

NGO Networks and the Future  
of NGO Sustainability in  
Indonesia  
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## Disclaimer

This research was carried out in collaboration with the Government of Australia, but the analysis and findings presented in this paper represent the views of the authors and do not necessarily represent the views of that Government. Any errors are the authors' own.

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## Abbreviations

Bappenas	Badan Perencanaan Pembangunan Nasional   Ministry of National Development Planning
BKKBN	Badan Kependudukan dan Keluarga Berencana Nasional   National Population and Family Planning Board
CSR	Corporate Social Responsibility
DFAT	Department of Foreign Affairs and Trade, Government of Australia
DPR	Dewan Perwakilan Rakyat   People's Representative Council
IGGI	Inter-Governmental Group on Indonesia
INGI	International NGOs Group on Indonesia
INGO	International Non-government Organisations   organisasi nirlaba internasional
IRGSC	Institute of Resource Governance and Social Change
NGO	Non-government organisation
NSSC	National NGO Study and Service Centre
PKBI	Perkumpulan Keluarga Berencana Indonesia   Indonesian Planned Parenthood Association
USAID	United States Agency for International Development
WALHI	Wahana Lingkungan Hidup Indonesia   Indonesian Environmental Forum
YLBHI	Yayasan Lembaga Bantuan Hukum Indonesia   Indonesian Legal Aid Foundation

## Glossary

NGO	Non-government organisations (NGOs) are part of civil society, 'a wide and growing range of non-government and non-market organisations through which people organise themselves to pursue shared interests or values in public life,' according to DFAT's Civil Society Engagement Framework. Civil society organisations are a space through which the public checks the power of the state and market by advocating for justice in social and economic matters, and by addressing social development needs that the state and market do not or cannot address. Membership in civil society organisations is voluntary and organisations are self-governing with any profits turned back into the organisation rather than into the hands of private individuals. Under a level of operations framework, civil society organisations include community-based organisations ( <i>organisasi berbasis masyarakat</i> , CBOs), which operate at a local level and depend on membership contributions to operate, most often in service to those same members. Like the NGO Sector Review (STATT, 2012), this analysis distinguishes NGOs from CBOs by their more complex organisational structure, reliance on paid or voluntary staff, minimum financial base and focus on serving others through direct service, community organising and / or advocacy rather than engaging in self-help.
NGO sector	The NGO sector is the collective of NGOs that operate in a given space. Different NGOs serve different functions and different communities but are affected by the same enabling environment, and thus have common interests and challenges.
National NGO	NGOs whose work covers two or more provinces or cover more than five districts in different areas of the country.
Local NGO	NGOs whose work covers only part of the district or the whole district.

## Abstract

NGOs operate in networks ranging from local to national to international in scale. The shape, nature and strength of these networks will determine the future sustainability of the NGO sector in Indonesia. This brief uses social network analysis to investigate the nature of Indonesian NGO networks as an ecosystem and examine the characteristics of a network based on data from research conducted for the design of the NSSC. The findings indicate that suggest that the stability of NGO networks in Indonesia is still highly dependent on international donor agencies or INGOs. Modelling of scenarios where key hubs were to be taken out of the network structure suggests NGOs would be affected by significant disruption if this were to occur. This analysis suggests that the sustainability of the NGO sector depends on the ability of NGOs to operate in more connected ways. A new imperative to improve 'network capital' of NGOs in Indonesia is necessary and important.

# 1. Introduction

NGOs in Indonesia face a number of challenges that threaten their future sustainability. These challenges include the availability of funding, management of human resources, and the ability to nurture a new generation of NGO leaders. NGOs also need to operate freely without government interference. Furthermore, the NGO sector's success also depends on individual NGOs' capacity to join forces and work together on key social and economic reforms. The sustainability of the NGO sector is inextricably linked to the broader systems of which individual NGOs are a part. For NGOs to continue to affect change they must rely on networks with other NGOs as well as different stakeholders like funders, government agencies, and the private sector.

This brief uses concepts of social network analysis to look at NGOs as a network of living organisms that interact as an ecosystem. Shedding light on the nature of these links and connections between NGOs and other actors in the 'local ecosystem'<sup>1</sup> will help to paint a more complete picture of NGO sustainability in Indonesia. As noted by the United States Agency for International Development (USAID) (2013) research conducted by Root Change (hereinafter USAID, 2013):

*The promise of systems-oriented approach is that it can be used to combine qualitative data about organisational capacity, with a deeper understanding of an organisation's ties and linkages.*

Network analysis can help us to 'fill in the blanks' in understanding structural problems and challenges faced by the NGO sector. We argue that the sustainability of NGOs (as individuals and networked groups) can be predicted by understanding their network characteristics (which are described and defined in Section 2.2 below).

The discussion of challenges that threaten the sustainability of the Indonesian NGO sector is drawn from the findings of extensive mixed-methods research undertaken for the design of the NSSC. The research showed that:

- > There is a 'missing middle' between NGOs at the national and local level (McCarthy and Kirana, 2006; Society for Participatory Research in Asia, 2012; STATT, 2012) and there is a lack of intermediary organisations that channel funds to local NGOs and provide capacity development support for local NGOs.
- > The relationships between NGOs and the private sector are underdeveloped, and NGOs may see the private sector as an adversary due to a perception that the private sector tends to fund projects through its own foundations or direct charity efforts.
- > There is significant variation in the nature and types of relationships between NGOs and government and in general NGOs tend not have institutional relationships with government; rather, networks tend to be based on individual connections.
- > Service delivery NGOs are more likely to work alongside government whereas advocacy NGOs tend to operate at a distance from the government to maintain their independence.
- > NGOs tend to be dependent for funding on international donor agencies and INGOs who play a central role in NGO networks. Among other things, the limited funding available creates an environment of competition amongst NGOs and prohibits greater collaboration.
- > Local NGOs that operate at the city, district or provincial level tend to have a closer relationship with local governments than national NGOs.

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<sup>1</sup> A 'local ecosystem' is the sum of the organisations from civil society, government, and the private sector that participate in everyday development activities. At an organisational level, a network can mean any two or more organisations (such as NGOs) making connection to achieve certain goals (purposively or not). Similarly, USAID defines a local system as 'those interconnected sets of actors – governments, civil society, private sector, universities, individual citizens – that jointly produce a particular development outcome' (USAID, 2014, p. 4).

This brief examines the structure of NGOs networks in Indonesia both at the national and sub-national levels. It will help to develop a more nuanced understanding of the local NGO ecosystem in Indonesia to support the qualitative observations highlighted above. It argues that NGO sustainability in Indonesia is hindered by lack of networks with government, with the private sector, and within the sector itself. It also demonstrates that NGOs are still highly dependent on international donor agencies and INGOs for their budgets.

The rest of the paper will be structured as follows: Section 2 introduces the frameworks and concepts underpinning social networks analysis and explains how it will be applied to Indonesia to demonstrate the challenges to NGO sustainability at a 'national scale'.<sup>2</sup> Section 3 provides an analysis of Indonesian NGO networks including an examination of some smaller NGO ecosystems, which help us to understand NGO networks in more detail. Section 4 looks at a case study of the evolution of an NGO network over time, and then Section 5 examines what would happen in 'network collapse' scenarios modelled from the available data. Section 6 outlines conclusions drawn from the networks analysis and recommendations for Indonesian NGOs and supporters of the NGO sector are set out in Section 7.

## 2. Conceptual Frameworks and Methods

### 1.1. Understanding NGO Networks in Indonesia

The nature of NGO networks in Indonesia today is influenced by the evolution of the NGO sector during the New Order period. There have been some efforts to understand the evolution of the NGO sector in Indonesia in the last 40 to 50 years. Early attempts at studying NGO networks in Indonesia can be attributed to the work of Eldridge (1995) and Hadiwinata (2003).

Hadiwinata (2003) observed that student activists and Indonesian public intellectuals formed organisations to deal with development problems. Hadiwinata argued that back in 1970s, the New Order realised that NGOs were needed because of the government's acknowledged limited capacity to deal with deeply rooted poverty problems. According to Hadiwinata, the government of the day held the perception that that NGOs' interventions could be much more efficient in terms of health care provision and capacity development for poor communities.

Other studies by Ford (2003) and Davis (2007) document the importance of NGOs' transnational links in enabling them to operate effectively in the New Order. The New Order's systematically curtailed the political space for NGOs to establish strong networks. Ford documents how NGOs functioned as outside intellectuals in the New Order – able to affect change by relying on international donor agencies, INGOs and other international partners to share knowledge. Aspinall (2005) provides a detailed account of the nature of NGOs relationship with the government as part of the broader opposition movement. Aspinall documents how NGOs worked closely together and with other opposition groups such as students, unions, intellectuals and mass religious organisations to push for change in a number of high profile campaigns.

A more comprehensive analysis of NGO networks by Nugroho and Tampubolon (2008) examines global civil society dynamics in Indonesia. They suggest four different eras of NGO network evolution in Indonesia. The first period is *authoritarian period* (pre-1995) where they empirically show low density<sup>3</sup> of Indonesian civil society networks, indicating lower connections among Indonesian civil society organisations. The second period is the *transformation period* (1995–1998) where the density of civil society networks in Indonesia increased because NGOs started to self-organise, form coalitions, and increase pressure against the government. Third is the *euphoria period* (soon after the reform during 1999-2002) where network density dramatically increased to more than double the previous period – this occurred because of the 'sudden and massive' widening of political space in

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<sup>2</sup> The term 'national scale' refers to the aggregation of local NGOs in selected regions and selected NGOs in Jakarta.

<sup>3</sup> See the definition of 'network density' in Box 1 in Section 2.2 on NGOs Sustainability Criteria and Key Network Terminology.

Indonesia. The euphoric effect of *Reformasi* led to the phenomenon where ‘underground organisations came to the surface and joined hands with the newly formed civil society groups and organisations’ (Nugroho and Tampubolon 2008). During the *stability period* (2003 and onwards), the density increased to more than triple compared with the authoritarian period, as the political situation had settled down from 2003 onwards (shown by, for example, the successful and peaceful direct general election in 2003).

Despite their analysis showing macro-level changes to the size of the NGO sector and number of connections, Nugroho and Tampubolon’s work does not go beyond those observations to examining challenges related to the sustainability of the NGO sector in Indonesia. Previous studies on regional NGO networks (see Hadiwinata 2003) implied that macro-categorisation of NGO networks may overlook rich information such as the historical formation of regional networks and their complex interplay between civil society components, such as students and NGOs prior to the transition period (1995–1998) and euphoria period (1999–2002). In fact, significant political, social or natural events may influence the (re)formation of NGO networks. For instance, the case of the formation of NGO networks in Aceh following the tsunami 2004 (see Lassa 2015) would be an example of networks developing following a natural disaster. The mushrooming of NGOs following the influx of East Timorese refugees was also observed in West Timor during 1999–2000.

Most of the studies above were done after the fall of Suharto and after decentralisation. However, there is still limited information available to help with understanding NGOs’ relationships with local governments as well as the private sector. While the New Order regime provides historical context for the formation of many of the NGO networks that exist today, the fall of Suharto and the democratisation process that ensued, coupled with the emergence of Indonesia as a lower middle-income country has implications for NGO sustainability in the future.

## 1.2. NGOs Sustainability Criteria and Key Network Terminology

Social network analysis can be a good predictor of sustainability of NGOs. By understanding network characteristics, it is possible to delve deeper into discussions about challenges and opportunities for the sustainability of the NGO sector in Indonesia. A social networks analysis framework can show, among other things: who is a central actor in the network, who is on the periphery, who is an important actor for the NGO, how many connections they have, and so on. Examining the characteristics of organisations through social network analysis can predict the sustainability of NGOs as individual organisations as well as groups within a given network (see Table 1).

Table 1 NGOs Sustainability Criteria

Type	Level of sustainability	Network properties	Remarks
<b>Level of sustainability</b>	High	High connection (or ‘degree’); high betweenness centrality; member of high level k-core	Indicative of active networkers, resource hubs, and brokerage roles; indicative of funding diversification.
	Medium	medium degree; low betweenness centrality; member of modest level k-core	Indicative of actors that potentially need more support.
	Low	Low degree; low degree; zero betweenness centrality; peripheral position	Indicative of vulnerable organisations.
<b>Type of sustainability</b>	Good financial sustainability	High indegree from donors and other financial sources	Indicative of funding diversification.
	Good Social capital	High outdegree; high betweenness centrality	Indicative of active networkers.

**Note:** See definitions of the terminology for network properties set out in Box 1 below.



A basic network map consists of '**links**' and '**dots**' (the latter are also known as '**nodes**'). A network can be visually represented by connecting the dots through **links**. In the NGO context, the dots are an organisational unit (an NGO or another organisational entity such as a private firm, government agency or a donor agency). A 'hub' is a dot / node that has a relatively high number of links and connections within a network. Links represent types of interaction, such as membership of coalitions, knowledge transfer, information sharing, financial transaction, advocacy work, capacity building and so on. To determine these interactions, the networks analysis conducted here examined NGO ecosystems along a number of lines. Further definitions of network terminology are set out in Box 1 below, which provides a summary of the concepts involved in the computer generated network analysis conducted for this study.

Some NGOs play roles as '**resource hubs**'. As discussed in the introductory piece to this research series and in Alawiyah's paper on human resources in the NGO sector, in reality, hubs can be individuals who are leaders within a given NGO, such as lead activists, opinion leaders and sources of subject matter expertise in the network ecosystem that other actors may reach out to for information or consultation. These hubs are intense gatherers of information, and so are often the first to pick up on new trends. In the social network these types of NGOs often have high **degree** and **indegree** (see the definitions in Box 1). Depending on the type of the organisation, some local NGOs are *active networkers* who often serve as promoters and distributors of information and often initiate collaboration across the network. In a network ecosystem, such NGOs often possess high **outdegree** value.

Some NGOs (or as mentioned above, individuals within them) are brokers (of either knowledge or financial resources) – they are in the habit of introducing people and institutions working and living across an array of social, cultural, professional and economic circles. This type of NGO often have many exclusive ties (indicated by high **degree**) to periphery actors and smaller sub-networks, along with ties that directly connect them to central core organisations (including funders such as international donor agencies or INGOs). There are other actors that are weakly connected and this is an indication of lack of sustainability. Such actors are the most disadvantaged by being in a peripheral position in their network. They are hard to reach and weakly connected to high influence NGOs and resource hubs (indicated by low **degree** and **betweenness**).

### Box 1 Key Social Network Analysis Terms

**Network density** is the number of actual connections divided by potential connections within in a network. The potential connection refers to connections or links that could potentially exist between two nodes regardless of whether or not it actually does, while an actual connection is one that actually exists. In a NGOs network ecosystem, the actual connections between NGOs may vary from a few to a hundred percent of all the potential relationships in the network.

**Degree** is a measure of a node or organisation's possession of links or connections with other actors / organisations in a given network. In a directed network, a degree is a sum of *indegree* and *outdegree*. *Indegree* is a measure how many incoming links there are to a dot / node in a given network. *Outdegree* is a measure of outgoing links directed from the NGO to other NGOs. An NGO that has high *outdegree* gives an indication that it is an '**active networker**' and performs better in outreaching to other actors to accomplish a particular project or goal. NGOs with high degree are ones that are more likely to be sustainable because they have better connections to resources (for example, financial, knowledge, information).

**Betweenness centrality** is a measure of an organisation's strategic position as a connector (in the sense of *in-betweenness*) in a network. An NGO with a high *betweenness centrality* is considered as one through which information / knowledge / influence can be better transmitted. It helps us to understand who might play a key role within a network and it can also be seen as another measure of NGOs sustainability. Any NGO can simply possess a high number of incoming or outgoing links. However, that alone does not automatically suggest that it has a strategic position because in a network ecosystem not all nodes are equally important for social change. Some are more important and strategic than others based on their position in the network map.

The strategic position is simply defined by the fact that such NGOs do have potential 'intermediary roles' as it has a unique position to be a bridge between different institutions across a network in a more efficient way.

**A sub-network** helps us to understand smaller groups of NGOs within the broader ecosystem that might form for a particular reason or around a particular theme. It is a subset of the dots / nodes in a network where all of the nodes are: (a) particular node(s). This phenomenon is important in NGO networks because in reality, any group of NGOs can form their own connection within a context of larger network. In this research, there are at least four types of sub-networks, namely **K-core**, **components**, **communities** and **ego-centric networks**.

**A k-core** helps us understand how robust a network or sub-network is and the position of an NGO within a group. It is a type of sub-network, which suggests that each member of a group has ties to other members. The value of  $k$  shows the order and it can be obtained by iteratively removing all nodes which have less than  $k$  connections with other nodes ( $k = 1, 2, \dots$ ). This process is often repeated until we can find the 'core of the core' indicating the  $k$  maximum that the network can produce. If an NGO has ties to a sufficient number of members of a group, they may feel tied to that group – even if they do not know many, or even most, members. This measure is to assess the robustness of a community under degeneracy scenario (Giatsidis, Thilikos, and Vazirgiannis, 2011).

**A component** is a sub-network that is disconnected (separated) from others within the wider network. It detects isolated nodes or groups of nodes that are not connected to the rest of the network. It is an indicator of which organisations are more resilient or sustainable and which ones are very vulnerable.

**A community** is an important concept used to observe sub-networks that may inform how organisations at different levels working on similar issues are connected. For example, within a network component, there can be communities of NGOs that work on forestry and environmental issues, poverty reduction and economic empowerment, demographic and gender issues, and other social exclusion issues.

**An egocentric network** is a sub-network that is centred on certain nodes within the network. This could be a sub-network centred on, for example, certain NGOs in a particular locality (a district or province). This concept helps us to understand a particular organisation in a particular context.

### 1.3. Lifecycle and Evolution of NGO Networks

Social network analysis examines individual relationships in multiple contexts, ranging from families, markets, and politics and so on within a particular time and space. It posits that an organisational network has its own lifecycle. Like humans, social networks 'live and die'; at the same time, they continue to evolve, (re)form and burst. As outlined in the introduction, social networks analysis can trace the nature of a local NGO ecosystem, which has important implications for understanding NGO sustainability.

USAID (2013) proposes a framework to analyse the lifecycle and the evolution of NGO networks. The framework uses a systems approach, looking at the 'NGO networks ecosystem' within four stages of network ecosystem development:

- > The first stage is a *nascent network ecosystem*, where a network is characterised by the existence of a very few NGOs in a particular region supported by very limited number of international donor agencies or INGOs. In a nascent network ecosystem, it is often the case that an interaction between a very few NGOs with the respective funding partners take place as a result of small-scale projects and programs in a particular location. The early hubs in a nascent network ecosystem are often donor agencies or INGOs themselves. This argument is plausible enough because social interaction requires resources that enable different stakeholders and / or parties to interact on a regular basis to achieve certain goals.

- > The second stage is about *transition*. At this stage, it is assumed that the existence of more international donor agencies and INGOs will increase connections or links among NGOs.
- > The third stage is the *mid-life* stage of an NGO network's development. During this stage, hubs emerge, which are likely to be INGOs or other funding organisations, due to their financial resources and role in providing technical assistance. The framework suggests that INGOs / funding organisations will be at the centre of the network because they are sought after by local NGOs. USAID claims that the majority of all ties across the network ecosystem in the developing world may involve international actors. This eventually leads to the condition where INGOs / funding organisations dominate the network structure. More and more NGOs (especially the newcomers) are much more attracted to these hubs rather than to their own local NGO peers. At this stage, it is assumed that a few local NGOs will emerge as hubs. USAID argues that, unfortunately, these hubs will remain subordinates to the older hubs (that is, INGO / funding organisations) as long as INGOs continue to be based on the ground.
- > The fourth stage is the *ageing stage*, where INGOs unintentionally have interactions ranging from program relationships, financial networks as well as information / knowledge. It argues that this development often culminates in a co-dependency situation. The interesting part of this stage is that it is near the end of INGOs' relevancy: as network density increases, it may adopt homogenous approaches that lead to a situation where an ageing network ecosystem neither easily integrates nor innovates with new ideas.

The USAID framework provides a useful reference from which to test the state of different NGO lifecycles in Indonesia. With this in mind, however, it is equally important that we understand that NGO network ecosystems may not grow according to this strict, linear growth model of NGO development. In reality, NGO ecosystems may be somewhere in-between these different phases. The descriptions, however, at least provide a useful guide to assessing Indonesian NGO ecosystems.

### 1.4. Methodology

The networks analysis presented in this brief, which is discussed in more detail in the following sections, examined connections between NGOs in Indonesia at an institutional level. The networks visualisations presented in this brief were generated using the Gephi open sourced software.<sup>4</sup> The data used in this study is based on data about 227 NGOs generated from the mixed-methods research conducted as part of the NSSC design. The research included interviews, focus group discussions, and a survey of NGOs conducted for the NSSC research and design by SurveyMeter in 2014, as well as a review of DFAT engagement with NGOs in Indonesia.<sup>5</sup> The main datasets were collected from the survey of NGOs conducted as part of the NSSC design process. Each NGO was asked about interactions with stakeholders, for a maximum of three 'most important' interactions.<sup>6</sup>

It is important to keep in mind that there are limitations to this data for its use in social network analysis. The research used to inform this analysis was not originally designed to comprehensively map NGO networks. Therefore, readers should be aware that the authors here make no claim that the discussion presented here offers a full representation of NGO networks in Indonesia. However, the analysis still provides important insights, especially on the evolution of NGOs at local levels over time and an assessment of national NGO networks in Indonesia.<sup>7</sup>

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<sup>4</sup> See <https://gephi.org>.

<sup>5</sup> The network data is comprised of 105 local and 42 national NGO network data from the NSSC datasets, in seven districts, and 80 local/national NGOs network data from DFAT review dataset.

<sup>6</sup> The interactions included: interaction with local governments (and/or with governments); interaction with national legislative members; interaction with donors and the private sector; interaction with coalitions and national level NGOs; and interaction with the other local (district or provincial) NGOs.

<sup>7</sup> The research conducted during the design process for the NSSC focused on NGOs in seven sites within four provinces. Further details of the methodology is set out in the first brief in this research series, 'The NGO Sector in Indonesia: Context, Concepts and Challenges' by Megan McGlynn Scanlon and Tuti Alawiyah. The NGOs included in the study were carefully chosen to be able to draw national-level conclusions about the state of the Indonesian NGO sector, but it should be noted that

### 3. Organisational Networks and NGO Sustainability in Indonesia

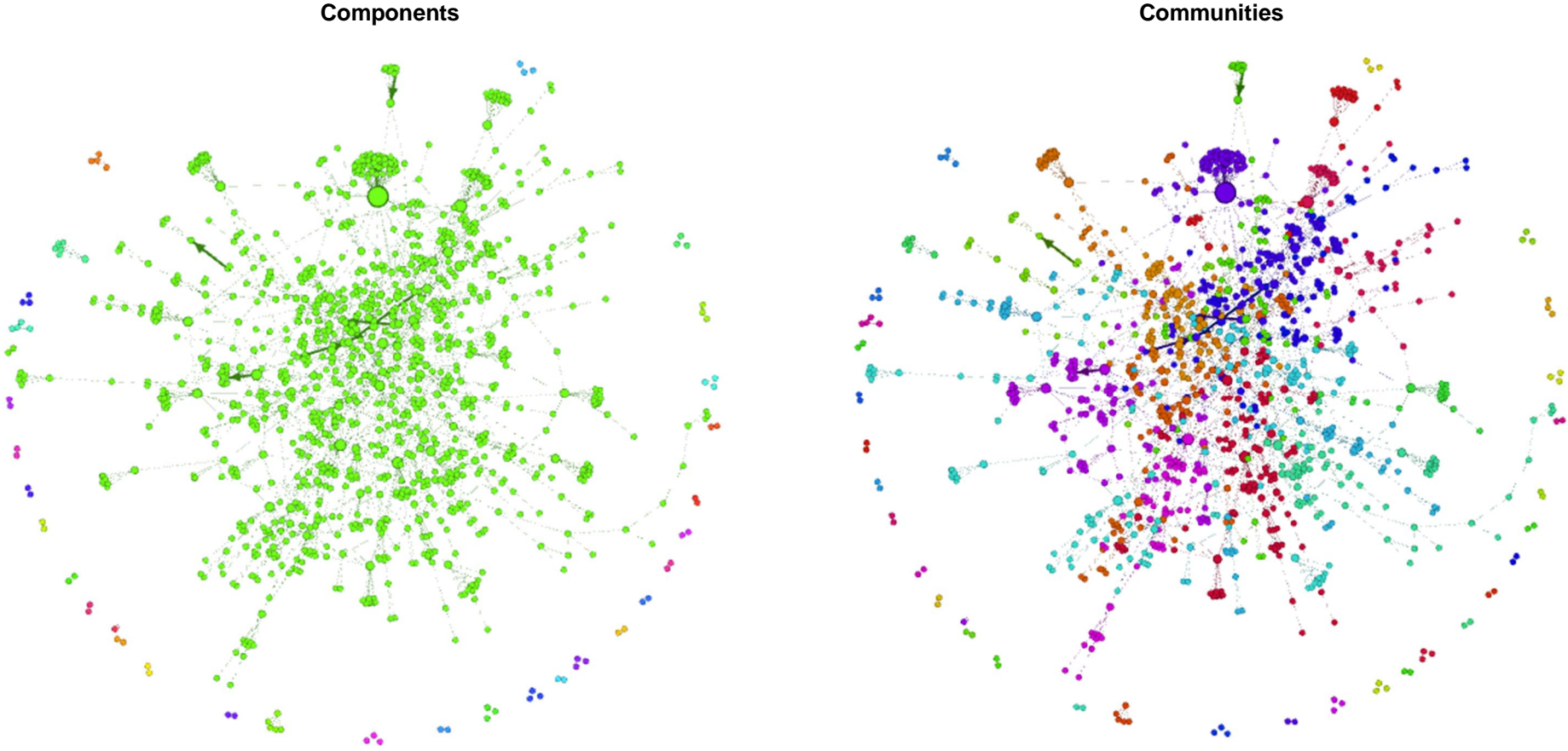
#### 1.1. Visualisation of the NGO Network

The visualisation of the network ecosystem generated through the present study can be seen in Figure 1. In this visualisation, each node (or a dot) is assigned with a colour to represent one type of organisation and the links represent the types of interactions within the network. For example, if a local NGO (red) has a connection to international donor agency (black), then that interaction is defined by the type of the targeted node (or organisation), in this case: 'interaction with international donor'. Likewise, if such a local NGO is linked to local government (coloured purple), the definition of that interaction is simply 'interaction with local government'.

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the places that the data came from will definitely influence aspects of what networks look like, such as who the nodes and influencers are.

Figure 1 Examples of components and communities



Source: Authors.

Note: components detected 33; communities detected 51. Based on Gephi's visualisations (Blondel, et. al. 2008). Each component is assigned by different colour. The red-circled dots are the selected dots for collapsed scenario discussed in Section 5.



On average each organisation in this network has connections with 1.3 other organisations. In addition, the network shows 19 degrees of separation among its members.<sup>8</sup> This suggests that any one local NGO in that network (for example, one in Jambi) requires 19 steps to get connected to any other organisation (which may be, for example, in either Yogyakarta or Jakarta). The analysis here suggests that this network does not reflect the small world theory of real human networks (the so-called ‘Six Degrees of Separation’ – a general belief that on average any two people in the world are separated only by six other people).

If taken at face value, this seems to suggest that such a network is highly exclusive. The implication of this is may be that it is hard to build collective action among the NGOs, funders, local governments and private sectors to achieve certain shared goals. However, these results cannot be meaningfully interpreted as such. As noted earlier in Section 2.4, the data used for the present network analysis was limited because in the NSSC surveys each respondent was asked to mention only two to three most important organisations that they have been interacting with (ranging from local governments, donors, other local and national NGOs, private sectors and other types of organisation such as media and university based organisations). As a result, most respondents did not mention their total connections with other organisations.

The number of communities<sup>9</sup> (116) in the generated visualisation reflects the fact that the network contains significant isolated component sub-networks. The analysis shows that the NGO network ecosystem comprises of 33 components (that is, sub-networks of detected isolated nodes or groups of nodes that are not connected to the rest of the network) (See left side of Figure 1, “components”). This suggests that there are 33 weakly connected groups within the network; this finding is an indication that such groups are more vulnerable as they are not connected to ‘resource hubs’. Furthermore, the analysis (as seen in Figure 1, right) detected 51 communities in the form of sub-networks with different colours that indicate different divisions within the network. In reality, this could be reflecting NGO communities that work on separate issues but are somehow connected.

It can be argued that the higher the number of communities, the more diverse the issues that the organisations in the network focus on. In theory, old networks may often comprise more homogenous communities, which may not be good for NGO sector sustainability given the tendency of an old network to stagnate. However, the higher the number of detected communities, the more it might indicate a divided ecosystem or society. However, it is not easy to set the balance between having too diverse or too little *components* and *communities*. In a nutshell, a network such as the one depicted above indicates the possibility that overall, the NGO network is still a nascent network ecosystem.

Figure 1 also shows the existence of component sub-networks – ‘islands’<sup>10</sup> that are small groups on the periphery that are not connected to the green dots. The islands may represent the sub-network developing around one patron (not necessarily local or small donor – marked by black circles) who may provide small financial resources, training or other services (such as technical assistance packages) to support both NGOs and local governments and other local actors but at first sight they seem to have no connection to the broader network.

Figure 2 visualises the NGOs network based on *degree centrality* (that is, the possession of link or connection with other actors / organisations) and *betweenness centrality* (an organisation’s strategic position as a connector).<sup>11</sup> It shows that based on N (the total number of nodes or organisations), the network is dominated by local NGOs (36.8%), followed by national NGOs (16.1%), local governments (11.4%) and funding organisations (10.8%). This is obviously an NGO network ecosystem as it shows that different groups of organisations have different ties to NGOs at local and national levels. Figure 2

<sup>8</sup> In social networks analysis terminology, this means a ‘diameter’ of 19 in a directed network.

<sup>9</sup> See the definition of ‘community’ in Box 1 in Section 2.2 on NGOs Sustainability Criteria and Key Network Terminology.

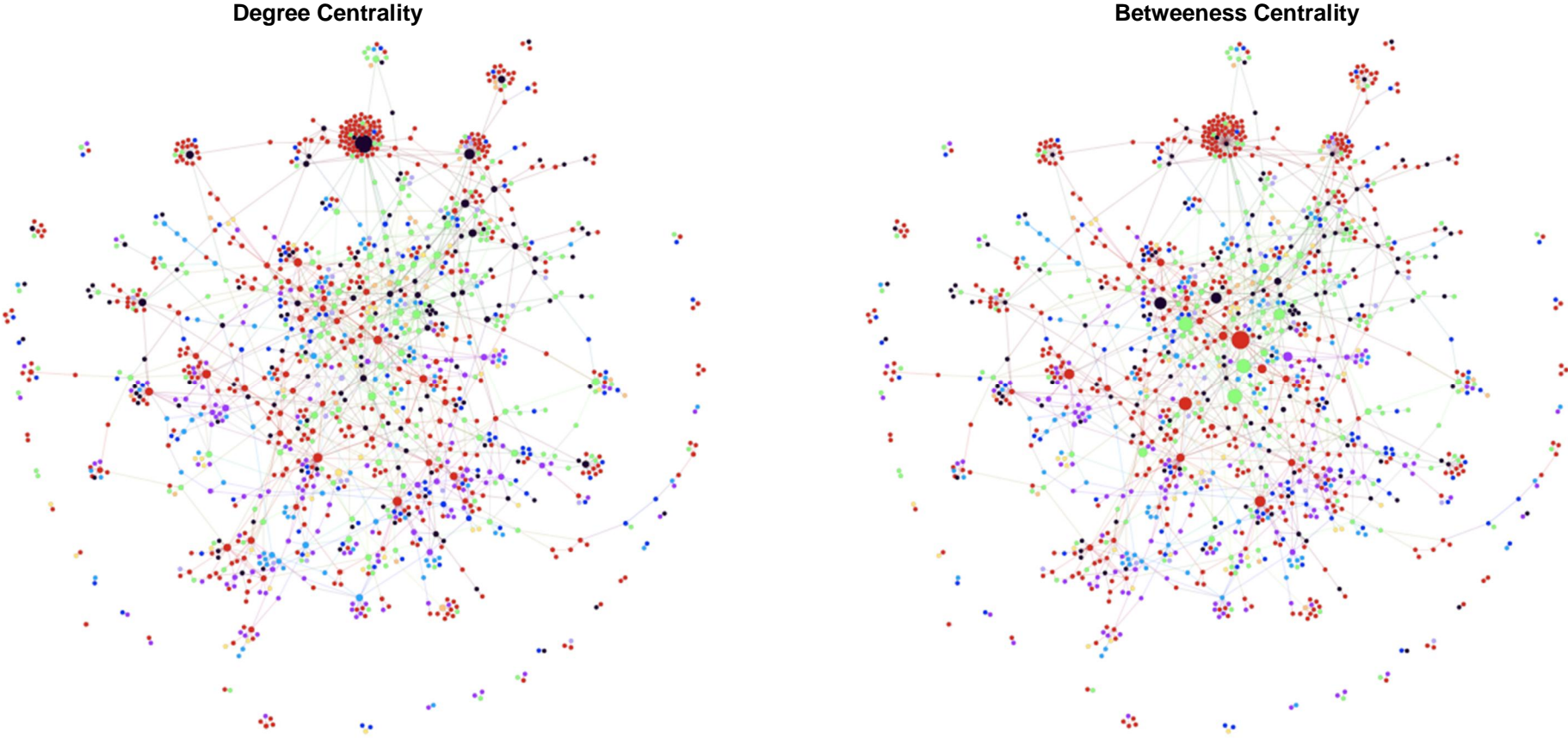
<sup>10</sup> The term ‘island’ is an illustration or a description that is used to show that if all nodes are treated as landscape of different heights (with certain valleys, lowland areas and hills), when they get flooded, only parts of the landscape of higher heights can be appeared as smaller islands representing higher nodes within a network ecosystem. In this context, we simply use the term ‘island’ based on USAID (2013). The term island here is based on lay understanding of the term and not really following the term from the study of complex network system. We argue that this term is best to explain the phenomenon of components.

<sup>11</sup> Based on Hu’s layout given in Gephi’s algorithm.

also shows that universities, mass media and national governments (at the ministerial levels as well as the legislature) are seen as the least mentioned – reflecting their lack of importance within the network, as far as this particular network map can show.

Local NGOs dominate the network structures by number of organisations (N=1284), by total number of degrees, and as well as by the total number of *betweenness centrality*. Therefore, one can argue that the network is dominated by local NGOs, followed by national NGOs. It is also interesting to note that national NGOs comprise only 16.1% of the total actors in the network but its influence (leadership – indicated by *betweenness centrality*; see right side of Figure 1, "communities") is more than double of the total (38.2%) *betweenness centrality* values. This confirms that both local and national NGOs are the central of the network. This suggests that national NGOs tend to play more intermediary roles (that is, connect other local and national actors) compared to local NGOs.

Figure 2 Degree centrality and betweenness centrality of a selected NGO network



Source: Authors; based on DFAT and NSSC datasets.

Legend	Type of organisation	N	Degree	Betweenness
Red	Local NGOs	36.8%	35.3%	41.9%
Black	Donors/INGOs	10.8%	15.2%	9.8%
Green	National NGOs	16.1%	23.9%	38.2%
Purple	Local governments	11.4%	10.0%	7.5%
Yellow	National government	2.9%	1.8%	0.1%
Blue	Private sector	7.9%	6.2%	2.4%
Light Green	Universities/research inst	2.5%	1.6%	0.0%
Orange	Media	1.9%	1.4%	0.0%
Dark Blue	Others organisations	9.7%	4.5%	0.0%
	Total	100.0%	100.0%	100.0%

Network properties:	
Type of network:	directed graph
Nodes =	1284
Links =	1702
Average degree:	1.326
Network diameter:	19
Graph density:	0.002
# weakly connected components:	33
Number of communities:	51



Based on the visualisation in Figure 2, we can see that despite the fact that donors comprise only 10.8% of the total actors, their total connectivity (*degree centrality*) is quite significant at 15.25%. However, the 'leadership' and potential influence rating (indicated by *betweenness centrality*) is modest and is almost equal with its total N. This could imply that despite the high number of connections that the international donor agencies have, they are still less influential in terms of intermediary roles as compared to national NGOs.

The visualisation of *degree centrality* in the present network (left side of Figure 2, "degree centrality") shows bigger nodes, which indicates their roles as 'resource hubs'. In general, a few international donor agencies / INGOs (black nodes) appear as hubs. A limited number of local NGOs also appear to be small hubs in their regions. Interestingly, the 'influence analysis' looking at the *betweenness centrality* in the present network (right side of Figure 2, "betweenness centrality") shows that one of the NGOs in Toli-Toli appears to be the 'leader' within the network ecosystem.<sup>12</sup> Some national NGOs (see green nodes in Figure 2, right) such as Walhi, Aman, Kemitraan and others have been playing modest roles as 'intermediary organisations'.

Given the fact that the majority of the respondents are local NGOs, as also reflected by their networks above, interactions with government are skewed towards local governments rather than national governments. National governments (such as ministries and national agencies) comprise only 2.9% of the total N; however, their total degree is 1.8% and their 'leadership' is far less influential (only 0.1% – as indicated by their total *betweenness centrality* score).

Interestingly, private sector organisations emerge to be significant in the network (7.9%) and their degree figures are significantly higher than national government entities. The private sector's connection with NGOs (reflected by their *degree centrality*) is 6.2%. However, their *betweenness centrality* is still fairly low (2.4%) which means that their intermediary roles or 'leadership' is not as prominent in the network.

Figure 2 also shows that the intermediary roles (indicated by their *betweenness centrality*) in the network are largely played by local NGOs, national NGOs and international donor agencies / INGOs, bringing a total of *betweenness centrality* of almost 90% (compared with the total N of 63.7% and total degree of 74.4%).

It is important to note that the network dominated by local NGOs seems to be relying less on university and research based institutions as well as mass media. Given the limitation of the data, however, a further, more detailed study is necessary.

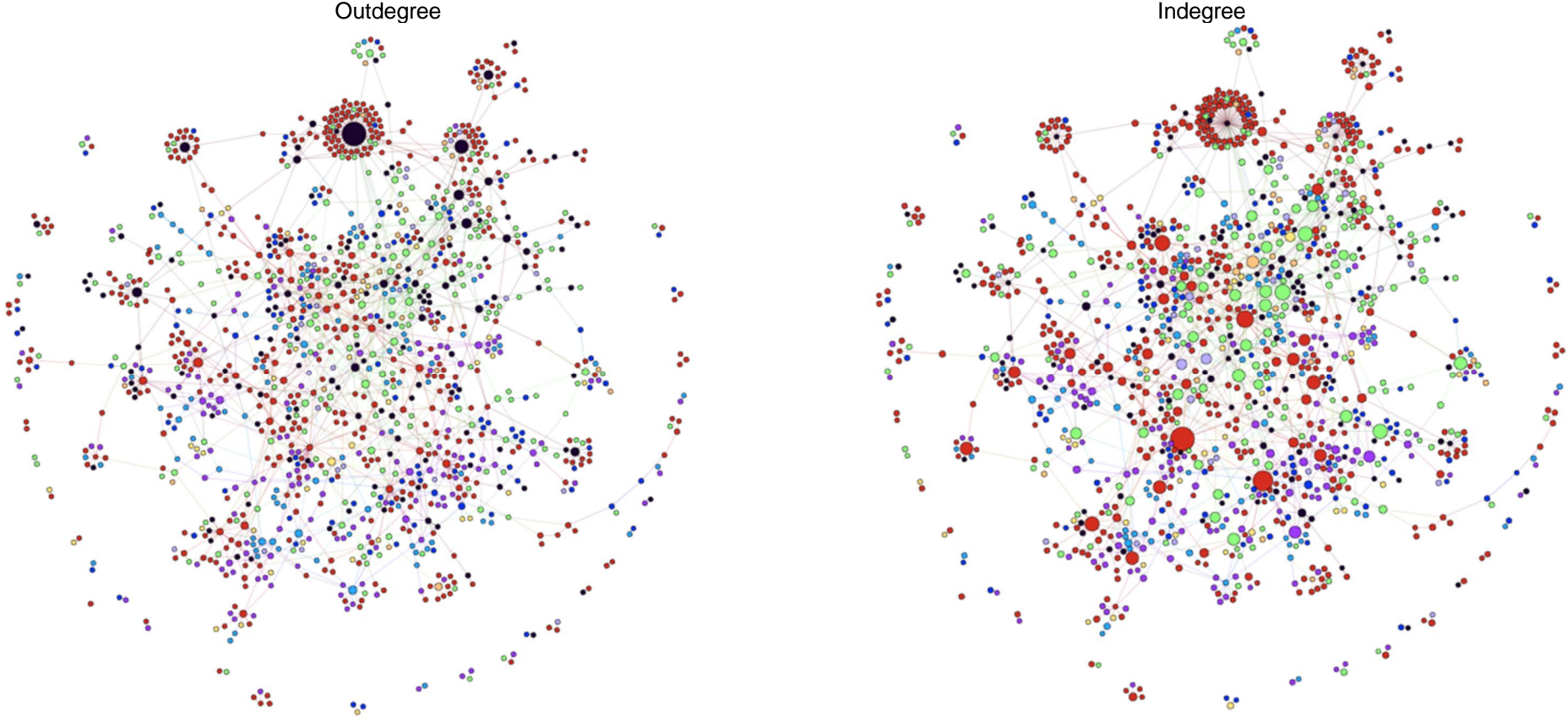
### 1.2. Active Networkers and Resource Hubs

Some organisations play roles as *resource hubs*, as they are able to mobilise resources (grants, technical capacity, knowledge, information and data). The evidence of such roles in social network analysis can be exemplified by the amount of connections they have obtained. Such connections can be in form of *indegree* (incoming links to an organisation) as well as *outdegree* (outgoing links or connection from an organisation).

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<sup>12</sup> Most of the players or actors are often not aware these organisations are in such a position. The measure indicates the most efficient nodes through which information can be passed through in faster and more efficient way.

Figure 3 *Indegree and outdegree centrality of a selected NGO network*



Source: Authors; based on DFAT and NSSC datasets.

Legend	Type of organisation	N	In-Degree	Out-Degree
<span style="color: red;">■</span>	Local NGOs	36.8%	41.2%	29.5%
<span style="color: black;">■</span>	Donors/INGOs	10.8%	3.9%	26.5%
<span style="color: green;">■</span>	National NGOs	16.1%	27.6%	20.3%
<span style="color: purple;">■</span>	Local governments	11.4%	9.1%	10.9%
<span style="color: yellow;">■</span>	National government	2.9%	2.0%	1.7%
<span style="color: blue;">■</span>	Private sector	7.9%	5.0%	7.5%
<span style="color: darkgreen;">■</span>	Universities/research inst	2.5%	3.0%	0.1%
<span style="color: orange;">■</span>	Media	1.9%	2.1%	0.7%
<span style="color: darkblue;">■</span>	Others organisations	9.7%	6.0%	2.9%
	Total	100.0%	100.0%	100.0%

**Network properties:**  
 Type of network: directed graph  
 Nodes = 1284  
 Links = 1702  
 Average degree: 1.326  
 Network diameter: 16  
 Graph density: 0.002  
 Number of weakly connected components: 33  
 Number of communities: 116

Figure 3 shows that local NGOs have a high *indegree* (41.2%) while having a relatively modest *outdegree* (29.5%). In general this reflects the fact some local NGOs have been able to attract multiple donors ranging from issues such as women's empowerment, rural livelihoods, or sustainable agriculture. However most local NGOs have been limited in reaching out other actors (organisations) to accomplish their work.

Figure 3 also shows that the international donor / INGO group has higher a *outdegree* than *indegree* score, indicating the much more proactive role of donors in engaging with local and national NGOs in dealing with issues such as poverty reduction, forestry and environment, good governance, and disaster risk management.

Local governments have a modest *indegree* but still higher than both donors and national government. This suggests that in this local NGO-dominated network, local governmental institutions (such as local development planning bodies (Bappeda), Health Offices, Education Offices etc.) are key stakeholders that are often targeted by local NGOs.

It is also worth mentioning that the private sector has been more proactive, as indicated by their higher *outdegree* values (based on total number of mentions by NGOs as stakeholders with which the NGOs interact) than national government. For example, in Jambi, a state-owned oil and natural gas company has played active roles in supporting activities in social and education sectors. This indicates the potential roles of private sector in cooperating with local NGOs in supporting local social development.

One can observe from the left side of Figure 3 ("outdegree") that overall, no single NGO (either at national or local) appears to have high *outdegree*, which suggests that the NGOs still have a limited capacity to reach out within the network. In the network ecosystem, it is clear that international donor agencies / INGOs still play bigger roles in networking with local NGOs and other local actors such as local government.

Another interesting pattern that can be observed in Figure 2 and 3 is *perching* – a process where INGOs in certain localities build up their local NGO partners through funding and capacity development and would 'wait' for other funding sources to come and support the identified NGOs (USAID, 2013). The small groups on the periphery are sub-networks that are called 'islands'.<sup>13</sup> Islands are a social phenomenon of complex networks of organisations, which can be a mixture of local NGOs, national NGOs and others such local governments and private sector corporate social responsibility (CSR) organisations. Their existence does not necessary require international organisations. However, bigger perching requires adequate resources and in this case Figure 5 exhibits the facts that the patron in the perching sub-networks are more likely to be played by stakeholders that have adequate resources to attract other actors.

### 1.3. Predicting NGO Sustainability

This section examines the notion of NGOs sustainability, using the k-core measure as an indicator of the most stable nodes within a network ecosystem. The value of *k* represents the layer of the core of the network. The deeper the core (or the higher the k-core value) of a node (or NGO) indicates that the NGO has high connection to the other well-connected organisations (see Figure 4).<sup>14</sup> Higher connections allow NGOs to have more access to different types of resources and gain more influence over policies, actors or ideas. It therefore indicates that such NGOs tend to be more sustainable.

To argue that certain NGOs (or, more likely, specific individuals within them) are *active networkers* and *resource hubs*, we need to look at the core of the network. In this case, we look at three-core and four-core network.<sup>15</sup> A four-core network suggests that each member of a group have ties to four other members or more. If an NGO has ties to a sufficient number of members of a group, they may feel tied to that group – even if they don't know many or even most members.

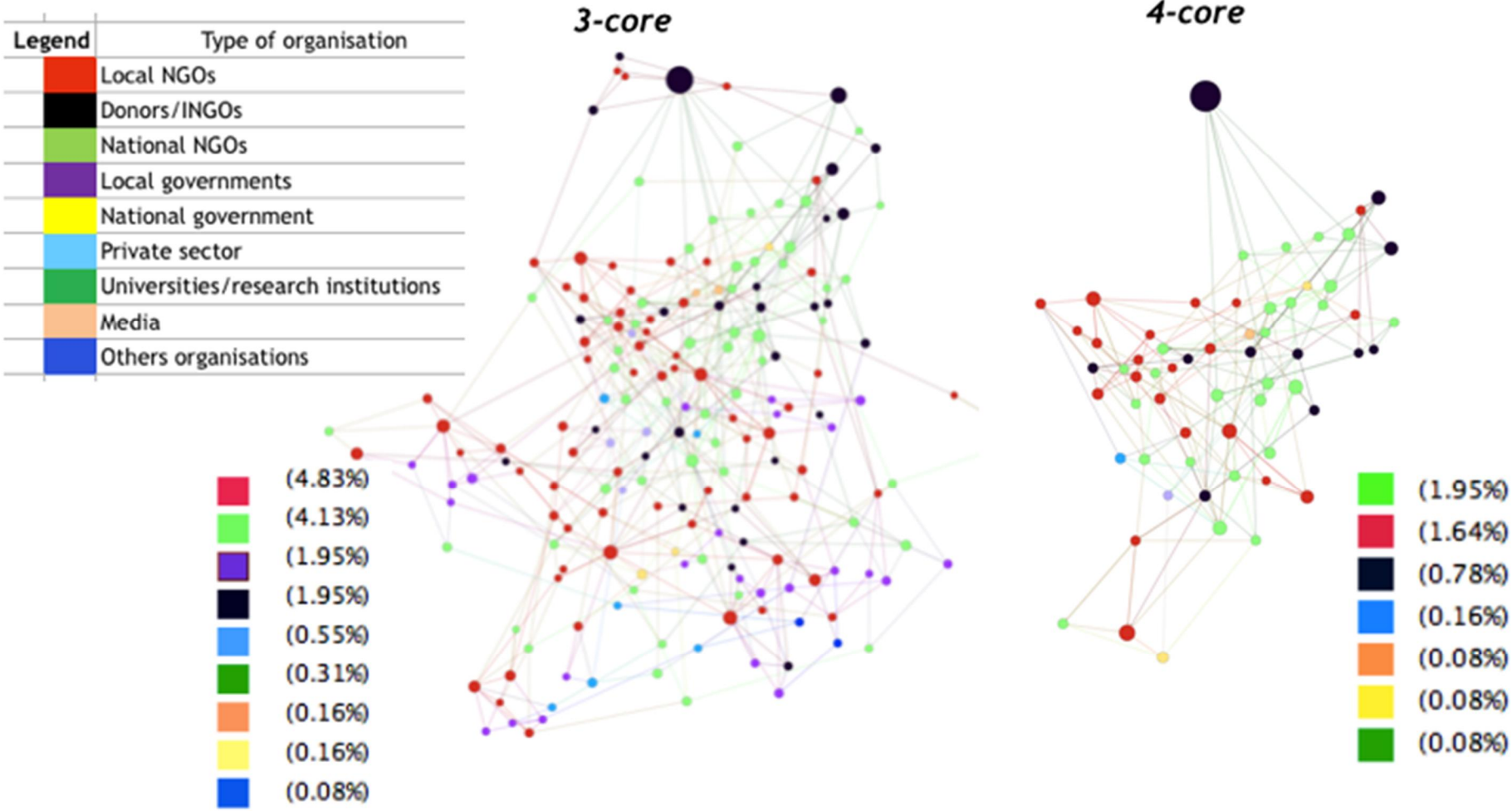
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<sup>13</sup> See definition in Footnote 10.

<sup>14</sup> See definition in Box 1.

<sup>15</sup> The network analysis provides a result in which it shows that 4 is the deepest layer this algorithm from Gephi can produce.

Figure 4 K-core network – three-core and four-core network



Source: Authors; based on NSSC field research datasets.

Note: The size of the node indicates the degree of each node.



Figure 4 shows that the four-core network is dominated by three key types of organisations: local NGOs, national NGOs, and international donor agencies / INGOs. There is apparently one media organisation (that is, *Kompas*, the leading media group in Indonesia) that is closely tied to national NGOs (green dots). National NGOs dominate the four-core sub-network (1.95%) compared to local NGOs (1.64%).

While local government organisations still exist in three-core network, they all disappear in four-core network. Therefore, it can be said that within the deepest core of the NGOs network ecosystem, local governments are 'excluded'. Only two national government organisations (that is, Komnas Perempuan and Komnas HAM – yellow dots) are part of the four-core network.

According to the analysis, there are two private firms that are part of the four-core sub-network. Both of these operate or are located in regional areas (the provinces of Jambi and Central Sulawesi) and have been new alternative financial resources for certain local NGOs. These are natural resources companies, and the findings indicate that certain industries may help drive connections (particularly, funding) from the private sector. However, this conclusion subject to further research especially in regions with fewer natural resources than the provinces mentioned above.

## 4. Lifecycle and Evolution of NGO Networks: a Case Study

To understand the evolutionary process of NGO networks nationwide, one needs additional information to consider the effect of time on the network. The qualitative data gathered for the NSSC design can provide some lessons on this because it provides a historical timeline of the NGO sector in the areas where the research was conducted. The reduced complexity of networks in regional areas that may still be in the stages of development from nascent to middle-age networks (as discussed in Section 2.3 above) means it is relatively easy to understand the evolution of NGO networks.

In order to demonstrate the analysis of evolution of NGO networks in Indonesia, we use Jambi as a case study because of the comprehensiveness of historical timeline available for this region.<sup>16</sup> The analysis is informed by the qualitative data from research conducted as part of the NSSC design process and complemented by secondary sources. It focuses on an 'ego-centric' network (an individual network of a particular NGO or a group of NGOs) of emerging hubs.

Regional networks tend to be formed partly because of dynamic interaction between local / national actors and their response to development problems in one hand, and an externally driven partnership led by either an INGO or a donor on the other.<sup>17</sup> An illustration of this is the case of network formation of NGOs in Jambi, as presented in Figure 5. The nascent stage is characterised by the existence of a very few NGOs in a particular district, supported by a very limited number of international donor agencies or INGOs. As mentioned above, the early hubs in a nascent network ecosystem are often international donor agencies or INGOs. Interactions between the NGOs with the respective funding partners took place through small-scale projects and programs in the districts of Muaro Jambi and Merangin.

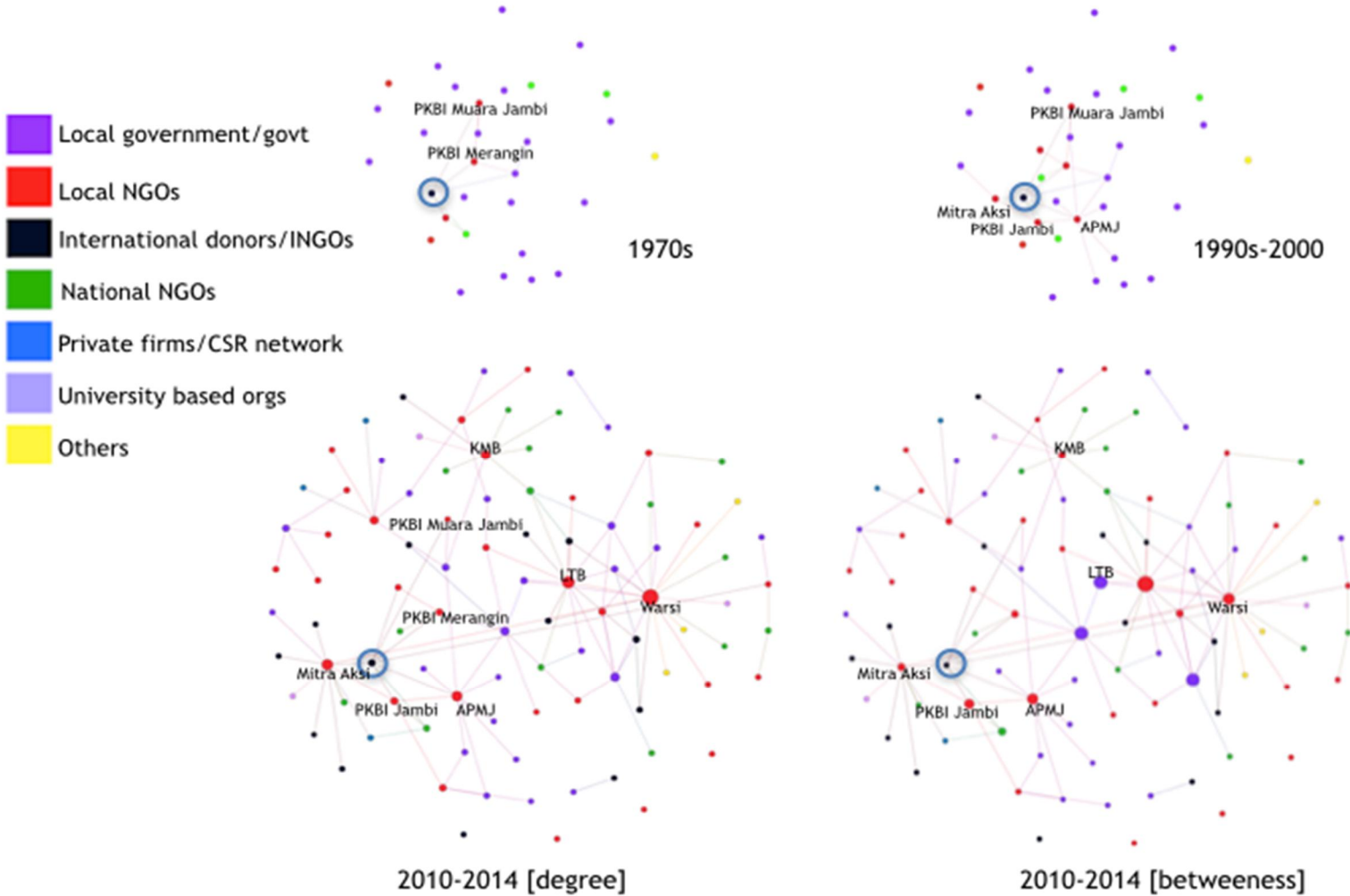
The formation of the NGO network in Jambi started with two key organisations, namely the Indonesian Planned Parenthood Association (PKBI) and the Ford Foundation. PKBI was founded in 1957 to deal with demographic problems of the time such as high birth rate and material mortality rate. The Ford Foundation has been in partnership with PKBI at least since 1960s, even before the establishment of the National Population and Family Planning Board (BKKBN).<sup>18</sup> During the Suharto era, the government accepted PKBI, particularly due to the prevailing views that women and children / youth issues were 'politically neutral' without being an immediate threat to the regime.

<sup>16</sup> Case studies from Central Sulawesi, Padang and East Java can be found in Annex 1.

<sup>17</sup> See, for example Ford Foundation (2003).

<sup>18</sup> See 'Civil Society and State: the Family Planning Campaign' in Ford Foundation (2003, p 108). The partnership continues today: <http://www.fordfoundation.org/grants/grantdetails?grantid=105716>.

Figure 5 Evolution of NGO's Network in Jambi 1970 to 2014



Source: Authors; based on NSSC qualitative dataset.

Top left figure visualises the early period of NGOs in Jambi back in 1970s. Top right figure shows the relative development of the NGO network in 1990-2000 when PKBI still played a role as NGO hub. Bottom left figure shows the present hubs degree centrality (based on number of connections), while bottom right figure shows the present hubs based on betweenness centrality.

Even though PKBI's structure has branches at provincial capitals and districts capitals, not all the provincial and district offices were founded at the same time. PKBI Jambi was founded later in 1970s to deal with immediate issues of family planning and / or (un)planned parenthood, including youth programmes in the new transmigration destinations set by the New Order. During more or less the same period, at the district level in Jambi, PKBI established its offices in Jambi. Their activities continued to gain supports from local governments (especially BKKBN and health departments) and donors as Suharto ambitiously controlled population growth nationwide (which, in many ways, involved coercive action).

PKBI Jambi still exists and operates today. During 1998-2000 PKBI Jambi dealt with issues of women's empowerment in some villages in Merangin, Kota Jambi Sebrang, Muaro Jambi and Batanghari. The PKBI program on women's empowerment dealt with institutional support for young NGOs dealing with women's issues. Some key women's NGOs today were formed from the PKBI–Ford Foundation women's program back in 2000. Some of the volunteers of the PKBI–Ford Foundation program collaborated among themselves to form local NGOs in Jambi in 2000 to focus on reproductive health and women's empowerment.

While PKBI branches in Jambi seem to be less influential today, its key partners have gradually been expanding focus from demographic issues to others such as rural livelihoods, disaster risks and recently turning into agricultural issues. The widening of scope of tasks is a normal response to opportunities for partnership with external funding organisations as well as new emerging funding sources from the private sector through CSR programs. Some of these NGOs have been expanding their reach from their base in Jambi to regions outside their home and on some occasions they also responded to crises outside Jambi, such as in Bengkulu and West Sumatra during 2009 earthquakes in Padang. Today, one of the NGOs have been trying to diversify its funding sources, and successfully received support from Dutch based INGOs (such as Cordaid, Hivos and others) as well as support from the European Union and other international donor programs.

The network analysis above shows that the lifecycle of NGOs in Jambi over the last 30 years has evolved through the *nascent*, *transition* and *midlife* stages. While it may not be correct to argue that such a network ecosystem is already reaching the *ageing* stage, it is clear that Jambi's NGOs network ecosystem have been constantly evolving. During this evolution, we can see that old NGOs beget new NGOs, while newer NGOs emerge to replace the domination of the older ones.<sup>19</sup>

The other observation that can be drawn from this analysis is the effect of funding. What is clear is the fact that local NGO network ecosystems change according to the relationships within the network, particularly the interests of international donor agencies or INGOs. The future sustainability of the NGO sector in Jambi still depends on international donor agencies / INGOs. However, as demonstrated in Figure 5, the private sector is emerging to contribute to the NGO sector. There is still no evidence, however, that local governments play significant roles in financing of NGOs in Jambi.

As a comparison, we took a look at NGOs in three provinces, namely Central Sulawesi (with greater attention to the districts of Palu and Toli-Toli); West Sumatra (district of Padang Pariaman); and East Java (districts of Situbondo and Kediri). Figure 6 in Annex 1 examines the reported connections of selected interviewed NGOs, and the findings from qualitative interviews provide some important insights to NGO networks in these regions.<sup>20</sup> East Java shows a relatively high connection among local-regional / national NGOs. International donor agencies / INGOs seem to be less influential and local governments seem to have more influence, but are still below the private sector's influence in terms of interaction.

In contrast, in Central Sulawesi donors have relatively strong influence (showing higher numbers of connections with more local NGOs) as does government. In Padang Pariaman as well, government is

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<sup>19</sup> This is an example of leadership regeneration occurring at the NGO sector level; for more discussion of leadership regeneration see the third brief in this research series: 'Human Resources Management and Leadership Regeneration' by Tuti Alawiyah.

<sup>20</sup> In general, even though Figure 2 does not mean to have a pure apple to apple comparison given different sizes of nodes and links in each sub-network.

a close partner to NGOs. The difference of government influence in Central Sulawesi and Padang Pariaman compared with East Java is explained because the respondent NGOs in East Java are more likely to be critical of local government. Although the high numbers of environmental NGOs in both Central Sulawesi and Padang Pariaman suggested according to other analysis that NGOs there would remain critical and not work directly with government, the SNA clearly showed high numbers of NGOs with close relationships with local government.<sup>21</sup> This discrepancy could be worth exploring in further research.

## 5. Network Collapse Scenario

The emergence of NGO networks cannot be separated from changing interests and priorities of international donor agencies. This section provides a potential scenario of failure of a network given the possibility that dominant actors such as donors or top ranked NGOs (indicated by high level of *degree* and *betweenness centrality* values) may one day collapse or cease operating in Indonesia. The question is whether the network ecosystem of interconnected parts will affect the structure of NGO networks.

Complex networks can collapse through failure of certain hubs. Some hubs collapse due to inter-organisational conflicts where other members may simply withdraw from membership of a hub. An example of this is the decline of the Yogyakarta NGOs Forum established in 1986 with 70 member NGOs, which had later shrunken to only 20 active members in 1999 (Hadiwinata 2003).

Some hubs collapse due to external changes in the policy or funding environment. The collapse of the International NGOs Group on Indonesia (INGI) in 1992 is an example of this occurring. INGI was established in 1985<sup>22</sup> to foster cooperation between Indonesian NGOs and INGOs to lobby the Inter-Governmental Group on Indonesia (IGGI) as well as bilateral and multilateral donor agencies to use external development assistance to find projects for the poor, and to ensure meaningful participation of the people in Indonesia in the process of development. INGI was formed by national NGO hubs of the time such as The Indonesian Legal Aid Foundation (YLBHI), Walhi, and Secretariat Bina Desa in cooperation with Dutch NGOs such as Novib (now Oxfam Netherlands), CEBEMO (Now Cordaid), Hivos, ICCO (Interchurch organisation for development cooperations) and others. INGI established two secretariat offices, one in The Hague and another in Jakarta. In the past, easily identifiable 'hubs' of Indonesian NGO networks that were part of INGI include:

- > Bina Desa, which hosts a network forum for NGOs on rural development;
- > WALHI (established in 1976), which has been functioning as a hub of environmental NGOs;
- > Partnership in Development Forum, which was established in 1991 to coordinate and interact with government agencies, business circles and international agencies and the United Nations; and
- > *Yayasan Persahabatan Indonesia-Kanada* (now Yapikka), which was established by the Canadian International Development Agency to bring together 10 large INGOs that received Canadian funding.

In 1992, Suharto dismissed the IGGI on allegations that it was interfering with Indonesian sovereignty. Automatically, the INGI was also dismissed. The dismissal of the INGI and the loss of the Dutch funding that had been channelled through it represented a 'collapse' of an important network hub for Indonesia's NGO sector at the time. Hadiwinata (2003) cited Bunnell (1996) to argue that 'even if it was unclear whether IGGI's [and thus INGI's] dismissal was deliberately meant to incapacitate

<sup>21</sup> Note that the network analysis results can be different from the qualitative results from the interviews and focus group discussions since the mapping/networks analysis here only analysed interactions with other NGOs and other stakeholders that were mentioned by respondents. The qualitative research produced data with more nuances and context, which is not the case in the network analysis results.

<sup>22</sup> See <http://infid.org/profil-infid/1/1/profile-infid.html#.VaOpIGC9UUU>.



NGOs activities, the dismissal was a serious blow for YLBHI and many other local NGOs funded by Dutch NGOs.’

Based on the history of INGI’s collapse, we ran two simple scenarios using the NSSC data, targeting the collapse of two projects supported by two international donor agencies / INGOs (see the selected node in Figure 1). Table 1 summarises the properties of the collapsed network based on the scenario modelling. The analysis shows that under Scenario 1, the dismissal of links from one big project (with about 80 partners) provides little effect to the network diameter and density of the network. However, it changes the average degree because of the removal of the connection that linked the actors (i.e. the removal of the funding source that created a linkage among local NGOs that were its beneficiaries).

Table 1 Scenario of Collapsed Hubs and Network Structure response

Properties	Normal scenario	Scenario 1 Removal of one project consortium	Scenario 2 Removal of two project consortia
Average degree	1.326	1.264	1.253
Diameter	19	19	19
Density	0.002	0.002	0.002
Communities	51	115	143
Components	33	95	122

Also significant is the fact that the number of *communities* more than doubles from 51 to 115. If the scenario continues to Scenario 2, the total number of *communities* comes to 143. The total *components* increase from 33 to 95 under Scenario 1 and 122 under Scenario 2. This means that the removal of one or two ‘big’ projects that support large numbers of NGOs may cause more divisions within this network and reduce the number of connections. In real life, this suggests that given the roles of donors as *hubs* that can play roles as ‘network stabilisers’ holding the other actors together, under the collapse scenario where international donors are no longer present, NGOs would become less united. A largely divided NGO network ecosystem is not desirable as it drastically reduces space and avenues for collective action among NGOs.

This exercise shows that the network dominated by local NGOs under analysis is quite sensitive to scenarios involving the collapse of key hubs. The present network examined in this brief (see Section 3) shows the fact that there are not enough hubs to hold the structure stable – reflecting the fact that there is ‘missing middle’ within the NGO network ecosystem.<sup>23</sup> In contrast, Lassa et al. (forthcoming) found that in Indonesian CSO think tank network data, a sudden collapse of one to three key hubs has limited effect to the overall structure of the network. The network data available for the CSO think tank data was much richer for a SNA than that available for the current study (see section 1.4 above regarding limitations of the data). The difference in findings is explained in the more complex network by the existence of other significant hubs – alternatives to the international donors – that contribute to the stability of the network. (See Annex 2 and Lassa et. al., [forthcoming] for more on this contrasting scenario).

## 6. Discussion and Conclusions

The NSSC data suggests that there is stronger interaction now than there has been historically between local NGOs with local government agencies (and national NGOs with national level

<sup>23</sup> The issue of the ‘missing middle’ in the Indonesian NGO sector is discussed elsewhere in this research series; see Brief No 1, ‘The NGO Sector in Indonesia: Context, Concepts and Challenges’ by Megan McGlynn Scanlon and Tuti Alawiyah, and Brief No 2, ‘NGO Financial Sustainability and Funding Diversification’ by Ben Davis, which looks at the underdeveloped infrastructure of intermediary support organisations.

governmental agencies). The data suggests that NGOs interaction with local governments occurs in terms of coordination for service delivery. However, there is still need to improve interaction between local NGOs with local governments because looking at the deeper layer of the network (indicated by *four-core analysis*) local governments disappear. This finding suggests that the main core of NGOs' network still 'excludes' local governments. Unfortunately, the data does not allow us to draw firm conclusions about the roles of local governments as potential sources of NGOs financing.

It is not surprising to see, from the network collapse scenario, that the NGO sector is still dependent on international donor agencies / INGOs. Networking requires investments of time and effort as well as funding for travel, communications and events. Therefore, it is often the case that in most of the lifecycle of NGO network ecosystems, INGOs and international donor agencies still play key roles as *resource hubs*. There seem to be an accepted norm that these international organisations are well placed for the task of resource mobilisation for local NGOs development. To date, INGOs / donors tend to play roles as network stabiliser as they hold the structure of NGOs by being the hubs of the network ecosystem. This is visualised in Figure 4 as well as by USAID (2013), which has shown that in many cases, NGO network formation still depends on the existence of international organisations. This does not suggest that NGOs existence always depends on international donor agencies / INGOs, as is apparent in the case of large mass-based organisations such as *Muhammadiyah* and church-based NGOs in Yogyakarta (Hadiwinata 2003).

However, the predicted disruption to the NGO network ecosystem that may occur were certain hubs to fail (as discussed in Section 5 above) means it is vital to plan ahead to avoid the effects of such a scenario. A relevant question is whether we need to have stronger 'indigenous' NGOs that can play roles as resource hubs to stabilise networks where INGOs and international donor agencies are taken out of the structure. However, it is also important to note that it should not mean simply by shifting international financing mechanisms in a particular 'indigenous' NGO.

Unfortunately, most developing countries' governments, including in Indonesia, do not prioritise the NGO sector at a policy level. Accordingly, it remains unlikely that the national and local governments will develop and implement policies to strategically support the NGO sector in Indonesia in the near future. One should not forget, however, that at the beginning of the NGO sector's history in Indonesia, strategic development of NGO sector was recognised as a way to improve the effectiveness of local development (Hadiwinata 2003). The governments at both the local and national level should recognise that strategic support for the NGO sector can lead to important outcomes that strengthen democracy and development.

There is evidence that private sector can play greater roles in NGOs financing and supporting NGO networks as seen in the analysis in Sections 3 to 5. The private sector has been able to contribute to local social development (such as in areas of health and education). By looking at the deepest layer of core of the NGO network, we found that private sectors still exist in the network while local governments are no longer in the core network. However, encouraging this should be a continuous exercise by NGOs and other actors.

The collapse scenario discussed in Section 5 provides a unique challenge to NGO sector. International donor agencies and INGOs have recognised roles in facilitating NGO networks and developing NGOs networking capability. Despite this, in most cases there is a tendency as NGO network lifecycle evolves from a midlife period, probably towards the ageing period for there to be an increase in competition among NGOs over grants from international donor agencies / INGOs. This means that as competition grows even fiercer, the NGO sector will be less likely to remain well connected.

Another concern is the increasing incidence of INGOs playing roles in local service delivery, where some have been competing directly with national / local NGOs in accessing grants from international donor agencies.<sup>24</sup> A 'free market' competition can be counterproductive because as such, NGO

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<sup>24</sup> Such concerns were raised by national and local NGOs leaders in Bogor during NSSC's research dissemination workshop, discussing the draft of this brief.

network can be continuously divided, making it hard for NGOs to build coalitions and consolidate social movements.

## 7. Recommendations

Networking with different stakeholders has been key part in accelerating social change. As it stands, the stability of the NGO network ecosystem in Indonesia still depends largely on international donor agencies / INGOs. If the goal is to ensure more efficient and effective ways to stabilise the sector and ensure its sustainability, random networking alone is not sufficient to help NGOs to achieve the social and political outcomes they work for. It is important that NGOs strategically design their network based on clear goals.

The absence of a strong intermediary support infrastructure of 'indigenous' NGOs as *resource hubs* that can actively play strategic roles in mobilising resources (both international and domestic) may indicate inefficiency. Having such organisations can systematically contribute to build the resilience of NGOs network ecosystem, and set up measures to mitigate the effect of disruptions that would occur should (or, rather, when) international donor agencies be removed from or leave the network. The disruption caused by removing international donor agencies / INGOs as key *resource hubs* in the modelling of network collapse scenarios above means that increasing 'network capital' is necessary and important.

### 1.1. Recommendations for NGOs in Indonesia

To ensure a stable (and therefore sustainable) NGO sector, NGOs in Indonesia need to strategically design their networking strategy to improve their networking capability. Currently, networking can be a challenge for NGOs, especially where they are competing with each other for limited resources. However, effective networking can actually mean they can work together to achieve common goals and outcomes.

Developing 'indigenous' *resource hubs* may be the first step in strategically planning towards building a strong and stable NGO sector. Larger national NGOs and coalitions should explore ways to increase their capabilities to support smaller and local NGOs with information, training, and assistance to pursue issues of common interest. If organisations such as PIRAC and Konsil LSM (NGO Council) can become stronger and more effective, this can help to mitigate the effects of dependence on international donor agencies.

Further strategies that should be considered include:

- > Exploring the potential opportunities for NGOs that arise from private and public (government) sources that are becoming increasingly active in social development. However, given the erratic nature of private and public commitment in supporting NGOs, in many cases, NGOs are not able to respond to such opportunities in a systematic way. Resource hubs can play a strategic role in planning ways to maximise the opportunities from these alternative funding sources.
- > Identifying networks that can be developed and strengthened, for example in clusters around specific issues or in particular local areas. By engaging in joint efforts through coalitions, NGOs will be able to maximise their potential and achieve greater outcomes through collaboration and supporting each other.

### 1.2. Recommendations for supporters of the NGO sector in Indonesia

International donor agencies, INGOs, private sector CSR organisations and other proponents and supporters of NGO sector with interests in deepening democracy and development need to move to more strategic roles that will help build the foundations of a strong and stable NGO network. Donors, in particular, need to explicitly create modalities to 're-engineer' NGOs network structure. International donor agencies / INGOs should avoid simply 'connecting the dots' and distributing grants and technical assistance for project-based programs; rather, they should focus on creating more 'network

capital' and look strategically towards a time when they will no longer be part of the existing ecosystem. International donor agencies and INGOs need to create mechanisms that allow NGOs to operate in a more connected ways. The private sector can also be involved in this approach. Examples of this can include:

- > Making strategic investments in supporting the development of indigenous *resource hubs* to strengthen the intermediary support infrastructure, which will provide stability to the network ecosystem in terms of capacity development and support for individual organisations and the NGO sector as a whole;
- > Creating incentives that allow more cooperation between NGOs – such as calls for joint proposals from more than two or three NGOs to collaborate in accessing grant funds.

Governments at both the local and national level should recognise that strategic support for the NGO sector can lead to important outcomes that strengthen democracy and development goals. Recognising the potential input that NGOs can provide must be the first step in working towards policies and programs that will strategically support the NGO sector, and, ultimately, the communities they work with.

### **1.3. Recommendations for further research**

Further study and research on civil society organisations network ecosystem in Indonesia is necessary. The present study is based on NSSC data where respondents only mentioned a maximum of two or three 'most important' interactions. Further study should examine the historical dimension NGOs network as well as data from the curriculum vitae of the NGOs, which can lead to further understanding NGOs' dynamic network as well as a more comprehensive understanding of lifecycle of NGOs network in Indonesia. In addition, the NSSC data does not differentiate on the roles of local / national governments and private sector as either emerging source of funding or as the target of advocacy. It is necessary to conduct further study to understand the opportunities arising from the private sector as potential sources of funding for the NGO sector.

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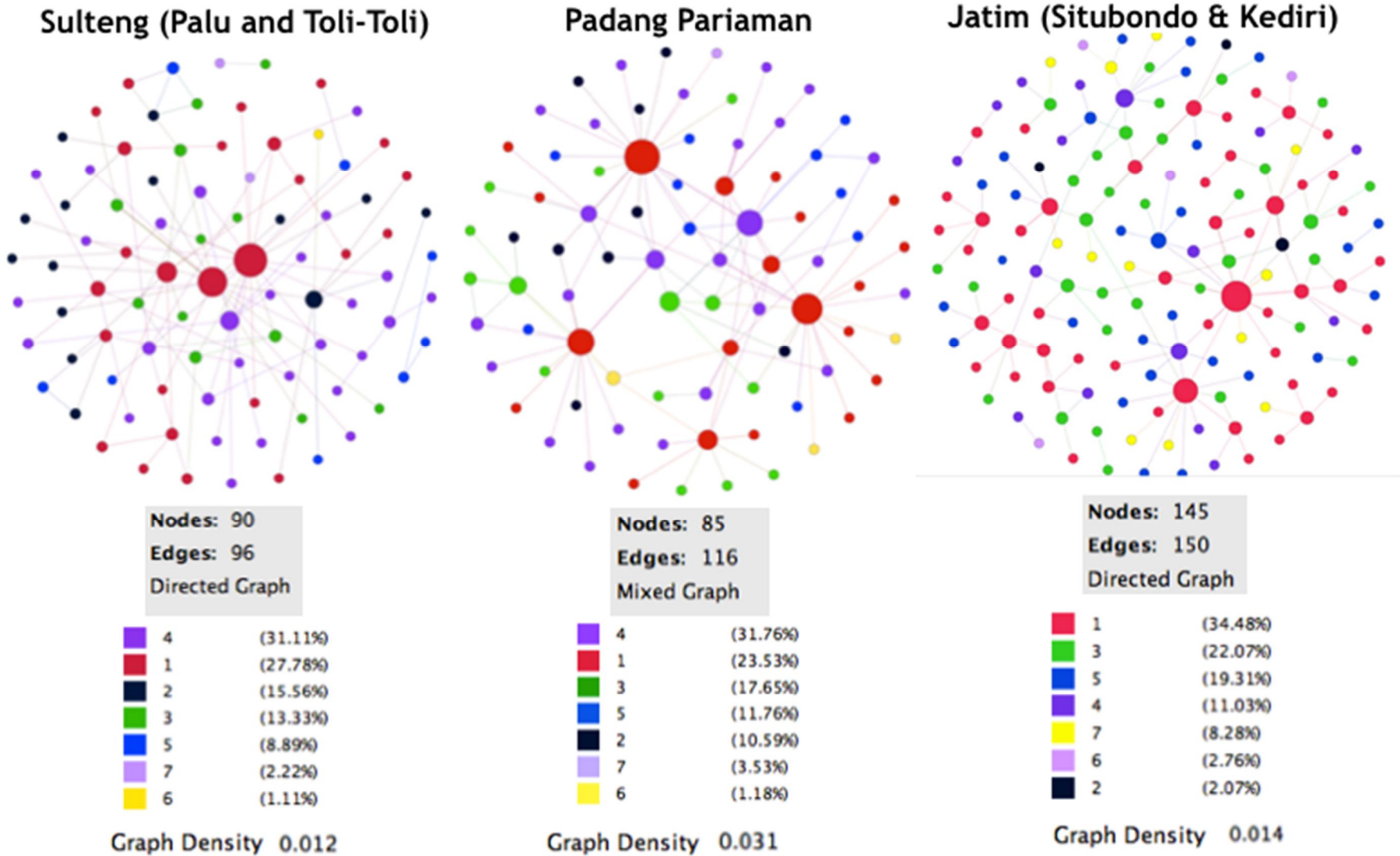
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## Annex 1: Ego-centric network of selected district NGOs in Sulteng, West Sumatra and Jatim

Based on the present networks analysis, Figure 6 shows a recent look at NGOs in three provinces namely Central Sulawesi (with greater attention in Palu and Toli-Toli), West Sumatra (Padang Pariaman) and East Java (Situbondo and Kediri). East Java shows relatively high connection among local/national NGOs. International donor agencies / INGOs seem to be less influential and local governments seem to have more influence but still below the private sectors' influence. This is in contrast with Central Sulawesi, where donors receive higher connection with local NGOs and governments are reportedly close partners to both NGOs in Padang Pariaman and Central Sulawesi as well as in Jambi.



Figure 6 Ego-centric network of selected district NGOs in Sulteng, West Sumatra and Jatim



Source: Authors; based on NSSC qualitative dataset.

## Annex 2: Insights from a separate NGO networks analysis

In a previous study on Indonesian civil society organisations, based on The Asia Foundation–DFAT Knowledge Sector database cultivated from 187 organisational CVs, the authors harvested a dataset with a total N 1362 nodes representing 1362 organisations with 2538 links. The links represent five types of interaction, namely: donor-recipient relations (which involve financial transactions), policy advocacy links (supply and demand), consultancy services (clients and service providers) and policy coordination/networking and lastly, joint cooperation between any two organisations.

Each node in the Figure 7 in has an average 1.788 degree connectivity. The diameter of the civil society network is 13. Therefore, the network's diameter has '13 degrees of separation', slightly less than the NGO network examined in Section 3. The density of the network in Figure 7 is 0.003 (undirected network), which, in social networks analysis terms, is significantly denser than the network density in Figure 3, of 0.002.<sup>25</sup> These results are well understood because organisations tend to mention most of their links in their CV in order to attract donor's interest and as a result they mention higher links to be included in the analysis.

In addition, most of the dominant actors in Figure 7 are both top donors (as well as international grant making organisations) followed by Jakarta based NGOs and university based think tanks at the University of Indonesia and Gadjah Mada University.

The most targeted governmental agency, among others, is the Ministry of National Development Planning (*Bappenas*). Despite the fact that it has relatively lower connections (*degree*) compared to the rest of the organisations in the network, it appears as 'leader' in the network because most think tanks often target it as the most legitimate actor within the policy sector and focus on policy research into development planning agenda. In addition, it is an important node because it deals with multiple issues and policy design (including health, education, poverty, environment, and so on). A significant amount of high-level policy research is associated with Bappenas and the line agencies such as respective ministers. Bappenas is often the hub for donor strategic agreements, which places it closer to policy research (which in many cases is funded by donors).

The findings also show that most policy research organisations and big national NGOs tend to target the Indonesian parliament, the People's Representative Council (DPR) which controls legislative power for policy change. NGOs' interest to play roles as 'think tanks' is not new as in NGOs have been also acting as classical labour intellectuals, especially in late New Order Indonesia (Ford 2003). While DPR enjoys higher *indegree* (as a targeted agency), in fact it does not have high scores in the leadership measures (see right side of Figure 7 below). This may indicate that either DPR does not have high demand of policy research or the limitation of data to conclude so.

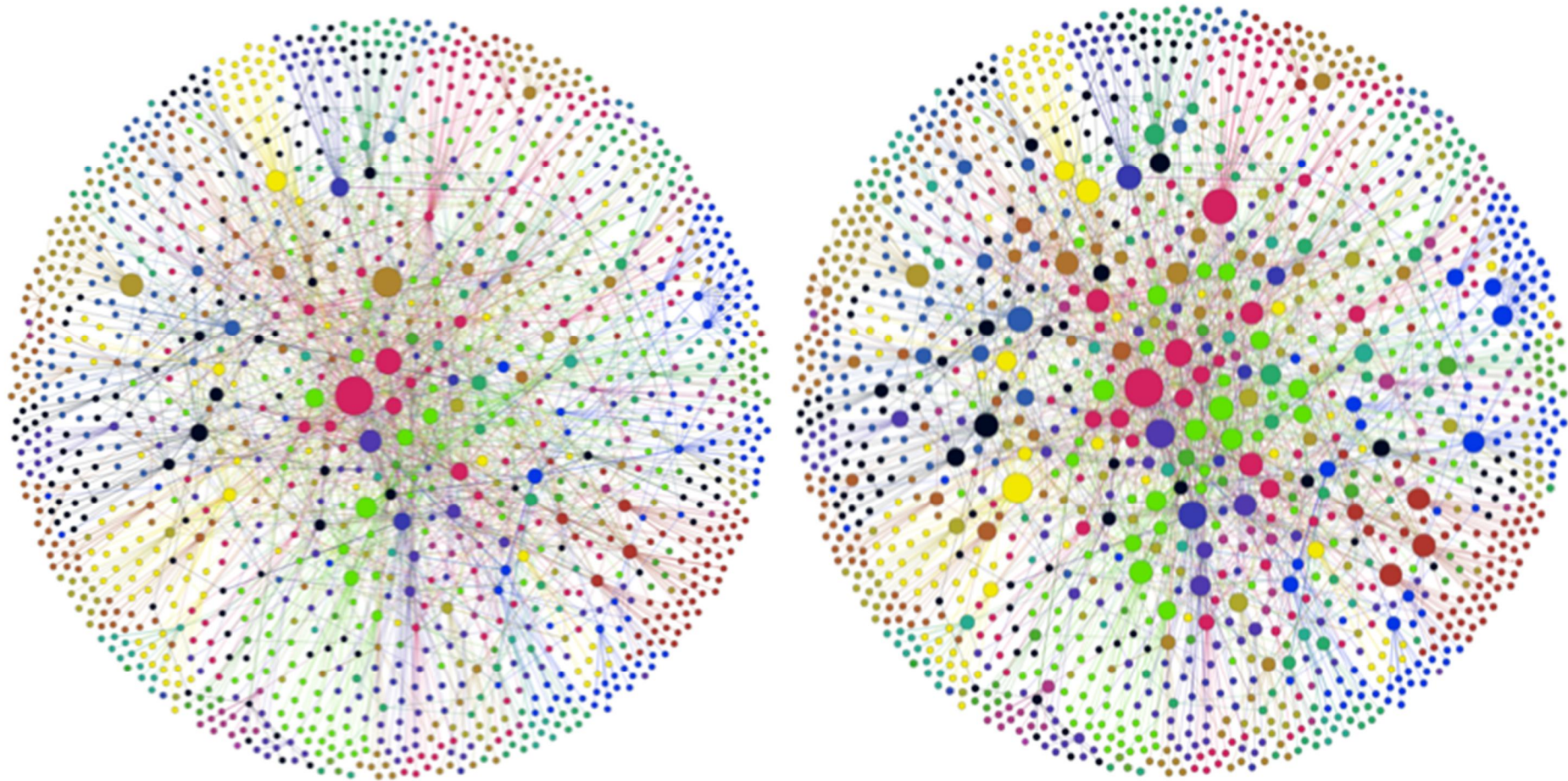
What is clear is that national NGOs, national governments as well as donors dominate the network in Figure 7. Meanwhile, the findings in Section 3 to 5 show different results as local NGOs seem to play more roles in the interaction with all other actors.

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<sup>25</sup> In a network comprises of thousand dots and links, there is a big difference between 0.002 and 0.003.



Figure 7 Degree and *betweenness centrality* of a selected NGOs' network based on The Asia Foundation–DFAT Think Tanks Data



Source: Authors (Lassa et. al., forthcoming).

**Network properties:**

Type of network: directed graph  
Nodes = 1362  
Links = 2361  
Average degree: 1.788  
Network diameter: 10  
Graph density: 0.003 (undirected)  
Number of weakly connected components: 13  
Number of communities: 37