



# A Network of SDGs Actors in Indonesia Analyzes the Hashtag #SDGsDesa on Twitter

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**Abstract.** The Indonesian government has a serious commitment to achieving the Sustainable Development Goals (SDGs). However, achieving the SDGs requires long-term support from various institutions in society, especially grassroots village governments, which have their own agenda. The Indonesian government, in particular the Ministry of Villages, Development of Disadvantaged Regions and Transmigration (MoVDDRT), has launched Village SDGs (SDGs Desa) to accelerate the achievement of SDGs using village funds. On social media, MoVDDRT has created a special hashtag (#SDGsDesa) to influence, inform and raise public support for this program. This paper tries to analyze: (a) what is the message in #SDGsDesa; (b) how #SDGsDesa is connected with other hashtags on social media; and (c) who are the actors related to #SDGsDesa. To answer this question, we collect Twitter data from 2019 to 2022 using the *academictwitter* package and analyze it using the *quanteda* package. We collected 20,000 tweets/observations using the hashtag #SDGsDesa as keywords. Based on this population, we randomly selected 3,452 tweets as a sample. We found that the public campaign with the #SDGDesa hashtag has reached a wide audience, facilitating digital interaction and communication among SDGs multi-stakeholders in open spaces. However, the hashtag #SGDsDesa is only connected with central government institutions, political elites and the MoVDDRT inner circle. The village government did not participate in this campaign due to the phenomenon of the digital divide between government agencies and geographical areas in Indonesia. We propose several recommendations based on these findings.

**Keywords:** Actor network · Campaign · Social Twitter · Village fund

## 1 Introduction

Indonesia has a strong political commitment to contribute to achieving the Sustainable Development Goals (SDGs). This commitment is realized through Presidential Regulation Number 59 of 2017 concerning Implementation of Achieving the Sustainable Development Goals which instructs government agencies to prepare three planning documents: SDGs Road Map, SDGs Action Plan at the national level, and SDGs Action Plan at the provincial level. For the village level, Jokowi chose the Ministry of Villages, Disadvantaged Regions and Transmigration (MoVDDRT) as the leading sector. However,

planning documents alone are not enough to ensure the achievement of SDGs goals in Indonesia. Support from other sectors, especially the market, civil society and the public, is an important contributing factor in accelerating the achievement of the SDGs.

Along with the increase in internet users in Indonesia [1], the government has chosen social media platforms as a channel to convey public messages about SDGs. The adoption of social media in the public sector is not a new phenomenon. However, finding previous research is still under debate. Several studies have shown how social media has a positive contribution to transparency, participation, and citizen co-production [2, 3]. In Indonesia, although the government has produced various social media content to inform the public about government activities, engagement is still low [4]. The government also has structural and cultural barriers when it comes to adopting social media [5]. In Indonesia, these barriers appear as negative content and behavior among social media users [6].

During COVID-19, for example, social media has also played a significant role in facilitating interactions between government and citizens under social distancing policies [11] and supporting decision-making processes [12]. SDGs are very different from COVID-19. The SDGs are not a disaster that quickly grabs people's attention. Even though the contents of the SDGs are related to the daily lives of many people, it cannot be denied that the SDGs are elitist issues, blueprints, or top-down ideas. At the same time, all SDGs stakeholders have their own agenda.

Many researchers have contributed to the SDGs discussion in Indonesia. This research covers many issues such as food [13] (SDG 1), midwifery education [14], traffic accidents [15] (SDG 3), education reform [16] (SDG 4), gender equality [17], child abuse sexuality [18], gender equality in soil science [19] (SDG 5), water and sanitation [20], coffee certification [21] (SDG 6), energy policy [22], electricity consumption [23] (SDG 7), waste management [24] (SDG 12), climate action [25] (SDG 13), fisheries management [26] (SDG 14), sustainable lowland agriculture [27], water management [28] (SDG 15). However, there has been no previous research effort to explain public campaigns on SDGs in Indonesia.

## 1.1 Policy Communication

Policy is a collection of texts, practices and decisions articulated by institutional systems to solve problems involving people in society. Its main function is to bind various policy actors across space and time as they relate to one another, to activities, and to institutions [29]. In the public sector, public policy can be defined as what the government chooses to do or not do [30]. Creating a policy is not a difficult task. Policy actors can follow each step in the decision-making model as recommended by the rational choice approach [31]. If they can't make a final decision, they can remain silent and ignore the problem at hand without deciding. Government without decisions is also a policy. The decision-making process will be easier if a country does not adopt democracy as a system of government. On the other hand, it is not an easy task to communicate a policy to the public. The public is not a homogeneous entity. Following a pluralism approach, the public sphere consists of various individuals and groups seeking to influence policy processes [32].

In short, policy communication can be understood as part of public communication, political communication, and political marketing. It is part of public communication

because policy actors try to send or receive messages from all members of society using mass communication platforms. Policy communication is political communication because it represents power relations between various political actors. Lastly, policy communication is another form of political marketing as it directs public opinion in the desired direction [33]. Policy communication involves the process of how meaning (tacitly and explicitly) is communicated through agency objects, language, and actions that represent policies and social values [34]. Policy communication concerns the communicative elements and processes that create, implement,

The essence of policy communication is persuasion and information. However, in the public sector, government agencies are faced with four major constraints that are typical of policy communication in the public sector: (a) a more complicated and unstable environment; (b) additional legal and formal restrictions; (c) more rigid procedures, and (d) more diverse products and purposes [36]. Each policy is unique because it has a diverse set of stakeholders, processes, institutions, values, meanings, symbols, strengths and contradictions [35].

## 1.2 Social Media

Social media is a set of interactive Internet applications (tools and services) that enable people to interact with others or facilitate the creation, curation, and sharing of user-generated content [37, 38]. Social media is a derivative of Web 2.0 which has main attributes: information is shared, citizens demand services, policies can be negotiated, and governance is shared [39]. The presence of social media changes the way humans consume, produce, distribute and reproduce information. Differences in place and time are no longer the main obstacles for humans to interact, communicate and collaborate with each other. Social media has also changed the way citizens interact with the government and vice versa.

From the perspective of citizens, social media facilitates citizens to influence the electoral process [40, 41], promote online social movements [42–44], political activism [45, 46], civic activism or cyberspace [47–50], online political protests [51–53]. Meanwhile, governments use social media to enhance citizen engagement, collaboration [54, 55], e-government services [56], and institutionalization of new technologies [57], and improve their image in the public eye [58]. The government hopes that social media can produce several results such as accountability, trust, consultation, deliberation, satisfaction, community building, creation of issue networks [59].

According to Mergel & Bretschneider [60], social media adoption in the public sector follows a three-stage process. First, government agencies learn informally how to use social media. Second, the government compiles norms and regulations related to social media. Third, government agencies formalize social media strategies and policies. However, social media adoption is not a linear process. As previous studies have shown, many factors contribute to the adoption of social media in the public sector, for example structural and cultural factors [61], organization (i.e., social media policy, management drive), technology (i.e., perceived benefits and risks, compatibility), and environmental context (ie, citizen demand [62], and social media awareness [63]).

### 1.3 Social Networks

Humans are social creatures. He cannot live alone and needs other people to create a social group or civilization. These interactions create a social world that contains actors (nodes or points) and their relationships (lines or edges or arcs or ties or links) with things (i.e. other people, places, events). The social world is complex because it has millions of people and infinite relationships. Social science scholars use the term network (dots connected by lines) to describe the complexity of the social world [64]. Social network refers to a set of actors and the ties between them [65]. One cannot understand the entire social world without recognizing social networks.

In a social network, each actor is an autonomous unit. Actors and their actions are seen as interdependent rather than independent. Relational lines (connections or edges or arcs) between actors are conduits for the transmission or “flow” of resources (both material and non-material) between actors. When social relations become regular and institutionalized, they produce a structure. The structure of a social network has its environment. This environment provides opportunities or constraints for individual action [65]. In social networks, personal attributes such as gender, religion, income, education, are influenced by the structure of relationships in social networks and vice versa. To understand social networks, experts have developed specific concepts such as centrality (degree, intermediary, proximity).

## 2 Method

This quantitative study uses data from social media, especially Twitter, downloaded with R [68] using the `academictwitter` package [69]. Data was organized, processed and analyzed using the R Studio [70] and `quanteda` [71] packages. Downloaded 20 thousand tweets containing the hashtag #SDGsDesa within three years (2019–2022). We chose 2019 as the starting point because #SDGsDesa was created by the government as a quick response to mitigate COVID-19. In the first stage, we managed to download Twitter data and save it in 87 files with JSON extension. Due to hardware limitations, researchers randomly selected 10 JSON files (3,452 tweets) and imported them into R Studio. We remove duplicate data before analyzing it with the `quanteda` package. Our analysis will focus on the structure of actors and hashtags and exclude message content.

## 3 Results and Discussion

### 3.1 Arrangement

Indonesia is an archipelagic country. Until 2022, Indonesia has 258.5 million inhabitants. This population lives on five main islands: Sumatra, Java, Kalimantan, Sulawesi, Papua, Bali and Nusa. The area of Indonesia reaches 1.9 million km<sup>2</sup>. And is divided into 34 provinces, 514 districts/cities, 7,274 districts, and 83,843 villages. Indonesia is a multi-ethnic nation-state because citizens have a local language, and cultural norms, values, and institutions. However, Muslim and Javanese are the dominant social identities [72]. The Indonesian government adopted social media due to its high internet penetration rate. In 2022, internet users in Indonesia have reached 210,026,769 (77.02%) users. Of these, 98.02% of users access the internet to use social media in their daily lives.



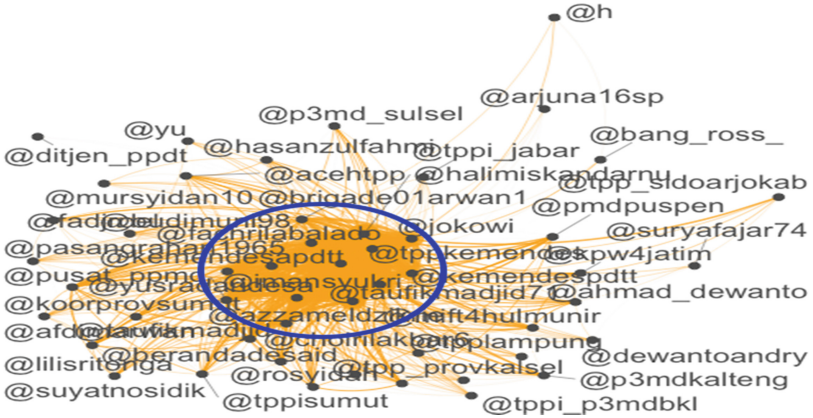


Fig. 2. User network



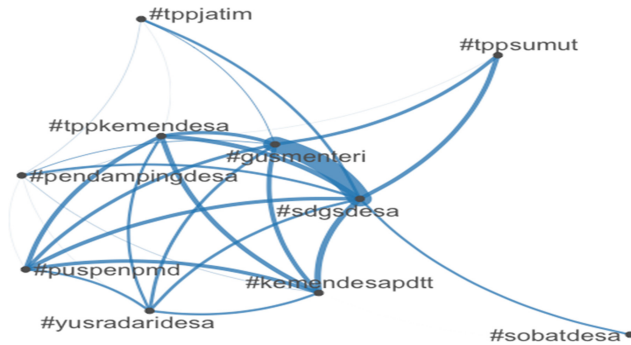
Fig. 3. Hashtag word cloud

The hashtag network confirms that the hashtag #SDGsDesa is still an elitist issue. SDGs campaigns on social media cannot guarantee that the dissemination of messages can reach all citizens who live in different social stratifications and geographical areas. For example, in Fig. 4, only two provinces (East Java/East Java and North Sumatra/North Sumatra) appear and represent geographic attributes. For example, we did not find any hashtags representing village government in Figs. 3 and 4.

### 3.4 Discussion

The Government of Indonesia (RI) has adopted social media to accelerate the achievement of SDGs. They choose social media as a public campaign tool to respond and adapt to socio-environmental changes at the community level. We are of the opinion that SDGs campaigns through social media have reached a wider audience. This campaign has facilitated digital interaction and communication between citizens and SDGs multi-stakeholders. However, various actors representing government agencies are still mayoral players on social media.

Our findings reject previous research which emphasizes how adoption of social media in the public sector in Indonesia does not trigger high engagement [4]. Compared



**Fig. 4.** Hashtags network

to developed countries, such as North America and Europe, the adoption of social media, especially #SDGsDesa on Twitter, also creates co-production [3] and collaboration [2] among the multi-stakeholder SDGs. This co-production and collaboration is demonstrated by the opportunity for citizens to send, reply to, and retweet various types of messages using Twitter without any restrictions.

This study has three limitations. First, the author does not calculate network statistics (user network and hashtag network). Second, this paper also does not analyze the content of Twitter messages in the sample data. Third, we are unable to process all of Twitter's data due to the availability of personal computers to process and analyze big data. As a reminder, we advise other researchers to use laptop workstations when working with big data.

## 4 Conclusion

Based on the research that has been done, it can be concluded that even though the #SDGsDesa hashtag will facilitate digital interaction and communication between various SDGs stakeholders, the role of government actors still dominates the network of actors involved in SDGs conversations on Twitter. The author recommends MoVDDRT to increase village government and villagers to participate in digital communication on #SDGsDesa using the Twitter platform. The government must reduce the digital divide in society, especially in ICT infrastructure in remote areas.

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