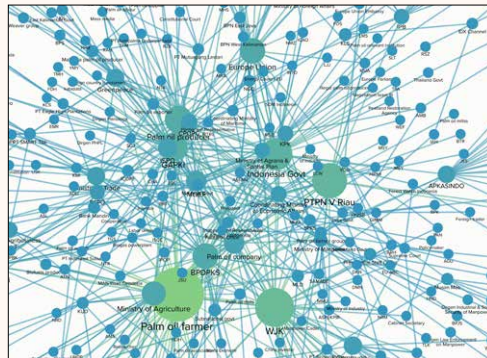
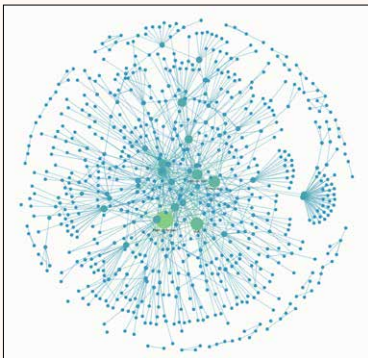


# Atlas of Actor

Social network and power analysis in Indonesia's palm oil, coffee, and wildlife trade

## Palm oil

730 actors forming 1,112 connections in the palm oil trade. Among these actors, the top 20 actor groups with the high centrality are: the farmer group, private sector, government including the state-owned company, business association including the company and smallholder association, consumer, and banking sector and endowment fund organization. The palm oil farmer (independent and or plasma smallholder) are the actor with highest degree and betweenness centrality, indicating their role as connector or hub and broker (or could also be a bottleneck). Consumer is the actor with the highest closeness centrality, indicating their role as spreaders of information.



Map of the stakeholder involved or have interest in palm oil trade. Sizes and colors representing the betweenness centrality.

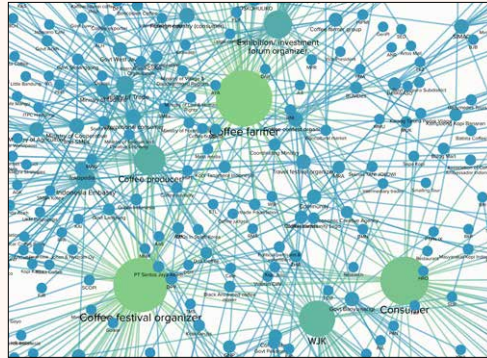
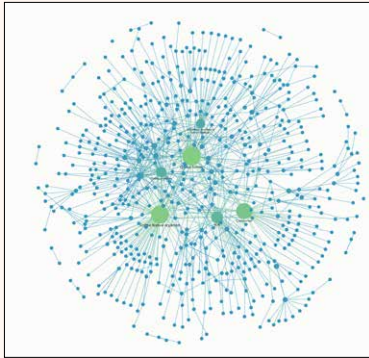
Palm oil is a key commodity in Indonesia, hence the government has power to control the trade through regulation and government's related unit. This influenced the substantial power of coercion, (dis-)incentives and dominant information. This is in contrast with the small-scale producer such as the smallholder or plasma smallholder that is the weakest actor group. Although they are included among the actors with high centrality in the network, they do not necessarily have the sufficient power to control the trade as well as for the pricing. They have limited capital and did not equipped sufficient knowledge in GAP.

### Actor-centred power of the palm oil trade

Actor Group	Coercion	(Dis-)incentives	Dominant information	Total
Certification body and standard developer	2	1	2	5
Consumer	3	1	2	6
CSO	1	0	3	4
Financing sector	1.5	1	1.5	4
<b>Government</b>	<b>3</b>	<b>2.5</b>	<b>3</b>	<b>8.5</b>
Large-scale producer	2	1	2	5
<b>Small-scale producer</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>2</b>
Trader and exporter	2	0	2	4

# Coffee

610 actors forming 949 connections in the coffee trade. Among these actors, the top 20 actor group with highest centrality are: the producer including farmer; shop and roastery; festival, investment, and contest organizer; consumer; government; private sector; CSO; and individual. Coffee festival organizer and farmer are among the actor with the highest degree, closeness and betweenness centrality. This indicates their prominent role in coffee trade as connector or hub, broker (or could be the bottleneck), and the disseminator of information.



Map of the stakeholder involved or have interest in coffee trade. Sizes and colors representing the betweenness centrality.

The social network analysis indicated both consumer and small-scale producer are the top 20 actors with the highest centrality. However, not all of the actors are equipped with sufficient power. Our actor-centred power analysis indicated the consumer, both domestic and foreign, are the actor with the strongest power. Meanwhile, the small-scale producer, for example coffee farmer, has the weakest power.

## Actor-centred power of the coffee trade

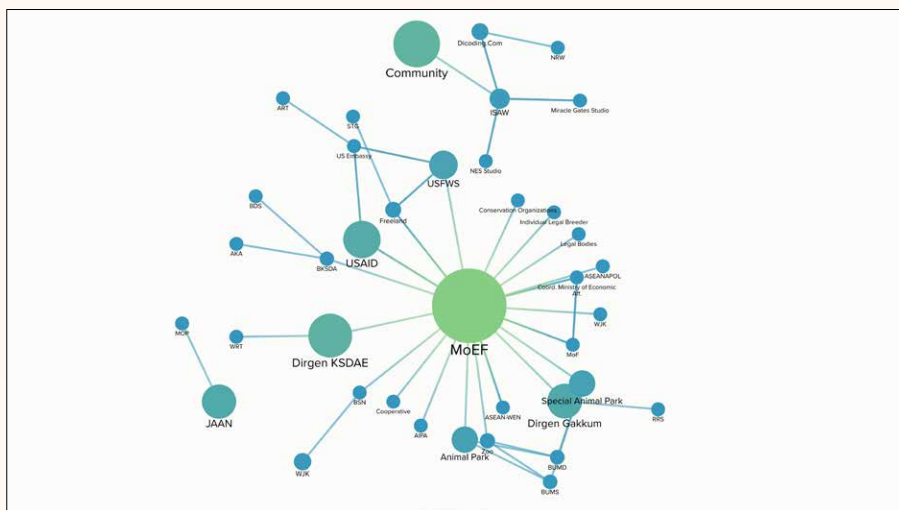
Actor Group	Coercion	(Dis-)incentive	Dominant Information	Total
<b>Consumer</b>	<b>2</b>	<b>1.5</b>	<b>2</b>	<b>5.5</b>
CSO	2	0	2	4
Event/festival organizer	2	0	2	4
Financing	2	0	1	3
Government	2	0.5	2	4.5
Large-scale producer	2.5	0.5	2	5
<b>Small-scale producer</b>	<b>1.5</b>	<b>0</b>	<b>1</b>	<b>2.5</b>
Trader and supplier	2	1	2	5

# Wildlife

## Legal wildlife trade

We found 38 actors forming 58 connections. Our study identified seven groups among the top 20 actors with high degrees of centrality: 1) government (MoEF and its units, the Coordinating Ministry of Economic Affairs, Ministry of Finance, BUMD, BUMS); 2) NGOs (ISAW, Freeland, and conservation organizations); 3) inter-regional organizations (ASEAN WEN, ASEANAPOL, and AIPA); 4) foreign government organizations (US Embassy, USFWS, and USAID); 5) CSOs and private sector (Dicoding Academy and Miracle Gates Studio); 6) licensed conservation area managers (zoos, animal parks, special animal parks, cooperatives, individual legal breeders, and legal entities); and 7) individuals. These actors consistently occupied ranks in each of the centralities, which indicates that they are connectors or hubs, brokers (or possibly bottlenecks), sensors or spreaders of information, and network leaders. MoEF, for example, was a connector, broker and spreader of information.

It ranked first in degree, betweenness, and closeness centralities. The Coordinating Ministry for Economic Affairs and the Ministry of Finance, meanwhile, were network leaders, as shown by their eigenvector centralities. We found NGOs working on wildlife issues, such as the Indonesian Society for Animal Welfare (ISAW), which strives to increase awareness of threats to wildlife from poaching and illegal smuggling. The analysis also identified a public figure who was a registered collector and social media content creator on legal wildlife, and another public figure associated with an NGO as its ambassador. Their roles were important in advocating for wildlife conservation awareness and influencing wider society buy-in to support conservation efforts.



Map of the stakeholder involved or have interest in legal wildlife trade. Sizes and colors representing the betweenness centrality.

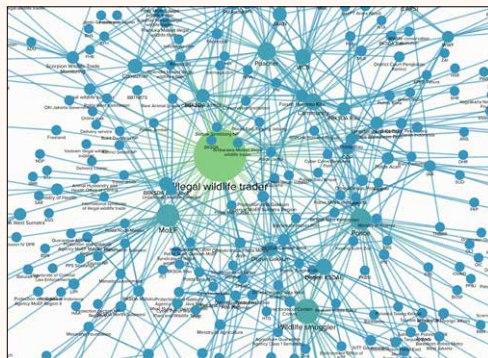
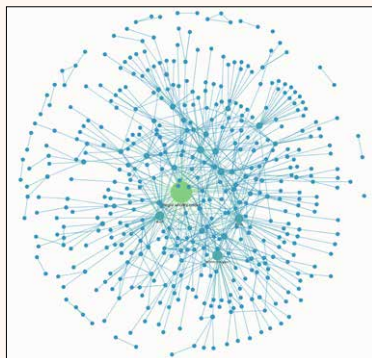
## Actor-centred power of the legal wildlife trade

Actor Group	Coercion	(Dis-)incentives	Dominant information	Total
<b>Government</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>9</b>
Consumer or collector (licensed)	3	3	2	8
<b>Supplier (licensed)</b>	<b>2</b>	<b>2.5</b>	<b>2</b>	<b>6.5</b>
Trader (licensed)	2	3	2	7
CSO	1	3	3	7
International network/organization	2	3	2	7

## Illegal wildlife trade

We found 464 actors forming 814 connections. Our analysis indicates groups in the top 20 for high degrees of centrality: 1) illegal actors (traders, smugglers, poachers, and consumers); 2) government (MoEF and its units including MoEF managed national parks, police, attorney general); 3) NGOs (Anti-Wildlife Trade League, WCS, JAAN, WWF, Global Coalition to Combat Online Wildlife Trade, Forum Harimau Kita, Scorpion Wildlife Trade Monitoring, and COP); and 4) communities. These actors were connectors or hubs, brokers (or possibly bottlenecks), sensors or spreaders of information, and network leaders in illegal wildlife trade and efforts in combatting the illegal wildlife trade.





Map of the stakeholder involved in trading or have interest in combatting illegal wildlife trade. Sizes and colors representing the betweenness centrality.

The government has a strong power in the illegal wildlife trade, particularly in investigating, capturing and punishing the illegal wildlife trade actor through special designated task force. They formed transnational partnership, e.g. with the INTERPOL (International Criminal Police Organization), to combat the wildlife crime. Their power and authority are legalized within the law and regulations which justified their strength of power. Another most powerful actor is the illegal consumer or collector. Demand from illegal consumer or collector drive the poaching and or trade. The impact become more substantial when the consumer or collector is a well-known figure or influencer. The least powerful actor according to our study is the international organization/treaty/network. Several studies highlighted lack of the link between existing international wildlife treaty to the local context (Challender et al., 2015; Franckx et al., 2011), and the international treaty cannot work alone without adoption by the country through their national regulation.

### Actor-centred power in the illegal wildlife trade issue

Actor Group	Coercion	(Dis-)incentives	Dominant information	Total
<b>Government</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>9</b>
<b>Consumer or collector (illegal)</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>9</b>
Supplier (illegal)	2	3	3	8
Investor of illegal wildlife trade and poaching	2	3	2	7
Trader (illegal)	2	2	3	7
E-commerce and social media platform manager	2	3	3	8
CSO	2	3	2	7
<b>International organization/treaty/network</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>6</b>

Photo credits: Nanang Sujana/CIFOR, Donny Iqbal/CIFOR-ICRAF, Eko Prianto/CIFOR, Mokhamad Edliadi/CIFOR

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