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Public Response Analysis toward Poverty Reduction Program in Indonesia 2014-2018 through Twitter Data

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Abstract

Poverty reduction is the main priority of national development. It aims to encourage the improvement of the welfare of the poor in order to enjoy increasingly quality economic growth. On the other hand, every government program really needs an evaluation and how the response from the public. Monitoring the social media can be used to understand and provide real-time feedback about policy reform. Therefore, the government is expected to consider using similar technology in the current evaluation and operational framework. So, the need for discussion to analyze the public response to poverty reduction programs in Indonesia by using Big Data through Twitter data. With this research, it is expected that the public response from Twitter, so it can be a critique and suggestion for the government in establishing and implementing future poverty reduction policies. This research conducted using Twitter data on poverty reduction policies in Indonesia, in particular: "Bedah Kemiskinan Rakyat Sejahtera (poverty review, people prosperous) (BEKERJA)" Program, "Padat Karya Tunai (cash labour intensive)" Program, and "Program Keluarga Harapan (Family Hope Program)". The data comes from all community tweets related to the programs. The data is analyzed using text mining method. The results of this study indicate that in general the public response is received, and it support three poverty reduction programs in Indonesia for the 2014-2018 period. So public response can be used as an evaluation and advice to the government.

Keywords: public responses, government program, text mining, sentiment analysis

I. INTRODUCTION

Poverty reduction is the main priority of national development. It aims to encourage the improvement of the welfare of the poor in order to enjoy increasingly quality economic growth[1]. The importance of the advent of poverty is the number one ideal in the Sustainable Development Goals (SDGs) scheduled by the United Nations and expected to be achieved in 2030. The advent of poverty is also the aspiration of the Indonesian nation, as stated in the fourth paragraph of the Preamble of UUD 1945 at fourth alenia, "…*untuk*

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[1] Ministry of National Development Planning/Bappenas. (2006). Penanggulangan Kemiskinan Bab 16. Retrieved 14 June 2019 at 08.27 via https://www.bappenas.go.id/files/3513 /5211/1083/bab-16---penanggulangan-kemiskinan__ 20090202213335__1758__16.pdf

memajukan kesejahteraan umum… (*...to advance the general welfare...*)" and Nawacita Program number five about people's welfare[2].

The government currently has various integrated poverty reduction programs starting from social assistance-based poverty reduction programs, community empowerment-based poverty reduction programs and small business empowerment-based poverty reduction programs, which are run by various elements of the government both central and regional[3]. Some of the top popular policy programs of poverty reduction from the government are: (1) "Program Keluarga Harapan" (PKH), is a program to provide conditional social assistance to Beneficiary Families (KPM) designated as PKH beneficiary families[4]; (2) "Bedah Kemiskinan Rakyat Sejahtera" Program (BEKERJA) 2018, this program is an effort to alleviate poverty and empower the poor to increase income and welfare through integrated agricultural activities[5]; and (3) "Padat Karya Tunai" Program, this program is an activity to empower rural communities, especially the poor and marginal, who are productive by prioritizing the use of resources, such as labor, local technology to provide additional wages / income, reduce poverty, and improve people's welfare[6].

Every poverty alleviation program from the government really needs an evaluation and how the level of acceptance by the public. Policy evaluation is said to be an expectation and reality and as a public policy process because a public policy cannot be released just like that. According to Dunn [1], there are 3 important functions held by evaluating government policies: 1) Evaluation provides valid and reliable information about policy performance, namely how far the needs of values and opportunities can be achieved through public action. In this case, the evaluation reveals how far the specific goals, objectives and targets have been achieved; 2) Evaluation contributes to clarification and criticism of the values underlying the selection of goals and targets; 3) Evaluation contributes to the application of other policy analysis methods, including the formulation of problems and recommendations. Therefore, policy evaluation is the only way to prove the success or failure of the implementation of a government program, especially for poverty reduction programs in this research.

Hatzopoulou and Miller commented that the modeling tools that can be used by the government to evaluate the impact of policies on proposed objectives have not been in line with recent technological developments [2]. A study from United Nations Global Pulse and the World Bank Group at Elsavador suggested that monitoring social media could be used to understand and provide real-time feedback about policy reform [3]. Therefore, the government is highly expected to consider the use of new technology in the form of social media for the evaluation of current policy programs.

The use of social media as a policy evaluation also has advantages over using other evaluation techniques. In developing countries such as Indonesia, which has the fourth largest population in the world, it will be difficult to carry out evaluations with detailed reviews directly in the community [3]. Indonesia also has an online complaint portal called "lapor.go.id", but the online portal is specifically for complaints of problems and aspirations by the public, not specifically for related evaluations in a program. The online portal also has drawbacks, namely less responsive, old process stages, and less free in opinion than other online sources, such as social media. In addition, utilizing data from online sources such as social media has advantages, which can be collected in large volumes and with minimal costs. So, that online sources can be used as an alternative to find out the evaluation of government programs seen from the response and how the level of acceptance by the public.

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[2] Evaluasi Paruh Waktu Rencana Pemerintah Jangka Menengah Nasional 2015- 2019.

[3] TNP2K. 2014. Sekilas Program TNP2K. Retrieved June 14, 2019 at 08.14 via http://www.tnp2k.go.id/program/at-a-glance.

[4] Ministry of Social. (2018). Program Keluarga Harapan. Retrieved 06 March 2019 at 11.37 via https://www.kemsos.go.id/program-keluarga-harapan.

[5] Ministry of Agriculture. (2018). Petunjuk teknis Bedah Kemiskinan Rakyat Sejahtera (BEKERJA). Retrieved 07 March 2019 through http://peternakan.litbang.pertanian.go.id/index.php/berita/48886-petunjuk-teknis-bedah-kemiskinan-rakyat-sejahtera-bekerja.

[6] Ministry of Rural, Regional Development and Transmigration.(2018). Pedoman Umum Pelaksanaan Padat Karya Tunai di Desa 2018. Retrieved March 06, 2019 via https://ditjenpdt.kemendesa.go.id/index.php/download/getdata/Pedoman-Umum-Pelaksanaan -Padat-Karya-Tunai-di-Desa-2018.pdf .

The potential of these online sources increases over time, especially social media users such as Twitter. According to Global Digital Statistics "Digital, Social & Mobile in 2018" from We are Social (2018) in 2018, 27 percent of 132.7 million internet users in Indonesia actively used Twitter as noted in recent years [7]. With such a large number of users, Twitter data can be used as an online resource in making public responses and opinions about poverty alleviation programs in Indonesia. In accordance with the purpose of this study is to find out the public response to poverty reduction in Indonesia through Twitter data, so that the public response can be expected to be a form of evaluation of the government's poverty reduction program and can be a suggestion to establish and implement it in the future.

II. LITERATURE REVIEW

Twitter is one of the most popular social media platforms in the 20th century[8]. This Platform is used by everyone to communicate with their relatives or even people they don't know. The platform they use at all times, when just delivering what they did or what they thought of at the time, the short messages that they delivered on the platform were called tweets. Tweets of all people that are very much is a potential online resource to be utilized in a variety of things, such as for evaluation of government programs [4].

Twitter as a potential data source for such use, also has a wide range of advantages, such as cheap cost, easy data access, data available at all times, and large data [3]. Thus, from some of these advantages are utilized by some researchers to analyze public response to various topics. Examples are topics in the field of health, some of the related research in this field, such as in the health care [5], in the monitoring of diseases of HIV [6], the outbreak of E. coli in food [7], and the last is about chemotherapy [7]. Next is a topic with environmental conditions [8], then analysis of the news feed that exists in an area, such as homicides, etc. [9]. The latest is a topic about government policy, such as policy-related research About Transportation [1], fuel subsidy policy [3], government rezim [10], Electronic Cigarette Policy [11], and lastly is the policy standardized packaging Regulations [12]. In this research, Twitter data is used to analyzed public responses to government policies that have been implemented, particularly the poverty alleviation program.

Previous research regarding the utilization of Twitter data for the public response analysis, using some analysis methods, such as sentiment analysis [3], [4], [8], [12], this analysis is used to determine the perception of each person against a topic [7]. The next method is to use topic modelling [3], [8], purpose of this method is to automatically determine the topic of a or many documents. Other method of analysis is the spatial exploration of those tweets [3], [6], [10], [12], this spatial exploration, we can know where the tweet's location is spent. Next, method of analysis is social network analysis [6], [8], [12], this method aims to view the network of users of Twitter with those who follow him or who he follows, so that it can be known top-users who most dominate anyone. There are also uses of classical statistical analysis, such as regression [6], [10], and analysis for comparing the two periods using Chi-squared [13]. And the last method to explore of Twitter data use descriptive analysis [4], [5], [7]–[9], [12], with a descriptive analysis of the many information to be obtained, such as the trend of number of tweets, the background of the user, the topic Yan discussed, etc. In this study we adopted sentiment analysis, descriptive analysis and additional in the form of linkword visualization to illustrate public response to government programs.

III. RESEARCH METHOD

This research was conducted to see the development of the general overview of poverty alleviation program during the reign of 2014-2018 period. To get this overview of program, researchers use the Twitter data in Indonesian language which is specifically focused on seeing three poverty alleviation programs by the

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[7] We are Sosial dan hootsuite. (2018). Digital In 2018 In Southeast Asia Essential Insights Into Internet, Social Media, Mobile, And Ecommerce Use Across The Region. Retrieved at 4 November 2018 in https://www.slideshare.net/wearesocial/digital-in-2018-in-southeast- asia-part-2-southeast-86866464?from_action=save.

[8] *ibid.*

Indonesian government, namely: BEKERJA Program, Padat Karya Tunai Program, and Program Keluarga Harapan in the period 2014-2018.

The following is a schematic flowchart for this research methodology.
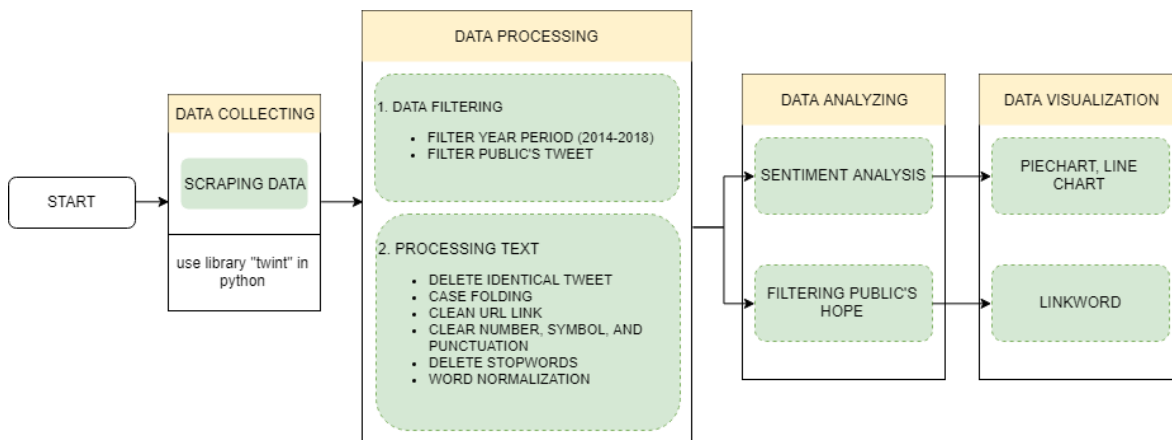

Fig. 1. Flowchart Research

Figure 1 show the flowchart of this research. In accordance with the image, the methodology that will be applied in this research are methods of data collection, data processing methods, and methods of analysis. The method of analysis used to analyze the community's response to this research is the method of analysis of sentiment and descriptive analysis of the word issue or known as the linkword. Linkword (Word network) is a visualization used to perform a paired word analysis to better understand which words are most commonly used together. In this research, the ticker lines in the linkword show that more pairs of words are used.

 A. Data Collection methods

Research conducted using Twitter data on poverty alleviation policy in Indonesia, in particular: BEKERJA Program, Padat Karya Tunai Program, and Program Keluarga Harapan. Source data is processed from all Twitter users whose tweets are related to that policy. The researcher collected data with web scraping method using Python application and scraping tool of "Twint"[9] with the following hashtag as shown in table I.

Table I. Government programs along with the hashtag used

Program	Hashtag
BEKERJA Program	#Bekerja, #bedahkemiskinanrakyatsejahtera, #pertanianbedahkemiskinan, #pertanianbekerja, #petanisejahtera #inovasitiadahenti #kawalpetani #petanikita #pertanianbekerja, #petanikita, #pertanianindonesia, #sobatani, #sobat pangan *(#Work, #Povertysurgeryprosperouspeople, #agriculturalsurgicalpoverty, #Farmingwork, #prosperousfarmer #EndlessInnovations #takecareoffarmers, #ourfarmers #Farmingwork, # IndonesianAgriculture, #farmersfriend, #Foodsfriend)*

[9] OSINT Team. (2018). Twintproject TWINT - Twitter Intelligence Tool. Github. Retrieved 20 December 2018 at 10.14 via https://github.com/twintproject/twint.

Padat Karya Tunai Program *(Solid Cash Work Program)*	#padatkarya #danadesa #mulaidaridesa #manfaatdanadesa #padatkaryatunai #daridesauntukindonesia #pendampingdesa *(#SollidWorks #Villagefunds #Startingfromvillage #Benefitofvillagefunds #SolidCashWorks #FromthevillagetoIndonesia #VillageEscort)*
Program Keluarga Harapan (PKH) *(Famiky Hope Program)*	#programkeluargaharapan #bansos #kemiskinan #pkh #pkh2018, #PengentasanKemiskinan #ProgramKeluargaHarapan, Program Keluarga Harapan, Bantuan sosial, Pengentasan Kemiskinan *(#familyhopeprogram #socialassistance #poverty #pkh #pkh2018, #povertyreduction #FamilyHomePorgram, Family Hope Program, Social Assistance, Social Assistance)*

The tweet data is collected from the range of 1 January 2014 until 31 December 2018. Data accumulated as much as 288,629 tweets, with details of the number of tweets accumulated in each program, as many as 25,629 tweets for BEKERJA program, 142,360 tweets of Padat Karya Tunai Program, and 120,640 tweets of Program Keluarga Harapan. The method to collecting Twitter data with the Python program using the "twint" scraping tool installed. The next step includes the appropriate search keyword hashtag program, with the format: "Twint -s hashtag -o file.csv –csv". From the scraping tool, the data will be stored automatically in a Comma Separated Value (CSV) format. The variables of the Twitter data are, "id", "conversation_id", "Created_at", "date", "Time", "timezone", "user_id", "username", "name", "Place", "tweet", "mentions", "URLs", "photos", "Replies_count", "Re Tweets_count", "Likes_count", "location", "hashtags", "link", "Retweet", "Quote_url".

B. Data Processing methods

Next stage after data collection is data screening (filtering data) and preprocessing text with the following steps.
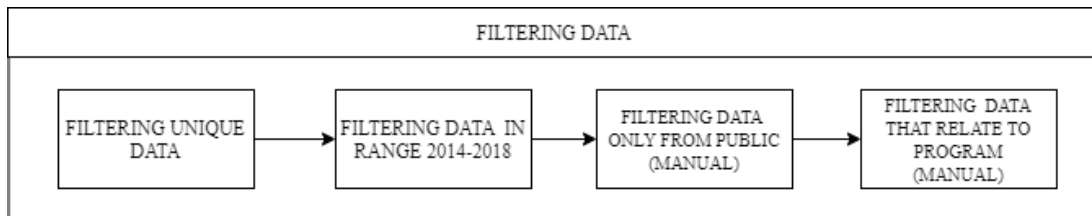
1) Filtering data

Fig 2. Step for filtering data

In the filtering data, data selection is used to drop for a unique data, year filter, custom public tweet filter related to this poverty alleviation program, and filter according to related programs. All the steps are shown in figure 2 above. When researchers filter data to ensure that public tweet data and tweet data are appropriate to the program, researchers check all the data in manual way. After researchers filtered twitter data, the remaining of twitter data is 184,591 tweets that consisting of 7,381 tweets from BEKERJA program, 119,530 tweets on Padat Karya Tunai Program, and 57,680 tweets from Program Keluarga Harapan.

2) Preprocessing text

The next step is preprocessing the text. This step is to eliminate or correct the data that is less appropriate and not ready for analysis. Figure 3 show the flowchart of preprocessing text along with descriptions of these stages are.
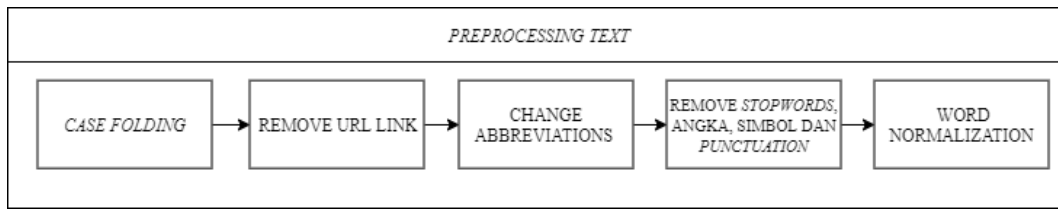
Fig 31. Steps of preprocessing text

1. Doing case folding is to disperse each text to non-capitalized letters using "tolower" and replace the mistyped words.
2. Remove all URL links, namely, links beginning with "https", "http", and "pic. Twitter".
3. Removes symbols, numbers, and punctuation, such as: ' ~! @ # $% ^ & * () _ + = { } [] \ |:; "' < >,.
4. Remove the word stopwords in the tweet text.
5. Change the word with regional language or slank language to be a formal word (normalizing word) Using API form Pujangga[10].

The example of a sentence changes before and after the preprocessing text is on figure 4 below. Case folding in the image has been done, removing numbers, symbols, and punctuation. The next step is that this process is normalizing the word.
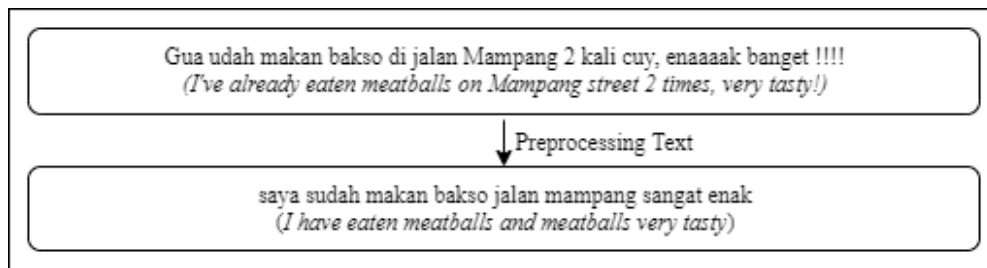

Fig. 4. Example of Preprocessing Text

C.   Data Analysis Methods

The analysis methods of this study are use sentiment analysis and descriptive analysis such as, line chart visualizations to descriptive overall tweet data, pie chart, and line chart for each program for visualizations of sentiment analysis, and linkword for visualization of the public's hope that found in the tweet data. In this research, we used weighting method to calculate sentiment score in sentence. In contrast, this method has limitation that we can't know the performance of this sentiment classification. The steps are done in conducting the following analysis and visualization.

Table II. Example to Calculate Sentiment Scoring

SENTENCE				SCORE
BAKSO (meatball's)	ITU	RASANYA (taste)	PAHIT (is bitter)	-1
0	0	0	-1	
PERTUNJUKAN (football's show)	SEPAKBOLA	TADI MALAM (last night)	BAGUS (was great)	+1
0	0	0	+1	

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[10] Panggi Libersa Jasri Akadol. (2017). Pujangga Indonesian Natural Language Processing REST API. Github. Retrieved 12 January 2019 at 11.37 via https://github.com/panggi/pujangga.

1. The sentiment data classification uses the manual weighted method of each word based on the lexicon dictionary[11]. So, it can be known to negative, neutral, and positive sentiments. If the summation result is less than one (< 1) then the tweet is classified as negative sentiment, if equal to zero (0) is classified neutral, and if more than one (> 1) then the tweet is classified as positive sentiments, as in table II.

2. After a classification of each tweet's sentiment data, it is followed by visualization using pie chart and line chart data from each government program. So, it can be known how the sentiment progress of each program every month.

3. Before creating a word network (linkword), tokenizing and merging words are needed. The steps are tokenizing the tweet data. Tokenization is done to break four words, and then for the second to fourth word is merged again. The first word is still separate selection of words that specifically "hope" words. So that the data can be classified that means public's hope to government program.

4. Then the final step is to visualize that sentence of public's hope using linkword.
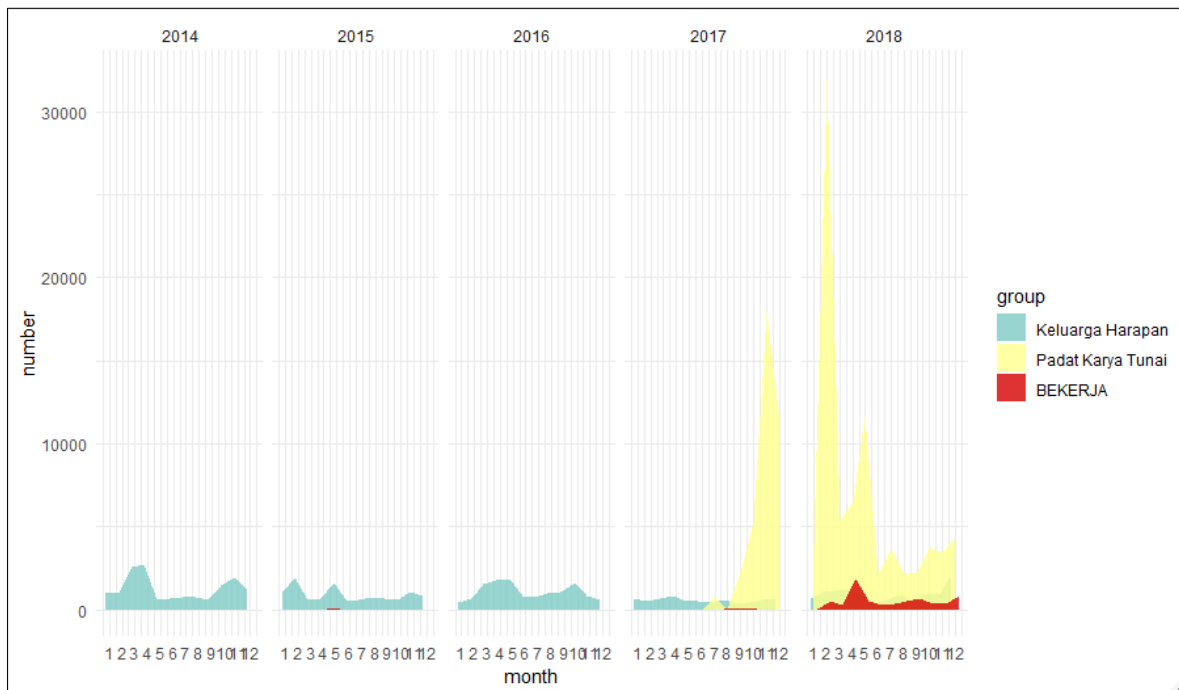
IV. RESULTS AND DISCUSSION

Fig 5. Line chart of the number of public tweets on three programs of poverty reduction Indonesia period 2014-2018

When government programs launched into the public, inevitably get a response from the public itself, will the public respond by accepting, ordinary, or even refusing. As Swastyasti P stated, the existence of different interests in the public will have an impact on the public response to a government program[12]. If differences in interests are a natural thing in a society, then this will also relate to a reasonableness of a positive or negative response to a policy that is presented to the public itself. Therefore, to see the public response to the policy, sentiment analysis was formed to see public opinion on the government's program, especially in these three poverty reduction programs.

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[11] Manan Shah. (2018). SentR. Github. Retrieved 20 Februari 2019 10.44 at https://github.com/mananshah99/sentR/blob/master/R/classify.R.

[12] Swastyasti P .(2015). Anatomi Konflik Kebijakan Penambangan Pasir Besi Di Pesisir Selatan Kabupaten Kulon Progo[Skripsi]. Yogyakarta : Universitas Gadjah Mada.

The number of public tweets based on figure 5 that respond to the three programs is very volatile. This is because every launch of the government's work program is different. In the BEKERJA Program, this program is launched by the Ministry of Agriculture in May 2018, such as news from the Ministry of Agriculture website, Agriculture Minister Andi Amran Sulaiman launched the People's Poverty surgery program in the hamlet of Karangrejo Kaliwungu village, Tempeh subdistrict, Lumajang Regency, East Java[13]. This shows the public enthusiasm when responding to the launch of the government program. Unlike other poverty alleviation programs, this program is still not much in response by the public, because it is still a new program and the target that receives the program from this Ministry of Agriculture is among the families who have an agricultural that is in the category of pre-prosperous or poor households.

The graph of the figure 5 also shows the enthusiasm of the public response to the other program, namely the Padat Karya Tunai program. This Program is part of the utilization of village funds to optimize the resources in the related villages so that the bias improves the welfare of the associated villages. The Program was launched by the Ministry of village, Regional Development and transmigration in early 2018, exactly in January 2018. Figure 5 shows in January-February 2018 many tweets from the public about this government program. Many public responses to this policy because the objectives of this program are all villages throughout Indonesia, so that in line with the number of tweets above about this program more than other programs.

The program from the social ministry is Program Keluarga Harapan (PKH). This program is a continuation of the previous government, different in its application to the community, so the graphs on the program tend to be flat for the number of tweets from the beginning of 2014 until the end of 2018. The program increased in the early 2014 because the new presidential turnover occurred and for the implementation of the family program. This hope is slightly changed. Here is more obvious exposure related to public response analysis of each government program.

A. Bedah Kemiskinan Rakyat Sejahtera (BEKERJA) Program

BEKERJA program is a special program for the aid of agricultural activities. The Ministry of Agriculture is solely responsible for the program. BEKERJA Program aims at alleviating poverty and empowering the poor to increase revenue and prosperity through integrated agricultural activities. Public opinion about the program is dominated by neutral opinions and positive opinions.
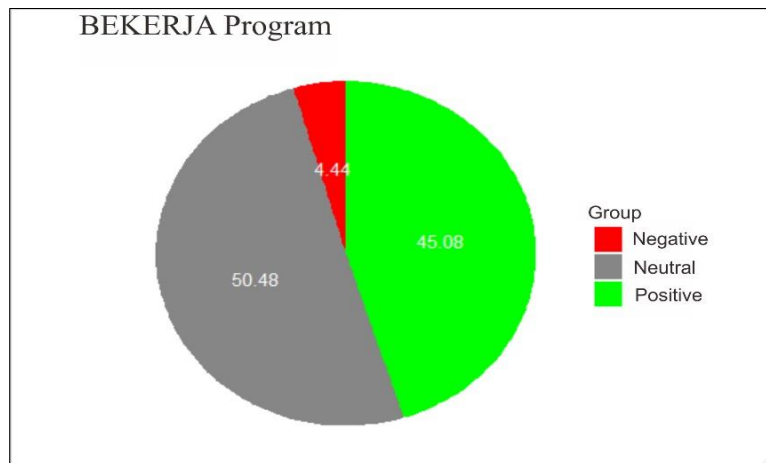

Fig. 6. Pie chart public opinion percentage related BEKERJA
program period 2014-2018

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[13] Ministry of Agriculture. http://www.pertanian.go.id/home/?show=news&act=view&id=3209. Accessed 07 June 2019.
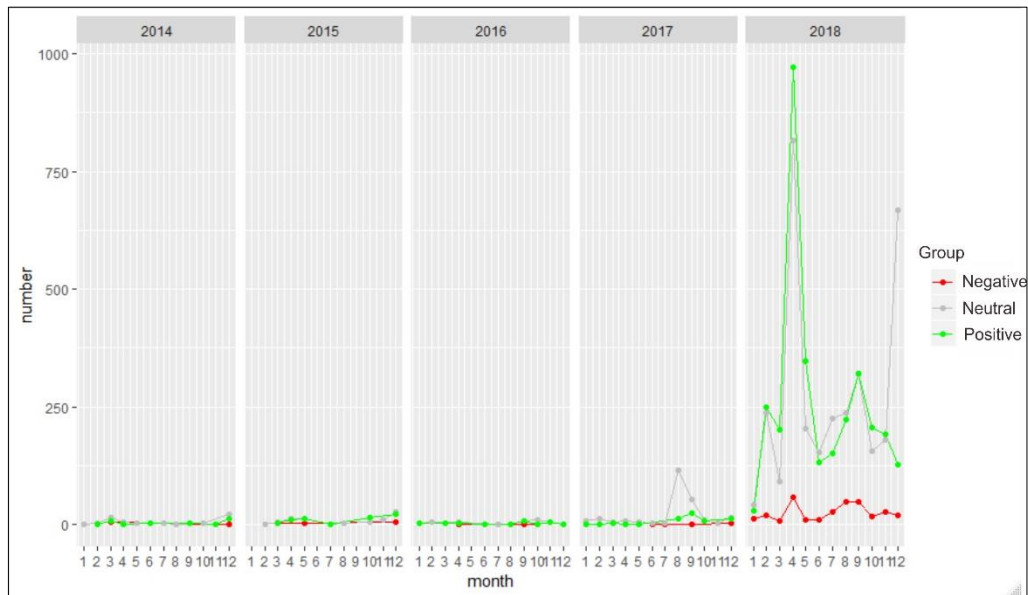
Fig. 7. trends of public opinion related BEKERJA program period 2014-2018

Figure 6 shows about pie chart of public opinion about the program. In general, public opinion is neutral and positive, which is 50.48 percent and 45.08 percent, so most of the public receives this BEKERJA program. But there are 4.44 percent of public opinion that criticize or disagrees with the existence of this BEKERJA program. From the percentage of public opinion of this program, in the figure 7 can be seen about the trend of each public opinion on this program.

Here's a sample tweet with a neutral sentiment/opinion, "*Distribusi pakan ayam #Bekerja Didesa tanjung sari kecamatan lempuing jaya. Walau dalam hujan, dgn kondisi jalan yg luar biasa kami terus #Bekerja. #bedahkemiskinanrakyatsejahtera #distribusipakan #Lempuingjaya #Kab #OKI (Distribution of chicken feed #Bekerja village Tanjung Sari Lempuing Jaya District. Although in the rain, with the condition of the extraordinary road we continue to #Bekerja. #bedahkemiskinanrakyatsejahtera #distribusipakan #Lempuingjaya #Kab #OKI)*".

Positive opinions of tweet domination were from the public who felt the aid, or the executor of the program had implemented the program. An example is, "*Alhamdulillah pembangunan pertanian Indonesia tetap "on the right track" mewujudkan kedaulatan pangan dan meningkatkan kesejahteraan #PetaniKita..mari kita sama-sama #Bekerja #KawalPetani wujudkan pertanian yang maju dan menyejahterakan (Alhamdulillah Indonesia's agricultural development remains "on the right track" realizing food sovereignty and improving the welfare of #PetaniKita.. Let us be equally #Bekerja #KawalPetani realize a flourishing and healthable farm.)*" Examples of tweets with negative opinions about the BEKERJA program are as follows as table III.

Table III. Public tweets with negative response to the BEKERJA program

No	Tweet
1	apa tidak ada upaya pemerintah utk menaikkan harga karet/getah rakyat yang terus menurun, di tempat kami umumnya petani karet semakin susah. tolong naikkan harga getah rakyat @kementan #Bekerja #PertanianBedahKemiskinan (*isn't there government effort to raise the price of rubber/SAP people who continue to decline, in our place generally the rubber farmers increasingly difficult. Please raise the price of rubber people @kementan #Bekerja #PertanianBedahKemiskinan*)
2	Bertani di Lahan Bekas #Tambang	Lahan bekas #Tambang merupakan lahan yang sangat kritis dan hampir tidak mungkin dapat untuk dapat dimanfaatkan untuk lahan #Pertanian....	#Incagri #IndonesiaCintaAgribisnis #PertanianIndonesia #Reklamasi	

	http://incagri.com/read/1602/artikel/bertani-di-lahan-bekas-tambang.html pic.twitter.com/HMLZ9GjQoC (*Farm in used Land #Tambang | Used Land #Tambang is a very critical land and it is almost impossible to be used for land #Pertanian.... | #Incagri #IndonesiaCintaAgribisnis #PertanianIndonesia #Reklamasi | http://incagri.com/read/1602/artikel/bertani-di-lahan-bekas-tambang.html pic.twitter.com/HMLZ9GjQoC*)
3	Pagi #SobaTani Kementan Tindak Tegas Penangkar dan Pengedar Benih Bawang Putih Palsu Kementerian Pertanian melaui Direktorat Jenderal Hortikultura menegaskan akan menindak tegas benih bawang putih palsu yang meresahkan masyarakat... Selengkapnya di https://www.facebook.com/187044225215004/posts/289428894976536/ pic.tTl3VHR (*Morning #SobaTani Kementan strict follow-up of 'Penangkar' and garlic distributor The Ministry of Agriculture has been through the Directorate General of Horticultural asserted to crack down on a firm of false garlic seeds that unsettling the community... Read more at https://www.facebook.com/187044225215004/posts/289428894976536/ pic.twitter.com/961tTl3VHR*)

Among the examples of tweets with negative opinions above indicate the problem of public disappointment and criticism of the program, which is a matter of the lack of market price control that must be accepted by farmers, which impacts on farmers. Because even if farmers get this help, if the commodity price is down, they will still lose. Another example is the problem of rubber selling prices on farmers who go down. This happened in 2018, such as the revelation of Lukman Zakaria, chairman of the Indonesian Rubber Farmer Association (Apkarindo), that the price of the rubber was wrinkle. Said the price of rubber in farmers is still around Rp5,000-Rp 6,000 per kilogram. In the year 2012-2013, rubber price reaches Rp32,000 per kilogram or the least cheap around Rp10,000 per kilogram[14].

Another example of a tweet with a negative opinion regarding the problem in the BEKERJA program is on the quality of agricultural land and related to the counterfeit seed distributor on behalf of the Ministry of Agriculture. Based on examples of problems above, governments should always be able to quickly and responsively Because if a program is not supported with continuous supervision, there will be problems that can harm the community itself.

In addition to criticism from the negative opinions that are publicly expressed, they also give advice and hope regarding the BEKERJA program. Figure 8 Below is the visualization of public's hope and public's advice for the policy of BEKERJA in the form of linkword.

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[14] Maulida, Annisa dan Yudho Winarto. (28 Agustus 2018). Harga karet tengah anjlok dikisaran Rp 7.000 per kilogram. *Kontan.co.id*. Retrieved 14 April 2019 via https://industri.kontan.co.id/news/harga-karet-tengah-anjlok-dikisaran-rp-7000-per-kilogram.
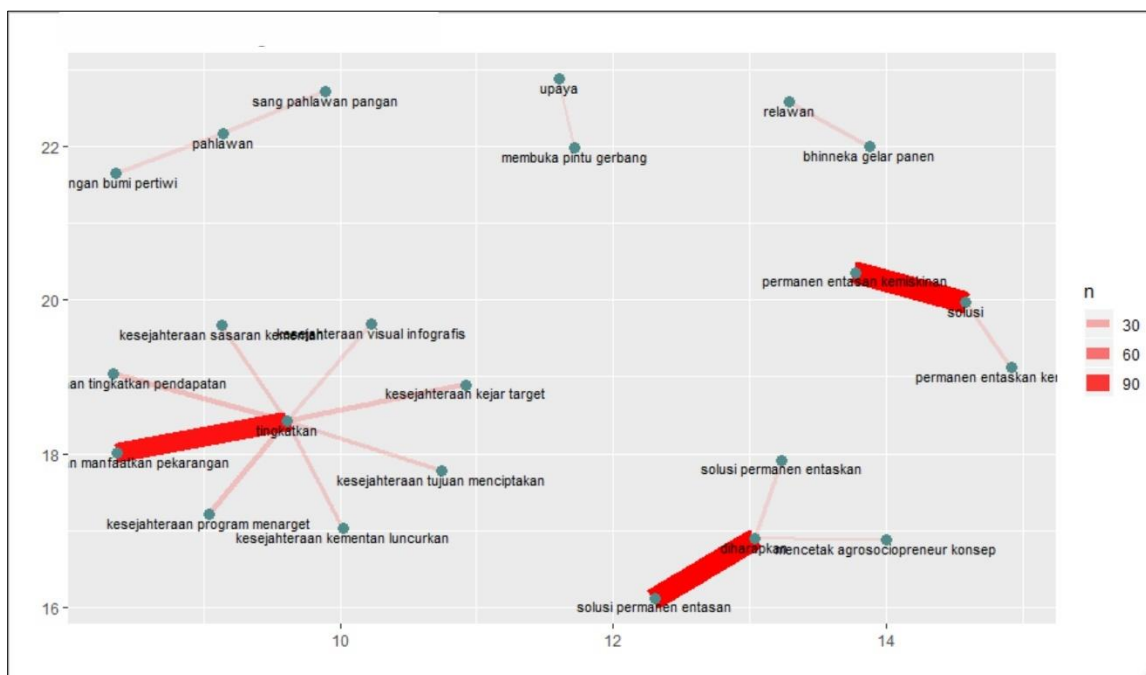
Fig. 8. Linkword BEKERJA Program

Based on the linkword shows that more public's hope than advice of the public. The public's hope related to the BEKERJA program is that the program can alleviate poverty among the farmers, because people with poor categories are more than those of farmers. Figure 8 also shows the public's advice was agricultural land utilization optimally such as the statement of Ashari, because the use of the yard land is aimed to maintain food resistance [14]. So that with the optimization of land utilization is expected to increase the production of the Community agriculture itself.

B. Padat Karya Tunai Program

Padat Karya Tunai Program is one of the programs from the utilization of village funds. Ministry of Villages is a ministry responsible for the implementation of Padat Karya Tunai program. The program aims to target all villages in Indonesia. So all the elements of society could feel and participate in this program. Public response to this program is almost the same as the BEKERJA program, which is dominated by neutral and positive opinions. Based on figure 9, its pie chart about the percentage of public opinion related to this program in period 2014-2018 below. This shows overall the public received this Padat Karya Tunai program. From the percentage from public opinion of this program, in the figure 10 can be seen about the trend of each public opinion on this program.
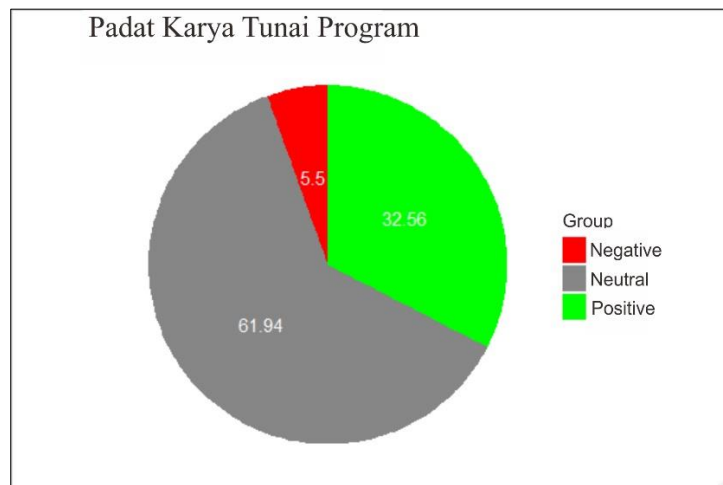
Fig. 9. Pie chart Percentage of Public Opinion about Padat Karya
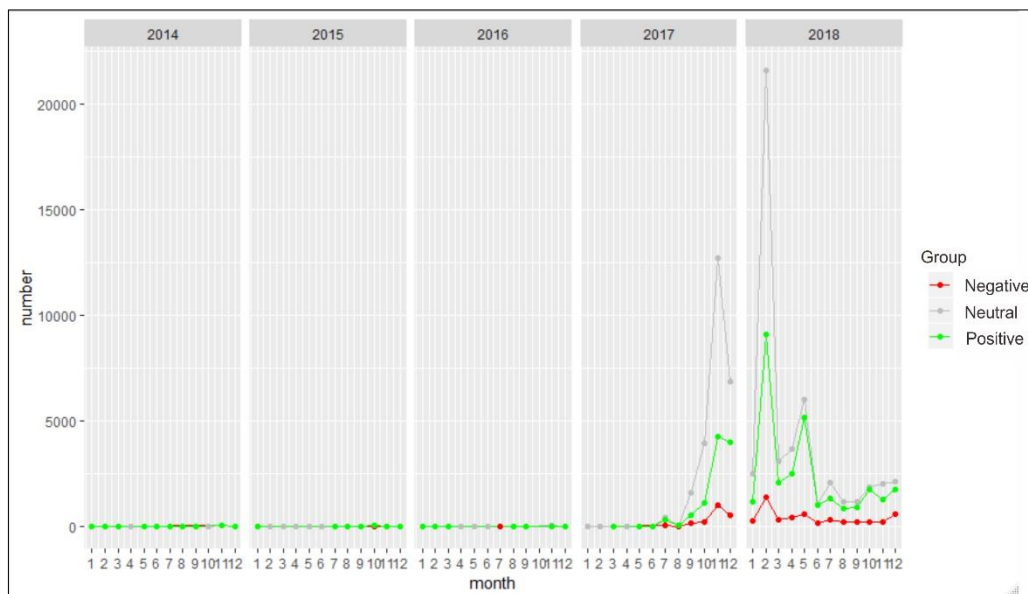Tunai Program period 2014-2018

Fig. 10. Trends of Public Opinion related Padat Karya Tunai Program period 2014-2018

Here is a more detailed example of a tweet with a neutral, positive, and negative opinion about Padat Karya Tunai. The following are neutral opinions about this policy, "*Program Pelatihan komputer bersama Perpustakaan Desa Mutiara ilmu Desa Ciparay Swadaya perpustakaan Desa One of the book to the village #Desabangunindonesia #LiterasiDesa @jokowi @EkoSandjojo @KemenDesa @tppindonesia @dickkewoy pic.twitter.com/MfgWmw8zBq (Computer training Program with library of Mutiara village of Ciparay village in the village library One of the book to the village #Desabangunindonesia #LiterasiDesa @jokowi @EkoSandjojo @KemenDesa @tppindonesia @dickkewoy pic.twitter.com/MfgWmw8zBq)*". Public tweets with positive opinions are dominated by tweets that containing the descripton and congratulations for the implementation of the activities of this program. Examples of tweets with positive opinions are, " *#JokowiMembangunDesa Berkat #danadesa Gedung paud kami sudah bagus dan aman utk anak2 bersekolah,dan kami guru paud diberi peningkatan kapasitas dengan narasumber yg hebat,terima kasih pak #psdnusantara @jokowi @EkoSandjojo @anwsanusi @taufikmadjid71 @fachrilabalado pic.twitter.com/SljIMGOHau (#JokowiMembangunDesa thanks to #danadesa Our building is good and safe for student,, and our teachers are given an increase in capacity with a great resource, thank you sir*

#psdnusantara   @jokowi   @EkoSandjojo   @anwsanusi   @taufikmadjid71   @fachrilabalado pic.twitter.com/SljIMGOHau)"

Then public opinion on Padat Karya Tunai is a tweet with a negative opinion. Percentage of negative opinion for this program is about 5 percent of the total number of public tweets. So, it can be concluded that, there are some public who complained about this program. It is reflected from the public tweet as follow as table IV.

Table IV. Public tweets with negative response to Padat Karya Tunai program

No	Tweet
1	Sangat kental nuansa KORUPSI dibalik #petakumpat distribusi #DANADESA dan #DANAKELURAHAN yg luput dr pantauan. Ini tantangan buat @KPK_RI @KejaksaanRI @DivHumas_Polri namun. @bawaslu_RI @KPU_ID harus tau jg. *(Very thick nuance of CORRUPTION behind the #petakumpat distribution of #DANADESA and #DANAKELURAHAN of the watchful. It's a challenge for @KPK_RI @KejaksaanRI @DivHumas_Polri however. @bawaslu_RI @KPU_ID should know JG.)*
2	Warga Desa Lancang Kuning Protes Ke DPMD-nya Tentang Transparasi Penggunaan Dana Desa http://www.netralnews.com//news/kesra/read/142656/warga-desa-lancang-kuning-protes-ke-dpmd-nya-tentang-transparasi-penggunaan-dana-desa @KemenDesa #Kesra #DanaDesa #Kemendes #JumatBerkah *(Residents of Lancang Kuning village protest into his DPMD about transparency of use of village funds http://www.netralnews.com//news/kesra/read/142656/warga-desa-lancang-kuning-protes-ke-dpmd-nya-tentang-transparasi-penggunaan-dana-desa @KemenDesa #Kesra #DanaDesa #Kemendes #JumatBerkah)*
3	Tolong solusinya untuk para petani agar bisa memanfaatkan Dana Desa untuk kesejahteraan ekonomi. Karena Hama tikus. Hama Jangkrik. Hama krungkong. Dengan apa kita atasi.#ManfaatDanaDesa @EkoSandjojo @MOHAS712 @KemenDesa @jokowi @madjid_taufik @SandjojoCenter pic.twitter.com/QSOr5sRMjB *(Please give solution to the farmers in order to utilize the Village Fund for Economic Welfare. Because of pest rats. Cicada Pest. Pest of Krungkong. By what we overcome. #ManfaatDanaDesa @EkoSandjojo @MOHAS712 @KemenDesa @jokowi @madjid_taufik @SandjojoCenter pic.twitter.com/QSOr5sRMjB)*
4	Nah desa2 tertinggal masih kesulitan menjual produk2nya, jadi bank takut memberi kredit #ManfaatDanaDesa *(Well, villages lags still trouble selling their products, so the bank is afraid to give credit #ManfaatDanaDesa)*

Some tweets with negative opinions show that most problem in this program is corruption, and this program was still lack of transparency of distribution and rural funds, about the difficulties of village entrepreneurs in selling Products. It is like the statement from Egi Primayogha an ICW researcher mentioned that, there are at least 181 cases of corruption of village funds with 184 suspects of corruption and loss value of Rp40.6 billion[15]. As well as the lack of transparency incidents resulted in many village heads being arrested. Financial transparency can be interpreted as delivering financial information to the wider community (residents), in order to government accountability, and financial transparency is a form of disclosure of financial information to public [15]. Therefore, transparency in the use of village funds is indispensable, so that public confidence in the government increases.

In addition to public opinion or sentiment, there are also some advices and public's hope from tweets about Padat Karya Tunai program. Figure 9 Below is a visualization of Linkword of public's hope and advice for this program.

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[15] Ihsanuddin dan Inggried Dwi Wedhaswary. (28 Agustus 2018). ICW: Ada 181 Kasus Korupsi Dana Desa, Rugikan Negara Rp 40,6 Miliar. *Kompas.com*. Retrieved 15 April 2019 via https://nasional.kompas.com/read/2018/11/21/19000481/icw-ada-181-kasus-korupsi-dana-desa-rugikan-negara-rp-406-miliar?page=all.

Fig. 11. Linkword Padat Karya Tunai Program

Based on Figure 11 above, some public's advices are able to increase the purchasing power of people, welfare, economy, and quality of the villagers who receive this assistance. The public also gives some advices to the government should increase the coodination between institutions, to improve service with the community, and always to monitoring this Padat Kaya Tunai Program. The public's hope of this program is to improve Indonesia's economy and make the economy more stable.

C. Program Keluarga Harapan (PKH)

Program Keluarga Harapan is a conditional social assistance program to the beneficiary's family. The goals that can receive this assistance are expectant mothers, children of schooling, disabilities, and elderly people. This program was the longest implemented by the government even before the period of President, but with different method applications.

Figure 12 shows a percentage of public opinion about this Program Keluarga Harapan. Based on that figure, public opinion is dominated by a tweet with a neutral opinion and positive opinion, which amounted to 33.08 percent and 61.5 percent. So, it can be concluded that most public accepted and supported this Program. The program had been implemented by the Indonesian government for a long time, and the program has managed to bring out the poor from the Gulf of poverty. But there are still 5.42 percent of public opinion that criticizes or disagrees with the program. From the percentage of public's opinion of this program, in the figure 13 can be seen about the trend of each public opinion on this program.
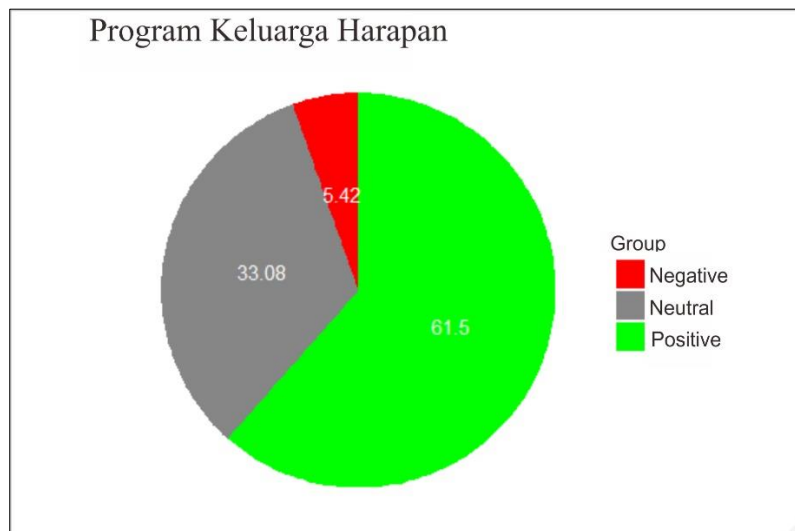
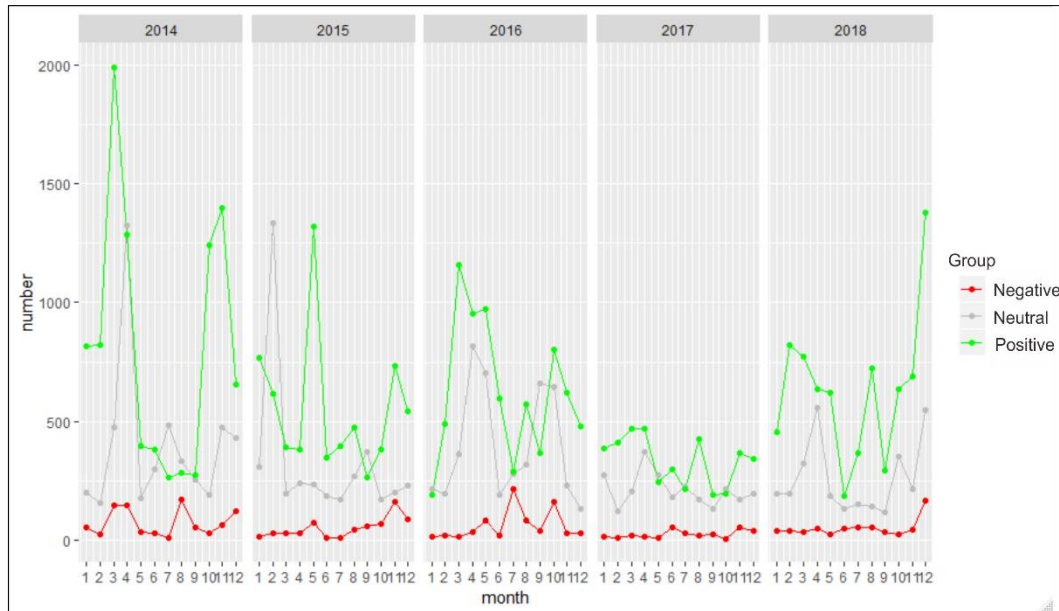Fig 12. Pie chart of Public opinion percentage of PKH program year 2014-2018

Fig 13. Trends of public's opinion related PKH program period 2014-2018

Based on pie chart of percentage of public's opinion about PKH, here are examples of public tweets from all opinions, for neutral opinions on the PKH are, "*Program Keluarga Harapan (PKH) sebagai salah satu kebijakan pemerintah untuk mempercepat pengentasan kemiskinan akan terus berlanjut. https://jokowidodo.app/post/detail/anggaran-program-keluarga-harapan-ditingkatkan* (*Program Keluarga Harapan (PKH) as one of the government's policies to accelerate poverty alleviation will continue. https://jokowidodo.app/post/detail/anggaran-program-keluarga-harapan-ditingkatkan*)". there are examples of positive opinions from public tweets about the PKH are as follows, "*Alhamdulillah! PKH Perbaiki Gizi, Mencerdaskan Bangsa Berasnya beras premium, kata Rubimin. Pemberian bantuan berupa telur dan beras oleh pemerintah bagi Rubimin sangat dia syukuri. Rubimin adalah salah satu dari jutaan orang yang menerima bantuan Program Keluarga Harapan (Alhamdulillah! PKH Improves Nutrition, Educating the Nation "The hardness of premium rice," Rubimin said. Giving assistance in the form of eggs and rice by the government to Rubimin, he was very grateful. Rubimin is one of the millions who received PKH fund)*".

Percentage of the negative opinion about the Program Keluarga Harapan is 5.42 percent of the total number of tweets about the Program, examples of public tweets with negative opinions on this program are as follow as table V.

Table V. Public tweets with negative response to PKH Program

No	Tweet
1	Dampak korupsi g cuma ngerugiin negara, tapi juga masyarakat. Tidak hanya susah akses pelayanan publik, tapi juga pengentasan kemiskinan yg LAMBAT #BaladJokowi #BJM #Jokowi @baladjokowi_id pic.twitter.com/tXRQY0PgXq *(The impact of the corruption isn't only the country, but also the community. Not only difficult to access public services, but also the SLOW poverty alleviation #BaladJokowi #BJM #Jokowi @baladjokowi_id pic.twitter.com/tXRQY0PgXq)*
2	8. Korupsi menghambat efektifitas mobilisasi dan alokasi sumber daya pembangunan bagi pengentasan kemiskinan dan kelaparan *(8. Corruption inhibits the effectiveness of mobilization and allocation of development resources for poverty reduction and hunger)*
3	#Berdalih.. Mengeles.. . Alasan Wajar, Dana Bantuan Sosial..??? Bukan Dana, Bagi Hasil Korupsi..??? . Terbukti Mental Buruk BuSuK ..??????? https://twitter.com/detikcom/status/870496620114132993 *(#Berdalih.. Dodge.. . Reasonable reasons, social assistance fund..??? Non-fund, share corruption..??? . Proven mentally bad Foul..??????? https://twitter.com/detikcom/status/870496620114132993)*

Based on thus table, the most problem occur are corruption, it becomes the word that often appears in this program. This is reflected in some of the negative public tweets above, the public domination is still lacking in trust with the government, because there are still many corruption practices are conducted by government officials in this program. Another negative opinion of public *tweets* is the slow of service, there are still a famine and slow decline in poverty in Indonesia.

Public's tweets about the PKH are some advice and public's hope. Some examples of those are found in the figure 10 of linkword below.
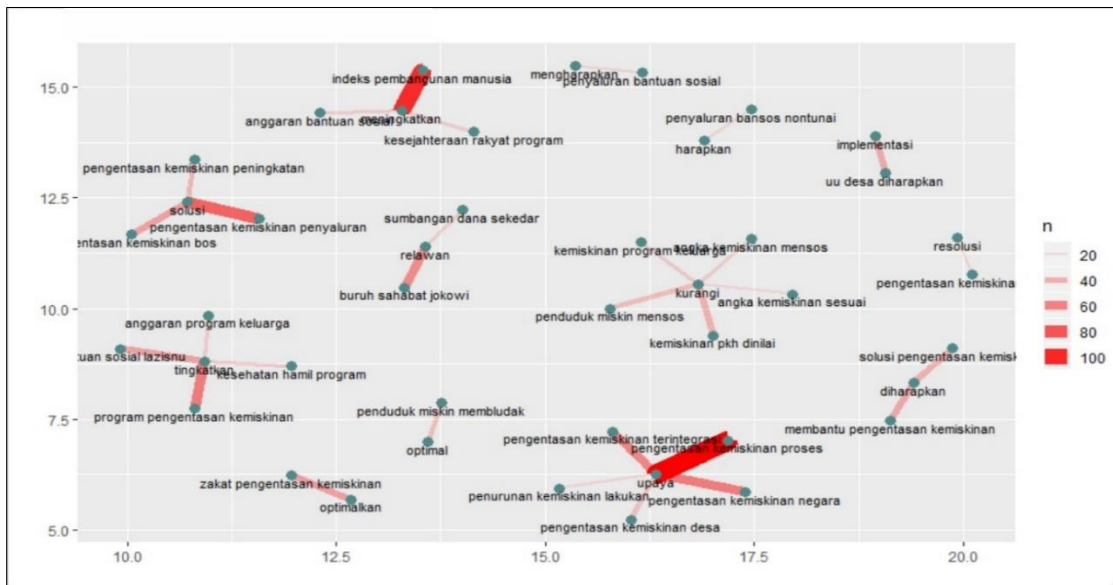

Fig. 14. Linkword about PKH

Based on figure 14, linkword of PKH above shows that public tweets are dominated by public's hope for the program. Some examples of public's hope that often arise to this program are government can reduce poverty

in Indonesia effectively, they can improve human development index (HDI), to increase community intimacy, and they improve of productivity community. The public also gives some advice to government that regarding this program, such as, governments are expected to improve and optimize the social assistance budget and eradicate the corruption that occurs.

V. CONCLUSION AND FUTURE WORK

Based on the results of this research, it can be concluded that in general the public response to the poverty alleviation program in Indonesia for the 2014-2018 period are accepted. This can be seen from the conclusions of the three poverty reduction programs launched by the government. There are:

Bedah Kemiskinan Rakyat Sejahtera Program (BEKERJA), public responded to this program are dominated by neutral responses with a percentage of 50.5 percent, and some publics responded positively to this program with a percentage of 45.1 percent. Some of the publics that were not accept this program are 4.4 percent. Public's advice for this program are able to see from negative sentiment because it is a reflection of the problems in this program. There are government need to control the price of agricultural commodities by the relevant ministries and they need periodic supervision by relevant ministries, and they can optimize land with government assistance, because optimalization of land can maintain food security. The public's hope to this program can alleviate poverty among farmers.

Padat Karya Tunai Program, the public responds to this program are dominated by neutral sentiments with a percentage of 61.9 percent and positive sentiment with a percentage of 32.6 percent. In addition, the public response that did not accept to this program was 5.5 percent. Public's advice to this program are able to see from negative sentiment. There are government have to reduce criminal acts of corruption, to increase transparency for using village funds to this program, the government can increase the purchasing power and quality of the people, and the government can improve coordination between government agencies and improve services to the public. Public's hope to this program, it can boost the Indonesian economy and be stable.

Program Keluarga Harapan (PKH), the public responded to this program are dominated by positive sentiments with a percentage of 61.5 percent who accept this program and 31.5 percent with negative sentiments. In addition, there are few people who do not accept this program with a percentage of 4.5 percent. Public's advice to this program is able to see from negative sentiment. There are, the government have to reduce corruption practices in this social assistance fund program, they can improve service and focus more on the problem of poverty, especially by utilizing this program. The public hope to this program will mainly reduce poverty. The public also hope to this program can increase the HDI and productivity of the Indonesian's people.

This research proves that social media can be used to get public responses in the form of criticism, advice, and public's hope toward government programs and it also can be used to evaluation of these programs quickly, and the cost is cheap. For future work, researchers suggest using to use geotagging, so it can be known if there are problems where these locations occur. Another benefit is that the government can see in its entirety on the map of Indonesia which regions accept or reject a government program. Sentiment scoring can be further developed for weighting per word and for compound sentence, so it can be more representative of all Indonesian sentences for all cases.

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