy ravaged. In this activity, no social punishment to members of people who they don't include in the cooperation activity. It depends on the willingness of someone to mingle in this activity. In addition, when someone doesn't mix in collective action, the other person is persistent to help the people.

Despite this tradition continue to weaken nowadays in the young generation. For example, there is collective awareness to allocate all their prosperity but they will not render money. The people render roof, cement, wood, and equipment and the people don't receive money as payment despite they work to help other people. The people pay it like their energy and power to give again to another person who needs it. The people way to combat postdisaster through social linkage like they share the house for. Another action is for local leaders to create houses for people who fully lose their house. According to Abah Sukardi one house must be funded about 10 million rupiahs Huntap must be abolished anymore but the leader of Urug societies has applied. Another culture of Urug societies, when sliding and flooding combat the area, the people who are impacted by disaster must be assisted by the relative and their neighbor. The tradition like mutual assisting and mutual joining implies in this situation where the relative who they don't affect by disaster must be responsible to lighten the burden of a disaster victim. In this situation, the relatives and their neighbors supply directly the food and drink without asking helping outside of these communities.

They also provide cloth for the children and give shelter for sleep in temporary time until the situation and victim as well as getting help from the government. In social theory show that Urug societies have high solidarity in group and possess stringent social relationship as proof that they apply social capital in their life. Besides that, to combat disaster, Urug societies apply mutual assisting like giving a depth to person but they never intrude to pay back their depth. There is some way that Urug societies do in these circumstances. When the people don't have land for cultivating, the landless people involve as the owner of the land. The person gets benefits from this despite no land are for him to cultivate the plant. Another way browsing paddies and rice to the people. The people render rice and paddies to the people who borrow the rice and paddies. The length of time for giving back again paddies is not determined because it relies on the people who they have or not. The person also gives money despite the people rendering paddies and rice. Even as the person can't

render back the money, people can alter it with other forms like distributing their physical power to help the owner of money where they people borrow that money.

It implements when a disaster occurs to abolish the burden of people victims. In religion particularly in Islam, debts are an economic transaction that contains a mutual assisting value. It results to debts can be explained as social worship because in Islamic religion has a privilege portion. Debts contribute wonderfully to another person because it aids the person who needs it most. The purpose of debts avoids commercial aspects and endeavor led to gain benefit economically (Aziz & Ramdanyah, 2016). Meanwhile, reported that debt can bring a person to heaven because of his intention to help fellow human beings (hablun minannaas) but debt can also bring someone into hell fire when not managed properly (Cahyadi, 2014). Problems due to accounts payable often arise because etiquette in debt is not noticed by the debtor (the creditor) and borrower (the debtor). Hayani (2016) reveals that in Islamic teachings, debts are not allowed for additional elements in returning the goods when the time comes, but things like that are still often found in a society where there is the practice of debts with additional payments that exceed the loan. The other way to mitigate disaster in Urug societies, the head of a village demanding help from the government.

In this, the chief of Urug has a role to connect the societies in a remote area to others for Obtaining some of society's necessities such as medicine, food, and shelter. Despite there being a low connection between societies and governments where Abah Sukardi as the key person of Urug said that when a disaster occurs, Urug societies have a barrier for linking to outside the community. Even Abah Sukarma as head of a village irritates the situation. The relative supply food, drink, and cloth to support their misery in temporary time until the people can deal with the obstacle. It must be bolstered by the other people open they house and hand in hand to prefer. The other way to create community resilience is to conduct permanent housing (huntap). The house only kitchen but the disaster victim can use it as a house. The objective of this building is to aid the people who are impacted by disaster. Societies also accept numerous help from the government. There are 7 houses that chief of the village have been constructed but it must be demolished again because there is a program from societies like huntara. Once a disaster occurs, there is disaster training from universities and government to empower societies for facing disaster. The disaster agency conduct disaster extension to societies to jump the rate of societies consciousness in eco-catastrophe.

It increases society's knowledge and awareness of disasters. The disaster agency reveals the location where it can be proper or improper to utilize as the housing area. Moreover, the disaster agency also advises that the river around the location of societies disallows for transforming to housing societies as well as damaging forest. Event there is some entertainment to cheer up the societies. The household mother and children around invite them to sing a song to eliminate the grieving. Some artists also participate to abolish the sadness of societies. The other way is to make a water reservoir like a pond. The aim is to hold rainwater as the cause of natural catastrophe and to slow down rain surface flow. Sadly, it is improper to societies despite it enables to reduce the number of water. It ensures that there is communication disaster among the community and government as well as disaster agency for reducing the risk of eco-catastrophe. However, Bakti & Fadlurrahman (2020) said that coordination still faces obstacles, for example, there are community and private organizations that do not coordinate with the BPBD of Purworejo Regency during disasters.

The factors that drive successful coordination include meeting forums (physical and non-physical), transparency in decision making, evaluation with stakeholders, and the use of decentralization for stakeholders. When disasters combat humans, many rice paddy fields can't be cultivated. Societies can't react again with 200 binding paddies. After arduous come to societies, there are some strategies to survive amid disaster. It relies on skills. They can work as farmworkers, they must work in more industries and involve in working on the project under the village office. For example to crash road. Besides that, they become traders big ball, bread, cloth, martabak to Bogor city but they gripe because there is covid-19. The Urug societies come to some cities such as Bekasi, Tangerang, Jakarta, and Bogor city. The societies trade fish to Bogor city.

When covid-19 combat the people, it is very fortunate because, after covid-19, the number of societies orders the fish double need. For example, before covid-19, the consumer usually demands 5 kilograms and it rises to 10 kilograms. The people demand through handphone despite the consumer don't face to face due to pandemic.

CONCLUSION

Natural disasters are seen by the community as a result of the problem of environmental damage done by humans. When nature is destroyed, natural disasters are ready to hit human life. The indigenous people of Urug were affected by natural disasters such as floods and landslides in 2020. These natural disasters were resolved with various strengths including traditions and social capital of life which are part of people's lives. Help each other after a natural disaster occurs as a way to deal with disasters, disaster-affected communities are assisted by people who are not affected by the disaster. All needs are met starting from basic food and other needs such as clothing. They do it because they feel that they are brothers to each other, social closeness to the community triggers mutual help. If there are people who have debts, then that person can replace it, not necessarily with money, but can pay in other forms starting from labor by working for the person who lent the funds. Besides that, in dealing with the disaster, the government also builds permanent housing for the people affected by the disaster as a form of physical mitigation in the form of buildings. At the same time providing an understanding of disasters by informing that the river area needs to be protected so that a disaster does not occur. Finally, after a disaster, people are more diligent in working and becoming traders in various cities in response to being able to survive during a disaster.

REFERENCES

- Ady Cahyadi. (2014). Mengelola Hutang dalam Perspektif Islam. *Diseño De Un Modelo De Control Interno En La Empresa Prestadora De Servicios Hoteleros Eco Turisticos Nativos Activos Eco Hotel La Cocotera, Que Permitira El Mejoramiento De La Informacion Financiera*, 4(1), 97.
<http://journal.uinjkt.ac.id/index.php/esensi/article/view/1956/1525>
- Aziz, A., & Ramdanyah, R. (2016). Esensi Utang Dalam Konsep Ekonomi Islam. *BISNIS : Jurnal Bisnis Dan Manajemen Islam*, 4(1), 124. <https://doi.org/10.21043/bisnis.v4i1.1689>
- Bahagia, B., Mangunjaya, F. M., Wibowo, R., Rangkuti, Z., & Alwahid, M. A. (2020). Leuit and prohibition forest: Indigenous knowledge of an Urug community resilience. *Harmoni Sosial: Jurnal Pendidikan IPS*, 7(2), 130–140. <https://doi.org/10.21831/hsjpi.v7i2.33055>
- Bahagia, Mangunjaya, F. M., Wibowo, R., & Rangkuti, Z. (2021). The Existence Condition Of Environment And Disaster Literacy At Elementary School Student Mother In Bogor West Java. *Edukatif: Jurnal Ilmu Pendidikan*, 3(4), 1283–1297. <https://edukatif.org/index.php/edukatif/index>
- Bahagia, Mangunjaya, F. M., Wibowo, R., Rangkuti, Z., & Noor, Z. M. (2021). *Social and Religion Value of Muludan and Mutual Assisting in Community*. 3(6), 3654–3662.
<https://doi.org/10.31004/edukatif.v3i6.997>
- Danang, D., Suwardi, S., & Hidayat, I. A. (2019). Mitigasi Bencana Banjir dengan Sistem Informasi Monitoring dan Peringatan Dini Bencana menggunakan Microcontroller Arduino Berbasis IoT. *Teknik*, 40(1), 55. <https://doi.org/10.14710/teknik.v40i1.23342>
- Dr.farida Nugrahani, M. H. (2014). Metode Penelitian Kualitatif. In *Cakra book* (Vol. 1, Issue 1). <http://e-journal.usd.ac.id/index.php/LLT%0Ahttp://jurnal.untan.ac.id/index.php/jpdpb/article/viewFile/11345/10753%0Ahttp://dx.doi.org/10.1016/j.sbspro.2015.04.758%0Awww.iosrjournals.org>
- Elyawati, E., & Fatmawati, N. (2021). Dampak Kerusakan Lingkungan terhadap Bencana Alam (Studi Kasus di Rintisan Desa Wisata Wonosoco Kecamatan Undaan Kabupaten Kudus). *IJTIMAIYA: Journal of Social Science Teaching*, 5(1), 19. <https://doi.org/10.21043/ji.v5i1.8905>

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DOI: <https://doi.org/10.31004/edukatif.v4i1.1830>
- Genç, R. (2018). Catastrophe of Environment: The Impact of Natural Disasters on Tourism Industry. *Journal of Tourism & Adventure*, 1(1), 86–94. <https://doi.org/10.3126/jota.v1i1.22753>
- Hardiyanto, S., & Pulungan, D. (2019). Komunikasi Efektif Sebagai Upaya Penanggulangan Bencana Alam di Kota Padangsidimpuan. *Jurnal Interaksi: Jurnal Ilmu Komunikasi*, 3(1), 30–39. <https://doi.org/10.30596/interaksi.v3i1.2694>
- Indah Yuliasari. (2018). Evaluasi Pengaruh Lingkungan Akibat Bencana Gempa. *Jurnal Arsitektur*, 01(01), 49–56.
- Irfani, F., Mangunjaya, F. M., & Wibowo, R. (2021). Character Building Caring for the Environment Based. *Tunas Geografi*, 09(02), 143–155.
- Krisdiyanto, F. J. (2019). Modal Sosial Dan Efikasi Kolektif Menghadapi Bencana Erupsi Merapi. *The Shine Cahaya Dunia Ners*, 4(1). <https://doi.org/10.35720/tscnrs.v4i1.140>
- Kusumastuti, A., & Khoiron, A. M. (2019). *Metode Penelitian Kualitatif*. Lembaga Pendidikan Sukarno Pressindo. [http://lib.unnes.ac.id/40372/1/Metode Penelitian Kualitatif.pdf](http://lib.unnes.ac.id/40372/1/Metode%20Penelitian%20Kualitatif.pdf)
- Muhamad, R. T., Sekarningrum, B., & M. Agma, Y. (2017). Modal Sosial Dalam Penanggulangan Bencana Banjir (Kasus Di Kabupaten Bandung, Jawa Barat). *Sosioglobal: Jurnal Pemikiran Dan Penelitian Sosiologi*, 1(2), 101. <https://doi.org/10.24198/jsg.v1i2.13306>
- Nurjanah, A., & Apriliani, R. (2021). The Role of Community in Disaster Mitigation: The Case of Umbulharjo Merapi Monitoring Community on Merapi Mount, Indonesia. *Jurnal Hubungan Internasional*, 10(1), 72–83. <https://doi.org/10.18196/jhi.v10i1.12460>
- Nursanjaya. (2021). Memahami Prosedur Penelitian Kualitatif: Panduan Praktis untuk Memudahkan Mahasiswa. *Jurnal Ilmu Administrasi Bisnis*, 04(01), 126–141. <https://ojs.unimal.ac.id/na/article/view/4925>
- Putra, W. P., Ahmad Sasmito, D., & Dianovitasari Divian Kass, R. (2021). The Development of Disaster Mitigation Curriculum to Improve Disaster Response Capabilities At The Elementary School In Indonesia. *Eduvelop*, 5(1), 34–43. <https://doi.org/10.31605/eduvelop.v5i1.920>
- Sharif, M. B. A. (2021). The Impact of Natural Disasters on Small and Medium Enterprises (SME) in Bangladesh. *OALib*, 08(06), 1–15. <https://doi.org/10.4236/oalib.1107480>
- Susanti, E., & Ikgang Putra Anggara. (2020). Analisis Mitigasi Penanggulangan Bencana di Kabupaten Ogan Komering Ulu Provinsi Sumatera Selatan. 10(2), 324–332. <https://doi.org/10.33701/jiwbp.v10i2>
- Tohani, E., & Wibawa, L. (2019). The role of social capital in disaster management of disaster vulnerable village community on the merapi eruption. *Cakrawala Pendidikan*, 38(3), 527–539. <https://doi.org/10.21831/cp.v38i2.21821>
- Wahyuningsih, D., & Suswanta, S. (2021). Analisis Penggunaan Media Sosial Dalam Mitigasi Bencana Banjir Di Dki Jakarta Tahun 2020. *JPPUMA Jurnal Ilmu Pemerintahan Dan Sosial Politik Universitas Medan Area*, 9(1), 77–92. <https://doi.org/10.31289/jppuma.v9i1.4317>
- Yulianto, S., Apriyadi, R. K., Aprilyanto, A., Winugroho, T., Ponangsera, I. S., & Wilopo, W. (2021). Histori Bencana dan Penanggulangannya di Indonesia Ditinjau Dari Perspektif Keamanan Nasional. *PENDIPA Journal of Science Education*, 5(2), 180–187. <https://doi.org/10.33369/pendipa.5.2.180-187>