

Technology Assessment as a Form of Inclusive Communication Approach to Access Information from Village Web in Central Java, Indonesia

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Social change in rural communities can occur due to innovation and utilisation of new technology. The village web is an innovation and new technology that has a strategic role to facilitate the community in receiving and utilising various information related to community empowerment. The purpose of the study is to assess how the villagers can access the information from the village web despite their lack of ability to use new technology. The study used a qualitative method through participatory action research (PAR) techniques. The phase in the PAR approach as described by Coghland and Brannick (2001) includes diagnosing, planning action, taking action and evaluating action. The informants in this study were village officials and community leaders who knew of the existence of the village web that was used as a new media tool to disseminate information to the community. The results show that the inclusive communication approach fits the technology assessment with the condition of the Susukan Village community, Banyumas, Central Java by making use of intermediary media so that the new technology can be used according to their abilities in the diagnosing phase. The form of technology assessment that is in accordance with the demand of Susukan residents is to provide information boards as an intermediary media platform to access information from the village web in the planning phase. The mechanism of the inclusive communication

approach through technology assessment is by installing information boards in each resident's group in the action phase. More residents have started being empowered after reading information from the village web in their daily routines, using technology assessment as an inclusive communication approach in the evaluation phase.

Key words: *Technology, information media, village web, empowerment, inclusive communication.*

Introduction

The introduction and utilisation of new innovations or technology is one of the important factors that can influence social change in society. One type of innovation that has a strategic role in changing rural communities in Indonesia in recent years is information and communication technology in the form of the internet. The presence of new internet media in human life has the potential to change the structure, culture and interaction as stated by Himes and Moore in Martono (2012), which suggests that social change has three dimensions, namely structural, cultural, and interactional dimensions. First, the structural dimension refers to changes in the structure of society, involving changes in roles, emergence of new roles, changes in social structures, and changes in social institutions. Second, the cultural dimension refers to cultural change in society. Third, interactional dimensions that refer to changes in social relations in society. The interactional dimension can be seen from changes in frequency, social distance and intermediaries. In the current era of new media, people experience significant social change. This can be seen from the fact that the frequency of meeting face to face has decreased, the social distance that does not require meeting to interact, and not having to use other people as intermediaries in communication, just with online technology (Martono, 2012).

Four changes happened in human modes of thinking caused by technological developments, including information and communication technology, that is the growing of reification, manipulation, fragmentation and individualisation (Soelaiman, 1998 in Martono, 2012). The changes occurred because the usage of new technology can be seen from both the positive and negative sides (Istiyanto, 2017). Even the use of village web as a media platform for empowering rural communities will have a positive or negative impact. Information and communication technology in the form of a village web is actually neutral, but humans as users of technology bring positive and negative impacts. This is in accordance with the opinion of Thomas and Bromley (2010: 31), which mentions the effect of the use of technology, from the introduction of the technology itself to the user community.

The effort to make technology assessments and to make the technology more user-friendly is at the core of inclusive communication in community empowerment in directing the process of social change in a more positive direction. For example, the experience of the people in one village in Central Java Province, namely Susukan Village, Banyumas. The Susukan Village community gets new facilities in the form of a village web as a means of community empowerment. At the technical level, the use of new media empowerment in the form of a village web is not as easy as expected. In the village community, the majority of those with low education often have difficulty using the village web as a medium to empower themselves. Therefore, some actions are needed to make it easier for people to accept the entry of a village web as new media.

One way to ease the rural communities into accepting new media is by making an inclusive communication approach through technology assessment, by making technological innovations that can be used by rural communities, so that new technologies can be utilised by the Susukan village community. This is an important basis for the problems that have been found; the attitude of the community in conducting technology assessments regarding the village web as a form of inclusive communication approach to access information from web villages in Susukan Village, Banyumas Regency, Central Java.

Literature Review

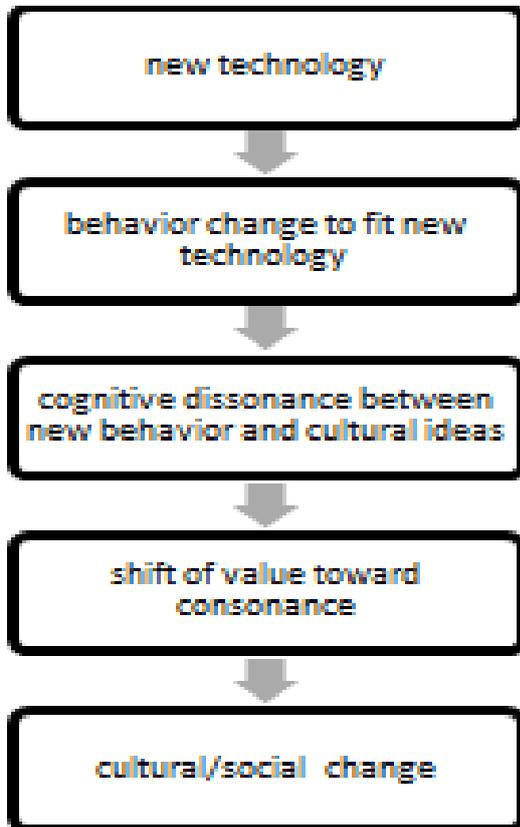
According to the anthropologist's theoretical approach (Bernard and Pelto, 1987), it is stated that technology is able to bring about social and cultural change. A social change refers to changes in repetitive behaviour patterns in human social interactions. On the other hand, cultural change refers to modifications to both reduction and addition, transformation (values), beliefs, attitudes, or other ideational elements related to behaviour in a particular society. As social and cultural changes are two things that are closely related, when there is a social change there will definitely be a cultural change.

The key mechanism for realising (social) behavioural change is the driven factor to reduce cognitive dissonance or the tendency to change values (for example, in response to new technologies) when new behaviours (in response to new technologies) no longer match the values held previously. This mechanism is sought for application, for example, when a farmer changes his economic activities, especially if the economic activity no longer generates sufficient income to maintain family life standards for these farmers (Bernard and Pelto, 1987).

The approach used by Bernard and Pelto (1987) in addressing technology and social change can be used to analyse the phases or stages construction of how new technologies are introduced, accustomed to and then have an impact on socio-cultural changes in a society

(introduced by the new technology). The model of the technology learning phase and social changes offered by Bernard and Pelto can be seen in Figure 1

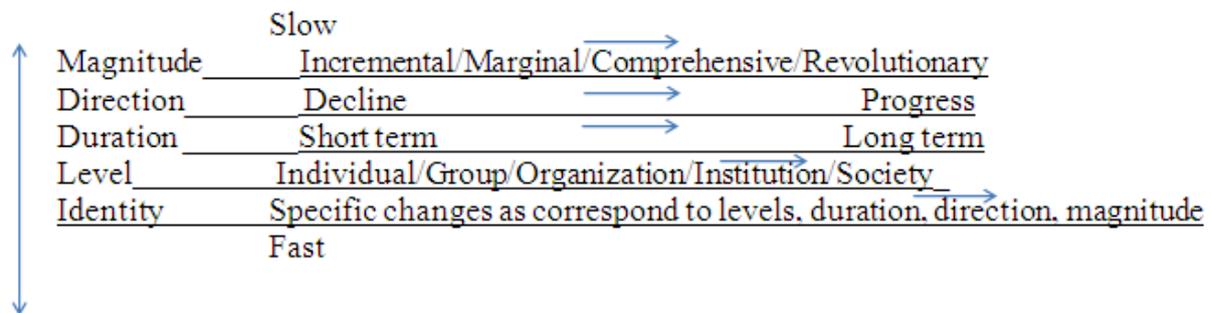
Figure 1. Technological Learning Phase and Social Change



Source: Bernard and Pelto (1987)

Another approach that can be used to see the relationship between the presence of technology and social change is to use a model of the degree of social change as the impact of the introduction of new technology (Mutekwe, 2012). This model is used to see how the processes of social change occur in society, whether they run quickly or slowly. The model or image of the degree of social change from Mutekwe can be seen in Figure 2.

Figure 2. Graphic Illustration of Elements of Social Change



Source: Mutekwe (2012)

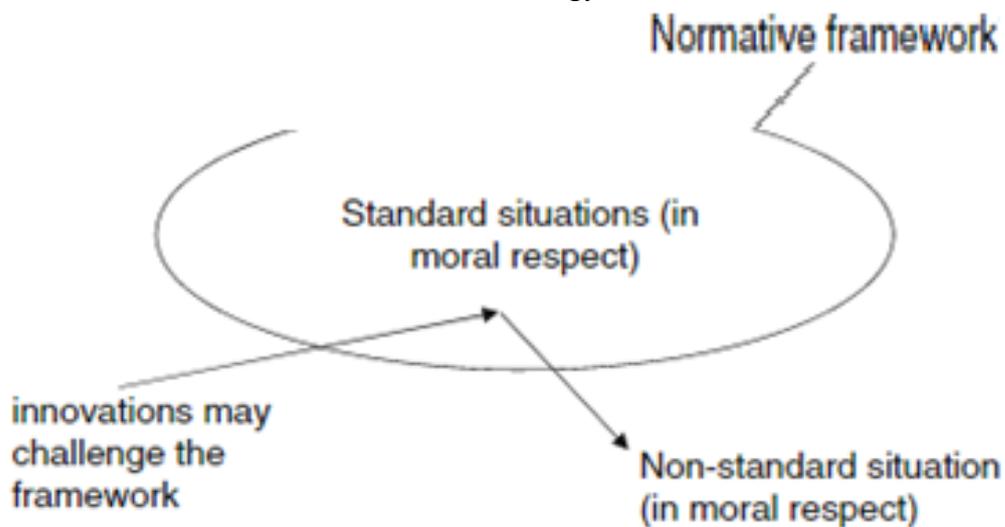
Ogburn (1964) in Mutekwe (2012), identifies technology as a driver of social change that emerges through three processes, namely invention, discovery and diffusion, better known as social impact theory. Ogburn interpreted it as a combination of elements and materials that existed to create something new. Discovery is interpreted as a new way to see reality and diffusion, defined as the process of disseminating technology. Ogburn sees diffusion as a major factor in the process of social change, because it brings effects or impacts on human relations.

In line with Ogburn's view of the phenomenon of lags in society in the acceptance of new technology, Del Sesto (1983) and Grunwald (2009) stated that to anticipate lags or gaps due to the presence of new technology in society, an assessment of technology is needed. Assessment technology aims to ensure that the technology introduced does not have the impact of bad social and environmental changes on the people introduced to the new technology.

According to Grunwald (2009), assessment technology is the main root of the concept of responsible innovation. This is because technological innovation, in its diffusion process in the community, without being followed by an assessment of the technology itself, tends to have a negative impact on society, both socially and environmentally.

The basic idea of assessment technology developed in the US in the early 1970s, along with the development of the use of nuclear technology in various fields. In this case, assessment technology was originally a scientific analysis framework of early warning in providing policy recommendations to the government about the merits of a technology that would be introduced in the community. But in its development in the 1980s, assessment technology was directed to the formation of technology that was in accordance with the characteristics of the needs of its users. Thus, assessment technology no longer talks about the merits of a new technology, but rather about how to adjust the technology to be introduced, morally, to the characteristics of prospective users (Figure 3).

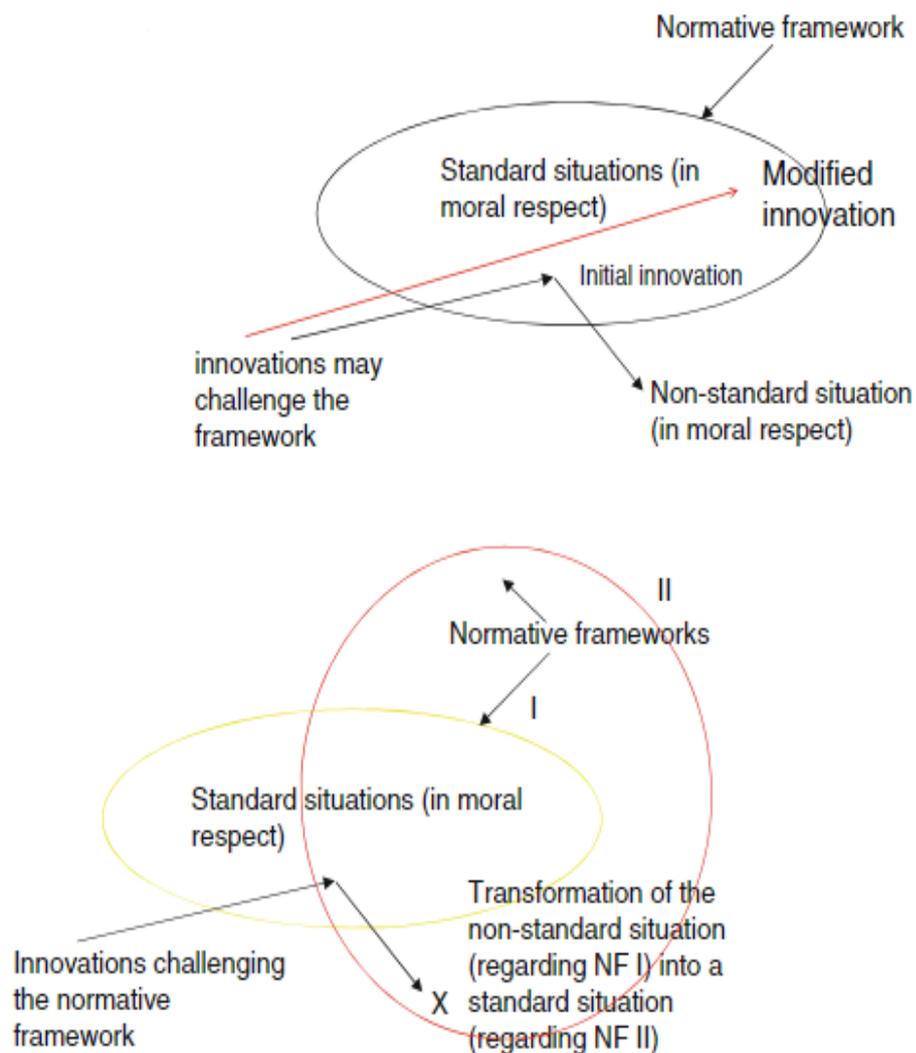
Figure 3. Basic Model of Assessment Technology



Source: Grunwald (2012)

The basic model of assessment technology developed by Grunwald departs from the normative assumption that a technological innovation is contrary to the normative framework of prospective users. This in turn slows down the process of social change that happens to be a better direction. Therefore, according to Grunwald, so that a technological innovation can accelerate social change, what needs to be done is to modify the innovation to fit the normative framework or characteristics of prospective users so that the innovation can be accepted and then becomes a necessity. The innovation modification process in line with the user's normative framework is described by Grunwald in Figure 4.

Figure 4. Modification of Technology Innovation Regarding User Normative Assumption



Source: Grunwald (2012)

Assessment technology serves as a technical foundation framework in carrying out community empowerment related to technology. The basic assumption is the need for an assessment technology or technology conformity assessment introduced to citizens who are relatively slow to accept change. There is a possibility that social changes that occur in society are slow because a type of technology or innovation that is introduced is not user-friendly to some members of the community. Communities with certain limitations require several alternative media that are suitable for their abilities and conditions. From this phenomenon, for example, communication practitioners for children with special needs have developed an inclusive communication approach.

In its development, the inclusive communication approach is not only used for children with special needs but is widely used for groups of people who have limited access or are often categorized as marginal groups. Marginal communities, according to Park in Aisindi (2014) can be defined as individuals who, due to marriage, migration, education or other things that cause the movement from one group to another, cannot adjust, or who have tried to adjust but are not accepted by another group.

The grouping of people into marginalised groups is very diverse. According to the United Nations (2009), marginalised groups include: women, young people, the elderly, disabled people, indigenous people, migrants, ethnic or religious minorities, and people with HIV. In addition, the poor can also be categorised as marginalised groups. Poverty according to Handler and Hasenfield (2007), is defined by two approaches, namely the economic approach and the social approach. In terms of the economic approach, poverty is defined as the inability to meet basic needs, while from a social approach, poverty is defined as a limitation to develop capacity.

According to the Bappenas (National Development Planning Board of Indonesia) report in 2008, disadvantaged and marginalised groups usually experience obstacles in using and utilising Information and Communication Technology (ICT), as well as the difficulties they experience in acquiring and utilising other resources. The results of research conducted by Nugroho, Nugraha et.al. (2012) shows that the disabled group is a group that has little choice to gain access through the media, while women and children are marginalised groups that are more often exploited by stakeholders in the media. Through an inclusive communication approach, at least the problem of their limitations in accessing the internet will be overcome and opportunities will be opened for them to jointly participate and enjoy development. This is possible because inclusive communication is defined as communication that allows all parties to be involved in the communication process (Bennett, et.al., 2016). Some inclusive communication approaches written by Bennett et al. (2016) are as follows:

1. Recognising that all living things use various ways to understand and express themselves
2. Support and enable someone to use any means to understand and express in accordance with the easiest choices for them
3. Support organisations that serve the community to provide media and ways of communicating according to people's choices

From Bennett's (2016) point of view, it can be concluded that the inclusive communication approach emphasises the provision of diverse media alternatives to the community, so that they can choose what media is suitable for use in order to understand information. The inclusive communication approach can be applied in interpersonal and group communication. Some principles of effective communication from Devito can be used as supporters of the

inclusive communication approach. Devito (1997) explains that in-person communication will be effective if each communication actor (communicator and communicant) applies the principle of openness, empathy, positiveness (positive attitude), supportiveness (supportive attitude) and equality.

Results

Overview of Research Sites

The Susukan Village Community in Banyumas Regency is a pluralistic society, including in terms of employment or livelihoods. Data from the Susukan village (Prodeskel) profile, the livelihood of the largest Susukan villagers is self-employed, then followed by farmers and employees. (Table 1)

Table 1: Susukan Villagers Livelihood

| Main Livelihood | Male | Female | Total |
|------------------|------|--------|-------|
| SME entrepreneur | 502 | 87 | 589 |
| Farmer | 329 | 106 | 435 |
| Private sector | 115 | 112 | 227 |
| Farm labour | 80 | 36 | 116 |

Source: data processed (2018)

Table 1. shows that the community with a profession as a farmer (both male and female) has a fairly high percentage, this is because most of the land use in the Susukan village area is for agriculture. From the village profile data, it is known that the agricultural land area in Susukan is 115 hectares. Agricultural land is used for farming, with rain fed rice fields, while the types of plants commonly planted during the rainy season are rice and when dry, farmers grow corn. Data on the use of paddy fields in Susukan Village can be seen in Table 2.

Table 2: Farmland use in Susukan Village

| Area Size according to usage | Size |
|-------------------------------------|-------------------|
| Farmland area | 115,00 Ha |
| Dry land area | 11,00 Ha |
| Wet land area | 0,00 Ha |
| Plantation area | 0,00 Ha |
| Public Facility area | 0,00 Ha |
| Forest Land area | 0,00 Ha |
| Total Area | 126,00 Ha |
| | |
| Farmland | |
| Rain fed rice field | 115,00 Ha |
| Irrigation rice field | 0,00 Ha |
| Tidal rice field | 0,00 Ha |
| Total Area | 115,00 H a |

Source: Susukan Village Profile Data (2016)

Rice and maize crops from Susukan Village are high, apart from fertile land due to the active role of the local village government. The Susukan Village Government actively educates people who are members of farmer groups. Various training from partners through the village government such as community service students' program from Jenderal Soedirman University, also from the Banyumas Regency agricultural service are often carried out in Susukan Village. The training was also followed by supervision and evaluation from related parties, so that the yields could be maximised and able to meet the needs of the village community, even to the outside of the village.

Besides the main crops, usually rice and corn, the Susukan community is also trying to develop agricultural products in the form of ornamental plants as a source of income. The condition of fertile land and fairly high rainfall opens up opportunities to develop ornamental plants businesses. Several types of flowers, bonsai and other ornamental plants are sold at several points in the village area, especially in Grumbul Susukan. Other types of agricultural crops, such as vegetables are also planted by the village community, but on average only for the sake of family consumption and sold in neighboring stalls. In contrast to corn yields, the scale of sales can reach outside the village / city, the process of buying and selling vegetables is not through certain government / institutions, but directly from the owner's farmers with buyers who come when they are going to harvest.

Farmers in Susukan Village tend to ignore production costs when processing paddy fields. This is because the orientation of the post-harvest target for farmers is only for personal or family consumption, so that in the process the farmers only use simple facilities that are

available, and the capital used is not too large. They also do not have a great desire to enlarge their crops and sell them outside the village.

Agricultural products in Susukan Village besides those mentioned above are coconut. Some of the Susukan people, especially in the Grumbul Lembuayu area, plant coconut trees and work as collectors of coconuts, which will later be processed into java sugar and crystal sugar. There are around 40 people in Lembuayu. Processing of crystal sugar also opened the stretch of the Susukan community. This business was initiated by the BUMDES by holding training in making crystal sugar. Although the results have not been maximised, the business of making crystal sugar has continued to be improved, one way of which is by opening cooperation between farmers and crystal sugar entrepreneurs.

In addition to livelihoods in agriculture, in Susukan Village there are also businesses in the field of animal husbandry and fisheries. The farm in Susukan precisely in Grumbul Karangjati includes cattle and goats. The livestock maintenance system in the Karangjati region uses a communal system. This is done because the land is insufficient and at the same time to keep the environment healthy. In addition to cattle and goats, some Grumbul Karangjati residents in Susukan Village also developed businesses in the fisheries sector, namely the cultivation of catfish and carp. The result is quite marketable outside the village.

Other occupations in the village community that have a large percentage are casual daily workers who number 300 people, both men and women. Casual daily work for male residents is working as construction workers. This work is non-permanent, depending on existing development projects. The salary for a worker also does not always depend on the project giver and the foreman. But generally, they get IDR 75,000 per day. As for women, most work as factory workers making eyelashes (or commonly called eyelash labourers).

These workers produce various types of eyelashes and range from branch workers to collectors or externals. This difference is characterised by a system of work and wages. For implant communities, the majority of them are categorised as collectors with daily wages of around Rp. 300, up to Rp. 500 for each pair of eyelashes. Every day, companies put on a target system from 16 pairs / day to 20 pairs / day. The target of each worker is different depending on the eyelash model. The more difficult the eyelash model, the less likely the target will be made. Even though the more difficult the model, the higher the wages earned by each pair that reaches Rp. 800, this does not make workers more interested in lashes. They tend to choose a standard model but a larger number of targets, as expressed by Ibu Kuswati from Lembuayu (42th / collectors). This is what causes Susukan Village to look lonely during the day, because in addition to the mothers doing homework (cleaning), they are also chasing the daily target of making false eyelashes.

Based on the level of community education, the majority of Susukan mayorritas community has a Junior High School education. Several schools located in Susukan Village are Early Childhood Education (PAUD), State Primary School 1 Susukan, State Primary School 2 Susukan and State Junior High School 4 Sumbang.

Discussion

Introduction and Utilisation of Village Web

Preliminary data obtained in March 2018 shows the condition of 80 percent of residents who have never accessed the internet. At present, Susukan Village is a village that is trying to promote a Tourism Village, so that the village government and Village officials are quite serious about utilising the existence of the village web, which is becoming one of the important priorities in village development. This condition also has an impact on increasing public awareness to access and utilise the internet with village web applications.

The results of interviews with the Village secretary, as well as the manager of SID Susukan, Zainudin (46 years), in November 2017 found that the management of information systems in the form of village websites still depends on one person. If we look back at the government's goal of promoting this SID program, if it is for information transparency and for empowering rural communities, then SID should be managed seriously and well. The first important thing to do so that people can understand and utilise SID is to provide education about the internet, often referred to as internet literacy. Internet literacy is important so that the existence of SID in the form of a village web can really be utilised by all levels of the village community.

According to Zainudin (46 years), the village web was initially used only in limited ways to upload village announcements and activities, so that it did not pay attention to whether the community could access or even use information from the village web. The problem that arises later is that the functioning of the village web is not working as a media for community empowerment. The web management mechanism is only limited to fulfilling the village's obligation to upload information regardless of the accessibility of the community, especially considering the benefits for the community. Based on the results of interviews with the Susukan Secretariat, problems related to village web management occur due to two factors, namely the web manager has not mastered information technology and management especially related to the content, or the content has not run well and is not in accordance with the needs of the village community.

Another problem that also arises in the SID utilisation process is that the existence of communities with diverse characteristics, especially marginalised people (who do not have access to the internet or village web) has not been a concern of the village government. The results of the initial data collection in Susukan Village on March 5 and 6 2018, revealed that

out of 20 people interviewed randomly, only five people had accessed the internet. This means that there are only 20% of the village community who have accessed information through the internet, the remaining 80% have never interacted with new internet media technology. The results of the interview also showed that, of 20% of the people who had accessed the internet, none of them had ever accessed the Desa web. This happened because there was no maximum socialisation of the village web from the village government. In addition, the Susukan Village government as one of the empowering actors has not yet carried out effective communication approaches that aim to open up the accessibility of marginalised communities and understand the village community in general. More specifically, as a village where the majority of the population is marginalised in accessing information through the internet, the Susukan Village government has not made an inclusive or open communication approach as an effort to understand the importance of village web as a means of information that can play a role in increasing community empowerment.

So far, community empowerment has been limited to using interpersonal and traditional communication media. The real conditions that occur in the tobacco farming community in accordance with the results of research by Nuryanti (2013) show that so far, the empowerment of the tobacco farmer community has used interpersonal media and traditional mass media more frequently through meetings, CDs, newspapers, pamphlets and leaflets. The existence of a village website as one of the means of empowerment via media is not easy to implement, although it does not rule out the possibility that it will be easy to run. Differences in character, education, economic and social levels of the village community are things that need to be considered in utilising the village web. Communities with high levels of education, easy internet access and supportive socio-economic conditions will be more maximal in utilising SID in web forms. However, on the other hand there is a group of marginalised people who have difficulty in using web villages, such as people who have low education, are blind and therefore unable to use the internet, and are disabled.

Technology Assessment as a Form of an Inclusive Communication Approach

The presence of new media, especially web villages, has consequences for the village government about the need to consider the appropriate communication approach so that the village community is able to access and use the village web. The communication approach used can be different for each community according to the conditions of the local village community. Some villages continue to use traditional media to help people who cannot access the village web directly. The media used include billboards, village meetings, information boards, community meetings, etc. (Rianto et.al, 2018).

The results of the research in Susukan Village showed that of the 12 village officials, only four people knew of the existence of the web village and two of them were the official admin



of the first and second village web. Similar to the condition of the village apparatus, there are not many people in general who know the internet, especially the web village. The condition that not all communities in Susukan Village have literacy on the internet requires a new strategy so that information from the village web can still be accepted by the community. One strategy that allows all elements of society, especially marginalised people who cannot access the internet, is to use an inclusive communication approach. As stated by Jones (2013), inclusive communication can be understood as an approach that seeks to create a supportive and effective communication environment by using various means of communication that are available and understood together so that the information delivered is understandable.

The inclusive communication approach allows the use of non-verbal language in the delivery of information, including simple language, body gesture, markers used when communicating, images and symbols that support communication, objects that can signify something and interactive approaches. This is appropriate for the Susukan Village community who do not understand information technology such as the village web.

Given the importance of the existence of the village web as described above, a consensus between village officials and the community is needed. To research the unification of understanding of the importance of web villages and the benefits of the existence of web villages, such as the ease of obtaining various information about both the village and others, the discussion group (FDG) was conducted in this research process. This strategy is in line with the concepts of Kinkaid and Rogers in looking at communication. They see communication as a process that has a tendency to move towards a convergence, namely in the form of shared understanding, and to reach understanding, tolerance is needed at a higher level (Cangara, 2015).

Figure 5. FGD marginal society, 28 March 2018



Source: Research Documentation (2018)

During the FGD with the Susukan community on March 28, 2018 (Figure 5), there were several interesting proposals related to the inclusive communication approach. One of the proposals, from a group member of FGD participants, was about the flow of responsibility for delivering information. As expressed by this group member, Rutiyah (46 years) as follows: "A notification technique from those who understand the internet tells those who don't know the internet. Information other than the web site is also reported in each of the WA groups. For those who have WA, notify information to those who do not have WA.

Based on the proposal submitted by Mrs. Rutiyah, it can be understood that actually the public wants an open or inclusive flow of information that allows all elements of society to know and utilise information from the internet (village web). In line with the suggestion of the marginal community of Susukan, at the time of the device-specific FGD that was held on March 21, 2018 (Figure 6), one village member, Misman (55 years) expressed the idea of

delivering information from the village web to marginalised communities using several alternative media. The following is an excerpt from an interview with Mr Misman (55 years):

"Through the socialisation of the print media and the voice media, the program or especially the system of social visits, the head of village not only visits, but also informs the village web."

Figure 6. FGD with Susukan Village Apparatus, March 21st, 2018



Source: Research Documentation (2018)

Consider the two proposals from community groups representing marginal communities and village officials to identify that both have alternative solutions to the problems they face. Both the device and the community have a similar solution, namely the existence of a viral information system. However, another problem that arises in the field is the problem of who is responsible for conveying the information. In the end, the viral system has not been able to be carried out maximally in everyday life. This can be seen from the results of the research evaluation, of which 25 informants were interviewed, when given the question whether they were re-informing the contents of the article posted on the information board, only one person forwarded the information. Whereas the other 24 respondents only read for their own sake and some did not even know there was an information board.

In addition to recommendations for forming information flow lines, the most important result of the FGD between the community and the Susukan Village apparatus is the mandate for the

web team to continue to socialise the existence of the village web and the village web management team itself. Some activities were used by the web team to disseminate information to the community that Susukan village currently has a website and the community can access the information contained in it. In addition, the web team also introduced that Susukan Village currently has a journalist and website manager in an organisation or team with the name Susukan village web team.

Referring to the results of the FGD decision, the web team of Susukan Village and village officials can be said to act as communicators who have the task of facilitating marginalised communities as communicants. In accordance with Berger's planning theory, which predicts and supports the proposition that if individuals face communication failure, their first tendency is to change plans at a more concrete level (Budyatna, 2015). This applies also, if the media used by the communicator cannot be reached by the communicant, then the communicator must change the communication plan used by replacing the media according to the communicant's ability. In this case, the Susukan Village community wants alternative media, namely information boards as other media that can be used to access information from the village web.

Because each community group has limited access to information through the village web, the inclusive communication approach requires mapping that is in accordance with the conditions of the local community. Communicators are responsible for providing alternative choices of media that can be used by these marginal groups of people. The results of interviews and FGDs with the Susukan Village community converged into findings about the types of problems and expectations of marginalised communities regarding the approach to inclusive communication.

The approach to inclusive communication in real terms is carried out by accommodating the needs of alternative media for marginalised communities, namely by installing information boards at 21 points in the Susukan Village area. The agreement taken regarding the placing of the information board was to install the board in a strategic place, including the patrol post and the mosque. Information boards were installed evenly on all the grumbul in Susukan Village. At the beginning of data collection, researchers once offered the installation of a monitor screen (LED) in a village hall that was accessible to residents in general.

For the plan, an LED screen will be connected directly to the village computer, so that information from the village web can be read by the public when they visit the village hall. The researchers provide this proposal as a form of assessment technology that is used to anticipate the gap between people who have the means to access the internet and people who do not have facilities.

This refers to Del Sesto (1983) and Grunwald (2009) who said that to anticipate lags or gaps due to the presence of new technology in the community, it is necessary to have an assessment of technology or assessment technology. Assessment technology aims to ensure the technology introduced does not have the impact of bad social and environmental changes on the people introduced to the new technology. But the village authorities rejected this offer for security reasons, especially at the village hall. The last few months when the data collection was carried out, Susukan village hall was burglarised several times by thieves who took computers belonging to the village government. The proposal to install LEDs in the village hall was actually almost similar to the proposals of the people who wanted a shared computer that could be accessed by the village community at the Susukan Village Hall. Because of frequent theft, the Susukan Village government refused to install LED screens at the village hall or provide shared computers and agreed more on the installation of information boards.

Installation of information boards was carried out by the village web team in July 2018 (Figure 7). After the installation of the information board, the web team still had to inform the public that the media they needed was provided. This information board is similar to a wall magazine, which is filled with articles or news in the village web that were previously printed and posted by the village web team. Some residents, especially marginalised people who do not have an Android cellphone, are partly interested in reading information from the board (Figure 8). The enthusiasm of the public to read information through information boards / announcements can be seen during patrol and during prayer times. Information boards installed in kamling posts tend to be read by men, while mothers and women more often read information on the information board when they finish praying in congregation and when shopping in the morning at a vegetable / grocery stall.

Figure 7. Information Board installation by Susukan Village Web team



Figure 8. The enthusiasm of marginal society in Susukan Village to read the information board taken from the village web



Regarding the information board installation site, at first there were several alternatives that emerged from the Susukan community. The web team asked some related community members where the board should be installed. The majority of mothers wanted it in a prayer room and stall where they talked when shopping in the morning, while the fathers wanted it at the patrol post. Finally, the web team put up an information board partly at the patrol post and some at the mosque. During the installation of the information board, it appears that some people read and gave suggestions regarding content so that they were more focused on articles needed by the community.

Several approaches to inclusive communication have often been carried out by the Susukan village government, such as the use of loudspeakers in mosques, neighbourhood gatherings, and even direct communication (interpersonal) with disabled people. Meetings or assemblies at the village hall or neighbourhood gathering inform community members about government assistance funds and others. Meanwhile, the inclusive communication approach to open access to information through the village web has never been taken by the Susukan Village Government before, such as helping marginalised communities to find important information related to village development uploaded on the village web.

An inclusive communication approach to open web access for villages in Susukan has only been sought after the FGD between marginalised communities and village governments in March 2018 is by installing information boards. A summary of the inclusive communication approach and activities carried out by the village community, by the village web team, the village government and the marginal community can be seen in Table 3.

Table 3: Marginal Society, Approach to Inclusive Communication and Community Activities

| Form of Communication | Inclusive communication approach model | Target of Marginal Society | Community Activities | Information that utilised by the community |
|------------------------------|---|---|--|---|
| Print Communication | Information Board | Don't have ICT device, Low internet literacy | The web team installed information boards at the strategic locations of each RT in Susukan Village, then some important information was printed and posted on the information board. | Marginalised people use information from information boards when patrolling or accidentally passing through the information board installation area. Information about health tips, making food, job openings, etc. |
| Audio Communication | Mosque loudspeaker | Don't have ICT device Low internet literacy Difabel | Sudden information is usually conveyed through loudspeakers in the mosque | Information submitted is related to sudden announcements from the village government, local health center, or death of a villager |
| Group communication | Neighbourhood gathering (selapan gathering) | Don't have ICT device Low internet literacy Difabel | Every selapan or 35 days, one neighbourhood community held a group gathering at the neighbourhood leader house in the Susukan area. | Information discussed related to village government development programs, government assistance, holidays, etc. |

| | | | | |
|----------------------------|--|---------|--|---|
| face to face communication | Anjangsana / social visit from head of village | Difabel | Face to face communication is carried out by the neighbourhood leader by conveying information directly to the disabled people | Information obtained by disabled people is about the empowerment agenda and the provision of assistance from the government |
|----------------------------|--|---------|--|---|

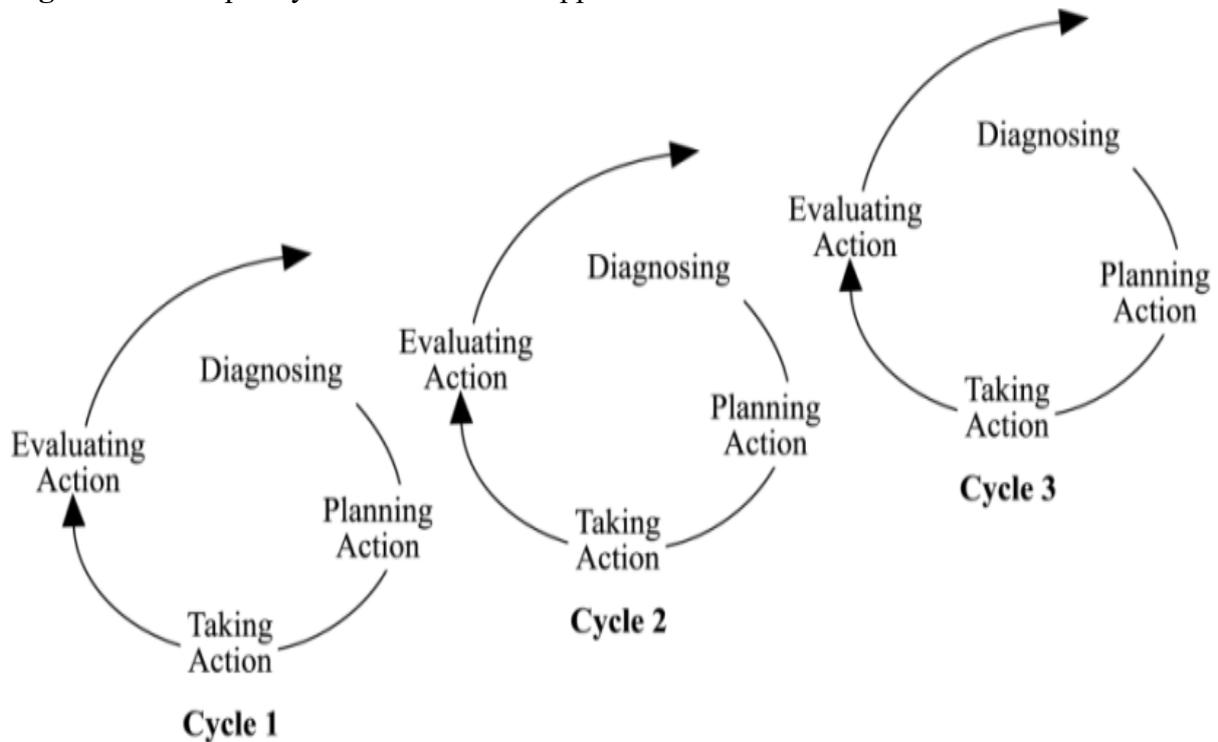
Materials and Methods

The approach used in this study was qualitative, with Participatory Action Research (PAR) research techniques. Bogdan and Biklen (in Sugiyono, 2016) state that qualitative research has five characteristics, namely: carried out in natural conditions, is descriptive, emphasises processes rather than outcomes, analyses data inductively and places more emphasis on meaning. In addition, qualitative research usually requires a relatively longer time than quantitative research. The nature of this research is explorative because the aspects to be examined are relatively new things, namely the inclusive communication approach and the Village Information System (SID).

The research technique used is Participatory Action Research, as action research is a participatory process that is concerned with developing practical knowledge to achieve useful goals. Reason and Bradbury (in Goodyear, 2013) reveal that PAR is used to bring together action and reflection, theory and practice in participating with others to find solutions and concerns to individuals or groups. Kemmis and Mc Taggart (in Godyear, 2013) state that to facilitate individual and group research, the PAR chart often refers to the stages of Lewin's self-reflection spiral, namely planning, acting and observing, reflecting and finding facts and planning again the new act.

While Luc Reyckler and Thania Paffenholz in LPI (2016) concluded that the guidelines in PAR are that researchers or facilitators and social actors or research objects join together in research and conduct collective analysis and simultaneously the knowledge gained is analysed and validated collectively. The phase or stage in the PAR approach is as described by Coghland and Brannick (2001), which includes diagnosing, planning action, taking action, evaluating action. This stage can occur repeatedly in several cycles until the problems that occur in the community can be solved by collective decisions (Figure 4).

Figure 9. Participatory Action Research Approach Phase



Source: Coghlan dan Brannick (2001)

Conclusion

The introduction of new innovations in the form of new media in a society is not necessarily immediately acceptable. Communities that are not ready for the presence of new technologies tend to be apathetic and even refuse. Likewise, with the presence of a village information system through village web applications as a new media for the development of the community of Susukan Village, Banyumas, Central Java. Marginalised conditions of society (having limitations and obstacles in accessing information) have led to the need for an inclusive communication approach so that marginalised communities are able to accept the village web presence. One form of inclusive communication approach that is in line with technology assessment is making new innovations so that the new technology can be used by the community according to the capabilities and conditions of the local community. Another form and mechanism of alternative inclusive communication that needs to be developed is the announcement of calling speakers, information through community meetings and information provided through community visits.



The form of technology assessment that is in accordance with the demands of Susukan residents which is urgent to develop is the provision of information boards as an intermediary media to access information through the village web. The mechanism of the approach to inclusive communication through technology assessment is to install information boards in each grumbul (bulletin board and poster). The Susukan village web team is responsible for uploading information into the village web and also providing information in printed form and pasting the information on the information board and poster. The inclusive communication approach carried out by the Susukan village web team will open access to the same information for marginalised communities and the internet literate community. For people who are internet literate, they can directly access information through the village web, while marginal communities can access information through village information boards.

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| | |
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| Formal analysis | : Nuryanti |
| Investigation | : Nuryanti |
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