

## The Existence of Radio Republik Indonesia Banda Aceh in Educating Disaster Risk Reduction Efforts

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### Abstract

*Radio is one of the media still used by the public either for having entertainment or gaining information. Amid the rapid growth of television and internet, radio is still exhibiting its existence. Radio's involvement on the efforts of educating Disaster Risk Reduction (DRR) to the public is crucial because it can be accessed conveniently in variety circumstances. This study focused on examining how the existence of Radio Republik Indonesia (RRI) Banda Aceh in educating DRR efforts for the public. It discussed about how the people obtain the DRR education through some radio programs concerning to DRR. RRI Banda Aceh was chosen because it is the only one government owned radio in Banda Aceh that is responsible on educating the public through the broadcasting contents. This study was conducted by using a qualitative method. The data were collected by means of interviewing the leaders of RRI Banda Aceh and observing the recording of the radio broadcasted contents related to the DRR. This study, eventually, found that the existence of RRI Banda Aceh in educating DRR efforts was manifested in three different ways such as broadcasting disaster news, talk-shows, and public service announcements. Those three ways had their own advantages and disadvantages.*

**Keywords:** Radio, RRI Banda Aceh, Educating, Disaster Risk Reduction.

### Introduction

Tsunami waves swept across the coast of Aceh after an earthquake with 9.3 magnitude (M) that occurred at the bottom of the Indian Ocean. The earthquake was even called by experts as the fifth largest earthquake ever in history. The disaster caused a large number of human victims and huge damages. Azmeri et al. (2017) states that the tsunami disaster crashed Aceh in December 2004 represent the worst natural disaster in living memory which affected to 654 villages in Aceh. Banda Aceh, the capital of Aceh, was a city attacked by tsunami disaster in 2004 with a huge losses. Based on those unforgettable experiences, the disaster risk reduction (DRR) efforts should be done properly to cope the future disaster.

The United Nations International Strategy for Disaster Reduction (UNISDR) (2009) defines DRR as the concept and practice to reduce disaster risks by means of some systematic efforts to analyse and manage the causal factors of disaster by reducing hazard exposures, narrowing vulnerabilities of people and properties, managing land and environment, and improving preparedness to overcome the disasters. DRR means a series of efforts to eliminate or reduce the bad impact of disaster threat (Law of the Republic of Indonesia Number 24, 2007). The efforts must be done systematically by identifying possible threats occurred, reducing vulnerability of the communities and environment and improving community's preparedness and environment in facing disaster. In the other

words, the DRR efforts are a number of activities implemented to minimize the risk of disaster that potentially taken place.

DRR effort is a sustainable development which includes all pieces of society (Chmutina et al., 2021). It means that the efforts should be practiced not only by the authority or government but also by non-government organizations, professional sector, private sector, and mass media. This statement has been stated in the Sendai Framework for DRR 2015-2030 that purposes to gain the significant reduction of the disaster risks, damages and losses of people's lives and livelihoods. The Sendai Framework for DRR (SFDRR) 2015-2030 elaborates four priorities for action to avoid and reduce disaster risks, both new and existing disaster. *First*, understanding disaster risks. *Second*, strengthening the disaster risk management. *Third*, investing the disaster reduction efforts for resilience. *The last*, increasing disaster preparedness for effective response and applying build back better concept in disaster recovery, rehabilitation and reconstruction phases.

As stated before, the DRR efforts should be practiced not only by the government but also by non-government organizations, professional sector, private sector, and mass media. Mass media can be a medium for disseminating some important information and educating people related to disaster. Media is actually able to promote and educate people to be aware of reducing disaster risk (Young et al., 2018). In a line with this, (Mosdøl, et al., 2017) say that the intervention of media is effective to promote the good habits related DRR. In addition, (Hyginus, 2017) argues that the mass media has the crucial function in informing, educating, and strengthening the public with relevant knowledge to influence public actions and policies on DRR. Those statements indicate that mass media plays the important role in DRR efforts.

One of the mass media that can be used to educate people to reduce disaster risk is radio. This is because radio can reach the public widely including the people in the remote area. This statement is approved by Romo-murphy et al.(2011) that radio is the mass media that is appropriate to attain all level of people or audiences. Those are vulnerable people, disabled people, remote-area people, etc. Besides that, radio is a tool of communication that should be included in the disaster emergency kit (Perman et al., 2011). Similarly, Varghese et al. (2017) stated that the disaster kit should contain some items for survival that one of them is portable, battery powered radio with extra batteries. The radio will keep functioning in emergency situations. Therefore the actual information related to the disaster such as weather forecast, evacuation route, and government's instruction, will be delivered properly. Emergency broadcast radio operating in a disaster area has a crucial role in conveying information from the societies to the government and vice versa (Dwiana et al., 2020). Beside that, in educating people, radio brings the possitive effects. It is proved by Keefer & Khemani (2014) that accessing more radio increases people investment in education. Those reasons confirm that radio is crucial to support some DRR practices, especially in term of educating people about DRR.

Amid the rapid growth of television and internet, radio is still exhibiting its existence. It's indicated by a research established by Nielsen Radio Audience Measurement (2016) that the number of radios' audiences in Indonesia in 2016 is at a fairly good percentage, 38%. Nielson presented data that the time Indonesians listen to the radio per week is growing from year to year. In 2014 radio listeners only spent time listening to the radio 16 hours per week, in 2015 became 16 hours 14 minutes per week, and in 2016 became 16 hours 18 minutes per week. It means that the duration of Indonesian listening to the radio were increasing continuously. Specifically in Banda

Aceh, radio is still familiar to be one of the alternative media to gain some information. To prove this, there are at least ten radio stations that have been supported by government of Banda Aceh to broadcast the updated traffic information around Banda Aceh (Pemerintah Kota Banda Aceh, 2017). In addition, the government cooperates with a number of radio media to disseminate information, greet residents, socialize work program, discuss problem among citizen and accommodate complaints experienced by residents. This program is then popular with the name; '*Walikota Menjawab*' (the Mayor answered) (Pemerintah Kota Banda Aceh, 2017). In the other words, those evidences show that the radio in Banda Aceh is still being listened by the citizen.

Nowadays, radio appears in different forms. Some forms are still maintaining the conventional appearance, while the others are appearing sophisticatedly through internet by applying streaming radio, web-radio, e-radio, and podcast radio, similar to the BBC did. Hugelius et al. (2019) states that traditional radio still play the significant role in disasters, but the radio may also be complemented with other communication technology such as social media and mobile applications. Because of their portable and flexible presence, the modern forms of radio can be accessed conveniently in variety circumstances. These approve that the existence of radio keeps being relevant to be used in many crucial aspects. The aspects are particularly in implementing the efforts of educating DRR to the public.

In relation to the radio in DRR, there are numerous previous studies which reveal that the existence of radio is important in DRR efforts. The research conducted by Mosdøl et al. (2017) shows that radio intervention was very effective in promoting healthy living habits for reducing the risk of disease among ethnic minority communities in the United States. Other research held by Young et al. (2018) states that radio influenced the public by campaigning the dangers of alcoholic drinks. The other one established by Nicholls et al. (2010) elaborates that 70.2% the people affected by fire storms in Canberra used radio to obtain the latest information about the disaster. Other research conducted by (Hugelius et al., 2016) mentions that radio can transmit the information about the capability of officials in managing the situation, promoting recovery, and encouraging people. The others conducted by Romo-murphy et al.(2011) mentions that there were approximately 35% of people in Banda Aceh used radio as the main information source during the 2004 earthquake and tsunami. Those studies show that the existence of radio is quite important as a medium of communication and information during disaster in the societies.

The points discussed in those studies are using radio to promote healthy habits, campaigning the dangers of alcoholic drinks through radio, and obtaining the latest information about the disaster through radio. The points aren't discussing about how or in what ways the people obtain the DRR education through radio. In other words, they aren't underlining how radio manifests its existence in educating DRR to the public through various ways. Whereas, the discussion of the ways of radio manifest its existence in educating DRR is important to support the media in producing proper program for DRR. Proper program, creative an engaging content, improves technical pactices and actions to reduce risk (Saha et al., 2021). Similarly, (Oke et al., 2018) stated that to achieve more impact at the community level, radio media should produce engaging DRR programs. Therefore, this study examines how RRI Banda Aceh manifests its existence in educating DRR to the public. The existence is explained by means of some ways the radio educate DRR to the public thru outlining some programs concerning to DRR issues. Besides that, those ways of radios' existence are connected to the broadcasting guideline to find their advantages and disadvantages (BBC Media Action., 2017).

In relation to the reason RRI Banda Aceh chosen in this study, there are three reasons. *First*, RRI is a government-owned radio that functions on ensuring the availability of information for the public (Indonesian Constitution, 2005). *Second*, according to the researcher's preliminary study, RRI Banda Aceh has broadcasting contents related to disaster. *Third*, Banda Aceh is the capital of Aceh Province of Indonesia that was severely damaged during the 2004 tsunami.

## Methods

This research was conducted by using qualitative methods. Qualitative method is an approach that occurs in a natural setting enabling the researcher to develop a level of detail from being highly involved in the actual experiences accentuating on the depth of data analysed (Creswell, 2009). The qualitative method was chosen because the ways of RRI Banda Aceh manifests its existence in educating DRR to the public need to be explained and analyzed in depth by interview and observation. This research focuses on various ways of RRI Banda Aceh manifests its existence in educating DRR efforts to public. Then, the ways manifested are linked to the DRR broadcasting guideline published by BBC Media Action (2017). The qualitative method chosen is to concern on the depth of data and analysis related to the efforts implemented by RRI Banda Aceh in educating DRR. The depth of data is described in narrative forms to explain the findings.

The data were obtained by conducting some interviews with the Leader of RRI Banda Aceh and observing the recording of the radio broadcasted contents related to the DRR efforts. Interviews and observations are the most frequently used forms of data collection in qualitative research (Rachmawati, 2007). The data were collected between June to December 2019. The data gathered were analyzed descriptively. Irrelevant data were reduced to make the findings not going beyond the boundaries of the research.

## Results

RRI Banda Aceh is a government-owned radio in Banda Aceh. As the government-owned radio, it has some important functions. The functions are providing services on broadcasting information, education, positive entertainment, social control and maintaining the image of the country, Indonesia (Lidero, 2021). Based on the author's interview, tsunami that occurred in 2004 has influenced RRI Banda Aceh to campaign the importance of being responsive to disasters. This is the commitment of RRI Banda Aceh to support DRR efforts. According to author's interviews and observations, RRI Banda Aceh manifests its existences in DRR in three different ways. The three ways are through broadcasting talk-shows, news, and Public Service Announcements (PSAs) that is related to disasters.

RRI Banda Aceh manifests its existence through Talk-shows Program

RRI Banda Aceh manifests its existence through talk-shows program (Authors' analysis). The talk-shows broadcasted were taken part by the listeners through some interactive dialogues. It means that the talk-shows implemented by RRI Banda Aceh were enthusiastically participated by the audiences. The radio had partnerships with both government and non-government institutions in broadcasting DRR contents. The partnerships aims to get some experts to be interviewed during the talk-shows. The radio invited some interviewees including the Mayor of Banda Aceh, Head of Search and Rescue Agency, Head of Fire Station, disaster scientists, and etcetera. The campaigns of reducing disaster risks through talk-show weren't broadcasted frequently. They were only aired at certain moments such as tsunami annual commemoration that is noted on every

26<sup>th</sup> of December, soon after disaster occurrences, and post disaster occurrences. There were some reasons why the talk-shows rarely aired. They were spending much budget, allocating much time, and being difficult to invite the experts or interviewees related to disaster issues.

RRI Banda Aceh manifests its existence through News Program

RRI Banda Aceh manifests its existence through news program (Authors' analysis). In relation to the disaster issues, RRI Banda Aceh frequently reports each factual information of disaster came about in a location. The radio deploys its journalists in every single location of the occurrences soon after the catastrophes attacked. In an emergency situation, the reporters notify the actual disaster information by means of cell phones. Based on the experiences of reporting tsunami disaster in 2004, RRI Banda Aceh used the transmitter in Indrapuri, Aceh Besar, to broadcast the actual information about the disaster. This was because its own transmitter located in Banda Aceh was affected by tsunami. Beside that, the reporters contributed in reporting the progress of refugees condition directly from the refugee shelters. The information reported was the community conditions, the affected region conditions, the aid distributions, and the other things related to the disaster.

RRI Banda Aceh manifests its existence through Public Service Announcements (PSAs)

RRI Banda Aceh manifests its existence through PSAs (Authors' analysis). The first PSA themed the culture of waste, 50 seconds in duration. The PSA describes that two characters, a daughter and mother, were drinking bottled beverages. Then, the mother was littering. However, she did not aware of her mistake. It triggered her daughter to admonish her politely by saying that she felt ashamed to the trash beside them (source: author's observation).

The next PSA broadcasted by RRI Banda Aceh talks about how to reduce the waste and how the waste can be recycled to be some valuable goods. It describes two characters, the first women and the second women, having a conversation. The talks were begun with a question from the first women that why the second women throw the rubbish into the river. However, the second women did not care about it. Then the first women advised the second women by explaining that everybody shouldn't throw the rubbish into the river. She explained that littering into the river causes flood disaster, evoking environmental pollution, and getting the river dirty. As the solution, she said that the organic and in-organic waste should be separated. The organic one can be re-utilized as composts for plants. The others, like bottles, paper, plastic, and so forth can be delivered to the craft shops. There, they will be recycled into other useful products (source: author's observation). The message of this sixty second PSA is about waste as well. This message is related to the previous PSA. The previous one talks about littering rubbish and this one talks about re-using rubbish.

In general, related to its existence on the efforts of educating DRR to the public, RRI Banda Aceh mostly focuses on broadcasting PSAs because they don't need much budget and time. Otherwise, the talk-shows are rarely implemented due to some reasons that are spending much budget, allocating much time, and being difficult to invite the experts or interviewees related to disaster issues and etcetera. Meanwhile, the news that talks about disaster is only broadcasted soon after disaster occurred and broadcasted when an agency hold an activity related to disaster issues. The following are the components that should be considered in broadcasting DRR contents suggested by BBC Media Action (2017). The components are connected to the ways of RRI Banda Aceh manifests its existence in educating DRR to the public (Table 1).

Table 1. The components that should be considered in broadcasting DRR contents suggested by BBC Media Action (2017)

No	Components	The ways of RRI Banda Aceh exists in DRR		
		Talk-show	News	PSAs
1.	Choosing relevant themes	Yes	Yes	No
2.	Involving experts	Yes	Yes	No
3.	Considering the vulnerable people	Yes	Yes	No
4.	Emphasizing on the affected people needs	Yes	Yes	No
5.	Using the understandable languages	Yes	Yes	Yes
6.	Using the appropriate jargon	No	No	No
7.	Using the appropriate time duration and continuity	No	No	Yes
8.	Utilizing good quality of sound/voice characteristics	Yes	Yes	Yes
9.	Involving the audiences/ listeners	Yes	No	No

Note: the existence of RRI Banda Aceh in educating DRR efforts

For talk-show, RRI Banda Aceh invited some interviewees including the Mayor of Banda Aceh, Head of Search and Rescue Agency, Head of Fire Station, disaster scientists, and so forth. By inviting them, it means that RRI Banda Aceh already involved some experts to talk about the disaster in an area. Talk-shows conducted by RRI Banda Aceh were almost appropriate to components suggested by BBC Media Action. Unfortunately, the talk-shows were not aired continuously. For news, RRI Banda Aceh already broadcasted it properly in case of delivering information only. However, news is not enough for educating people, because news doesn't get the listeners directly involved in the program. Meanwhile, involving the audiences or listeners in a radio program is one of the way to engage the listeners to be interested to the programs. For PSAs, RRI Banda Aceh already broadcasted it regularly. However, there are still many points of the components that were not appropriate.

## Discussion

The discussion of this study is limited on discourses about the existence of RRI Banda Aceh in educating DRR to the public. The existence is manifested in some radio programs such as talk-show, news, and PSAs. The existence of Radio is vital in supporting the action to be taken in DRR. Radio plays in changing the life style and creating the awareness of the communities to the disaster risk for their better life (Moges, 2013). RRI Banda Aceh manifests its existences in educating DRR efforts to the public in three different ways. The three ways are by means of broadcasting talk-shows, news, and PSAs that related to disasters.

Ways of RRI Banda Aceh manifests its existence in DRR

RRI Banda Aceh is a government-owned radio in Banda Aceh that functions on ensuring the availability of information for the public (Indonesian Constitution, 2005). It means that all sorts of information related to public services should be facilitated by RRI Banda Aceh, including the disaster information. The existence of radio is important in promoting disaster risk to enhance public awareness of DRR (Eila Romo-murphy, 2014).

Based on the interviews, the tsunami that occurred in 2004 has influenced RRI Banda Aceh to campaign the importance of being responsive to disasters for the public. This is the commitment of RRI Banda Aceh to support DRR efforts. RRI Banda Aceh manifests its existence of DRR through broadcasting several disaster contents. RRI Banda Aceh expects that a number of its disaster broadcasting contents may become one of the efforts to educate people to minimize disaster risks. Those contents are packaged in different ways such as talk-shows, news, and PSAs. The detail discussions are elaborated below.

*First*, talk-show is a program that performs one or more interviewees discussing a certain topic guided by a host (Morissan, 2008). As an effort of educating DRR to the public, RRI Banda Aceh held some talk-shows. The talk-shows conducted were involved the listeners through some interactive dialogues. In the other words, the talk-shows implemented by RRI Banda Aceh were enthusiastically participated by the audiences or listeners. The listeners' participation is necessary in DRR efforts. The participation is a chance to act. Hashim & Denan (2015) argue that encouraging listeners to involve into a disaster radio program stimulates people's engagement to the DRR issues. In a line with this, Bedrosian, Young, & Smith (2016) mention that the listeners' participation in broadcasting DRR contents can increase the listeners' awareness to the importance of disaster mitigation. According to the leaders of RRI Banda Aceh, the radio had collaborations with several government and non-government agencies related to broadcast DRR contents. The collaborations purposes to get some figures to be interviewed during the talkshows. The radio invited some interviewees including the Mayor of Banda Aceh, Head of Search and Rescue Agency, Head of Fire Station, disaster scientists, and so forth. Hugelius, Adams, & Romo-murphy (2019) state that listening to an interview with affected people and representatives of authorities promoted a sense of unity among the listeners and stimulated the listeners to be more aware of the disaster risk. In the same tone with this, Lowrey et al. (2007) say that inviting the relevant experts to speak about disasters in media enhances the public trust to the information disseminated.

Unfortunately, the campaigns of reducing disaster risks through talkshow weren't applied frequently. It was only conducted at certain moments such as tsunami annual commemoration that is noted on every 26<sup>th</sup> of December, soon after disaster occurrences, and post disaster occurrences. Whereas, the DRR campaign should be distributed as often as possible and should be educated long before disasters taken place as well. Hugelius et al. (2019) state that by proactively raising public understanding on how to reduce disaster risk might enlarge people's consciousness of disaster. Similarly, Pilny, Atouba, & Riles (2014) mention that by delivering the information about disasters frequently to the public, media, radio, can influence people's awareness in minimizing the disaster effects. Educating people to be aware to disasters via radio definitely being conducted as often as possible in all phases of disaster. There are four important phases of disaster, mitigation, preparedness, reponse, and recovery, are described as part of a continuous process (Baird, 2010). In the other words, educating DRR through broadcasting contents ought to be considered the pre-disaster period, response disaster period, and post-disaster period.

Base on the interviewees, there are a number of factors influenced the talk-shows couldn't be held frequently. *First*, the talk-shows spent too much budget. The fund allocation of the radio isn't only focus on DRR issues but also on the others. According to the law of Indonesia government number 12 year 2005 related to RRI (Indonesian Constitution, 2005), the fund gained by RRI has to be directly used for maintaining operational broadcasting, enhancing the of broadcasting, increasing public service, and

ensuring the welfare of the employees. *Second*, it's difficult to have interviewees attending to the studio. This factor is similar to the finding found by Lowrey et al. (2007) that media often lack access to the disaster science experts. As a solution of this fact, Lowrey et al. (2007) suggest that media ought to facilitate contacts and relationship-building between the journalists and the experts. *Third*, the talk-shows need longer time to spend than the others. Because a theme of a talk-show is discussed in depth, a talk-show spent longer duration in each performance (Morissan, 2008). If RRI Banda Aceh conducted DRR talk-shows frequently, it would bring good impacts on engaging communities for the disaster issues. This is because of a number of benefits of talk-shows such as discussing the disaster themes in detail, involving experts, inviting local authorities, being participated by the communities, and the others. All those advantages are relevant to the efforts of educating DRR to the communities by means of radio broadcasting (Lowrey et al., 2007).

*Second*, news, Cambridge Online Dictionary (2019) defines that news is information or reports about recent events. In detail, the dictionary elaborates that the news is a television or radio programme consisting of reports about recent events. In a line with this, Mansur & Harsono (2020) mention that news is a piece of information about events that is recently taken place. According to the interview and observation, in relation to the disaster issues, RRI Banda Aceh usually reports every actual information about disaster happened in one place. The radio spreads its reporters in every single location of the occurrences soon after the catastrophes attacked. In an emergency situation, the reporters notify the actual disaster information by means of cell phones. Based on the experiences of reporting tsunami disaster in 2004, RRI Banda Aceh used the transmitter in Indrapuri, Aceh Besar, to broadcast the actual information about the disaster. This was because its own transmitter located in Banda Aceh was affected by tsunami. Beside that, the reporters contributed in reporting the progress of refugeescondition directly from the refugee shelters. The information is including the community conditions, the affected region conditions, the aid distributions, and the other things related to the disaster. Hugelius et al. (2019) states that radio is advantageous in transmitting the immediate disaster information, the actual condition of the affected people, and the information of the aid allocations.

The lesson learnt by RRI Banda Aceh from 2004 Tsunami is that the radio should enhance the reporters' or journalists' capacities in reporting disaster. Increasing their capacities in reporting disaster have been implemented by means of workshops for journalists held by RRI. Lowrey et al. (2007) mention that participating the reporters or journalists in a disaster exercises and workshops can improve their abilities in delivering the disaster news properly. Radio should have trainings to convey information about likely risks and threats in appropriate manners to the public (Morissan, 2008).

Here is an example of the news related to disaster broadcasted by RRI Banda Aceh. The news was about wildfire. According to the news, the wildfire was taken place in one of villages in Banda Aceh, Ie Masen village. The news mentions that there were four houses affected by the wildfire on 6<sup>th</sup> July 2019 at 13.50 WIB (Western Indonesia Time). It was reported in the news that who the owner of the houses, what caused the wildfire, how it happened, how much the loss, and so forth.

*Third*, Public Service Announcements (PSAs), Kasali (2007) says that radio PSAs are short informational clips meant to build the audience's consciousness about an important issue including audio content. In a line with this, Lowrey et al. (2007) mention that radio PSAs are promotional radio contents attempt to raise public awareness that



influence public beliefs, attitudes, and behaviors of crucial issues. In relation to the disaster issues, it means that radio PSAs are advertising audio contents function to increase people awareness to the disaster.

To educate public to be aware on DRR, RRI Banda Aceh manifests its existence by broadcasting PSAs concerning minimizing disaster risk as well. PSA is beneficial in persuading public to be aware on an important issue, DRR issue (Alamsyah et al., 2017). The followings are two of some instances of PSAs broadcasted by RRI Banda Aceh focusing on DRR.

A PSA themed the culture of waste, 50 seconds in duration. The PSA describes that two characters, one's a daughter, another's a mother, were drinking bottled beverages. Then, the mother was littering. It triggered the daughter to admonish her politely.

Those dialogues imply that maintaining the environmental sanitation is crucial. This duty isn't only for the kids but also for the adults. Hashim & Denan (2015) confirm that the vital life principle for all human kinds is living in a good balancing with the environment. The PSA represents the realities that is although the trash cans are available at many points of the environment, the people keep littering. It means that people awareness on the environmental sanitation is poor. Kusumawati, et al. (2018) mention that according to statistical data, people awareness of littering in Aceh are still low, although there are spaces to increase the level of awareness.

The next PSA broadcasted by RRI Banda Aceh that talks about how to reduce the waste and how the waste can be recycled become valuable goods. The theme of this PSA is re-cycling the waste. This sixty second PSA is played by two women. The message conveyed is about waste as well. This message is related to the previous PSA. The previous one talks about littering rubbish and this one talks about re-using rubbish. Alamsyah et al. (2017) state that broadcasting some disaster PSAs that related to each other can enhance public knowledge and awareness on reducing disaster risk.

At the end of the story, it's conveyed that re-cycling waste may reduce the amount of waste and increase the creativities of the communities. This one-minute PSA, produced by RRI Banda Aceh Team, tells that rubbish around the communities can be reproduced to be a lot of useful and valuable products. These products obviously can bring the economic advantages to the communities. One of those economic benefits is that the income of the communities and industries will be improved by means of implementing waste recycling (Hidayat, et al., 2019).

Besides those two representative PSAs, there are a number of other PSAs which is broadcasted by RRI Banda Aceh. According to the observation, those PSAs also focus on environmental sanitation themes. Based on the study conducted by Masnidar & Mahyuzar (2018), minimizing waste is one of the problem of environmental sanitation in Banda Aceh. They said that Banda Aceh produces, a huge number of rubbishes, 200 tons of waste every single day. A large number of wastes cause some environmental damages that eventually trigger disasters. Therefore, broadcasting PSAs is one of the efforts of RRI Banda Aceh in manifesting its existence of DRR. Alamsyah et al. (2017) says that one of the ways of improving people consciousness of disaster is using PSAs. However, it is important to realize that the disasters affected by environmental damages are not the only ones attacked Banda Aceh. The others of them is the enormous earthquake and tsunami catastrophes stricken Banda Aceh in 2004. Unfortunately, according to the observation, RRI Banda Aceh doesn't have the PSA related to those catastrophes.

## The Advantages and Disadvantages on ways of RRI Banda Aceh manifests Its existence in DRR

In relation to the advantages and disadvantages on ways of RRI Banda Aceh manifests its existence in DRR, there are several points highlighted. The points are related to the components that should be considered in broadcasting DRR contents suggested by BBC Media Action. According to BBC Media Action (2017), the components are described below.

### a. Choosing Relevant Themes

The themes of disaster broadcasting contents supposed to be relevant to the disasters (potentially) occurred in the area (Sri-Jothi, 2020). The themes of talk-shows aired by RRI Banda Aceh are included various information about disasters. The kind of disaster information is related to the disasters that potentially occurred in Banda Aceh. Beside that, the information is delivered in detail. Then, the themes of the news broadcasted by RRI Banda Aceh are included the actual information about the disaster occurred. The contents are in the report formats. Meanwhile, the themes of the PSAs only focus on environmental sanitation information, while other potentially occurred disaster aren't considered. The contents in PSA forms are delivered shortly, aren't discussed in detail.

### b. Involving Experts

The presence of experts are crucial to make the information transferred more authentically and credibly to the audiences (Hyginus, 2017). In broadcasting the talk-shows, RRI Banda Aceh invites experts from The Regional Disaster Management Agency (BPBD) Aceh and scientists related to disaster management. Then for the news, RRI Banda Aceh gets the reporters interview the experts or the authorities related to the disaster occurred. While, for PSAs, RRI Banda Aceh doesn't deliver the information directly by the experts or the authorities.

### c. Considering the Vulnerable People

A disaster broadcasting content should emphasize on the needs of vulnerable people (Iyer & Dr. Vats, 2018). The talk-shows aired by RRI Banda Aceh rarely talk about women, children, and disabled people needs. Vulnerable people frequently does not get some portions to be discussed in media (Setyowati et al., 2020). The news is reported by considering what women, children, and disabled people needs. Meanwhile, The PSAs don't talk about vulnerable people needs. They mostly talk about the impact of littering, the persuasion for saving the environment, the creativities in recycling the rubbish, and other issues related to the environment sanitation without emphasizing on the needs of vulnerable people.

### d. Emphasizing on the Affected People Needs

The broadcasted content has to be in accordance with the needs of listeners or the affected people. Creating the interaction with listeners is necessary to get their feedback and to recognize their needs (Zaheer, 2016). RRI Banda Aceh broadcasted talk-shows that discussed the information related to the disaster that potentially occurred in detail. Then, the news reported the actual information about the disasters that had been taken place. Meanwhile, the PSAs' contents only focus on the environmental sanitation information, while other potentially occurred disaster aren't considered.

### e. Using the Understandable Languages

A disaster broadcasting content should use conveniently understood languages so that the message can be received perfectly by the public (BBC Media Action., 2017). All programs, talk-shows, news, and PSAs, broadcasted by RRI Banda Aceh related to the DRR contents used easily understood languages.

f. Using the Appropriate Jargon

A specific jargon should be used to distinguish the disaster content and the others (Kasali, 2007). All programs broadcasted by RRI Banda Aceh related to DRR contents didn't have specific jargon. For talk-shows, RRI Banda Aceh doesn't have the particular talk-show program related to disasters. The disaster themes are sometimes appointed during the regular talk-show programs. Therefore, there is no specific disaster program jargon used in the talk-show. Then, the news isn't broadcasted on the specific programs of DRR. The disaster news is usually broadcasted in the regular news programs. Therefore there is no particular disaster jargon in broadcasting the news about disaster. In a line with this, PSAs of RRI Banda Aceh do not use specific jargon. They are broadcasted like other regular advertisements.

g. Using the Appropriate Time Duration and Continuity

The duration time of delivering the content should be appropriate (Kasali, 2007). The time duration used in the talk-shows aired by RRI Banda Aceh is appropriate. It's approximately 60 minutes each talk-show. The continuity of the talk-shows isn't consistent depending on a certain moment. Then, the news about disaster broadcasted by RRI Banda Aceh has appropriate duration because the news answers all important aspects of informing news such as what, where, why, who, when, and how. The continuity of broadcasting the news is depending on the availabilites of the disaster information. Usually the news about disaster is on-air after the disaster attacked. Meanwhile, The PSAs about disaster broadcasted by RRI use the appropriate time duration that is approximately 1-2 minutes each PSA. The continuity the PSAs is consistent, because it is regularly broadcasted at least once a day.

h. Utilizing Good Quality of Sound/Voice Characteristics

The content should have clear sound, so the radio station should own good quality equipment to produce good sound (BBC Media Action., 2017). All programs, talk-shows, news, PSAs, broadcasted by RRI Banda Aceh related to DRR contents have the clear voice. So the contents are delivered properly.

i. Involving the Audiences/Listeners

The listeners ought to be invited to participate in broadcasting contents (Chimberengwa et al., 2020). Talk-show implemented by RRI Banda Aceh invites the audiences to participate in the program. The participations are mostly through phone calling and social media messaging. Then, the disaster news broadcasted by RRI Banda Aceh is delivered by the reporters. The communities are attended as the interviewees, if needed. Meanwhile, PSAs broadcasted by RRI Banda Aceh didn't invite the audiences or listeners. The information is only delivered by the announcers.

Those nine components that should be considered in broadcasting DRR efforts suggested by BBC Media Action are connected to the ways of RRI Banda Aceh exists in DRR efforts. According to those analyses, it was shown that there are a number of advantages and disadvantages of the ways on how RRI Banda Aceh exists in DRR efforts. According to the interview with the leaders of RRI Banda Aceh and observation on the recording of broadcasted contents of RRI Banda Aceh, to educate people about DRR, RRI Banda Aceh mostly focuses on broadcasting PSAs. While the talk-show is rarely implemented due to some reasons mentioned before, the news are only broadcasted soon after disaster occurred.

In general, the talk-shows broadcasted by RRI Banda Aceh are suitable enough to be the appropriate ways to enhance the public's awareness of the disaster because the talk-shows are inviting the communities participation. Bedrosian et al. (2016) mention

that the listeners' participation in broadcasting DRR contents can increase the listeners' awareness to the importance of disaster mitigation. Unfortunately, the talk-shows aren't consistently broadcasted because of several reasons such as lack of budget, lack of time, and lack of interviewees. The news related to the disaster is only broadcasted conditionally soon after the disaster occurred or when an agency held an activity related to disaster issues. The news delivered by media focuses on reporting information as soon as possible (Adubato et al., 2020). Similarly, Moges (2013) states that the news media are close behind to report an event. The PSAs related to disaster risks are consistently broadcasted. However, the themes of those PSAs do not represent all sorts of disaster potentially occurred in Banda Aceh. Besides that, those PSAs are not involved the public, do not invite the experts, etc. People participation is crucial in educating DRR efforts. The communities are the main actor to share their experiences in disaster that eventually leads to safer and better conditions (Tzuyuan, Sun & Huang, 2017).

### **Conclusion**

Based on those explanations, it can be concluded that RRI Banda Aceh exists for educating DRR efforts for the public. The radio's existences are manifested in three different ways. The three ways are by means of broadcasting talk-show, news, and PSAs that related to disasters. Those three ways have their own advantages and disadvantages in practicing disaster education efforts to the public. In general, related to its existence on the efforts of educating DRR to the public, RRI Banda Aceh mostly focuses on broadcasting PSAs because they do not need much budget and time. Conversely, the talk-shows are rarely broadcasted because of some reasons mentioned before that are spending much budget, allocating much time, and being difficult to invite the experts or interviewees related to disaster issues. Meantime, the news that informs disasters is only broadcasted soon after disaster occurred. As a recommendation, in term of producing DRR programs or contents, RRI Banda Aceh ought to follow the components that should be considered in broadcasting DRR contents suggested by BBC Media Action. The components are including choosing relevant themes, involving experts, considering the vulnerable people, emphasizing on the affected people needs, using the understandable languages, using the appropriate jargon, using the appropriate time duration and continuity, utilizing good quality of sound, and involving the audiences. At the end, this study are expected can be a starter for the next related research.

### **Conflict of Interest**

The authors certify that there is no conflict of interest with any financial, personal, or other relationships with other people or organization related to the material discussed in the manuscript.

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