Public Response and the Role of New Media in Dissemination of MUI Edict No. 4/2014 on Illegal Wildlife Trade

**Dewinta Febriyanti[1], Fachruddin Majeri Mangunjaya[2,4,*],
Gugah Praharawati [3,4], Tatang Mitra Setia [2], Yeremiah R. Tjamin [2]**

1.MagisterBiology Student at School of Graduate Program, Universitas Nasional, Jakarta
2. School of Graduate Program, Universitas Nasional, Jakarta
3. PhD Student, Graduate School, Conservation of Tropical Biodiversity, IPB University, Bogor
4. Center for Islamic Studies, Universitas Nasional, Jakarta

*Correspondence author: fmangunjaya1@gmail.com

Abstract

The sophisticated communications could be a tool as a driver to increase of the illegal wildlife trade. Since 2012 there has been a shift in the trend of illegal wildlife trade from the offline market to the online market (advertising, e-commerce and social media). This study aims to determine the role of new media in the dissemination of Indonesian Council of Ulama (MUI) Fatwa No. 4/2014 about The Protection of Endangered Species for the Balance of the Ecosystem (illegal wildlife trade fatwa). The research was carried out in April–August 2020 through the new media Facebook. Collecting wildlife trade data through Google trends for a period of 5 years (2015-2020). Google trends are used as a basic reference in determining targets for video dissemination through Facebook. The approach used is by using research methods through new media, content analysis resulting from video dissemination (such as impressions, engagement, opinions, and feelings). The results of the study show that new media can be an effective medium in conveying and developing conservation messages, particularly to reduce the illegal wildlife trade in Indonesia.

Keywords: fatwa, illegal wildlife trade, new media, public response

INTRODUCTION

The existence of diverse biodiversity is very dependent on the species that live in it. However, this biodiversity is under threat (Jared, *et al*., 2019). Crimes against wildlife illegally include exploitation, trade, possession, killing of wild animals or plants that are against the law. The intensity of wildlife crime including trade over the past few years poses a major threat to ecological stability, national economy, and public health (McLeod & Palmer, 2015). Southeast Asia is one of the countries that plays a key role as a source of consumers and a source of transit in the trade of various types of illegally traded wildlife (Moneron & Armstrong, 2020).The development of new media and technological developments that are in demand by people all over the world have become new challenges in the world of conservation. Animal fans can easily sell/trade animals through new media such as Facebook, Twitter, Instagram and even WhatsApp. WWF (2018) stated that the trade in protected animals has complicated or hidden transaction channels and is more open through e-commerce, marketplace and social media channels. In addition, WWF (2019) found that online trade

throughout 2017 has been identified, among others, through 2,500 advertisements on Facebook, 2,207 advertisements on Instagram and 195 advertisements on e-commerce that sell wild animals, both living and in the form of body parts.

New media is a tool that can be used in both positive and negative terms. Some conservation experts suggest that new media platforms such as Twitter, Facebook, Instagram and so on, can be used to raise awareness in conservation. Twitter can increase awareness in the field of biodiversity (Shiffman, 2012). New media can also be used as an alternative to attract sympathy by presenting various interesting photos (Nghiem, *et al*, 2012). However because of its efficiency, Indonesia uses facebook for political campaign during presidential election (Irawanto, 2019).

The conservation awareness approach through new media is one of the innovative ways to overcome the crisis of illegal wildlife trade. Social media content can help new understandings in conservation science, especially in looking at various aspects such as the existence of biodiversity and its relationship with the community, when to share content, what is found for users, who the users are, why users are there and when to use them (Di Minin, *et al*., 2015).

So far, environmental awareness campaigns have rarely involved religious groups, even though these groups are considered to have an important influence on society, including changing behavior in conservation (Bhagwat, 2012; Mangunjaya, 2011). Awareness campaigns in influencing targeted community groups to reduce illegal wildlife trade that have so far only relied on conventional awareness and through law enforcement.

In 2014, the MUI issued a Fatwa on biodiversity. This fatwa provides guidance to Muslims on how to respond to and preserve protected animals (Mangunjaya, *et al*, 2018).To give further emphasis, the Center for Islamic Studies Universitas Nasional (PPI-UNAS) created an awareness program through the creation of video programs and disseminated the videos through new media, namely face book (FB). The study aims to see the effectiveness of new media in the dissemination of MUI Fatwa No. 4 regarding the preservation of endangered species to maintain the balance of the ecosystem through (Illegal Wildlife Trade Fatwa) video dissemination.

MATERIALS AND METHODS
Data collection

The research was carried out in April 2020 - August 2020 by distributing videos on Facebook. The issue of wildlife were collected from the google trends site. The selection of distribution targets was taken via the internet using Google Trends. Google Trends is a statistical graph on website search results that displays the popularity of search topics over a certain period of time. Results can also be displayed by city, region or language. News related to trending topics are also displayed here. How Google Trends works is by inputting what keywords you want to find trends for within a certain period of time, and according to the choice of location and country to be searched. Google Trends will display graphs according to the searched keywords. How Google Trends works can be seen briefly in Figure 1 below.
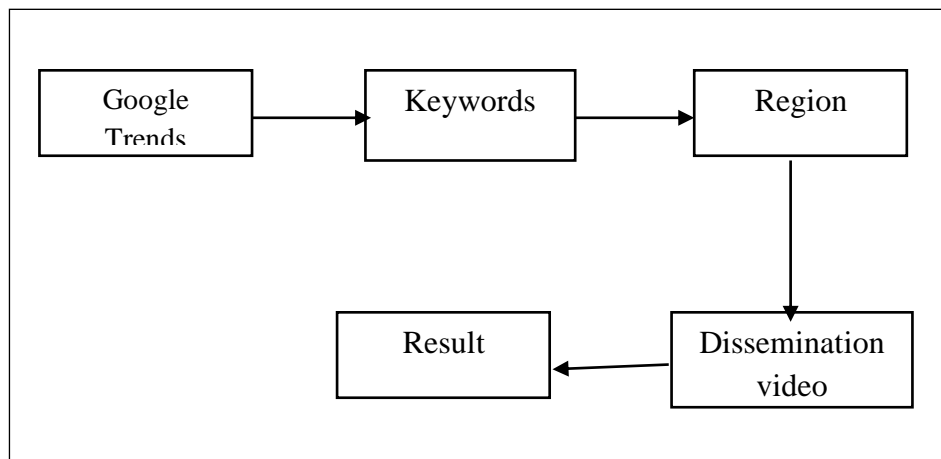
Figure 1. How Google Trends Works

In this study, the target selection was using the keywords "Wildlife trade" and "City", within the last 5 years, range from 2015-2020. Several locations/regions that became the target of distributing questionnaires and determining samples from this research were Jakarta, West Java, East Java, South Sumatra, Banten, North Sumatra, Riau, West Nusa Tenggara, Aceh, Central Java, Yogyakarta. The location was chosen based on several data, namely:

1) The majority Muslim population in Indonesia,
2) Biodiversity potential of some of the areas mentioned above,
3) Cases of wildlife trade recorded through new media.

After obtaining the target location using Google trends, the dissemination of new media is carried out through the Facebook platform. The use of this facebook platform is done by placing a promotion (advertisement) of 3 video titles regarding the MUI Fatwa and illegal wildlife trade on the PPI-UNAS business facebook account through boost posts with an investment value of IDR 250,000 per video unit within a boost period of 7 days. The selected video is a type of video regarding the MUI Fatwa and the wildlife trade.

The first step in collecting data via Facebook is logging into the Islamic Study Center account, then selecting the previous video post regarding the MUI Fatwa and the trade in endangered species that has been uploaded, then selecting boost in the post, specifying several categories, namely: Gender, Age category, target location, and specify user interests or preferences limited to Muslim world, wildlife, wildlife trade. After determining the target for the boost video, then processing content analysis related to reach, response and share or efforts to share the content.

The Center for Islamic Studies Universitas Nasional (PPI-UNAS) has made two special video product titles containing awareness about fatwas which can be viewed at the following link:

- MUI Fatwa No. 4 of 2014: Conservation of Endangered Animals for Ecosystem Balance (Fatwa MUI No. 4 Tahun 2014: Pelestarian Satwa Langka untuk Keseimbangan Ekosistem) (duration: 3 minutes, 5 seconds): https://www.youtube.com/watch?v=uQnpz5szYGQ

- Illegal Trafficking of Rare Animals: God's Deprived Mercy (Perdagangan Ilegal Satwa Langka: Rahmat Allah yang Dirampas) (4 minutes, 30 seconds duration) https://www.youtube.com/watch?v=a6btm4YP9MY
- Illegal Trafficking of Rare Animals: God's Deprived Mercy (Perdagangan Ilegal Satwa Langka: Rahmat Allah yang Dirampas) (4 minutes, 30 seconds duration) https://www.youtube.com/watch?v=a6btm4YP9MY

The public awareness response study was conducted using video dissemination, both of which contain fatwa no. 4/2014 on the Conservation of Endangered Animals to Maintain Ecosystem Balance and also its relation to laws and regulations to prevent illegal wildlife trade. The two video titles were disseminated using a boost page to measure the effectiveness of using new media (facebook) which was calculated through reactions and responses as well as content analysis (Di Minin, et al, 2015).

The use of each boost is carried out with a period of 1 week in a month related to the momentum of environmental day: Earth Day 22 April 2020, Environment Day, 5 June 2020 and 26 July National River Day. The determination of the boost video to coincide with environmental days is intended so that the range of exposure is wider. The following is the video distribution schedule:

- First video dissemination : April 30, 2020 – May 7, 2020
- Second video dissemination: 3 June 2020 – 10 June 2020
- Third video dissemination: 23 July 2020 – 30 July 2020

In addition, investigations of animal trafficking cases circulating on Facebook and investigations of animal trafficking cases were carried out through local communities using a network approach method, namely through Whatsapp. By doing this study we can see opportunities for exposure to the material that is disseminated.

Content analysis on facebook video dissemination

a) **Demographic analysis**

Demographic analysis includes profiles of the public, both the public who act as respondents or the public obtained through new media. The data that can be presented are age and gender.

b) **Geographical/regional analysis**

Geographical analysis includes data from questionnaires and new media which are grouped into 11 regions, which will be analyzed based on the most dominant region.

c) **Area coverage analysis**

Analysis that includes data through new media with the number of ranges from the highest to the lowest that will be presented via graphs. The reach of content distribution according to Facebook (2020) can be analyzed based on:

1. Page views; are the number of times your Page's profile has been viewed by people, including people who are logged into Facebook and who are not.
2. Reach; is the number of people who viewed any content from the Page or about the page.
3. Impressions are the number of times any content from the Page or about the page itself.
4. Engagement is when someone takes an action on the content being shared. This engagement can take the form of liking a post, clicking on a video link, or

commenting on an image. On the Facebook platform engagement is defined as the number of clicks, likes, shares and comments on a post.

Based on Socialbakers (2020), this engagement is measured using:

> **Total Engagement = (Number of likes + Number of comments + Number of Shares) / Total Facebook Fans**

RESULT
Wildlife trade data via internet

Information about data regarding illegal wildlife trade is sought through new media with an online method using activity theory on a search engine (google.com). This search engine has a rapid increase in the number of users globally, and has the potential to disseminate information more widely to achieve the desired results. This data can be used as a reference in providing education through awareness campaigns to encourage changes in human behavior to minimize the incidence of illegal wildlife trade.

Searching for sources of information through illegal wildlife trade in five years (2015-2020) through google trends can be accessed at the link https://trends.google.co.id/trends/?geo=ID . The results of wildlife trade data can be seen in the search for information sources using google trends using a comparison of the keywords to be searched, namely the wildlife trade keywords with the wildlife trade keywords. The data obtained will be used as a reference in determining the distribution area for video dissemination. How to use Google Trends is described in Figure 2.
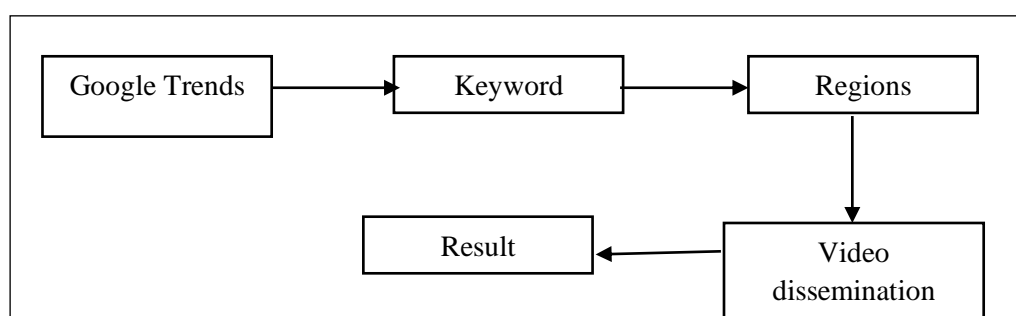

Figure 2. Google Trends Works

Search results based on google trends for the last five years from 2015-2020, and using the keyword wildlife trade with cities, 34 cities were obtained, of which a total of 34 cities were taken with the cities with the most search results, namely 15 cities; (1) West Sumatra, (2) Jambi, (3) Maluku, (4) Central Sulawesi, (5) Bengkulu, (6) Banten, (7) North Maluku, (8) Southeast Sulawesi, (9) Gorontalo, (10) East Nusa Tenggara, (11) West Papua, (12) West Java, (13) North Sulawesi, (14) Riau, (15) South Sumatra (Figure 3).
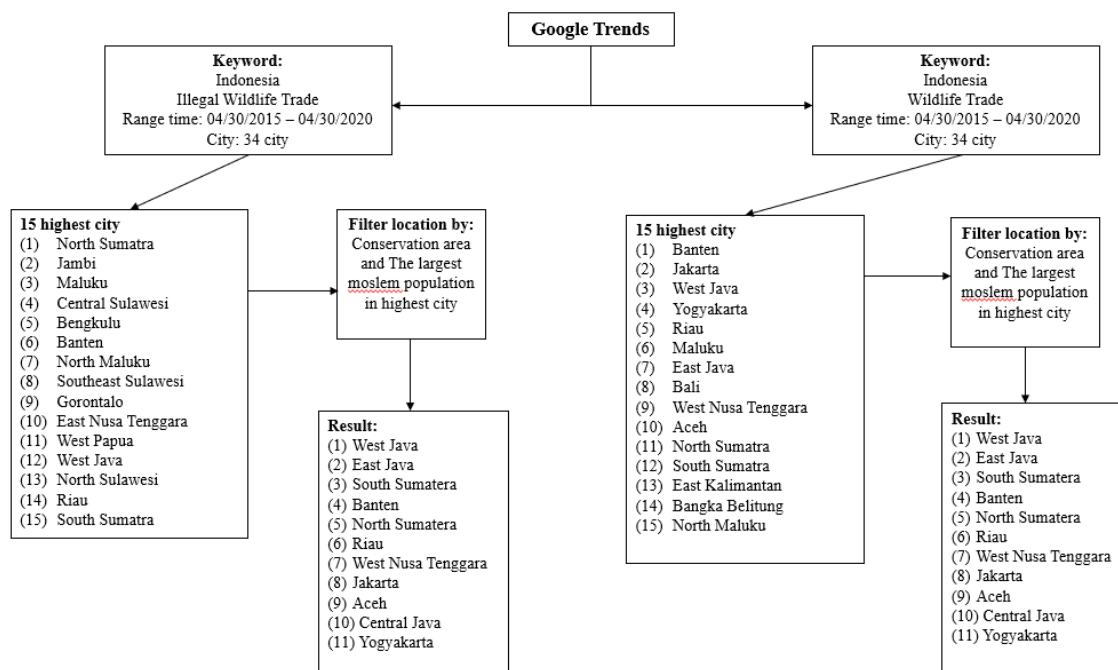
Figure 3. Result of *google trends* according to key words

The search results are based on google trends for the last five years from 2015-2019, and with the keyword wildlife trade with city, 34 cities are obtained, from a total of 34 cities the cities with the most search results are 15 cities; (1) West Sumatra, (2) Jambi, (3) Maluku, (4) Central Sulawesi, (5) Bengkulu, (6) Banten, (7) North Maluku, (8) Southeast Sulawesi, (9) Gorontalo, (10) East Nusa Tenggara, (11) West Papua, (12) West Java, (13) North Sulawesi, (14) Riau, (15) South Sumatra. The adjusted keys are then re-sorted based on the largest Muslim population in the area and the existence of conservation areas. From the separation of the 2 categories, it can be concluded that 11 cities were the targets of video dissemination, namely (1) West Java, (2) East Java, (3) South Sumatra, (4) Banten, (5) North Sumatra, (6) Riau, (7) West Nusa Tenggara, (8) Jakarta, (9) Aceh, (10) Central Java, (11) Yogyakarta (Figure 4).

The pattern of development of the wildlife trade over the last five years can be seen in Figure 5.
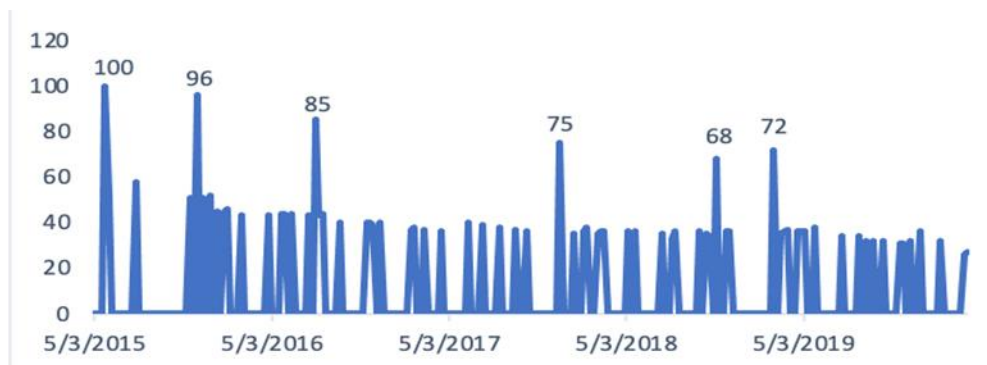
Wildlife trade data for 2015-2019

Figure 5. Five years of wildlife trade data from google trend from 2015-2019

Respondent demographics

New media activation through various platforms such as facebook, search engines, and websites can be used to identify the types of content/advertising that users prefer based on demographic and behavioral factors. The activation can be in the form of content uploaded directly to influence users (organic content) or in the form of content in a paid way that will reach wider users with several demographic criteria (age, gender and region).

Areas of exposure to video dissemination

A one-week video dissemination regarding the illegal wildlife trade using Facebook ads by presenting the core message to the targeted users. facebook also easily provides access to share messages socially, especially information about the illegal trade in wildlife.
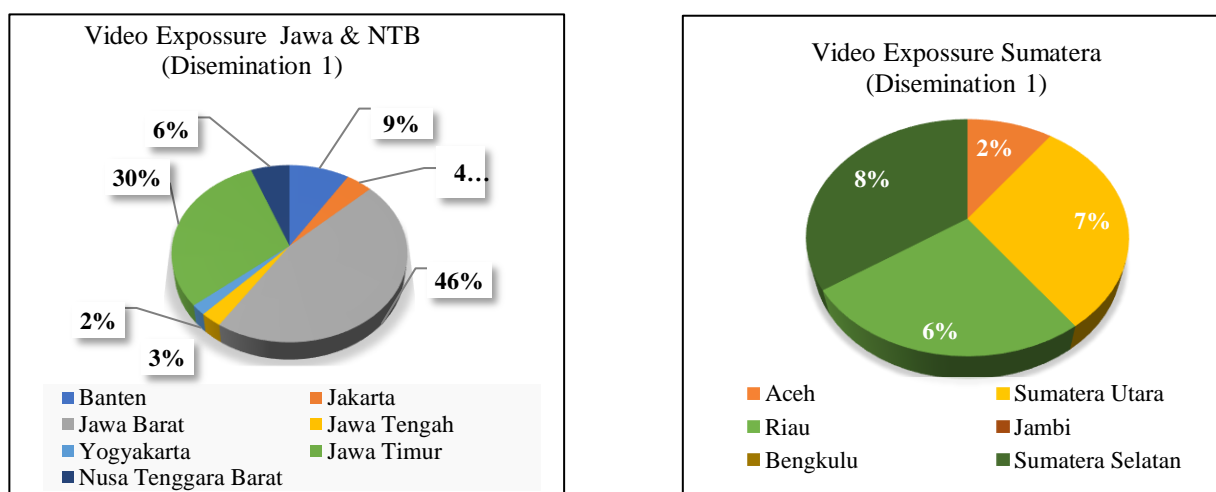

Figure 6. Results of the area of exposure to new media awareness on dissemination 1
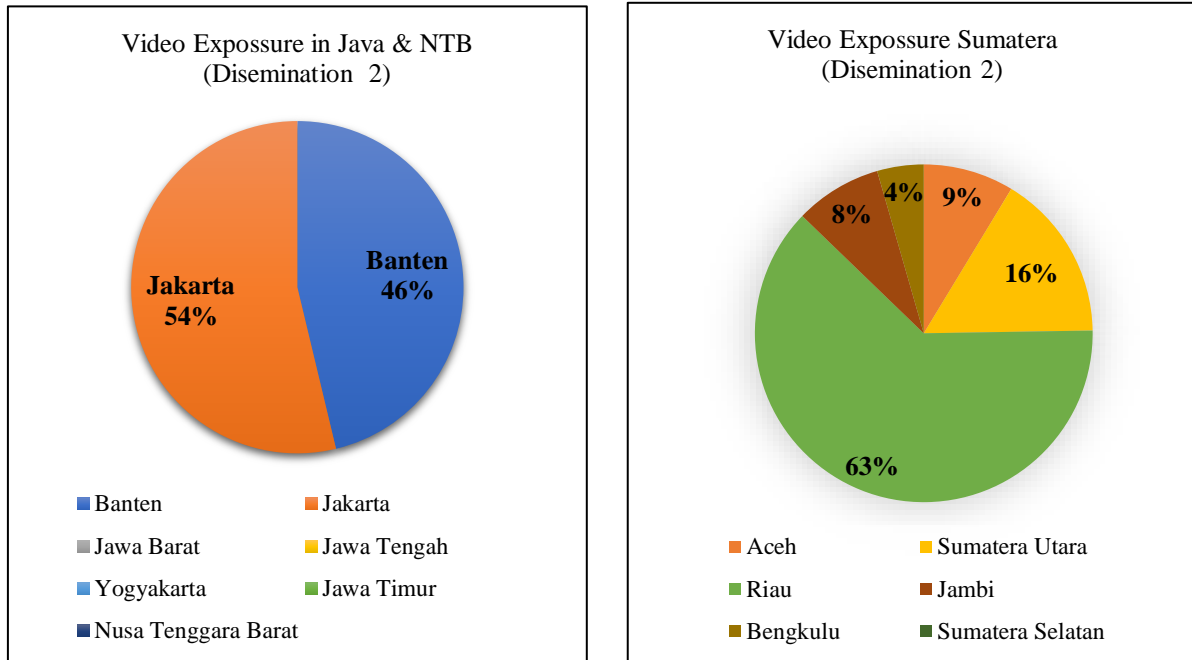(N= 235,583)

Figure 7. Results of the area of exposure to new media awareness on dissemination 2
(N= 16.890)

In the first dissemination of awareness campaigns using social media through the activation of video dissemination via facebook and data collection based on Google Trends, in the three time periods of dissemination, the results obtained were the most dominant areas in the first period of dissemination, were West Java, then in the second period of dissemination, is Riau, and in the third period of dissemination the dominant result is West Java. This patter is supported by the large reach of facebook users during the dissemination period and the tendency of users to view videos based on their interest in the illegal wildlife trade and their personalities. The dominant distribution area can be used as a reference in raising awareness of the wildlife trade in the region.
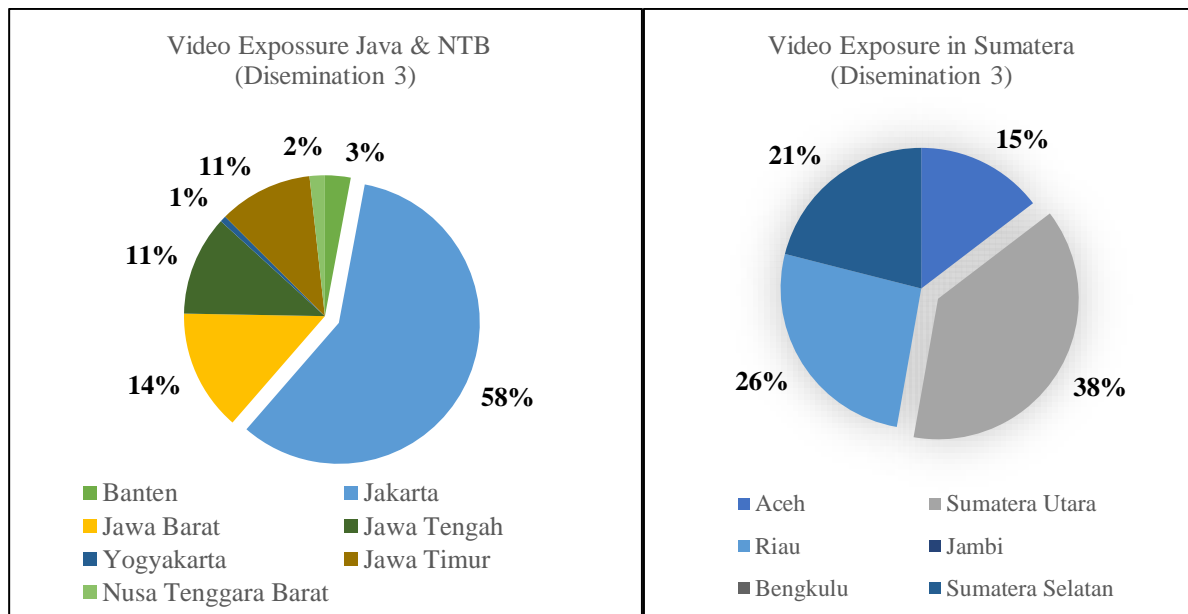
Figure 8. Results of the area of exposure to new media awareness on dissemination 3
(N= 21.932)

Characteristic User

In the dissemination period, the results obtained from the characteristics of new media users based on gender. Gender is divided into 2 categories, female and male, while the age category is divided into 6 categories, ranging from 18 years to 65 years. The dominant age category is 25-34 years, then the second category is 18-24 years. The 18-24 year age category is very dependent on new media because it is very close to their daily lives and also in this category they prefer interesting content that is presented. through new media, one of which is social media. Another thing that can be done with new media is uploading various kinds of photos for their existence or just seeing or reading the latest information so that other friends don't miss out when discussing or gathering. This is in accordance with a survey conducted by Hootsuite (2019) that female social media users are dominant at the age of 18-34 years. In addition, other supporting factors, namely the age category of 18-34 years are millennials who understand technological developments.
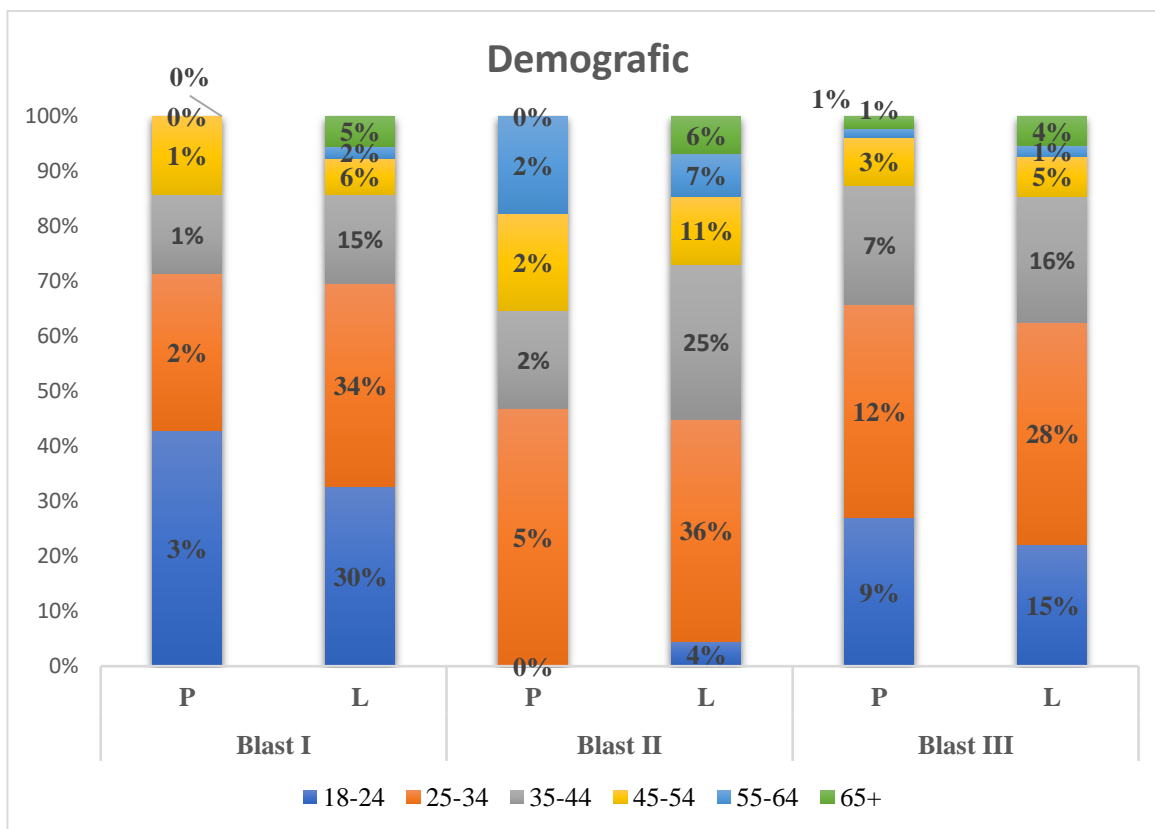
Figure 9. Age demographics based on video dissemination via Facebook

Demographics based on sex from the male side show more dominant results than women in terms of accessing social media, especially related to wildlife trade. Exposure to wildlife trade video content is based on the preferences or interests of users, such as the hobby of keeping endemic birds whose status is threatened with extinction. In the age category 18-44 can be seen to be the most dominant result. As well considered powerfull tools because the exposed dominated by productive age, with dominantly male gender. Its assumed the the exposure to video content dissemination for education can be more effectively carried out on the younger generation, and when they are exposed to the video they will spread the video through their social media accounts.

Content analysis expossure of video in facebook

Data dissemination of the MUI Wildlife Fatwa video dissemination collaboration with the PPI-UNAS which was carried out for one week using two types of videos regarding the conservation of endangered animals and using paid promotion methods, namely posting both photos and videos that were influenced by the cost of advertising investment on Facebook. The more investments made through Facebook, Facebook will maximize these costs to reach more and more Facebook users to view video content regarding the illegal wildlife trade. This is trend could help the increase of expossure and likely the awareness effort to tackle the illegal wildlife trade. The first period of dissemination, which was conducted on April 30, 2020 – May 7, 2020, a fairly large reach was obtained 223,680 who viewed the content, 92% of which came from the male, according to the demographic category and 8% female. In addition to gender demographics, the five dominant provinces are 1) West Java 2) East Java

3) South Sumatra 4) Banten and 5) North Sumatra. The involvement or responses that can be measured are link clicks, video views, comments, shares, likes, love, sad as shown in table 1. The involvement of the three video dissemination shows that exposure to the MUI fatwa video content provides a lot of interaction, by viewing, writing comments, share links and so on.

Tabel 1. Reach and Response to the video Fatwa MUI No.4 dissemination troughout *Facebook*

Engagement Activity	**Dissemintions Title 1**	*Engagement* (%)	**Dissemation Title 2**	*Engagement* (%)	**Disseminations Title 3**	*Engagement (%)*
Total Reach		235.583		16.890		21.932
Link Clicks	915	0,3	157	0,92	193	0,87
Video views	72003	30	6226	36,86	5385	40
Comments	57	0,02	3	0,01	1	0,004
Shares	132	0,05	7	0,04	15	0,06
Like	1000	0,4	92	0,54	215	0,98
Love	39	0,01	4	0,02	3	0,01
Sad	1	0,0004	6	0,03	0	0
Total	**74.147**		**6.495**		**5.812**	
Percentage		**31%**		**38%**		**26%**

The tvideo title 1 : Fatwa MUI No. 4 Tahun 2014 : The Conervation of endangered wildlife for the Balance of Ecosytem (Pelestarian Satwa Langka untuk Menjaga Keseimbangan Ekosistem)
The video title 2: Illegal Endangered Wildlife Trade: God's Deprived Grace

The video title 3: Illegal Endangered Wildlife Trade: God's Deprived Grace (Perdagangan Ilegal Satwa Langka: Rahmat Allah yang Dirampas)

The highest results were in the first video dissemination with a public reach of 235,583, while the second and third video dissemination only got a reach of 16,890 and 21,932, respectively. The value of public affordability with the total number of engagement activities is also related, the more public/people who are exposed to videos regarding the MUI fatwa no 4/2014 and illegal sata trade, the more diverse responses will be generated such as share, like, love, sad, comment. Responses with comments are positive and negative.

In the first video viewing, the user response was quite large where 72,003 viewers watched the video, 132 people shared the video, 1000 people liked the video and 57 people left comments. However the over all enggement for the fatwa video is moderately hight 26%-38%, the enggagement are includes all facebookers expression that captured at the comment box such as: link clicks,video views, comments, shares, like, love and sad.

As many as 30% of the comments submitted were negative, most of the audience considered that it was not the MUI's authority to deal with illegal wildlife trade, but the Ministry of Environment and Forestry or the security forces, and what should be handled. The public understanding for the soft approach such as campaigning wildlife protection trought religious approach is quite rare. It may also too wide for public with shallow understanding of religion, as only a private matter. Secondly, facebook were exposed to the non target audience, such as different believe system, the campaing

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may be negative for non muslim, for example a facebooker asked: "Why only Muslim, supposed to protect?". The comment may be negative if they don't understand that the fatwa only advice Muslim. The bias may also resposne by fake account which always, putting a challege narative and prejudice.

The response to the second broadcast decreased, the video was watched by 6,226 viewers, the video was shared by 7 people, liked the video by 92 people, and the comments were 3 people. In the third view, the response decreased, the video was watched by 5,385 viewers, the video was shared by 15 people, 215 people liked the video, and only 1 person commented. This can happen because the interests of each and the character of people are different. Users will see and click on useful content for themselves.

CONCLUSION

New media such as facebook can be quite effective platforms in conveying conservation messages for awareness, particularly if the campaign need should be disseminate widely to the remote and different regions island. Social media such as facebook can reach many users and know the responses of these users. Content analysis is an important factor as an additional reference to see user responses to disseminated content. However the response and narrative may contain a positive or negative response and see the extent of the user's knowledge in responding. There may be some challenge and restriction if you use social media: (i) it is only restricted to the facebook registered member, (ii) the bias may come from the unpredicted target, such as a different stream of belief or political stream. (iii) using social media as a platform to campaign for conservation awareness needs to be measured. This research have limited method not to measure the change except the exposure acceptance and examining potential trend of the media appearance in some relevant group such as dominant demography, sex, and appeareance because of the algorithm and machine learning system that accumulated in the social media system (Lada, *et al*. 2021).

REFERENCES

Bhagwat, Shonil A., Nigel Dudley, and Stuart R. Harrop. (2011). Religious following in biodiversity hotspots: Challenges and opportunities for conservation and development. Conservation Letters 4: 234–40.

Di Minin, E., Tenkanen, H., & Toivonen, T. (2015). Prospects and challenges for social media data in conservation science. *Frontiers in Environmental Science*, *3*, 63. doi: 10.3389/fenvs.2015.00063

Margulies, J. D., Bullough, L. A., Hinsley, A., Ingram, D. J., Cowell, C., Goettsch, B., ... & Phelps, J. (2019). Illegal wildlife trade and the persistence of "plant blindness". *Plants, People, Planet*, *1*(3), 173-182. **https://doi.org/10.1002/ppp3.10053**

Kurland, J., Pires, S. F., McFann, S. C., & Moreto, W. D. (2017). Wildlife crime: A conceptual integration, literature review, and methodological critique. *Crime Science*, *6*(1), 1-15. https://doi.org/10.1186/s40163-017-0066-0

Lada, A, M. Wang., T.Yan. (2021). How does News Feed predict what you want to see? https://tech.fb.com/engineering/2021/01/news-feed-ranking/ (accessed, October, 29 2022)

Mangunjaya, Fachruddin .M. (2011). Developing Environmental Awareness and Conservation through Islamic Teaching. Journal of Islamic Studies 22: 36–49. [CrossRef]

Mangunjaya, F.achruddin M., Chantal Elkin, Gugah Praharawati, Imran S. L. Tobing, and Yeremiah R. Tjamin. (2018). Protecting of Tigers with a Fatwa: Lesson learn on faith base approach for conservation. *Asian Journal of Conservation Biology* 7: 78–81.

Mc Leod, E., & Palmer, M. (2015). Why Conservation Needs Religion. *Coastal Management*, *43*(3), 238–252. https://doi.org/10.1080/08920753.2015.1030297

Moneron, S., Armstrong, A., Newton, D. (2020). The People Beyond the Poaching. TRAFFIC .Cambridge, UK.

Irawanto, B. (2019). Making it personal: The campaign battle on social media in Indonesia's 2019 Presidential election. ISEAS Yusof Ishak Institute, 28, 1-11.

Jared, D. M., Leigh-Anne, B., Amy, H., Daniel, J. I., Carly, C., Bárbara, G., . . . Jacob, P. (2019). Illegal Wildlife Trade and The Persistence of "Plant Blindness".

Nghiem LTP, E. L. Webb, L. R. Carrasco. (2012). Saving Vietnam's Wildlife Through Social Media. *Science*. 12 Oct 2012: Vol. 338, Issue 6104, pp. 192-193 DOI: 10.1126/science.338.6104.192-b

Shiffman, D.S. (2012). Twitter as a tool for conservation education and outreach: what scientific conferences can do to promote live-tweeting. J Environ Stud Sci 2, 257–262. https://doi.org/10.1007/s13412-012-0080-1

TRAFFIC, (2020). Vietnam issues ban on wildlife imports & announces closure of illegal wildlife markets - Wildlife Trade News from TRAFFIC [WWW Document]. URL https://www.traffic.org/news/viet-nam-issues-ban-on-wildlife-importsannounces-closure-of-illegal-wildlife-markets/.

WWF (2018).Nepal set to become first country to double wild tiger population. WWF Press Release: 23rd September: https://www.worldwildlife.org/press-releases/nepal-set-to-become-first-country-to-double-wild-tiger-population

WWF (2019). Announcement of Minimum Tiger number in Myanmar. WWF Press Release: 29th July: http://www.wwf.org.mm/en/yangon_about_page/?uNewsID=350932