Online environmental activism and Internet use in the Indonesian environmental movement

Nanang Indra Kurniawan and Ståle Angen Rye

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Nanang Indra Kurniawan
Gadjah Mada University, Indonesia

Ståle Angen Rye
University of Agder, Norway

Abstract

This article investigates the use of the Internet among Indonesian environmental non-governmental organizations (ENGOs) and how this use influences the mobilizing structure of the environmental movement. The discussion is informed by an explorative study of nineteen Indonesian ENGOs working in the domain of forest protection. The study reveals that the Internet empowers the environmental activism of these organizations by enhancing opportunities for political participation. A main finding in the article is that well-established organizations with well-developed international networks benefit the most from the use of the Internet in their activism. However, smaller organizations with more informal charters seemed to have a better capacity to connect unconnected communities to the global flow of information.

Keywords

non-governmental organizations, civil society, cyber activism, environmental movements, online activism, Internet, forest protection, Indonesia

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A main challenge for democratic environmental governance in Indonesia is how to include the disconnected and marginalized rural populations in the environmental movement.

Introduction

Environmental problems have been a major concern throughout the world, and efforts to enhance the quality of environmental governance have become vital to local, national, and global communities. Various environmental non-governmental organizations (ENGOs) play a significant role in addressing this concern. The rapid development of new digital means of communication is important in this regard. According to Castells (2009), the Internet has become a major organizing and mobilizing tool for environmentalists around the world.

The growing use of the Internet by environmental activists has marked an era of what some have labeled 'online activism' or 'cyberactivism'. This phenomenon refers to a form of social movement that employs digital communication tools to preserve or improve the quality of the environment and increase public awareness of environmental issues (Fu and Chen, 2008; McCaughey and Ayers, 2003; Sguin et al., 1998). This form of activism may include individuals or groups using the Internet to trigger campaigns, co-ordinate action, distribute tactical information, e-mail petitions, and engage in direct lobbying (Pickerill, 2000). Accordingly, the Internet may influence the mobilizing structure of environmental movements and environmental activism. The result, as several researchers suggest,

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Corresponding author:
Ståle Angen Rye, Associate Professor, PhD, University of Agder, Norway, The Faculty of Economics and Social Sciences, Centre for Development Studies, Box 422, NO-4631 Kristiansand, Norway. Phone: þ47 38 14 10 00.
Email: stale.a.rye@uia.no

seems to be that online environmental activism generates increased public involvement in environmental issues and thus contributes to a new approach to environmental governance (Dreling, et al., 2008; Zavestoski and Shulman, 2002)

To further explore this issue, the present article addresses two main questions. Firstly, we ask: how does the use of the Internet influence the mobilizing structure of ENGOs? Secondly, we ask: how do the characteristics of an organization influence the online activism of ENGOs? By addressing these questions, we intend to highlight the role of new communication media in civil society activism and their contribution to public involvement in environmental issues. Our empirical sources include qualitative interviews with Indonesian ENGOs working on issues related to forest protection. Using these data, we elaborate on the influence that the Internet has on the mobilizing structure of environmental activism in Indonesia.

Before examining these empirical sources, we will first present some theoretical considerations regarding the role of the Internet in civil society movements and provide a theoretical framework for studying online environmental activism.

The Internet and online activism

Research on the role of the Internet in civil society and the public sphere is a growing field that has generated excitement about the transformative potential of new information and interactive technologies. For example, Bach and Stark (Bach and Stark, 2004) note that new forms of communication technology will promote an expanded and vibrant civil society because new media for communication enable new forms of representation in a virtual public sphere. Accordingly, they argue that the emergence of the Internet and related interactive technologies will enable fundamental changes in the ways that organizations work. Leeder (2007) follows this argument and suggests that Internet-related technologies have succeeded in enabling civil society organizations (CSOs) to inform, organize, and motivate citizens to act on environmental issues with impressive results.

Other scholars, such as Benkler (2006), Kahn and Kellner (2004) and Mercer (2004), confirm this optimistic view of new communication technology by providing evidence for how the Internet has successfully increased and facilitated freer flows of information between groups in society. Drawing the case of Chine, Tang and Sampson (2012) argue that the Internet facilitates people to collectively shape and even direct conventional news agendas. The result, they argue, is that independent interest groups have been enabled to build coalitions and networks in defence of their common interests. Pickerill (2000) argues that in many cases, it is evident how organizations' political achievements, whether in the form of a change in state legislation or through altering the progress of a given local development, have been realized through the use of new communication technology.

Conversely, researchers have also claimed that the use of the Internet does not necessarily fundamentally change the way that CSOs operate. Bohman (2004), for example, suggests that the Internet may extend the public sphere of civil society without necessarily transforming it. Others emphasize that the digital divide is a significant aspect of online activism and a main factor limiting its potential. Using the digital divide argument, Gurevitch and Blumler (2009) argue that in environments where access to information and communication resources is unequal, new communication technologies are most likely to benefit members of the educated middle-class. In such contexts, the increased importance of the online environment would strengthen the voices of the privileged and leave citizens with limited resources, skills, and confidence reliant upon a narrowing range of mass-media sources for shallow political information (Gurevitch and Blumler, 2009). The established power structures will thus persist, even when new technologies are applied (M. Castells, 2008). Accordingly, as Papacharissi (2002) also notes, regardless of how useful the Internet is to activists and advocators of social change, it is and always will be more useful to the defenders of current power structures. Altogether, the above research seems to support McCaughey and Ayers (2003) who claim that while the idea behind online activism was originally novel and innovative, it quickly become banal and reutilized with limited transformative power.

A third trend that is evident among researchers in this field is to refrain from taking a stance on whether the new technology can create change in civil society activism. Researchers have explored the conditions that would be necessary for Internet use to enable change within civil society movements. Bimber (2001), for example, argues that the ability of the Internet to enhance political activism depends on actors' ability to absorb information. Similarly, Earl and Kimport (2011) and Leeder (2007) show that the efficacy of the Internet depends on an organization's ability to use the Internet strategically to make connections between cyberspace and the physical world

as well as organizers' and participants' offline experiences both with social movements and in other fields.

However, in his research on environmental activism in China, Yang (2003) emphasizes the importance of social and political contexts in understanding the role of the Internet within CSOs. He argues that the burden of realizing the democratic potential of the new technologies rests on a strong citizenry equipped with democratic communication infrastructures.

In the case of Indonesia, which is the political context for the empirical sources that we discuss below, we find well-documented evidence in the literature of ENGOs' involvement in various forms of political activism and environmental politics (Nomura, 2007, 2008; Rosyadi, Birner, and Zelelr, 2005; Santoso, 1999). This involvement is evident during both the authoritarian New Order regime and the new democratic era and has mainly been driven by opposition to the uncontrolled growth in deforestation throughout the country (Bryant, 2001; Peluso, 1996). Nonetheless, little academic attention has been given to the role of the Internet in environmental activism and civil society in Indonesia. Research such as that by Hill and Sen (2000, 2005) has, however, shown the ways in which the new media have been important for the political development in Indonesia's nascent democracy. Other authors have revealed how the Internet has been important for the development of Indonesia's civil society (Lim, 2003, 2005; Nugroho, 2008; Nugroho and Tampubolon, 2008). Accordingly, the Internet has likely influenced, by way of ENGOs, environmental policy related to forest protection in Indonesia. The introduction of new communication technology seems to have played a significant role in the country's political development. However, as Internet use in Indonesia is still dominated by members of the urban, educated middle or upper class (APJII, 2008) a main limitation of the political use of the Internet appears to be the unequal access to the technology.

A framework for analyzing online environmental activism

Based on observations of the growing focus of online political activity, Polat (2005) warns that the strong presence of technology may lead us to view the Internet as a form of technology and ignore its information and communication capabilities. Such a focus may imply a type of technological determinism that several theorists on the information society warn against, as it may leave out important perspectives on

social action (Norris, 2001; van Dijk, 2005; van Dijk and Hacker, 2003; Warschauer, 2003a; Warschauer, 2003b). Garrett (2006) follows this argument and suggests that the 'mobilizing structure' should be a main component when exploring the relationship between social movements and new communication technologies (see also Leeder 2007, and Yang 2003).

In this article, we address Polat's (2005) claim by focusing on technology as embedded in the social process. Further, as recommended by Garret (2006), we consider NGOs and their use of the Internet in the context of how such organizations, as a part of the environmental movement, operate in the field of environmental policy. We thus apply a social movement approach to understand the mobilizing structure mechanisms that enable actors to organize and engage in collective action. Here, mobilizing structure refers to the organizational infrastructure that supports a movement internally (McAdam, et al., 1996). Hence, in our analysis, we will discuss Garrett (2006) and show the ways in which information and communication technologies influence involvement and participation levels, contentious activity, and organizational issues related to online activism.

To further identify the influence of the Internet on mobilization structure, we will draw on the work of Vedres, et al. (2005) and their study of the genre forms of online civic associations in Eastern Europe. These authors combine two levels of analysis. First, they explore how organizations represent themselves online by examining what the researchers refer to as 'the technologies of politics'. Second, by charting the characteristic patterns of how particular features are combined, they examine the 'organization of technology' (Vedres, et al., 2005). These two categories appear to be useful in exploring the link between how the technology is organized and how it influences politics. A basic assumption in this regard is that different ways of adapting the Internet will promote different organizational changes. Such differences will in turn lead to variations in an organization's capacity to organize political action (Vedres, et al., 2005).

To understand the organization of technology, we follow Bach and Stark (2002) and take into consideration that a main problem faced by CSOs when using new communication technology is the scarcity of resources, time, and interest for appropriating the new technology. This problem is likely to intensify in the future, as the use of new communication technology is increasingly becoming part of daily life in most organizations (Bach and Stark, 2002). Accordingly,

CSOs will only succeed in organizing new technology if they have strong interests, skilled staff, and the capability to allocate financial resources. Technology only affords certain potential uses, and it is the institutional setting that determines whether these uses are realized (Boczkowski, 2004). However, as noted by Castells (1996, 2008), the Internet and its affiliated communication structures will also change the ways in which organizations operate. Such organizational changes involve financial resources, competencies among staff, culture, and the organizational structure.

Regarding the politics of technology, when analyzing our empirical data, we follow Polat (2005), who shows that the Internet is a multifaceted phenomenon. To avoid a one-dimensional view, Polat outlines three different facets of the Internet. First, the Internet is viewed as an information source that facilitates access to a high volume of information and thus promotes a more informed society. Second, the Internet is a communication medium that has made communication easier, cheaper, faster, and more convenient. Finally, the Internet may open wider virtual public spheres as it provides a platform for rational, critical debate via online issue-based groups, most of which are not geographically bound.

Based on the above discussion, we will now examine Indonesian ENGOs' use of the Internet by first considering the internal organization of the use by applying the following main subcategories: financial resources, specializations, and infrastructure and technology perception and knowledge. This will be followed by analyses of the organizations' Internet use for organizing politics, in which the main subcategories are the Internet as an information source, the Internet as a communication medium, and the Internet as a virtual public sphere. First, however, we will outline several methodological considerations in the next section.

Data and method

This research follows a qualitative research approach. The empirical data used in our discussion were collected through interviews with representatives of Indonesian ENGOs who contend with forest protection efforts. The first step in the data collection was to make a list of relevant Indonesian NGOs. The list was created from data obtained from Cordaid's (2003) Indonesian Peace Building Directory, an NGO directory published by the Indonesian Ministry of Environment (2010), and from an Internet search for the following terms: 'LSM lingkungan' (Environmental NGO) and 'perlindungan hutan' (forest protection). None of these sources provides a complete overview for the ENGO sector in Indonesia, and they all have serious weaknesses. However, by comparing sources from civil society with official registers and registering activity on the Internet, the list likely gives a good overview of the ENGOs in Indonesia.

After evaluating the various sources, we were left with a list of ninety-six Indonesian ENGOs working on issues related to forest protection. Of these organizations, nineteen located in Jakarta, Bogor, and Yogyakarta were selected for semi-structured interviews conducted between July and September of 2009. Jakarta and Bogor were selected because they host most of the national offices of Indonesian NGOs, and Yogyakarta was selected because it is well known for its vibrant NGO environment and hosts several ENGOs with a more local scope. We also sought to obtain variation in the selected organizations in terms of size, years since establishment, type of activism, and use of the Internet. Regarding to the size we categorize the organization into small, medium and big on the basis of capacity of funding, network, and spread.

Initially, the head of each of the selected organizations was targeted for interviews, but in several cases, the task was delegated to someone else responsible for the organization's policy and administration. Nonetheless, all informants had more or less formal positions as representatives of the respective ENGOs. In some cases, however, when interviewing representatives from the smaller organizations, several staff members participated. Interestingly, several considered themselves to be representing their organizations' views in the way that those holding formal positions would. By contrast, in some of the larger organizations, the persons interviewed produced a formal letter verifying that they were permitted to represent their organization's view. Nonetheless, all interviewees were what we refer to as activists, which implies that they were involved in their organization's policy field. They were also staff members in the respective organizations, but they differed from other members of the staff whose main responsibilities were administrative and technical issues.

The interviews were held at the office of each organization, and we followed an interview guide in which the main themes were the internal organization of technology and strategic considerations regarding the use of technology for organizing politics. All interviews were held in Bahasa Indonesia (Indonesian) and translated into English.

The organization of Internet use

In this section, we will present the empirical findings relating to how the investigated ENGOs organized the use of communication technology within their organizations with respect to their forest protection efforts. Based on the previous theoretical discussions, the data from the interviews will be analyzed by looking at four factors of importance for the way the use of the Internet was organized within the ENGOs: financial support, degree of specialization, infrastructure, and technology perception.

Financial support

Based on the published literature, it is clear that limited financial support is a vital issue regarding organizational adoption of Internet use. Maintaining Internet-related technologies typically leads to an increase in expenditures for the organizations (MacKay, Parent, and Gemino, 2004; Ticher, Maison, and Jones, 2002). This view was supported in the interviews with the ENGOs, but the need for financial resources varied. While less established organizations tend to use the Internet for simple purposes, such as browsing, sending e-mails, and managing a small blog or website, the more well-established organizations also use the Internet for more sophisticated functions, such as streaming online TV, e-publications, natural resource and conflict maps, and teleconferencing. When we looked further into the interviewed organizations' financial sources, we identified at least three mechanisms by which Indonesian ENGOs fund their Internet-related activities: annual organizational budgets, donor driven projects, and business projects.

Regarding the annual budget, all of the ENGOs allocated at least some money for the use of the Internet, but the amount depended upon the organization's financial capacity and application of the Internet. The monthly spending among the organizations varied from 150,000 Rupiahs (ca. USD 16) to 2,000,000 Rupiahs (ca. USD 190). Our interviews further showed that the ENGOs with well-developed national and international networks and professionalized organizations tended to allocate more money for Internet use in the annual budget. Among these were some of the large national environmental organizations. A main factor in this trend seems to have been the long-standing co-operation with various international donors who contributed to the organization's annual budget. This backing provided the organization with a strong and stable financial basis. However, smaller ENGOs with weak international connections and greater dependence on various forms of national support also allocated some of their annual budgets for Internet use, but in smaller amounts.

Nonetheless, regardless of spending, all of the ENGOs' representatives expressed that the annual budget was not sufficient to support the use of Internet technology, and extra financial resources acquired through various forms of external funding were necessary. One activist from a network-based ENGO in Yogyakarta said the following:

> It is difficult for us to finance our Internet-based activism merely with the annual budget. We can only allocate a small amount for this. Thanks to the project cooperation with some funding agencies, we can save some money [for Internet use] by manipulating some activity items. This is how we survive with Internet use as well as [. . .] other non-project activities.

The above excerpt shows that running Internet-supported activities was included in the budget proposals for all projects proposed to potential donors. This was also reported to be the case for several of the other interviewed organizations. These practices enabled the ENGOs to maintain their online activities. However, online activism became, to a large extent, a donor-driven activity, which benefited organizations with well-developed international donor networks.

In addition, the demand for a broader use of the Internet also encouraged some ENGOs to search for additional financial resources by instituting fundraising efforts that are typically related to some form of business activities. This phenomenon is exemplified by one of the medium-sized ENGOs that we interviewed. In the interview, the respondent described the organization as being heavily dependent upon the Internet for its activities. This was visible in the organization's active use of its homepage, which included online TV. However, the organization's annual budget only accounted for a small amount of its Internet-based activities. Most of the funding for this portion of their activism was acquired by selling various Internet-related services and computer training, which was based on this organization's environmental activism. As also argued by Kenix (2007), this indicates that the use of the Internet by NGOs may contribute to a commercializing logic within such organizations.

Degree of specialization

The interviews show that several ENGOs organized Internet-related activity as a separate entity, while

others incorporated the Internet as part of all activities. Following Wall (2004) and Bloomfield and Combs (1992), the former can be described as a centralized approach, while the latter can be described as a decentralized approach. Our study shows that compared to the larger organizations, most of the small organizations were more decentralized in the ways in which they organize the use of the Internet. The smaller ENGOs with a somewhat informal structure seemed to expect most activists and staff to manage both substantive and technical matters. A respondent from one such organization stated:

> As social activists [. . .] we know how to use all resources to obtain the goals. We believe that everybody in our organization must be trained not only in understanding and thinking but also acting. All staff are required to have substantive and practical skills, also related to Internet use. [. . .] We do not need special staff to work with the Internet because it is part of our skills.

The interview above demonstrates that this organization, like most of the other well-established and larger ENGOs, decided to centralize the way in which the organization managed the use of the Internet. They were aware that Internet technology is growing rapidly and thus needs to be handled in a professionalized way to keep pace with development. As a result, specialization of tasks related to Internet use became important and was conducted with some degree of professionalization associated with their activism. The activists in such well-established organizations, including the one referred to above, were assigned to work on substantive issues while technical members of staff handled online activities within a separate department or designated group of people. Such units were mainly concerned with technical activities, such as designing web pages, maintaining hardware and software, and handling other technical problems. The supply of information and substantive content on environmental issues were, however, still managed by activists who specialized in specific substantial maters.

Infrastructure

The interviews revealed that the availability of infrastructure for the ENGOs varied considerably within the investigated organizations due to their different financial capacities. This variation was seen in terms of hardware (such as access to laptops), software (access necessary software) and connections to Internet. A representative from a well-established ENGO explained the infrastructure situation as follows:

> It is important to ensure that the new technology will help us to provide our activists and staff with information and knowledge needed for environmental activism. The organization must support them by providing computers or notebooks. At our office we [therefore] provide high-speed Internet connection [. . .] to get better access to all Internet sources.

Like other well-established ENGOs with developed international networks and a specialized organization, the organization mentioned above seems to have developed an effective Internet-related infrastructure in terms of its quality and quantity. Most of these organizations provided their staff with personal workstations when working on matters related to the organization's main tasks.

Other organizations explained their dependency on good infrastructure not only in terms of computer and Internet access for their activists and staff but also in terms of their struggle to prevent outside threats, such as hacking and viruses. The director of a newly established ENGO with high focus on the Internet stated:

> Our organization relies highly on the Internet because most activisms today are Internet based-activisms. Therefore, we have to do everything possible to secure our website and Internet network. [. . .]. It is expensive, but we have to.

The excerpt above depicts a smaller ENGO struggling with its infrastructure. One way of solving the problem of infrastructure was to encourage individuals to bring their own Internet-ready devices to the workplace. As the above excerpt shows, however, such methods of organizing infrastructure created several problems, such as those related to viruses and security and maintenance for software and hardware.

Technology perception

The published literature often discusses how the introduction of communication technology in organizations is related to a culturally influenced perception of the technology (Walsham, 1995, 2002). Our interviews revealed that the studied organizations and individuals within them tended to have conflicting perceptions of how the Internet is and should be used. In the interviews, we identified three main organizational perceptions of Internet use: the Internet as a tool

for activism, the Internet as a part of image building, and the Internet as a source of noise.

First, we found that the majority of activists interviewed said that the Internet was fundamental to their activism. One representative of a medium-sized ENGO in Bogor expressed this issue in the following way:

> Since 1997 we [have been paying] attention to the Internet, as it provides a great resource to influence forest policy. We have developed our website, while at the same time maximized [the use of] e-mail and mailing lists to share ideas among environmental activists. Now, the Internet has become soul of our organization.

The situation described in the above quotation exemplifies how the Internet has become a vital part of ENGOs and has increased their environmental activism capacity.

Second, several of the activists interviewed claimed that the Internet had helped their ENGOs enhance their images as modern organizations, which in turn connected them to a cultural trend. Interestingly, cultural pressures also seem to have pushed them to adapt new technologies for their activism. However, the symbolic value added by the use of the Internet was considered beneficial to their activism. Mercer (2004) made similar observations in her study in Tanzania. She shows that adaptation of information and communication technologies (ICTs) in Tanzanian civil society organizations was also partly influenced by symbolic factors. She argues that NGOs value ICTs because the latter put the former onto the global stage, thereby increasing their chances of securing a donor and ensuring institutional survival.

Third, several activists expressed concern that the Internet had become a burden for the staff and activists who were unfamiliar with this tool. Others considered the Internet to be problematic because it diverted staff members' focus from activism to entertainment. The majority of interviewees said that their staff members and activists tended to spend more time during work hours enjoying different forms of entertainment provided via the Internet, such as social networking, chatting, and using audio and video functions, than they spent focusing on environmental issues. This supports the finding of Shah, et al. (2001) that recreation-oriented Internet use, such as playing online games, visiting chat rooms, and exploring multi-user dungeons, tends to establish users' social interaction online. Consequently, users become alienated from strong interpersonal ties in the offline community, eventually eroding their civic engagement.

The use of the Internet for organizing political action

In the preceding section, we discussed how the use of the Internet was organized within the studied ENGOs. In this section, we focus on how the communication technology was used to organize environmental activism and to achieve the political goals related to forest protection. Following Polat's (2005) systematization of communication technology use, we will apply the three categories to analyze empirical sources. These categories are the Internet as: an information source, a communication medium, and a virtual public sphere.

Information source

All of the ENGO representatives interviewed considered information obtained via the Internet to be essential to their activism. However, the type of information and their use of that information varied considerably among the organizations. The simplest way the ENGOs used the Internet was by searching for relevant information with search engines such as Google. Such searches were primarily conducted to become updated on the general discourse related to forest protection issues, but Internet searches could also concern more specific information, such as gaining insight into various national and local laws and regulations. Others reported that they were searching for individuals or groups engaged in similar issues to those of their own organization as a way to learn about different techniques and strategies of activism.

Whatever their respective uses, a common challenge for all of the interviewed organizations, as illustrated in the excerpt below, was how to disperse the various information obtained on the Internet. One respondent expressed this concern the following way:

> There is always debate among us on how to establish a link between the Internet and local communities. This process will depend on the capacity of the NGOs and their activists to absorb all possible information from the Internet and transform it into organizational resources. It is not easy because we get overloaded and we do not know what to about that. Sometimes we just keep the information in the PC.

The excerpt above demonstrates the problem of disseminating the information found on the Internet to people and local communities who were directly affected by forest problems but did not have access to the Internet. The ENGO referred to in the above quotation tried to handle the issue by recruiting volunteers and training local assistants to communicate information from the Internet to those without proper Internet connections. Other organizations, particularly the smaller ones, saw this issue as one of their main missions. They expressed concern about what some called 'direct political education', which could, as we were told, involve various forms of training and discussion groups. Some of the organizations also dispersed what they had learned via the Internet by publishing conventional bulletins and magazines targeted at local communities with limited or no access to the Internet.

Another interesting issue in the above excerpt is this informant's emphasis on organizational capacity as impacting how organizations applied information obtained from the Internet. However, all of the interviewed organizations were, at least to some extent, able to use the Internet at a basic level. The staff and activists were typically young and had already acquired basic knowledge of the Internet from experiences outside of their organizations. The problem was not gaining information; rather, the problem was applying it. Accordingly, transforming information obtained from the Internet into environmental activism seems to have been complicated and was apparently related to some degree of organizational change.

Some of the well-established ENGOs made more innovative use of information gained from the Internet. In the interviews, we were told that one organization criticized a district government in the Central Kalimantan Province for its spatial planning policy. The organization had disagreed with the content of a spatial planning map drafted by the district government regarding areas suitable for economic activities. The organization used Google Earth to show what they considered to be an accurate interpretation of the situation on the ground and demonstrated that zones designated for economic activities were in fact rainforest areas. This organization not only used information from the Internet but also produced content for the web-based information flow.

In contrast, some of the smaller organizations, such as the one cited in the excerpt above, assessed the efficacy of the Internet as an information source by how the organization was connected to the local community. They saw this way of using the information as the main mechanism for policy change. In this way, the question of applying the Internet to environmental activism became a matter of how the organization was connected to local realities in the areas being deforested. It was not solely a matter of the organization of the Internet as such.

Communication medium

In much of the literature, it is argued that the Internet may expand new channels of communication with the outside world, which can in turn lead to new and more active ways of participating in political processes (Papacharissi, 2002; Polat, 2005). Our findings support this contention. Hence, we will now look at three ways that the organizations used the Internet to connect to the outside world.

First, we learned that the Internet was widely used to develop what Polat (2005) conceptualizes as 'one-to-one dialogue', especially through the use of e-mail, which was frequently used by organizations to communicate with their partners and members. The following quotation from a representative of one of the well-established national ENGOs shows that one of the main reasons for using the Internet was to convey information and coordinate activities on a national and international level:

> We use e-mail to communicate and share information with our international networks. We often send information on forest issues in Indonesia to them. We believe that international communities have strong power to influence our Government. E-mail is very helpful because it makes data and information sharing possible.

According to Castells (2008), the use of the Internet as described above would normally affect the structure of an organization. Such communication will must involve some type of social coordination, which in turn implies negotiations, standardizations, and ultimately, a change in organizational values and politics (Castells, 2008). Nonetheless, our data suggest that the use of the Internet as discussed above does not fundamentally change the organization, but it replaces earlier forms of communication. However, such use of communication technology obviously strengthens these organizations' political work by allowing them to develop closer ties to powerful actors in the national and global arena.

Second, the interviews showed that the Internet enabled Indonesian ENGOs to create what Polat

(2005) describes as 'many people to single agency' through information aggregation using the Internet. For example, in 2005, the organization cited above encouraged national and international actors to put pressure on the Indonesian government to stop illegal logging in Papua. The interviewee said that his organization created an online petition on their website and invited people to sign it. Within six months, the organization received more than 150,000 supporters. This use of the Internet was noted in several of the interviews, particularly for large well-established organizations with a well-developed global network.

Finally, the Internet also seems to have played a significant role in developing what Polat (2005) describes as 'one centre to many' communication. This phenomenon is reflected in the online broadcasting developed by one of the interviewed organizations. A respondent from a newly established organization with well-developed Internet infrastructure stated:

> On our website we use non-conventional content with more pictures and videos. For us, visual and audio-visual content creates more dramatic impression of the problems we want to address. We hope the public will be more aware of the forest problems. The videos and pictures on the website show how bad our forest problem is.

Such broadcasting was also used among other ENGOs for political mobilization related to forest issues. For instance, some of the organizations used the website to send invitations to the general public to join demonstrations against practices such as illegal logging and deforestation elsewhere.

Virtual public sphere

Based on what we were told in the interviews, it seems obvious that the use of the Internet in forest protection efforts among Indonesian ENGOs has created a new space for participation and the exchange of ideas. Mainstream media were, as several of the organizations noted, not particularly visible in campaigns and public deliberations on forest issues in Indonesia. For these ENGOs, the Internet was an alternative arena that opened up a new public sphere relevant to forest protection efforts. One activist explained the situation as follows:

> Can we expect the mass media to be critical to the deforestation if they are owned by businessmen who are involved in the destruction of our forest? I say no.

> We have to find an alternative public sphere. I think the Internet is the answer to that.

One response to the distrust of mainstream media was, as seen in the excerpt above, to develop alternative channels for political deliberation on forest issues (for instance, by establishing an open and interactive forum on the organizations' websites). The organization cited above considered this to be a promising activity and observed that numerous actors of varying statuses have become involved in the debates. Other organizations reported similar experiences when encouraging activists to participate in debates on Facebook, Twitter, and other social networking sites. However, several activists also admitted that it was not always easy to maintain an effective public presence. Several interviewees claimed that membership in online groups and forums seemed to be fluid. The informants explained that if people could easily join online groups, they could also easily leave them.

Another interesting observation from the interviews is that some organizations considered the new online political lifestyle to be problematic. This issue is reflected in the following excerpt:

> We manage a forest protection group on Facebook with more than 100,000 members. Those who are actively involved in the online discussions are mostly environmental activists. The rest are very passive. One day we informed the members that we planned to arrange a rally protesting against illegal logging. On D-Day, there were only few who joined us.

The above excerpt shows that involvement in online environmental politics through social media such as Facebook and Twitter is not always easily converted into tangible political actions. This implies that although some well-established organizations are able to use the Internet actively, the online activism may be disconnected from the offline reality of environmental policy. This situation is also evident by examining who uses the Internet in Indonesia. Although the number of Internet users in the country has reached more than 25 million, this figure accounts for only 10% of the total population. Most of the Internet users are urban, middle or upper class, and educated (APJII, 2008). This fact implies that the large majority of Indonesia's population is excluded from virtual public spaces (Hill and Sen, 2005).

Towards a new environmental activism?

In this article, we have shown that the Indonesian ENGOs that we investigated considered the Internet

and the associated technologies to be important tools for fulfilling various purposes in their environmental activism efforts. In line with several researchers (see Hill and Sen, 2000, 2005; Lim, 2005; Y. Nugroho, 2008), our findings show that communication technology has become significant for Indonesian civil society organizations and plays a role in giving members of civil society a voice.

A closer look at the way in which ENGOs organize the use of the Internet has, however, revealed differences in the organizational adoption of the new technology between the interviewed ENGOs based on their respective financial resources, infrastructure, and specialization. From our data, we identified a group of well-established ENGOs that tended to allocate relatively more resources for Internet use in terms of both annual budget and external activities, such as business projects. These organizations also seemed to have a sufficient organizational capacity to develop separate internal units designated to handle the new communication tools and supply a stable infrastructure accessible for both internal and external communication. The adoption of Internet technology by these ENGOs further contributed to the professionalization of their organizations, which were already characterized by a division of labour.

By contrast, less established, more informal organizations included digital communication tools in all parts of the organization to deal with the challenges of new technology. All activists in these organizations had to do their best to adjust to the new technology by acquiring the necessary knowledge. They had to search for available hardware and software, such as with their private laptops at work. The lines between personal and organizational life were thus blurred in these horizontally organized organizations. These organizations used the Internet, but in less advanced ways.

The next question thus concerns how the use of the Internet influences the ENGOs' activism efforts. In the following sections, based on the previous discussion of empirical data, we will consider three aspects of change in the nature of activism. First, the representatives of all of the organizations indicated that the Internet had benefited their activism efforts, particularly by providing them with easy access to information that was relevant to their work. However, compared to the smaller and less well-established ENGOs, the larger, well-established organizations were able to apply information in a more active way. The well-established ENGOs with specialized organization were not only consumers of information, but they also produced information on

the Internet. This seems to have been possible because of their well-developed organizational and technical infrastructure related to technology adoption. Hence, due to organizational features, the well-established organizations benefited by having the power to influence national and international power holders in the area of environmental policy. Nevertheless, it should be noted that even though the more informal ENGOs were less advanced in their use of the Internet, they made considerable attempts to disseminate some of the information they gained from the Internet to those living in close proximity to the forests that the ENGOs aimed to protect but who were lacking Internet connection. Hence, as Bimber (2001) argued, having access to information on the Internet will not in itself necessarily influence political participation levels significantly. What is more important is the actors' ability to absorb, transform, and use such information.

Second, in terms of network building, there were also some variations between the two main types of organizations. Although the smaller organizations used the Internet frequently to coordinate activities, both internally and through mobilization in political campaigning, the larger organizations seemed to be more active in building networks through the use of the Internet. This networking capacity was visible in the form of established and maintained international networks within NGOs, which Rohrschneider and Dalton (2002) have argued serve as a significant source of environmental activism in developing countries. It should be noted, however, that networking via the Internet seemed to take the form of connections between groups within the politically active population, particularly the urban middle classes and their counterparts, on a global level. Online environmental activism thus had to deal with the 'digital divide' as an internal feature of online activism.

Regarding local communities, the problem of the digital divide raises some interesting questions about representation. Local communities that directly suffer from forest-related problems were, as we have discussed, not well represented by the interviewed organizations' online activism. Instead, their interests were communicated by the ENGOs, which primarily contained members of the urban middle classes. Hence, forest-related problems and online activism became urban and middle class issues rather than local community issues, and those involved in online environmental activism are mostly members of the elite in Indonesian society. Accordingly, it seems that the introduction of the Internet into Indonesian environmental activism

has led to a paradoxical situation that empowers activists and their organizations but at the same time has the potential to exclude and further marginalize those who the organizations aim to represent. Our findings thus confirm Gurevitch and Blumler's (2009) argument that the growing importance of the online environment may serve to strengthen the voices of the privileged, leaving citizens with limited resources and skills.

Finally, in line with the above argument as well as scholars such as Papacharissi (2002), the new public sphere created by the use of the Internet is apparently an exclusive space that primarily benefits the urban and political middle classes rather than the marginalized groups who are probably the most affected by forest degradation and protection efforts. Hence, with regard to the Internet, a main challenge for democratic environmental governance in Indonesia is how to include the disconnected and marginalized rural populations in the environmental movement and new public spaces. Furthermore, the question of representation in digital networks also seems to be an important issue in contexts such as Indonesia. In this respect, it seems that smaller, less professionalized ENGOs may play an important role. Although their technology use is not particularly advanced, their informal, horizontal structure may prove advantageous in engaging disconnected populations who often live in rural areas close to disbudded forest areas. By contrast, larger, well-established organizations seem to have the organizational capacity to represent and connect rural marginalized people to the global policy field.

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About the authors

Nanang Indra Kurniawan is a lecturer and researcher at Department of Politics and Government, Universitas Gadjah Mada, Indonesia. His research focuses on political ecology, environmental governance, civil society, and new media. He has been doing a PhD in Politics at Victoria University since 2011. His project is about politics of environmental knowledge production. Drawing a case of participatory mapping in Central Kalimantan he analyses how participatory mapping redefines and reshapes space and environmental practices. He has master degree from Universitetet i Agder, Norway. Prior to his academic career, he worked as social activist for five years at Institute for

Research and Empowerment (IRE), Yogyakarta. Contact: Gadjah Mada University, Indonesia, The Faculty of Social and Political Sciences, Jl. Socio Yustisia 1, Bulaksumur 55281, Yogyakarta, Indonesia. Email: nanang.indra@ugm.ac.id Phone: þ62 817 277 403.

Ståle Angen Rye, PhD, is an associated professor in human geography at The Norwegian University of Technology and Science (NTNU) where he also gained his PhD. He is presently also affiliated to the Department of Developments Studies at the University of Agder, Norway. Rye's previous research includes various perspectives on Internet use and digital communication in Indonesia and questions about Internet, societal participation and global citizenship among Norwegian young people. Contact: University of Agder, Norway, The Faculty of Economics and Social Sciences, Centre for Development Studies, Box 422, NO-4631 Kristiansand, Norway. Email: stale.a.rye@uia.no Phone: þ47 38 14 10 00.