

8-9-2019

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Yusup, Pawit Muhamad Mr; Damayani, Ninis Agustini Mrs; Subekti, Priyo Mr; Sugiana, Dadang; and Kuswarno, Engkus, "Dimensions of Health Information Behavior of the Poor Affected by Annual Flooding in East Bandung Region, Indonesia" (2019). *Library Philosophy and Practice (e-journal)*. 2692.

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# Dimensions of Health Information Behavior of the Poor Affected by Annual Flooding in East Bandung Region, Indonesia

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## ABSTRACT

**Background.** Poor environmental quality has its greatest impact on people whose health status is already at risk. This study specifically examined the health information behavior dimensions of the poor affected by annual flooding in East Bandung. The focus included the dimensions of needs, expectations, seeks, and use of health information and environmental information sources in the affected areas.

**Method.** The study used the interview survey method involving 136 respondents.

**Results.** Study results showed that: (1) from the aspect of profile: most prominent in poor families was the very low income, living in a very small-sized house, and on average bore the needs of about 3-4 people; (2) from the needs dimension: the most prominent was the type of information related to basic needs including food, clothing, shelter, health, and education; (3) from the dimension of information retrieval: the most prominent was the passive and active way of seeking informal sources and channels of interpersonal information which were limited in scope such as neighbors, relatives, and similar work peer; (4) from the dimension of information use, the most prominent was the type of health information with sources such as the nearest healthcare providers included neighbors and close relatives. Almost none of them used information from print or electronic media; (5) from the dimension of expectation: in general, they expected immediate assistance from the government or others to cover their basic needs, including the need for treatment if sick.

**Keywords:** Health Information; Information Needs; Information Seeking; Information Use; Poor People; Flooded Area.

## INTRODUCTION

Everyone is basically a seeker and user of information, which can be clearly seen from one's daily activities. The sought and used information are for the benefit of daily living such as work, health, finance, family, entertainment, and other, which are obtained from a variety of countless practical media. According to Johnstone and Tate (2004: 1): "People seek out and use information constantly as part of their daily life. Information relating to work, leisure, health, money, family, and a host of other topics, is sought from a huge range of sources". Essentially, people seek and use information for work, education, entertainment, health, and other, from a myriad of sources.

In terms of health, everyone needs, seeks and uses information and health information sources in various ways, directly or indirectly. In this study, health is referred to as physical health related to its environment. It is characterized by physical fitness so that an individual can work normally in his/her environment. Directly, means that someone deliberately seeks information and sources of information on health through various means, such as through the media, asking to a person, and visiting health institutions, a doctor, a midwife, or even a "smart person" (*orang pintar*) whom they consider able in treating the sick. Meanwhile, indirectly is

when someone watches a television show or listens to a radio broadcast that is discussing health-related issues or who accidentally has read articles in newspapers and other writings about health-related issues. In addition, it can be in the form of someone who unintentionally listens to other people talking about health related issues.

On the other hand, numerous sources of information on health as well as suggestions on healthy living behavior are available in various media and channels. Health institutions such as PUSKESMAS (Community Health Center), POSYANDU (Integrated Public Health Service Post), Health Clinic, and similar health institutions are widely available to the public. In addition, there are other health-oriented sector activities such as alternative medicine practices, Healthy Heart health club, Fitness Gymnastics, and other health-oriented activities, are also widely available in the community. All of them have their respective position of benefit by taking a role in the wellness of the community. Their activities are essentially a form of responsibility, task, and function or profession to encourage, educate, and promote the improvement of public health in general, through prevention and treatment of disease. Furthermore, in their endeavor to educate people to have healthy living attitudes and behaviors, they perform a variety of formal and informal activities, through interpersonal channels, social media, as well as print and electronic media.

Based on the results of a pre-survey conducted in East Bandung area, and data collected from print and online media, an illustration was obtained of floods experienced by this region during almost every rainy season. The people living in this area seemed familiar with this annual flooding. The practice of life was performed, such as to be on an anticipative alert for facing floods, for example by building a dike in front of the entrance of the house with the intention to stop water overflowing into the house when it flooded. Moreover, there were other various impacts due to the floods, since most of the population in this region got difficulties during the floods. For the poor, these floods could have an impact on many aspects of their lives. Information behavior interferences related to basic needs in the form of food, clothing, shelter, education, and health, was deeply felt by them. According to a study by Yusup, Subekti & Rohanda (2016:119): "The study of the poor from any perspective has still a strategic value in the process of the Indonesian human development as a whole". Furthermore, the study would be of benefit to scientists, researchers, and policy-makers. As from the perspective of environmental health due to the ignorance of their attitudes and behaviors which were not in accordance with the principles of healthy living, the impact of the annual floods in the region seemingly became an unsolved problem.

This study is more interested in studying further about the unhealthy living practices among the flood-affected poor population in the region, from the health information behavior aspect, which included (1) the dimension of the profile of the poor in the region; (2) the dimension of information needs and sources of health information; (3) the dimension of information search and health information resources; (4) the dimension of the use of information and health information resources; and (5) the dimension of expectation of the poor related to the impact of annual floods.

## **METHOD**

The method used in this research was direct field observation (Lofland, in Baiyey, 1987) and interview survey with 136 respondents. Then, the following steps were carried out: 1) describing the things that were going on and considered relevant to the research theme; 2) describing and recording the events that have occurred; 3) analyzing the emerging ideas and enriching them with inference; 4) recording the impressions and feelings of the individual; and (5) taking notes for further information. At each of these steps, the researcher also conducted interviews and confirmation of ongoing aspects. Furthermore, the aspects studied included: (1) the profile of the poor in flood-affected areas; (2) the dimension of information and health

information resources and its environment; (3) the dimension of information search and health information resources and its environment; (4) the dimension of use of information and sources of health information and its environment; and (5) the dimension of expectations of the poor in relation to the impact of annual floods and its related aspects.

The next step was arranging the results of field study. Based on the perspective of outcomes (results) of the field observation, the formulated knowledge was hypothetical based on the pattern of specific relationships between aspects of the situation and social reality. The results were then structured in propositions used to understand the context and time, which were in some sense known as second-degree constructs in the view of Schutz (1967) and Mulyana (2002: 172). This conception was a theoretical framework that the researchers constructed based on field study data. The result was not just a narrative of observations of subjects and objects in the field, but has already led to the proposition forms of research findings. These propositions were then used as the basis for categorizing the results of the field study.

## RESULTS AND DISCUSSION

### Profile of the poor

Furthermore, a simple profile of the poor in East Bandung region consisting of 136 people who were observed and interviewed on health and environmental aspects of health information behavior according to their experience showed that the poor's constraints might vary, as the focus was more on aspects of the average monthly income and size of the house (Table 1 and 2).

Table 1 Average monthly income (in *Rupiah*)

Average monthly income (in <i>Rupiah</i> )	f	%
No income	18	13,23
Uncertain, sometimes less than 300.000	96	70,58
300.000 - 700.000	14	10,29
700.000 – 1.000.000	2	1,47
1.000.000 – 1.300.000	6	4,41
Total	136	100,00

In general, the poor had an uncertain amount of income but on average, they earned only less than Rp300.000,00 per month (Table 1). Compared to the poverty line position (Source: <https://sirusa.bps.go.id>, accessed on November 9, 2017), the poverty line in West Java is at position 233,769 (PAUDNI 2014). Meanwhile from the aspect of house size, it turned out, more than half of the houses were less than 12 m<sup>2</sup> large. Moreover, the number of the larger sized houses varied, although the total was still less than half of the respondents (Table 2).

Table 2 Size of House

Size of house (in m <sup>2</sup> )	f	%
Less than 12 m <sup>2</sup>	72	52,94
Approximately 13-18 m <sup>2</sup>	16	11,76
Approximately 19-21 m <sup>2</sup>	8	5,88
Approximately 22-27 m <sup>2</sup>	20	14,70
Approximately 28-36 m <sup>2</sup>	14	10,29
Approximately 37-45 m <sup>2</sup>	4	2,94
Approximately 46-54 m <sup>2</sup>	2	1,47
Total	136	100,00

Moreover, the obtained data showed the following profiles of poor households: (1) The households were categorized as underprivileged household with productive age distribution,

i.e aged between 30-50 years; (2) The household-heads acted as the main breadwinner and were mostly male, with an average monthly income of approximately Rp300.000,00; (3) In general, they were working as laborers, coolies, or doing odd jobs; (4) More than half of them owned their house, while less than half rented tenements; (5) The conditions of their dwellings was quite narrow, which was on average only about 12 m<sup>2</sup>, with simple furnishings, and concrete or earthen floors; (6) Each dwelling was inhabited by a family consisting of 3-4 family members. The condition of the underprivileged families as stated before, was in accordance with the model of poor families put forward by the World Bank, BPS, and also BKKBN.

The description of the poor as noted earlier was only to explain their conditions and situation related to the flood disaster which occurred almost every year and struck their residential area. This study focused more on mapping of the aspects of behavior in revealing the aspects of needs, seek, use, and expectations related to health and environmental information, experienced by the poor in the region. How their attitude and behavior are in terms of aspects that are inherent to their basic needs, such as the aspects of food, clothing, shelter, education, and health, including aspects of their expectations. These aspects were viewed in more detail from the dimension of their behavior or action in seeking and using health information in their daily lives, whether it was flooding or not. When there was considerable flooding, most of them were evacuated to safer places but still in the flood-affected areas. At times like this, they desperately needed food to meet their basic needs during the evacuation. They also needed clean water, clothing, medicines, and ready funds for daily needs. It should be noted that when flooding occurred, practically no individuals can perform their routine work activities. Their income stalled, education was disrupted and health was affected.

The coverage of flood-related issues in the region has always appeared in various print and online media. As usual, there was more news about the floods, number of refugees, refugee situation, and news of government officials stating their views and strategies of annual flood preventions. The areas in the upper stream of the Citarum River are flood-prone areas, due to the topographic condition of the area is in the form of a basin. Hence, this region has become residential and industrial areas which impacted on the existing river becoming narrow and shallow, since it cannot hold water when it rains. Accordingly, each time it rains, water overflows and floods occur. These conditions repeatedly occur every year, resulting in annual flooding.

Actually, the government has already made various efforts to resolve this issue however they are less fast than the flood causing factors, thus the annual flooding keeps occurring to the present. The Head of DBMP (*Dinas Bina Marga dan Pengairan*) stated that from the DBMP analysis, "the cause of floods is the huge rainfall in Manglayang area and East Bandung" (Detiknews, 2016). The author has no intention to polemize the causes of floods in East Bandung, as in this study it is essential to examine the aspects of public information behavior in finding and using health and environmental information related to the annual flooding. The impact of this annual flooding spreads out to various life aspects of the people of this region, especially for the poor who have limitations in almost every aspect (Yusup, Subekti & Rohanda, 2016: 1-8 ).

Furthermore, linked to family aspects, such as, orientation, attitudes, and unhealthy living behaviors might also occur among poor families, for example: (1) at delivery, pregnant women are not assisted by health personnel; (2) do not feed breast milk to the baby; (3) do not weigh toddlers every month; (4) do not use clean water for food and drink needs; (5) do not wash hands with clean water and soap; (6) do not use healthy latrines; (7) do not eradicate mosquito larva at regular intervals; (8) do not consume enough fruits and vegetables every day; (9) do not exercise regularly; (10) are smoking; (11) consumed unhygienic snacks harmful for their health, and (12) let the home and social environment dirty and unhealthy. Basically, many factors affected the unhealthy lifestyle in poor families. Several other factors also affected these

behaviors, such as factors of education, culture, age, habits, and types of illness suffered by a person (Afifah, 2000; Sandra Imelda H., 2002; Iriansyah & Yorvandi, 2008; Puspitasari & Dyah Anggraini, 2010). Interesting is the last point which shows that people living in flooded areas are mostly neglecting the unhealthy conditions of their housing environment. When floods occurred, some residents even threw garbage into the ditch and river in the hope that the garbage would immediately be carried away by the flood. Actually, all members of the society know, though not on the same level, that information and sources of health information are available around them. Moreover, the mass media such as television, radio, newspapers, as well as health practitioners and healthcare institutions have been trying to convey various information on health and environmental health information in diverse ways and forms. Poor family members also have their attention in their search and use of health information. That is, poor families have proportionally access to information and sources of health and environmental information.

### **The poor and health information needs**

Most of the poor in this region preferred information and sources of information directly related to physical health (the body). The reason was to keep them healthy so they could work for a living to support the family. Information and other information sources such as information on environmental and social health were ranked next in the priority order. Although the need for health was very important to poor families, in fact, compared to other types of basic needs, it was not considered a top priority. The need for food expenses or daily necessities was considered the most dominant, since it was directly related to the energy used every day to provide for family members.

In summary, the dimensions of health information needs for poor families in the region can be stated in the following propositions: (1) The basic needs in the form of food are very basic and physiological needs. This type of needs is absolutely necessary, even more than any other type of needs. The needs for food cannot be delayed, while other needs may be taken care of later; (2) Next is the basic needs in the form of clothing. This type of needs also includes those attached to the needs of food, and therefore should be present although with simple clothing; (3) Next is the basic needs in the form of shelter or housing. Generally, the poor assume that housing has become part of the necessities of life. Despite the very small size, more than half of the poor here already own a house, with an area of approximately 12 m<sup>2</sup>. However, a small minority of the poor still contracts or rents monthly; (4) Next is the basic kind of health needs, including environmental health. Apparently, this type of needs is not a top priority of the poor in this region. They assume that the need to finance daily meals is more important than the need for health and the inherent aspects of it; (5) Furthermore, is the type of basic needs in the form of education. Generally, the poor here expect that their children can go to school until at least graduate from high school or the equivalent; (6) The last type of needs, according to some poor people, is the type of expectation of assistance from the government and others directly. They generally expect to obtain various assistance which can be directly used to sustain their daily lives. Essentially, they need assistance for food, clothing, shelter, health, and education (Yusup & Komariah, 2014: 4).

### **Poor people in health information search dimension**

At the theoretical level, there are various literatures explaining the dimensions of information retrieval, including health information. Ellis stated his theoretical concept as follows: "starting, browsing, chaining, monitoring, differentiating, extracting, verifying, ending (Ellis, 1989 in Godbold, 2006). This theory seems more likely to be objectivist, although in practice it can be interpretive. In the meantime, this paper mostly uses the concept of information seeking behavior, whose meaning is relevant to social behavior which aims to

find information, that on a specific level can be interpreted as the behavior of the discovery of meaning. Another theory, still in the context of information behavior is what has been put forward by Limberg, namely "Information seeking as a process of seeking meaning" (Limberg, 1999: 2; and in Grešková, 2007: 2). Information seeking is defined as the process of searching of meaning. A person who seeks and/or searches to find information is similar to a person searching and trying to find meaning. Thus, consistent with this context, when a person thinks in order to find information and sources of information, it also falls into the category of finding meaning. Obviously, in its application, it can be the meaning of life, livelihood, healthy physical and environmental life, or other meanings in accordance with the personal experience of the seeker and user of information.

Essentially, if practically applied in this research, then the meaning could be the internal process of poor families or poor people in searching and /or finding health and environmental information. Thinking and communicating interpersonally with others such as relatives and neighbors, in order to seek and use family health information and the environment, are also included in the context of implementing this theory.

In the practical information retrieval dimension, an individual's experience in a poor family environment in East Bandung can be explained by the theoretical approach from Wilson (2010). Wilson suggested in his theory on how to find information actively or passively, in the form of information seeking models both actively and passively. If implemented in this study, it means that the process of actively seeking information occurred when a member of a poor family deliberately sought information and health information sources to neighbors, relatives, or health experts. Meanwhile, a passive information search process occurred when a person unintentionally found health information, such as when one watched television broadcasts, listened to radio broadcasts, read books, newspapers, and listened to other people talking, and accidentally found information related to health and its environment.

Several aspects of the field research data, especially on the dimensions of information seeking behavior of health and environmental information conducted by the poor found the following propositions: (1) Poor families preferred to ask neighbors and relatives, rather than visiting doctors and *puskesmas*. They rarely searched information through printed and electronic media or newspapers; (2) they often unintentionally found information and sources of information on family and environmental health in print and electronic mass media; (3) When at home, they often compared one health professional with another health expert, and the environment in one area with the environment in another area. They also compared health information from health experts to one another, including from one doctor to another; (4) It turned out that poor families also often asked and discussed with health professionals such as doctors, midwives, and other health care providers when trying to find health information for the benefit of the family and the surrounding environment; (5) A specific experience of poor families in dealing with family health problems resulting from natural conditions and situations which interfered with family health was on the financing aspect when ill. The hardest experience was the financial constraints when it came to treatment. They often deliberated with close relatives and neighbors in making decisions regarding the health of their families and environment.

### **Dimensional use of health information**

Everyone has been sick, so are members from poor families. When they are sick, the steps to perform the treatment may vary. Some search for and use information obtained from relatives, close neighbors, and some go directly to community health centers, to the nearest doctor. Among them, there are also who seek treatment to a shaman (*orang pintar*), and alternative medicine. Other data also illustrate, when they are diagnosed with a serious illness by doctors, then their actions are generally resigned themselves to their fate and pray it may be

healed by Allah SWT. According to them, there is no disease that cannot be cured, except old-age-related disease or degenerative disease (*Hadist*). This kind of belief keeps the poor family confident in their expectation for recovery when exposed to a disease that is considered severe.

A case study example shows, when poor families are faced with a dilemmatic situation between choosing to use the money for treatment or for daily food expenses, the study results show most of them reveal that food costs is more important, as the cost of treatment may be delayed. Out of the 136 people interviewed, 102 people or 75 percent chose the answer that daily food costs was more important, while the rest including healthcare costs, and medical expenses may be delayed (Source: Study results). Such facts implied that health problems among them were not unimportant but rather to emphasize that fulfilling the basic needs of food, clothing and shelter was still a priority for them. Related to this dilemmatic situation, they also had their own reasons for being more concerned with the needs of food than other basic needs. They often revealed that “the stomach cannot wait”, eating could not be delayed, while others could be taken care of later.

Meanwhile, from the archive behavioral aspect or the behavior of the poor in documenting health information and health information sources, including the health of the family environment, most of them considered it as unimportant. They rarely kept documents related to health and environmental information. They also did not have an address book or health agency address notes and addresses of people related to health. They would look for the intended address only when needing it by asking a close neighbor or relative. Nevertheless, there was a small portion of those who held documents for future purposes. The form of the document was mostly only a hand-written piece of paper containing the address of the place of treatment, address and telephone number of a person, while address details were missing.

### **Dimension of expectation**

The poor have diverse although modest expectations in their lives, as regarding the aspects of basic needs of food and clothing, it is important that there are food reserves for today and tomorrow. They are also quite happy if all members of the family can wear new clothes, which need not be expensive. Meanwhile, seen from the aspect of housing needs, their only hope is to be able to pay the monthly rent or to repair the dwelling when damaged. While those who already own a house, still hope to develop it along with the increasing number of family members.

Furthermore, concerning education, they dare not expect much, as the cost of education is currently considered quite expensive. Their only expectation is that their children can at least go to high school and the equivalent. Meanwhile, viewed from the family’s environmental health, they only hope to remain in good health in order to be able to provide the needs of the family. As one informant said, "it is important to stay healthy, so we can work to get food".

In general, the poor expect the government and others to provide them with a variety of cash assistance or other forms of assistance such as free medical care, free education, and other expenses that can ease the burden of daily living. They also expect regular health-care support or at least get low-cost medical services and the government’s support for maintaining family health. In addition, they expect to be treated free of charge if sick.

Essentially, almost all poor people in the flood area are desperate to get the government's attention on all the necessities of their lives. Especially, when a big flood occurred in their residential area. They sometimes have to evacuate for days without being able to perform their work activities. Moreover, they sometimes lose business potentials due to the floods at their business premises.

### **Local Awareness**

Furthermore, during heavy rains and floods, especially in the case of Haur Pugur village Rancaekek subdistrict, usually only two RW areas were affected by the flood, namely RW I and RW II, which are residential areas close to the banks of the Citarik river. Floods usually occur in Cabok village, around the village office and Haur Pugur Railway Station. This region was almost flooded during the rainy season. In addition, floods may also occur if it rained in the northern area of Curug Cinulang Sumedang district.

At the local level, especially in the area around Haur Pugur Railway Station, flood prevention efforts can be conducted by normalizing the river. Currently, local residents have carried out routine activities such as cleaning the river and riverbanks regularly. However in Haur Pugur village itself, there is no task force including an annual flood disaster task force. Flood alert is carried out naturally as each of them is aware of his/her responsibilities. Together with the village officials such as BABINSA and BABINKAMTIBMAS, residents in the flooded area united to cope with the floods and the impact on other people unaffected by the floods. Village officials already have a planned program with the villagers, besides they already culturally know how to overcome it. For example, in this village *SIAGA* day (ALERT day) has been established with the purpose to overcome floods and its social impact. Alert days are set on holidays and certain days in the rainy season.

Moreover, Haur Pugur village has not formally cooperated with any institution in order to overcome the flood disaster, while the local government only assist when flooding occurred. According to village administrators, there has not been any real precautionary measures against flooding which occur almost every year.

Additionally, related to the winding channel of the Citarik river with its small and shallow water channels, this also seems to be an aspect that causes flooding in the region. Besides, when dredging will be carried out, it is necessary to take into account that access to the river is also blocked by settlements on the banks of the river, so the only way is to perform conventional dredging using hoes jointly by the residents in the form of community service.

Changes in cultural patterns have become a problem in itself in this region, especially in the context of flood prevention. According to local residents, the presence of companies in this region has also never provided any support to the implementation of flood disaster management in this area. Similarly, on the environmental aspect, the companies have not given much support in cleaning of the environment. Currently, Haur Pugur village looks dirty with garbage scattered everywhere and also plastic trash along the roads. Despite the village officials endeavor to counsel the residents about green and clean environmentally conscious, the results are not yet visible, as Haur Pancur still looks dirty and arid, though it was beautiful in the past.

According to *Bapak* Endi, a community leader who served as the Head of Public Welfare of Haur Pugur Village (an interview in 2016), there were several aspects that needed to be noted in the effort to cope with the annual floods in this region, which were community culture, sanitary, policy, and technological aspects. These four aspects were complementary and should work integrally.

*Cultural aspects.* The behavior of some members of society who inconsiderately threw garbage seemed to be a new habit of the local people. Especially, since Rancaekek has become an urban area (migrants), the inhabitants behaved less concerned with the surrounding social environment. It also seemed that their sense of belonging to the environment was low, probably because most of them were migrants. They threw garbage into the river or into the sewers, especially plastic waste which is resistant to decomposition. In addition, there is the bamboo-twig waste (Sunda: *rerenteng awi*) which do not decay easily and can also cause flooding due to other waste got stuck in the bamboo-twigs carried by the river.

The dumped bamboo-twigs in this river can lead to rapid river sedimentation as bamboo-twigs can block other waste causing the mud soil quickly settled in the spots among the bamboo-twig waste. This occurred due to the allegedly bad behavior of some members of the

community in the upper reaches of the Citarik river who derived from Sumedang and the surrounding areas. The bamboo-twig waste is being dumped into the river which is also in connection with the rampant theft of bamboo. Consequently, in the downstream area especially in the area of Haur Pugur village, the waste has speeded up the silting of the river, causing the river to overflow and flood. Although there is no rain in Haur Pugur village, floods can occur intermittently due to the water flow from floods in the northern part of Sumedang region.

*Sanitation Aspects.* In the upper reaches of the Cimande and Cirange rivers near the Coca-Cola factory, the environment is not well maintained. Besides, the winding river caused the waste gets stuck easily in the river. As a result, when it rains, the water retains and overflows to the road while carrying garbage into the Citarik river. Hence, the Citarik river seems to be a garbage dump, thus when the water discharge is abundant in the rainy season, the water may not be accommodated and overflows into the rice fields and moves to the village. According to the residents, there has never been any arrangement and cooperation between factories and residents regarding the arrangement of the Cimande river flow, consequently this river keeps causing annual flooding around Haur Pugur village.

Meanwhile, in the downstream area of Haur Pugur village is a railway bridge built in the Dutch era which followed the river pattern (Sundanese: *silang saung lunjung*), to facilitate the fast flow of rainwater. However, in 2000, the construction of the railway bridge has been changed becoming elongated like a layer, causing a considerable amount of garbage was blocked by the bridge's new position. As a result, water flowed slowly and when the water volume was large, the water overflowed into the settlement again. In addition, another factor causing the flood was allegedly the transfer of land function. Currently, rice fields are transformed into industrial and housing estates. The upstream areas were transformed into factories and downstream areas into housing estates. Accordingly, in the upper river area water flows rapidly, while in the downstream area the water is retained. So far, no one has tried to improve this condition. Consequently, annual floods continue to occur in this region. Another factor causing flooding in this region is the silting of the river due to sedimentation. Previously, the Citarik river was quite deep, however, due to the current conditions, it has become shallow and is unable to accommodate water during the rainy season. Hence, water flows from the river to paddy fields and then overflows into residential areas.

*Policy Aspects.* According to local administrators of Haur Pugur village, the West Java provincial government should immediately step in by communicating with both the Bandung and Sumedang districts, related to this annual flood mitigation, so the handling is not partial. However, based on field information, it illustrated that central and local government policies in fact do not respond to the uncontrolled land conversion. For example, there are no extension activities for public awareness of the extremely high urban process. Consequently, the Haur Pugur region was also affected by the policy. This region is densely populated with urban populations and seasonal residents as a sign that the regional and central government do not take this condition very seriously.

Nevertheless, from the perspective of the villagers affected by flooding, the slow and improper handling of the government infrastructure is also one of the supplementary factors of flooding in the rainy season. For example, the construction of a railway bridge and tendency to shorten the space under the bridge causing the occurrence of water clogging during the rainfall. In addition, the purpose of the construction of the Sudimampir Check-Dam, as a medium holding back the mud-flow downstream, is not entirely functioning properly. Moreover, it turns out that from the initial building until now the dam has never been dredged. For 14 years no dredging has been carried out, causing the Check-Dam works improperly. "We are not sure there will be dredging, seemingly the District Government of Bandung does not care", said one of the village officials.

*Technological impact.* Technological developments, especially those resulting in non-decomposing waste, which is generally derived from plastic materials, indirectly contributed to the increasing damaging of the environment. Dilapidated furniture and worn out household appliances made of plastic turned into wastes that are not easily decomposed by nature, so that the impact is further aggravating the environmental conditions. This is exacerbated also by the behavior of the community, which seems to have become a new habit, i.e. littering, including in the ditches and rivers. As a result, ditches become clogged up and rivers become shallow by the heaps of plastic waste. In reality, the Citarik river in this region, which in the past had clear water and smooth water flow, is currently slowing down, even tending to stop flowing, while the water was smelly and blackish.

In the past, the population was not as much as at present, if some community members threw garbage into the river, it would quickly decompose as the waste was not from plastic materials. Currently, the already densely populated region as well as the behavior of the people who throw garbage into the river has impacted on the silting of the river, hence when it rains, the rainwater overflows the settlements and surrounding areas. The central government or local government seems also less concerned with the development of East Bandung area which seems to get worse due to repetitive flooding. The area around the Citarik river is constantly experiencing annual floods causing three villages, namely Nanjung Mekar village, Haur Pugur village, and Bojong Salam village are frequently flooded by the Citarik river. The villages in Rancaekek sub-district such as Rancaekek Wetan village, Rancaekek Kulon village, Dangdeur village, and other villages in the vicinity, also experienced similar floods. Furthermore, an informant from the village management board at Rancaekek once expressed his view that the floods in this region initially occurred in the 1990s. In the period prior to that year, there was almost no flood, when raining, the rainwater runs smoothly from the settlement to the rice fields and then to the river. Currently, the condition is reversed, water from the river overflows the rice fields towards the village.

## CONCLUSION

Results of the data analysis and field study show the existence of a certain relation between the aspects. For example, the dimensions of needs, search, use, culture, attitude, technology, social life, environment, and the dimensions of attitudes and behavior of the community in the face of clean and healthy environment, including the conditional environment due to the annual floods which hit the area of East Bandung. The above dimensions are interrelated, all of which are motivated by the existence of basic needs, which includes food, clothing, shelter, health, and education. The dimensions or aspects as mentioned previously, cannot be separated from each other by the very basic aspects of human needs, i.e. around food, clothing, shelter, education, and health. That means, there is a tendency of a particular relationship between the conditions of poverty, healthy physical behavior and family environment.

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