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Mapping policy actor networks and their interests in the FLEGT Voluntary Partnership Agreement in Lao PDR

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ABSTRACT

This paper maps the policy actors and their networks in the European Union's Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan and the Voluntary Partnership Agreement (VPA) process in the Lao People's Democratic Republic (Lao PDR). It analyzes power relations in the FLEGT VPA process, as well as actors' preferences in relation to a number of policy issues dealt with in the FLEGT VPA. To provide contextual understanding, the paper explores pathways of policy influence along which international actors influence domestic decision-making processes within the FLEGT VPA. We find that in the Lao FLEGT VPA policy process, power is held by the traditionally most powerful policy actors, the central governmental agencies, donor community and international development partners, while the private sector, civil society organizations and actors from subnational levels are substantially less powerful. Strong policy preferences were noted for all aspects of timber legality, except for the legality of non-timber forest products (NTFPs). Similarly, strong preferences were observed for considerations of transparency and accountability, while preferences were comparatively weaker for issues concerning i) forest communities' rights to forest and land, ii) livelihood impacts on small-scale operators and family businesses as well as those of forest communities, and iii) the involvement of civil society organizations in the VPA process. The most dominant pathways through which VPA influences domestic policy-making is the *direct access to domestic policy-making*, followed by the *international rules* pathway of influence. Based on our analysis, we argue that imbalance in distribution of power and in representation of actors in the VPA policy network may obstruct the intended outcomes and progress on important policy issues, despite the stated policy goals and resources provided by the donor community. This in turn fosters perpetual dominance of the traditionally powerful policy actors, which is likely to lead to further marginalization and disempowerment of the less powerful actors, such as forest communities and informal operators.

1. Introduction

Despite numerous international initiatives to address the problem, tropical forests continued to suffer high rates of degradation throughout the 1980s and 1990s, which contributed to a sharp increase in environmental awareness among consumers and civil society (Cashore et al., 2006; Humphreys, 2006; Seymour & Dubash, 2000). This resulted in substantial pressure and demands on policy makers in timber importing countries, including members of the European Union (EU), to respond to the problem (Carodenuto & Ramcilovic-Suominen, 2014; Humphreys, 2006). Owing to this demand and pressure, and mounting evidence about the extent and negative impacts of illegal logging (e.g. Brown et al., 2008; Contreras-Hermosilla, 2002; SCA&WRI, 2004; Tacconi, 2007), a political agenda was established for adoption of illegal logging as a policy term to address the problem at the global level (Humphreys, 2006; Tacconi, Boscolo, & Brack, 2003).

The Lao People's Democratic Republic (Lao PDR) has one of the highest national forest cover percentages in mainland Southeast Asia, yet forest cover loss has been rapid (Koch, 2017; Phompila, Lewis, Ostendorf, & Clarke, 2017). In the 1960s, forest cover amounted to around 71.6 percent (17 million hectares), but by 1992 it had declined to 47 percent (11.1 million hectares), decreasing further to 41.5 percent (9.7 million hectares) by 2002, and 40.3

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percent (9.5 million hectares) by 2010 (Thomas, 2015). However, a recent assessment by the Department of Forestry (DOF), Ministry of Agriculture and Forestry (MAF), which applied alternative methods and forest definitions, showed an increase to 58% (MAF, 2018). These figures and their changes are influenced by the politics behind definitions and methodologies adopted (Koch, 2017), and need to be viewed with caution, especially when independent sources continue to report high levels of forest loss, degradation and illegal logging (Hansen et al., 2013; Kukkonen & Tammi, 2019; Lestrelin et al., 2013; Saunders, 2014; Smirnov, 2015).

Numerous regional, national and international initiatives to address illegal logging emerged from the late 1990s (Humphreys, 2006; Kleinschmit, Mansourian, Wildburger, & Purret, 2016; Tacconi et al., 2003). In this article, we focus on the EU FLEGT Action Plan and on the process of negotiation of a Voluntary Partnership Agreement (VPA) in Lao PDR. The VPAs are voluntary bilateral trade agreements between the European Commission (EC) (representing the EU Member States in trade matters) and individual timber producing countries (EC, 2007). The main components of the VPA, as pre-defined by the EU, include definitions of legality, development of a timber licensing scheme and agreement on how to verify legality and monitor implementation of the agreement (Overdevest & Zeitlin, 2013; Ramcilovic-Suominen, Gritten, & Saastamoinen, 2010). Lao PDR commenced consideration to participate in FLEGT in 2009, formally recognized the process of VPA negotiation in 2015, and held the first face-to-face VPA negotiation with the EU in April 2017.

Lesniewska and Mcdermott (2014) point out that despite timber legality being the key operationalizing concept, in addition to the development of a timber legality assurance system (TLAS) and strengthening of law enforcement, the EU FLEGT includes 'sustainability' and 'good governance' principles. Examples include multi-stakeholder participation, participation of civil society, poverty alleviation and provisions for social and environmental safeguards (EC, 2003, 2005, 2007). These principles open up political space for raising important issues, such as issues concerning local forest communities and marginalized groups' livelihoods, rights to land and forest, equity in benefit sharing, as well as increased participation of all actors and increased transparency of processes (EC, 2003, 2007). In practice, however the scope of VPAs is determined by the government of the timber producing country, and trade-offs between policy goals are often required. This can result in the prioritization of goals related to technical legality principles and large-scale timber production over policy goals related to small-scale producers and broader 'good governance' principles (Colfer, 2011; Lesniewska & Mcdermott, 2014; Maryudi & Rodd, 2018; van Heeswijk & Turnhout, 2013).

Which policy goals are ultimately pursued – often at the expenses of others – will depend on the policy actors involved, the coalitions they form, their interests, policy preferences and the power they are able to exert in pursuing these interests and preferences. To shed light on these issues, we first identify policy actors and networks involved in the FLEGT VPA process in Lao PDR, and map their power-relations and their policy preferences concerning a number of issues negotiated in the Lao VPA process. Second, by linking the actors' policy preferences with their interactions using a social influence model (Friedkin & Johnsen, 2011), we calculate equilibrium policy preferences that correspond to distributions of power among the actors, and define the limits of consensual policy formulation. The use of the model can be conceptualized as a change in actors' policy preferences due to the influences of other actors, where the equilibrium policy preferences correspond to long-term stabile policy preferences, which remain unchanged regardless of the influence of others. Third and final, based on these theoretical underpinnings, seven unstructured, in-depth interviews and authors' long-term and ongoing research on the Lao forest policy and governance (e.g. Mustalahti & Lund, 2010; Mustalahti, Cramm, Ramcilovic-Suominen, & Tegegne, 2017; Rutt et al., 2018), we provide deeper insights into political environment and policy-making in Lao PDR, which helps us situate the findings related to power and policy preferences derived from the statistical models. 'Pathways of influence' framework (Bernstein & Cashore, 2010, 2012) is used as an analytical tool for this purpose. A particular emphasis is placed on the VPA implications for the less powerful, politically marginalized actors in the VPA, such as informal small-scale timber operators, forest communities and civil society organizations (CSOs).

The paper advances as follows: in section two, we introduce our case study, outline the policy and governance context and introduce the FLEGT VPA in Lao PDR. Section three presents the theoretical framework of social network analysis and research design. The results and discussion are presented together in the section four and cover power and policy preferences, based on the Social Network Analysis (SNA), as well as the pathways of influence and implications for marginalized, less-powerful actors. Finally, concluding remarks are given at the end of the paper.

2. Case study: forests and politics in Lao PDR

Forestland in Lao PDR is categorized as production forest, conservation forest and protection forest, and there may be areas of uncategorized forestland. As a basic principle set out in the country's constitution, all land and forests in Lao PDR are the property of the national community, managed by the State on behalf of its people. In effect, the State has the right to allocate land and forest for use and management. Rights and obligations are established in Land Law No. 04/NA 2003 (GOL, 2003) and Law on Forests No. 06/NA 2007 (GOL, 2007), both of which have been in review for an extended period, which has caused legal ambiguity and uncertainty regarding implementation (Broegaard, Vongvisouk, & Mertz, 2017; Suhardiman & Giordano, 2014). Forestland may be legally converted to other land types for development purposes where this is considered in the national interest, and substantial tracts of land have been granted through concession or lease for investment purposes (Broegaard et al., 2017; Schönweger, Heinimann, Epprecht, Lu, & Thalongsengchanh, 2012).[1]

2.1. Forest policy and governance structure in Lao PDR

Following the shift to a market-oriented economy and liberalization in the late 1970s and early 1980s, increasing efforts were focused on economic growth, fiscal adjustments, the introduction of defined property rights and the promotion of private sector activities. Legal and governance reforms were undertaken to support the new market-oriented approach and its neoliberal agenda. Various international, environmental and economic initiatives and reforms followed. The diversity of legal instruments and the speed of their change resulted in a high degree of overlap and fragmentation (Broegaard et al., 2017; Lagerqvist, Thongmanivong, & Lattachack, 2018; Lu & Schönweger, 2019), as well as incomplete and inconsistent implementation (Fujita & Phengsopha, 2008; Singh, 2012). In 2000, in response to forest cover loss, which con-

[1] Examples include infrastructure expansion, urbanization, construction of roads, hydropower plants and trade in raw materials (e.g., minerals, timber) in the regional and global markets. The international organizations, development partners and scholars have questioned these concession and land leases for investment and development purposes and state-supported large-scale land concessions for fast-growing plantations as the reasons for declining forest cover in Laos (Lestrelin et al., 2013; Wong, Darachanthara, & Soukkhamthat, 2014; Baird and Barney, 2017) and emphasized the substantial social and environmental consequences of land concessions and which range from food insecurity to village resettlements and pesticide pollution (Katila, 2012; Baird & Fox, 2015; Barney, 2014).

tinued and increased with the neoliberalizing adjustments (Barney, 2016), the Lao PDR government began to formulate a Forestry Strategy, and in 2005 the Forestry Strategy to the year 2020 was made (FS2020) (GOL, 2005). The '2020 Forestry Strategy' was intended to guide sustainable management of forests and development of the forestry sector in line with policies and priorities stated in the five-year National Socio-Economic Development Plans (NSEDPs). The 2004 National Growth and Poverty Eradication Strategy was also developed during the same period. Drawing on and formalizing recommendations from the National Forestry Congress, the FS2020 included a formal target of 70% forest cover by 2020. Criteria and indicators for Sustainable Forest Management (SFM) were developed already in 1999–2000 and a pilot forest certification project called "Forest Management and Conservation Programme" (FOMACOP) was undertaken, which also aimed at promoting village forest management. FOMACOP was, however, suspended after the first 5-year phase, due to state's concerns about devolution of forest management rights to village forestry associations (Fujita, Vongvisouk, Chantavong, & Chanthaleunnavong, 2005; Katila, 2000; WRM, 2000).

Apart from the 2020 Forestry Strategy, other policies and programs emerged. Some of the most significant include Lao PDR's membership in the Association of Southeast Asian Nations (ASEAN) and accession to the World Trade Organization in 2013. Most recently, the country's participation in international environmental programs, such as the Paris Agreement, programs to Reduce Emission from Deforestation and Forest Degradation (REDD+) (Cole, Wong, Brockhaus, Moeliono, & Kallio, 2017; Lestrelin et al., 2013) and the adoption of Sustainable Development Goals (MOFA, 2016) have altered the policy environment for forests. Lao PDR has also entered into a number of regional and bilateral agreements for forests, conservation and trade, including the EU Voluntary Partnership Agreement (VPA). Despite the development of these national policies and an active engagement in international forestry policy agendas, law-making in the country has tended to be reactionary rather than proactive, with 'stop-gap' measures introduced to address pressing issues (Dwyer, Ingalls, & Baird, 2016; Smith, 2014, 2016). The most recent examples include a Prime Ministers' Order No. 15 focusing on strengthening of timber harvest management and inspection of timber transport and timber businesses issued in 2016. Responsibility for forest management, timber processing and trade has been variously assigned and re-assigned to the Ministry of Agriculture and Forestry (MAF) and the Ministry of Industry and Commerce (MOIC), in part to assert separation of power and mandates between the two ministries. In 2011 a new Ministry of Environment of Natural Resources (MONRE) was established to separate the management of conservation and protection forests from production forests. However, since 2016, the forest management responsibilities have been returned from MONRE to MAF (GOL, 2016a).

In 2007 the Department of Forest Inspection (DOFI) was created and formalized as an official forest law enforcement agency under MAF in 2012 (GOL, 2012). Its mandate was revised in 2017 with the introduction of responsibilities concerning the VPA negotiations in anticipation of signing the VPA with the EU (GOL, 2017a), making DOFI the key governmental agency responsible for the FLEGT VPA process.

Overall, the forest policy agenda and its direction is in a constant state of change, reacting to the latest international demands and opportunities for development, funding, domestic recognition and international legitimacy (Cole et al., 2017; Dwyer et al., 2016; Ingalls, Meyfroidt, To, Kenney-Lazar, & Epprecht, 2018). The FLEGT VPA and its requirements for timber legality and multi-stakeholder participation exemplify this trend. However, while international policy goals are important mechanisms to launch domestic policy change, their impacts on the ground will largely depend on the political context into which they are introduced (Dwyer et al., 2016). Singh (2012) exploration of state authority with regards to forests in contemporary Lao PDR reveals the role of the Lao People's Revolutionary Party (the Party) and the legitimacy it has gained as it has moved away from socialism towards market-oriented policies. In line with Singh's analysis, more recent scholarship (Baird, 2018; Creak, 2018; Creek & Barney, 2018) assert that while the Lao government embraces market-oriented policy under the strong guidance of the Party, it retains a regulated approach to market access and full control over forests, with very little participation and freedom of expression. As the State seeks legitimacy within both, the domestic and international policy arena, it uses various strategies for gaining legitimacy and ensuring control and dominance. Domestically, state actors primarily gain legitimacy and dominance through the benefits, which subjects perceive they acquire in the process (distributive legitimacy). International recognition and engagement are further means for forging legitimacy domestically and internationally. For this to happen, however, the State is required to relinquish some of its decision-making power to non-state actors – an approach which is in contradiction to Lao political structure. As we show below, these policy processes may lead to unexpected phenomena, such as regulated CSO participation.

2.2. FLEGT VPA in Lao PDR and the legal developments concerning civil society

Lao PDR commenced consideration of participation in FLEGT in 2009, following a country visit by the FLEGT Asia representatives. In 2010, a letter of interest from MAF and MOIC was sent to Brussels, and an informal focal point was established in 2011. A baseline study of forest legality and compliance was undertaken (Barney & Canby, 2011), followed by establishment of a national steering committee and a more detailed timber flow study (Grace, Prixar, & Phengsopha, 2012). In 2012, MAF, MOIC and MONRE sent another letter of interest to the EU to initiate participation in the VPA. The time it took for the EU to react and engage in a VPA with Lao PDR might be explained by the fact that the majority of Lao wood is exported – legally and especially illegally – regionally, to Vietnam, Thailand and China rather than to Europe (Barney & Canby, 2011; EIA, 2011, 2017). In 2013, an agreement between the GoL and the Government of the Federal Republic of Germany formalized the provision of development assistance by Germany through project support to the Lao-EU FLEGT Process (ProFLEGT).[2] In 2014, participation in provincial pilot programs was agreed, and in 2015 the Prime Minister's Office approved the establishment of a negotiation team, which marked the formal start of the FLEGT VPA negotiations between Lao PDR and the EU (GOL, 2015). Negotiations remain ongoing with a view to entering into force in 2020. The FLEGT VPA is testing the definitions of legal timber, as well as the TLAS in three pilot provinces, called "FLEGT pilot provinces". In Xayaboury, the pilot measures focus on plantations, while in Khammouane on tracking timber from the point of harvest to processing factories. While in Khammouane and Attapeu, the pilot activities are under preparation, in Xayabouri those had stagnated, at the time this research was carried out. This is because the policy framework and legality definition standards for plantations, which are required for pilot activities, were not yet clarified. For this reason, only Khammouane and Attepeau are included in this study.

A key EU requirement is that the VPA negotiations should entail the so-called 'multi-stakeholder process', involving government agencies, civil society organizations (CSOs), the timber industry

[2] The ProFLEGT is a development assistance project, supporting the Lao-EU FLEGT negotiation process, implemented by the German Development Cooperation (GIZ) in cooperation with the Government of Laos (GoL).

and local communities. The Ministerial Decision (GOL, 2016b), which outlines the multi-stakeholder character of the VPA, formalized the representation of the following actors in the process: government agencies, the National Assembly, academia, the timber industry and domestic civil society organizations, referred to as Non-Profit Associations (NPAs). The representation of local forest communities is therefore indirect, and it is assumed that their voice is heard via the Lao NPAs.

Mechanisms, such as regulation, are often used to exert power and curtail the legitimate participation or exclusion of stakeholders from policy processes (Hall, Hirsch, & Li, 2011). Recent legal reforms have been introduced to regulate Lao NPAs' work, which ensure what we call 'regulated participation' of civil society in the VPA and forest governance more broadly. This has direct implications for the VPA multi-stakeholder process. In August 2017 the Government enacted a new Decree on Associations No. 238/GOV (GOL, 2017b), which replaced the previous Decree (GOL, 2009). The new decree has been widely criticized for its human rights implications[3]. The decree makes the permanent existence of NPAs extremely difficult, requiring annual registration of NPAs (Article 20), while the process is set to require substantial amount of time, making the registration unattractive and costly. Further, under the decree, 13 government agencies from central to village level are authorized by the state to directly supervise and monitor the work of the NPAs (Article 59). These recent developments are worrying signs for civil society development in Lao PDR as a whole, but also for the efforts of the EU FLEGT to strengthen multi-stakeholder participation in the VPA.

3. Theoretical and conceptual framing and research design

3.1. Social network analysis, resource dependence and power

In this study, Social Network Analysis (SNA) is selected as a general study approach, as it has well-developed procedures for describing and drawing inferences from actors' policy preferences, coalitions and inter-relations (Bond & Harrigan, 2011; Wasserman & Faust, 1994), all of which are at the center of our analyses. The SNA proceeds from the premise that *"social life is created primarily and most importantly by relations and the patterns they form"* (Marin & Wellman, 2011:22). From the SNA perspective, policy actors in the FLEGT VPA process are defined as a network of interacting organizations that have a stake in the process (Knoke, 2011). The underlying theoretical explanation of this policy network is based on the resource dependence framework (Pfeffer & Salancik, 2003), where organizations are primarily defined by their relations to their operating environment. To diminish uncertainty in this operating environment, organizations attempt to control resources that are vital to their operations. Pursuing different strategies to control these resources may constrain the subsequent behavior of an organization when the level of constraint corresponds to that organization's level of dependence on other organizations. In this theoretical framing, operating environment is analogous to policy network, constraints to behavior is analogous to change in policy preference, and inter-organizational resource dependence (i.e. misbalance in resource flows) is analogous to inter-organizational power. In the SNA, *power* is defined as a misbalance in resource dependency, following the resource dependence framework (Pfeffer & Salancik, 2003) which is an organizational analogue to the 'first face' of power (Dahl, 1957). Inter-organizational power is defined as actor *i*'s dependence on actor *j* and vice versa. The flow of resources from actor *j* to actor *i* is used as a proxy for dependence of actor *i's* dependence on *j*, since the interdependence is characterized by actors "...transacting in the same environment, with the connection being through the flow of transactions" (Pfeffer & Salancik, 2003:42), which is in accordance to Dahl's (Dahl, 1957) first face of (decision-making) power. The resource dependence framework[4] was selected among other theoretical perspectives[5] due to its complementarity to SNA (Pfeffer & Salancik, 2003)[6]. In addition to power as a misbalance in resource dependency, we expand the concept of power bringing in Krott et al. (2014) theoretical thinking on linking power to social relations and interactions, which are proposed to influence actors' abilities to mobilize resources towards pursuing their own policy goals and directing the policy change. This conceptualization of power is in line with the social influence model (Friedkin & Johnsen, 2011), as described below. Theoretically thus, in this article the concept of power is informed by Dahl's (Dahl, 1957) first face of power, resource dependence among actors (Krott et al. (2014); Pfeffer & Salancik, 2003; propositions concerning wider interactions and social relations between the actors and their influence on pursuing policy change.

Policy preferences correspond to the level of agreement/disagreement about the importance of pursuing and/or including a certain policy issue in the VPA. *Policy preferences* are modeled through Friedkin and Johnsen (1997) social influence model (part of a wider social influence network theory – Friedkin & Johnsen, 2011), for a theoretical scenario where future steps of FLEGT implementation in Lao PDR are participatory designed by its stakeholders, and where their role in the process is set by their initial (i.e. current) policy preferences and by their power relations. The social influence model relates to Krott et al. (2014) work, who emphasize the role of social relations of actors, but also the organizational aspects and power structures, and argue that all those directly influence the actors' abilities to utilize and mobilize resources needed to influence other actors' policy interests, and in that way influence the entire policy process. The social influence model is a deterministic, discrete-linear model for depicting long-term equilibrium policy preferences of actors. Through linking actors' policy preferences to their interactions using this social influence model, we can calculate equilibrium policy preferences that correspond to distributions of power among the actors in the FLEGT implementation in Lao PDR process, and define the limits of consensual policy formulation. *Equilibrium policy preferences* are in equilibrium with respect to the power-structure of the policy

[3] International organizations under Human Rights Watch sent a joint letter to Repeal of Decree on Associations, found here: https://www.hrw.org/news/2017/12/17/joint-letter-lao-government-re-decree-associations

[4] The resource dependence framework remains an important and widely used framework for studying a wide range of issues, including corporate philanthropy and dependence on governments (Wang & Qian, 2011), foreign direct investment and ownership (Cui & Jiang, 2012), network-focused interorganizational research (Zaheer, Gozubuyuk, & Milanov, 2010). Drees and Heugens (2013) *meta*-analysis of 175 applications of the framework demonstrates adherence to its basic propositions.

[5] Social class (Mills, 1956) and institutional framework (DiMaggio & Powell, 1983) were not selected due to their focuses on critical policy analysis and cultural systems that are not compatible with quantitative SNA. The stakeholder approach (Freeman, 2010) that integrates resource-based framework with wider socio-political level was not selected as it separates between internal and external stakeholders of an organization, where inquiry into internal organizational stakeholders would be technically challenging and would draw the focus away from the FLEGT policy network. Similarly, necessary emphasis and depth on the complex socio-political context required for this analysis are lacking considering that the primary results are derived from a quantitative questionnaire.

[6] The resource dependence framework and SNA are complementary and share the same assumptions, including: i) previous relations are the main explanatory factors of future relations and behavior (Piskorski & Anand, 2002); ii) position of an organization is set by the positions of those connected to it (Podolny, 1994); and iii) network configuration provides opportunities for brokerage (Burt, 1982).

actors in the network, and as such aim to represent the likelihood for implementation of a given policy. All changes in the model happen at the same time. The equilibrium policy preferences are linear combinations of initial policy preferences and the factors that affect these on one hand, and the opinions that are shaped by other actors through the network of influence on the other hand. The weight of these factors is set by the alpha coefficient of social influence, where higher values for individual actors represent higher effects of the influence network[7]. Higher values of alpha coefficient across all actors lead to higher levels of consensus on policy preferences. In this paper, policy actors' power is equated with their influence, their social relations and their ability to mobilize resources in the network. These properties are in correspondence to Dahl (1957) behaviorists perspective of equating power with its unused potential (i.e. influence), as well as Krott et al. (2014) emphasis on the role of social relations influencing policy actors' abilities to mobilize resources and pursue their own policy interests, as a way of exerting power. Thus, the concept of *power* in FLEGT VPA policy networks and how it is revealed, materialized and exerted by the policy actors should be approached as a construct that goes beyond mechanical interchange of resources, and which depends on the complex social relations and the specific political context. Limitations and reflections on the research design, methods and concepts, including that of power and the way how they are operationalized in this study, are presented in Appendix 3.

3.2. Research design: Identifying of policy actors and policy issues to include in the study

We adopted two criteria for selecting organizational actors as potential survey respondents: (i) those that take part in the Lao FLEGT process, meetings or consultations, and (ii) those able to influence the process. Since the study draws upon a resource dependence framework, formal organizations only could be selected as actors in the policy network. This means that actors operating informally (e.g. illegal loggers and unregistered businesses) were not included in the survey. We included policy actors at central, provincial and district level, as well as village authorities. Village authorities can be seen as representatives of both the local government, in their role as governmental implementation units, and of the villagers whose interests they formally represent. A total of eight villages – four from each of two pilot provinces, Khammouane and Attepau – were included in the survey. The third pilot province, Xayabouri, was excluded because of the lack of VPA activities, and thus VPA policy actors, as explained in the previous section. Ordinary villagers in the selected provinces were not included for two main reasons: (i) the need for special permits from higher levels in government, and (ii) the prevailing notion among the key informants that villagers had not been informed about FLEGT VPA and the issues surrounding it, and that our inquiry may spread fear and/or suspicion.

Initial policy issues and relevant organizations were identified based on review of policy documents, minutes and notes from meetings and workshops, as well as on insights obtained from seven unstructured in-depth interviews with individuals working with or familiar with the VPA. The lists of policy issues and actors were sent by email during March and early April 2017 to five key informants who provided feedback and comments. Upon receiving their comments and feedback, a final list with 52 organizational actors and 13 policy issues to be included in the survey was established. The selected organizational actors (Appendix 2) were grouped in the following six categories: (1) government actors, (2) private sector, (3) domestic CSOs (i.e. Lao Non-Profit Associations; NPAs), (4) international CSOs, (5) development partners (international organizations and bilateral or multilateral aid donors), and (6) Lao academia and research. The category of governmental policy actors was further grouped in four subcategories: central government, provincial government, district government, and village authorities. The 13 policy issues included in the survey include: (1) legality of exported timber, (2) legality of domestic timber, (3) legality of timber from 'conversion forests', (4) legality of timber from plantations, (5) legality of timber from village use forests, (6) legality of non-timber forest products, (7) bilateral relations with neighboring and regional partners in timber trade, (8) forest communities' rights to forest and land, (9) livelihood impacts on small-scale operators and family businesses, (10) livelihood impacts on forest communities, (11) transparency of decision making process, (12) accountability of decision makers to stakeholders and wider public, (13) CSO participation.

Finally, apart from the questionnaire, in total 7 qualitative, open-ended, in-depth and unstructured interviews (six face-to-face and one Skype-call) were conducted during January and February 2017 with individuals working with or informed about the FLEGT VPA process in Lao PDR. The interview respondents were from academia, donor organizations, development partner organizations providing technical assistance to the Lao government, the private sector and international CSOs. These interviews did not follow prescribed questions, but focused on the following larger issues: (i) VPA process, obstacles and progress made until the present, (ii) policy issues considered and discussed in the VPA negotiation; (iii) policy actors, their roles and interests in the VPA, (iv) power struggles between donors, development partners and between and within the governmental agencies, and v. CSO participation. These interviews provide important contextual understanding and insights concerning the formal and more importantly informal interactions between policy actors, and about the influence of the same on the negotiation of important policy issues within the VPA.

3.3. Operationalization of variables and data collection

Data for the policy network analysis was collected via a questionnaire which consisted of two parts – policy preferences and inter-organizational relations. The questions on policy preferences asked the respondents to state if they agree or disagree with the inclusion of a given issue in the VPA process, where agreeing with it means that they have a preference towards that policy issue in the VPA. For example, agreeing with inclusion of CSO participation in the VPA process was interpreted as a preference towards participation of CSOs in the VPA process. The questions were asked on a visual analogue scale from 'completely disagree', through 'neither disagree nor agree' to 'completely agree', and then, for analytical purposes, scaled from 0 to 100.

The question on inter-organizational power relations was phrased as: *"To what extent is your organization resource dependent on organization x?"*. This question was asked separately for each organization. Based on a review by Kraaijenbrink and Groen (2008), the resource typology of Pride, Hughes, and Kapoor (1991), which consists of human, financial, material and information resources, was selected. The respondents were informed of

[7] Models of the social influence network theory are widely used, for instance in assessing the relation between political views and social affiliation (Lazer et al. (2010); modeling relations between inter-organizational communication networks (Zhao, Yen, Ngamassi, Maitland, & Tapia, 2012), among others (e.g. Friedkin, Proskurnikov, Tempo, & Parsegov, 2016). Formal explanation of the model is in Appendix 1, while a complete explanation is given in Friedkin and Johnsen (2011) and a shorter overview is presented in Lovrić (2014). While many models are relevant, those were not applied due to incompatibility with our study design and/or empirical approach. For instance, Coleman (1973) collective action model and Marsden (1983) network access model were not selected as they are designed for multiple decision making processes. Similarly, Pappi and Kappelhoff (1984) dynamic policy model, and dynamic access models by Stokman and Van den Bos (1992) were not selected as they differentiate between stakeholders and those with decision making power

what these different resources consist of and how they are defined[8]. They were also informed that the resource dependence measure is a summary measure for all types of resources. The question was administered on a visual analogue scale, from 'Not at all' to 'Very strongly', The responses on the scale were treated as interval data (see e.g. Huskisson, 1974; Reips & Funke, 2008), and for analytical purposes scaled from 0 to 100. The next step was to normalize values of total organizational dependence to 100 for each organization. This step was performed to ensure consistency among the respondents in terms of relative magnitude of dependency between organizations (e.g. being 'fully dependent' on two organizations bears the half dependency of being fully dependent on just one organization). The effect of overall inter-organizational dependence was assessed separately with the question: *"How much is your organization resource-dependent on other organizations?*". This question was also administered on a visual analogue scale ranging from *'We can operate completely independently'* to *'We are completely dependent'*. The answers were then scaled from 0 to 1. The cumulative score of dependencies (i.e. 100) was then multiplied by this overall dependence score, i.e. it was weighted with how much an organization is dependent on external sources of resources. All things being equal, an organization that is less dependent on external sources of resources will be influenced less by other organizations in the network, i.e. the latter organizations exercise less power over the former. Inter-organizational power scores were obtained by subtracting the transposed resource flow matrix from its original form and keeping only positive values (i.e. 'net' resource flows). Total power *of* an organization was obtained by summing individual scores of power-relations that the focal organization has towards other organizations in the network. Total power *held over* an organization was obtained by summing individual power scores that other organizations have towards the focal organization, and represents the overall extent to which a given organization is dependent on other organizations in the network. Mutual dependence values reflect minimum values of reciprocal resource dependence between a pair of actors. Total level of mutual dependence of an organization was obtained by summing the individual mutual dependence relations of the focal organization. A graphical depiction of these relations with numerical examples is presented in Fig. 1.

The alpha coefficient is equated with total organizational power, where organizations with higher total power values have been assigned lower alpha coefficients. This means that for a given power relation in the network of actors, the alpha coefficient sets the level of pressure for consensual decision making, where the more powerful actors will be under less pressure to alter their policy preferences. The alpha coefficient was also scaled from 0.1 to 0.9 to reflect the balance between the exogenous and endogenous factors in the model. As different values of the alpha coefficient were used, no self-weighting was introduced. Analysis and network visualizations were performed in R (Development Core, 2016) programing environment, UCINET and NetDraw programs (Borgatti, Everett, & Freeman, 2002).

The questionnaire was pre-tested during April 2017, where four out of the five key informants replied to a questionnaire. The final questionnaire was distributed to the 52 identified organizations in the first week of May 2017. All responses were obtained by the end of October 2017. Both English and Lao versions were used and questionnaires were filled in by hand and digitally[9]. A total of 83 responses were received. Responses were received from 50 of the 52 identified organizational actors; the two missing responses were from one domestic and one international private sector organizations. Missing data in the received questionnaires due to unanswered questions amounted to 1.8% for the policy preference part, and 1.2% for the resource flow part. Mean values per sector were used to replace the missing data since the models applied in this paper do not allow for missing data. Table 1 shows the distribution of the 83 received responses per type and level of organization.

3.4. 'Pathways of influence' framework

Bernstein and Cashore (2012) 'pathways of influence' framework[10] (Fig. 4) is used to provide insights on the political environment, actors' interactions and power relations, based on the interviews. The framework proposes four types of policy influence pathways, along which international forest governance agenda and external policy actors influence domestic decision-making, as depicted in Fig. 4. These pathways operate and influence behavior following certain proposed causal logics, and can strengthen and promote specific policy goals (Fig. 4). The *international rules* pathway proposes the international formal and legal obligations and treaties as a mean for attainment of policy change. Even though the fundamental result of this pathway is state compliance with international law and conventions, we also consider the changes towards bringing domestic legal and policy framework closer to the international laws as intermedium policy result of this pathway. *International norms and discourse* pathway proposes internationally agreed norms (e.g. participation, social and environmental safeguards) as a mean of influencing the domestic policy direction and the policy-making process. The aim is to bring the domestic politics and policies closer to these norms, including democracy, participation and environmental and social stewardship and values. The *Markets* pathway proposes economic incentives and disincentives brought on the domestic policy makers as a mean of policy of influence, where the aim is to ensure access to international trade and markets and appropriate incentives. Policy influence and aims in the *direct access* to domestic policy making relate to transfer and provision of financial resources, technologies, capacity building and empowerment of marginalized groups.

Based on the interviews and authors' understanding of the VPA process in Lao PDR, the forth pathway *(direct access to domestic policy making)* appears to be the dominant pathway of influence in the Lao FLEGT VPA process, followed by the *international rules* pathway, where policy and legal reforms are considered as evidence of policy influence. Thus, in the analysis, we focus on these two pathways. We apply the pathways of influence framework as an analytical tool to understand and explain the reasons behind the observed power structure and dominance of governmental actors

[8] Explanation of resources, as given in the questionnaire: 'Resource' is defined as a service or other asset used to produce goods and services of various kinds (including knowledge and information) that meet human needs and wants. Resources include: *Information resources* – to whom do you rely on for getting information in any form (e.g. written or electrical expert documents, legislative acts, information on third parties, analyzes, political opinions, databases), by any means (e.g. through personal contacts, in written, or electronically)?*Human resources* – to whom do you rely on for hiring staff and employees (either long-term or short-term employed, consultants, volunteers, or any other form of affiliation)?*Material resources* – to whom do you rely on for getting material assets, such as working space, office, field equipment, machinery, vehicles, devices, etc.? Financial resources – to whom do you rely on for getting all sources of organizational finances, including for example direct financial flows, stocks, bonds, loans, subsidies, etc.?

[9] Distribution of questionnaires was in accordance with the local norms of interaction with the different policy actors: more formal codes of conduct were followed when distributing questionnaires to governmental organizations (through meetings), while distribution to CSOs, the private sector and development partners was mainly by email. In cases of no response to emails, telephone calls alone, or together with face-to-face meetings were used irrespective of the policy actors in question.

[10] This framework has commonly been used to assess the influence of donor interventions on forest policy (e.g. in Bangladesh by Rahman, Sadath, and Giessen (2016), in Mexico by Flores, Skutsch, and Mustalahti (2016), and in Cameroon by Carodenuto and Cerutti (2018).

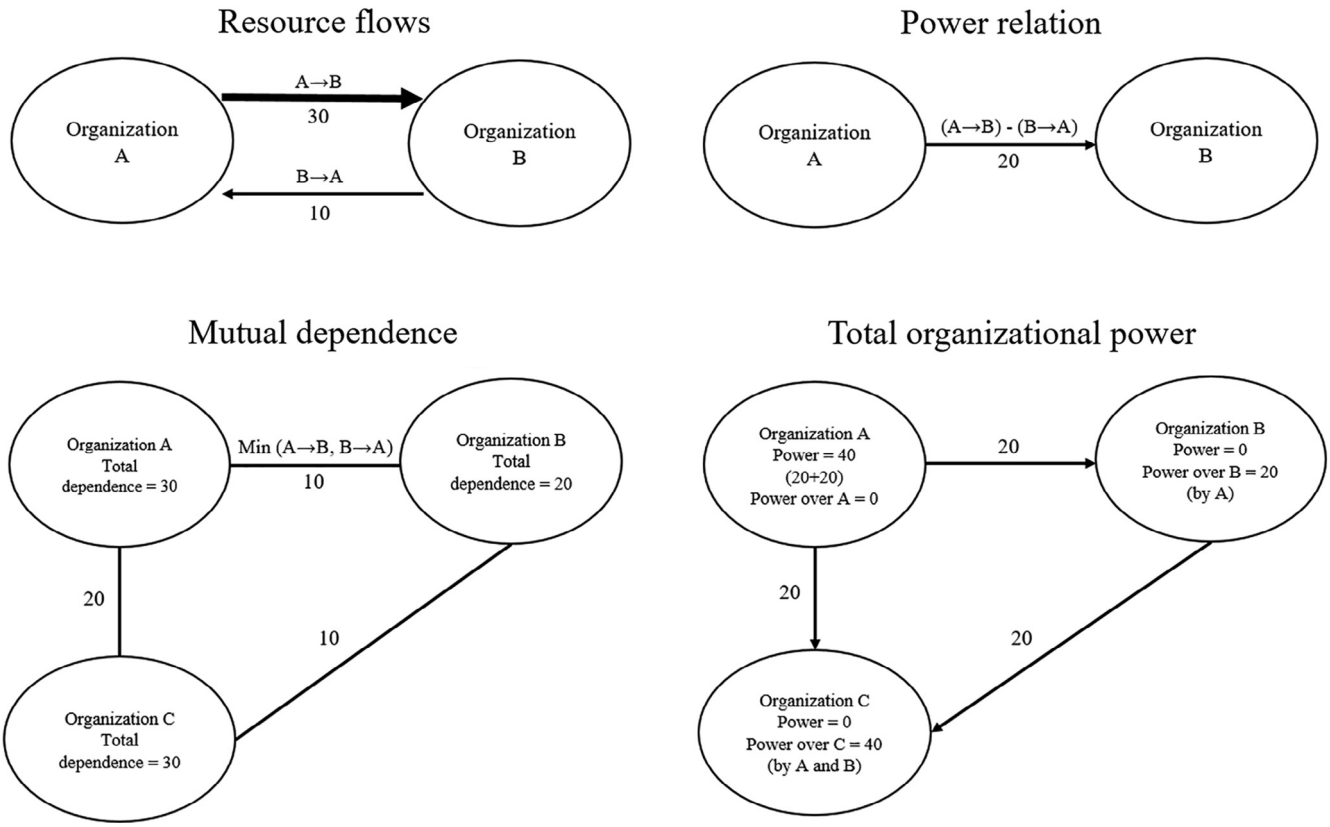

Fig.1. Resource flows, power and mutual dependence.

Table 1
Questionnaire distribution and responses per type of organization.

Types and levels of organizations	No. of identified and approached organizations	No. of received responses
Donor organizations and development partners	4	8
Central level governmental organizations	18 (of which 2 academia/research)	25 (of which 3 from academia/research)
International CSOs	4	8
Domestic CSO (i.e. Lao NPAs)	13	18
International private sector organizations	4	4
Domestic private sector organizations	4	4
Province level governmental organizations	2	2
District level governmental organizations	2	2
Village authorities	1 (village authorities in 8 villages were approached)	12 (all 8 approached authorities responded)
Total	52	83

and development partners, given that the aim of the VPA is to strengthen participation of multiple actors and facilitate representation of politically marginalized groups in Lao PDR, such as CSOs and forest communities. Similarly, providing insights into daily politics and policy-making, by using this framework we aim to explain why policy preferences are lower for issues that enhance social values and participation (i.e. forest communities rights to forest and land, livelihood of small-scale operators and CSO participation), when these are the values and principles that the EU VPA largely stands for (EC, 2003, 2007).

4. Results and discussion

4.1. FLEGT policy network: power, interactions and mutual dependence

The FLEGT Lao policy network, presenting the actors' power, is given in Fig. 2. Mutual dependence relations between policy actors are presented in Fig. 3. Both figures are given in the metric multidimensional scaling layout (Borg, Groenen, & Mair, 2017), where distance between organizations reflects their proximity in the respective networks of power and mutual dependence, and where the location on the map (top-bottom, left-right) is arbitrary. In the two figures, actors that are closely connected to each other are displayed close to one another, while those that are linked to other well-connected actors are displayed in the central area of the graph. In Fig. 2, the size of an actor's shape represents its total power, and in Fig. 3 it represents its total mutual dependence. In Fig. 2, actors' symbols also have a grey rim. The thickness of the rim corresponds to the extent to which a certain actor depends on all other actors in the network (i.e. sum of power held over the organizations by all others to which it is connected to). Ties between actors in both figures are scaled in line thickness, corresponding to tie strength; the thicker the lines, the stronger the tie. It is important to highlight that the power network (Fig. 2) is more explanatory of stakeholder relations than the mutual dependence network (Fig. 3), because the former has a maximum value

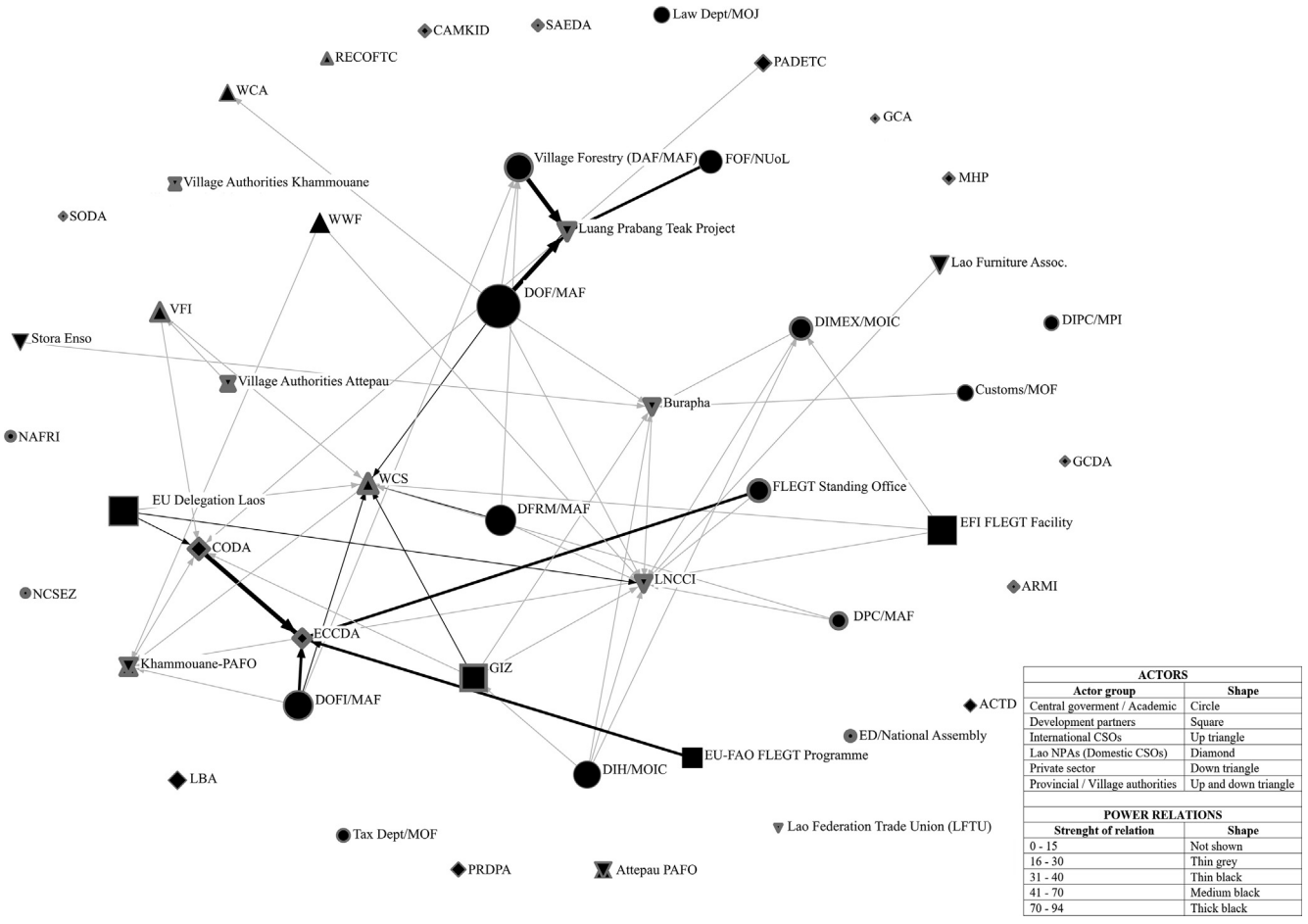

Fig. 2. FLEGT Lao policy network based on power of policy actors.

of 97 and the latter of 19. This stark difference is due to the low reciprocity of resource flows among the actors (see operationalization of variables, Section 3.3).

The ties in Fig. 2 are split between a small number of very strong ties and a larger number of weak ties, following the scale-free distribution, which is the most typical distribution of ties in nature (Barabási & Albert, 1999). Such split in ties is reflected in grouping of actors in one group that is very powerful and not dependent on other organizations (power $\geq$ 240 and power over $\leq$ 10). And another group that is not powerful but is highly dependent on others (power $\leq$ 105 and power over $\geq$ 190). The members of the first group belong exclusively to central government and development partners. The members of the second group belong to the private sector Lao NPAs and provincial and village authorities. All other actors have low power and are moderately dependent on other organizations (i.e. have moderate power over scores). Judging on the figure alone, two groups of actors can be seen. The first group is visible in the top-center and consists mainly of governmental organizations (i.e. DOF/MAF, Village Forestry Division under DOF/MAF, FOF/NUoL) and Luang Prabang Teak Project. The second group is at the bottom-left, and unlike the former, it consists of actors from different sectoral backgrounds: i) Lao NPAs (EECDA, CODA), ii) development partners (EU-FAO FLEGT Programme, FLEGT Standing Office, the EU Delegation in Lao PDR, GIZ and EFI FLEGT Facility), and iii) one governmental actor (DOFI/MAF). However, none of the two groups are 'cohesive' in statistical sense, as tested by the factions and the categorical core-periphery routines (see Appendix 1).

Concerning mutual dependence (Fig. 3), the factions routine test consistently identifies one group of highly inter-related actors (bottom-left corner). This group is composed of private sector actors (both domestic and international ones) and one actor from the governmental sector. With ties dichotomized by all quintiles, the factions routine test consistently identifies another group (left-center). Unlike the first group, the second group of actors includes policy actors with a more diverse sectoral background consisting of: (i) central and provincial government agencies, ii) donor and development partners and iii) international CSOs. However, the main conclusion emerging from the Fig. 3 is that once the weak mutual dependencies are disregarded, there is only one large group of interconnected actors, which consists of the most powerful actors as identified in Figure 2. In both the power and the mutual dependence network, actors are not grouped according to their sectoral affiliation (Q modularity $\leq$ 0.09; Newman & Girvan, 2004).

Concerning power and power relations, these figures (Figs. 2 and 3) show that apart from the central governmental actors – who are generally perceived and accepted as the single most powerful authority in Lao PDR (Creak & Barney, 2018) – the international actors, consisting of donor and international technical assistance agencies, also appear to be considerably powerful in the VPA policy network. This is in accordance to the literature, which argue that international actors have a crucial role in both, supporting and reforming governmental policies in Lao PDR (Broegaard et al., 2017; Cole et al., 2017; Lestrelin, 2010), and in mainland Southeast Asia (Lestrelin, Castella, & Bourgoin, 2012).

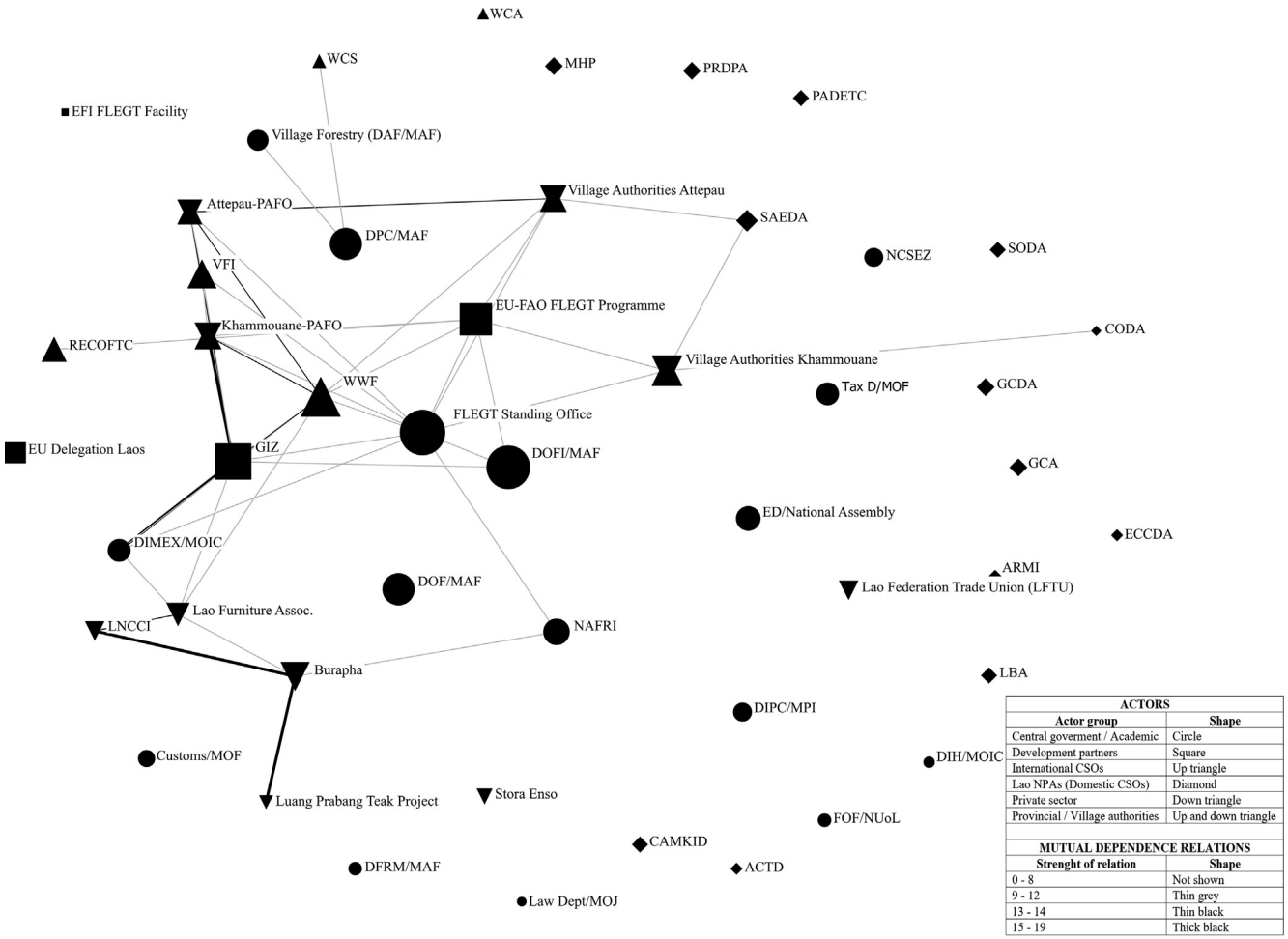

Fig. 3. FLEGT Lao policy network based on mutual dependence.

Similarly, the finding that actors from Lao NPAs and village authorities are the least powerful in the network is also in alignment with previous studies suggesting lack of Lao NPA participation (Mustalahti et al., 2017; Sims, 2017) and a limited role of local people in decision-making concerning forests (Broegaard et al., 2017; Kenney-Lazar, 2012, 2017; Lestrelin et al., 2012; Singh, 2012). Even if our results concerning resource dependency and therefore power relations are in accordance with the literature, they should be taken with caution considering that the chosen methodology (questionnaire survey) is not well suited for addressing complex questions of resource dependence and power relations, especially in highly sensitive Lao political context (see Appendix 3). To meliorate the potential bias and reliability issues, we discuss and reflect on these results placing them in the specific Lao political culture, in the last sections of the paper. Findings concerning policy networks, even though lacking statistical significance to prove cohesion among them, indicate close cooperation and interlinkages among the central governmental agencies and international donor and technical assistance agencies – the most powerful actors. Another identified group was the international and domestic private sector actors. The power of this group, though, is below the average of the entire Lao FLEGT VPA.

4.2. FLEGT VPA actors' policy preferences

The 13 policy issues included in the survey are categorized in three larger categories (Table 2): i) those dealing with legality of timber and non-timber forest products (Q1 to Q6), ii) those dealing with FLEGT VPA potential societal impacts, including the country's bilateral relations (Q7-Q10), and iii) those dealing with "governance principles", including CSO participation (Q11-Q13). In the following section, we present the degree to which policy actors adhere to these issues and reveal their policy preference.

Before we present the results concerning policy preferences, we should note that these should be taken with a level of caution, due to potential methodological limitations, as further explained in the Appendix 3. Namely, the use of close-ended questionnaire in assessing policy preferences in the situation of high scrutinizing political culture and environment in Laos, combined with the fact that in some cases the questionnaire forms were distributed through intermediaries (see Appendix 3) are likely to have skewed the responses towards discourses promoted by and in favor of the political elite. Due to the relatively large amount of policy issues, as well as actors (see Appendix 2 for individual values), we highlight only some of the most notable responses and/or the responses of the more powerful actors. First, there was a high preference for including most of the aspects concerning legality in the VPA (issues 1–5), except for the legality of NTFPs, were actors' policy preferences differed significantly – from *no* to *high* preference. In general, the highest policy preferences were reported for legality of timber for export and the domestic market, followed by (in decreasing order): legality of conversion forests, plantation forests, village forests, and finally the legality of NTFPs. In the case of conversion forests, the actors revealing lower preferences were governmental

Table 2
Policy preferences.

	Policy issues	Initial policy preferences (mean)	Equilibrium policy preferences	
			Mean	Interquartile range
	I. **Legality of timber and non-timber forest products**			
1	Legality of exported timber	0.899	0.915	0.100
2	Legality of domestic timber	0.880	0.897	0.096
3	Legality of timber from 'conversion forests'	0.873	0.887	0.093
4	Legality of timber from plantations	0.844	0.898	0.124
5	Legality of timber from village use forests	0.870	0.874	0.100
6	Legality of non-timber forest products (NTFPs)	0.733	0.765	0.228
	II. **FLEGT VPA potential impacts**			
7	Bilateral relations with neighboring and regional partners in timber trade, and their likely prioritization over the VPA	0.576	*0.524*	0.348
8	Forest communities' rights to forest and land	0.814	*0.78*	0.122
9	Livelihood impacts on small-scale operators and family businesses	0.758	*0.693*	0.185
10	Livelihood impacts on forest communities	0.864	0.877	0.133
	III. **"Governance principles" considerations, including CSO participation**			
11	Transparency of decision making process	0.906	0.891	0.088
12	Accountability of decision makers to stakeholders and wider public	0.904	0.897	0.061
13	CSO Participation	0.823	*0.787*	0.170

actors, while for plantation forests, low preferences were revealed by Lao NPAs and the Lao private sector. Concerning the legality of the NTFPs (for which low preferences and high level of disagreement were noted), the issue was raised by some Lao policy actors at the first face-to-face negotiation between the EU and Lao PDR in April 2017. However, the EU and the international development partners in the country were not ready to diverge from the standard VPA scheme, which does not include legality standards for NTFPs, and which was used as a justification for removing the NTFP legality from the VPA agenda. The issue was consequently discontinued, despite the high-level support from some of the powerful actors from both, international organizations and the government (Appendix 2). This suggests that factors beyond organizational actors' power may be at play in international governance processes, such as FLEGT, such as the lack of flexibility and the binding framing and design of this international policy instrument; a finding which indicates the relevance of the *international rules* pathway of influence.

As policy issues 7–10 have to do with the potential impacts of the VPA on bilateral relations, forest communities rights, livelihoods of small-scale operators and livelihoods of forest communities, we refer to these issues jointly as those that relate to VPA potential impacts. The preferences for policy issues relating to VPA potential impacts (policy issues 7–10) were comparatively weak. While the majority of policy actors had strong preference for consideration of forest communities' rights to forest and land (policy issue 8), including those coming from governmental and international partner organizations, some of the most powerful actors from the central government and donor community surprisingly showed low preference for the issue. The FLEGT Standing Office for example expressed no preference for this issue (0 score, on a scale from 0 to 1), while DOF/MOF, the EFI FLEGT Facility and the Law Department/MOJ and some private sector actors ranked it between 0.4 and 0.5. Exceptions to this were powerful actors, including MAF, MOIC, the EU Delegation, all of whom showed high preferences for the issue. Further, lower policy preferences among many powerful actors were observed for the issue of the amelioration of possible negative impacts on informal small-scale forest businesses (policy issue 9). The DOF/MAF and DIH/MOIC indicated no preference regarding the issue, while the vast majority of other powerful governmental actors, marked their preference on a scale from 0.5 to 0.6. Finally, great variety in preferences were observed concerning the issue of Lao PDR bilateral relations with neighboring countries and whether these relations should be prioritized over VPA and forest legality (policy issue 7). A number of powerful actors from the central government (DOF/MAF, DOFI/MAF and FLEGT Standing Office) revealed a high preference for consideration of the issue and about half of the Lao NPAs shared their position. At the other extreme, international actors, including donor community (e.g. EFI FLEGT Facility) and the international private sector showed no or low preference for the issue. The exceptions were the FLEGT Standing Office and DIH/MOIC (both domestic actors), who revealed no preference, while the EU-FAO FLEGT Programme (international policy actor) revealed high preferences for consideration of the issue.

Finally, and similarly to the issues concerning timber legality, high policy preferences were identified for consideration of the so-called 'governance principles', i.e. transparency and accountability (policy issues 11,12). One issue for which far less preference was shown by a number of powerful actors, however, was the participation of CSOs – both local NPAs and international CSOs (policy issue 13). Interestingly this included the international private sector, as well as the majority of the most powerful central governmental agencies, but not all of them (see Appendix 2).

Table 2 shows all actors' initial policy preferences as a mean value on a scale from 0 (completely disagree) to 1 (completely agree). The equilibrium policy preferences as calculated in the Friedkin model are presented in columns 3–4: column 3 shows its mean values, while column 4 the interquartile range[11] of equilibrium policy preferences. These preferences can be interpreted as a reflection of the level of consensus on a given issue (e.g. Jiang, Kleer, & Piller, 2017), where smaller values reflect higher level of consensus and therefore likely implementation.

The first noticeable result is that, on average, actors agree on the implementation and consideration of most of the policy issues. Policy issues that can be considered as 'critical' in terms of a lack of consensus in policy preferences, and therefore low likelihood of implementation, include: (1) consideration of livelihood impacts on small-scale operators, (2) consideration of forest communities' rights to forest, (3) CSO Participation, (4) consideration of bilateral relations with neighboring countries and (5) legality of non-timber forest products. The interquartile ranges represent the level of consensus, which relates to high diversity in policy preferences and/or lower preference for the issues by some of the powerful policy actors. The distribution of the interquartile ranges follows the

[11] Interquartile range is range in which middle 50% of data can be found, when it is ordered from smallest to largest value.

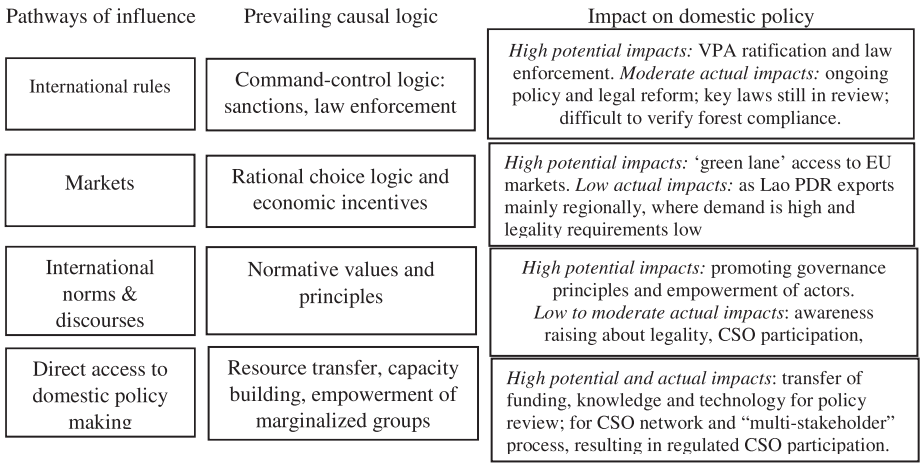

Fig. 4. Pathways of influence (Adopted from Bernstein and Cashore 2012, Carodenuto and Cashore 2018).

distribution of mean policy preferences; the issues with which people on average, least agree are also marked with the lowest levels of consensus. The values of all stated and equilibrium policy preferences for all actors and their centrality scores are given in Appendix 2. The second noticeable finding is that the initial and the mean equilibrium policy preferences are consistently very close to one another across all thirteen issues. On average, the difference is marginal (0.826 and 0.821). This means that given the current stakeholder power structure, it is unlikely that much can be changed in order to reach a consensus on the issues with low likelihood for implementation and consideration in the VPA.

4.3. Pathways of policy influence: International rules meets domestic policy making in Laos

Exploring how international policy is being translated, adopted and adapted to domestic policy context can provide indications and explanations for the results concerning power relations, resource dependence and policy preferences alike. For this purpose we utilize Bernstein and Cashore (2012) pathways of influence analytical framework, a summary of which is depicted in the Fig. 4.

The pathways of influence analysis is based on the seven interviews, and on the authors' long-term and ongoing research on forest governance and policy interventions, including FLEGT process (see e.g. Mustalahti & Lund, 2010; Mustalahti et al., 2017; Rutt et al., 2018; Ramcilovic-Suominen & Epstein, 2015). We highlight that all four pathways are highly relevant and all of them may have exerted some influence, at least at some stage of the policy process[12]. However, in accordance with our goal to reflect on direct implications of the VPA on the less powerful and politically marginalized groups, we place particular emphasize on the *domestic policy-making* pathways, which we assess to have the most immediate and direct influence, followed by the *international rules* pathway of influence. The *international rules* pathway is relevant in terms of promoting timber legality and law compliance with the international rules. Potential impacts relate to the ongoing reforms of national forest policy and legal framework, in the process of development of the VPA legality definitions, where the EU and development partners have pushed for a review of the existing national laws (Smith & Alounsavath, 2015). Concerning the actual enactment of new legal provisions, a new Prime Minister Order number 15 (PMO 15) enacted in 2016, should be mentioned. The Order aims to prohibit the export of unprocessed timber such as logs, and in that way limit illegal logging and trade (To, Treanor, & Canby, 2017). However, the stated goals of the PMO15 to reducing illegal logging was challenged by some of the interview respondents, two of whom argued that the Order is an effort by the central government to strengthen control over timber revenues, shifting it upwards, from provincial to central levels of governance. Another area where the *international rules* pathway plays a role relates to NTFP legality, or better it being missed in the VPA negotiations. The VPA design does not provide for legality of NTFPs, and despite the relatively high preference for including the NTFPs in the VPA negotiation by a number of powerful governmental and also international actors (Appendix 2), the same was nonetheless excluded from the negotiation process. This indicates the importance of the international 'regimes' in directing policy change, which is strongly in accordance with the propositions of the 'international rules' pathway (Bernstein & Cashore, 2010, 2012).

The *direct access to domestic policy-making processes* is the most dominant pathway, which significantly influence the domestic policy-making in the Lao VPA process. Again, this may be explained by the VPA process being in preparatory stage, but also by the highly technical nature of TLAS, requiring highly specialized knowledge and expertise of international technocratic elites (Carodenuto & Cashore, 2018). The goals promoted via this pathway are sectoral coordination, participation of multiple actors, and strengthening of the role of CSOs. Substantial resources have been placed by the EU and its members states, such as Germany, to promote the role of CSOs in the VPA process. Most prominently, the GIZ, one of the more powerful actors among the development partners (Fig. 2), since 2013 has been coordinating a large project aiming at assisting Lao Government in negotiation and preparation for the VPA (ProFLEGT project). Within this project intervention, eight ministries are brought together to discuss timber legality, and in that way accommodate the donors' requirement for sectoral coordination. The EU's requirement for CSO engagement and participation in the VPA negotiation process, and the resources allocated to that end, resulted in establishment of the so-called CSO FLEGT Network in 2015 (Lao, 2015). Training and capacity building of these Lao NPAs has been ongoing since 2015. The high degree of guidance and financial support for these NPAs provided by the international donors and development partners, administered via governmental agencies, may be seen as a cause for celebration, but it also raises concerns when it comes to an independent role of CSOs. While all interview respondents thought that the issue of CSO participation has gained importance in the VPA process,

[12] For instance, the *markets* pathway may have played a role in getting the country interested in the VPA, due to its potential to help international timber trade, but as it is currently less used we do not dwell on this pathway. Similarly, *international norms* pathway may have played a role in promoting the values of openness and transparency among the VPA policy actors, leading to larger awareness and stated policy preferences for transparency and accountability among policy makers.

they also questioned their freedom, capacities and abilities to evaluate and challenge the existing power structures, given the political economy of the Lao forestry sector. As this interview statement testifies it: "*Yeah, that's why I told you that they (Lao NPAs) are not independent organizations. More or less they need to follow the government regulations, it is totally different from (how it is in) other countries. Because in Laos, let's say (pause), we cannot go on strike, to be honest. Therefore it's not worth it, and the CSO, they have family, they don't want to be (pause) you know in trouble*".

4.4. FLEGT VPA implications on the marginalized policy actors and groups in the Lao PDR?

Bernstein and Cashore (2012) framework proposes that the underlying logics of the *international rules* and *direct access* pathways is the degree to which laws are complied with, and marginalized groups are empowered, respectively. Demonstrating the importance of the policy context in which policy interventions are imposed, we show how on the contrary to the theoretical assumption, the policy interventions via *international rules* and *direct access* pathways can lead to disempowerment of traditionally excluded and marginalized actors: the informal timber sector, forest communities and the CSOs.

International rules pathway as described above is used to promote timber legality. The VPAs by design focus on the formal law and written rules (Carodenuto & Ramcilovic-Suominen, 2014; Hansen, Rutt, & Acheampong, 2018; Ramcilovic-Suominen, 2012; Ramcilovic-Suominen & Hansen, 2012), reducing therefore the complex socially and legally pluralistic environments and systems to formal state law in Lao PDR (Lund, 2011; Moore, Pholsena, Phommachanh, & Glémet, 2013; Smith, Ling, & Boer, 2017; UNDP, 2011). Accordingly, the TLAS instrument and the VPA legality definition consider only formal state laws. The Lao TLAS as planned will include both, international as well as domestic timber trade, meaning that all timber operators – large and small-scale, formal and informal – will need to follow formal state legislation and legality standards. However, the small-scale timber operators and loggers, who operate informally and produce for domestic and regional markets are largely unable to comply with the TLAS, and therefore to access the benefits related to the access to EU markets. As a result, in the VPA process these less powerful and marginalized groups, are likely to face further exclusion and consequences, as the criminalization of their activities strengthens. Formal state law is also found to be beyond the reach of the small-scale timber operators, in other VPA countries (Carodenuto & Ramcilovic-Suominen, 2014; Cerutti & Lescuyer, 2011; Hansen et al., 2018; Smith et al., 2017; Ramcilovic-Suominen, 2012). As Carodenuto and Cerutti (2014) find for the case of Cameroon, the multinational forestry companies, with already secured access to international markets will be likely to benefit from the EU market access. The results from the SNA disclose further concerns, as the policy preferences of powerful actors for consideration and amelioration of possible negative impacts on informal small-scale forest businesses (policy issue 9) were relatively low. Final barriers for addressing challenges that small-scale informal timber operators face is that – as it became clear in the mapping of policy actors for the questionnaire purposes – the informal timber operators are fully unrepresented in the VPA process.

Along with the small-scale operators, forest communities that are also part of the informal sector may similarly face potential negative impacts resulting from the VPA's quest for legality. For example, the VPA inspired legal reform in the country is currently considering to include the village use forests in the VPA legality definition. This means that timber may be commercially extracted from village-use forests, under the agreed legality standards. While this is still under consideration and while commercialization of village use forests could be considered as a step forward, risks related to the communities' lack of representation and legal ownerships of village-use forests (GIZ, 2015; MAF, 2016; SUFORD-SU, 2015) cannot be overlooked. In the absence of communities' legal rights to the village-use forests, it is uncertain who will benefit and who will bear the costs from the commercialization of the village use forests under the VPA. To avoid harmful impacts on the communities, the proposed policy change should be accompanied with a legal reform concerning communities' representation in the VPA, as well as their legal ownership and rights to benefit from forests. In general policy actors, including some governmental agencies, have relatively strong preference for consideration of forest communities' rights to forest and land (policy issue 8). However, some of the most powerful actors from the central government and donor community showed lower preferences for the same (Appendix 2), which raises concerns for the VPA implications on forest communities.

Direct access to domestic policy making is a dominant pathway of influence in the VPA process, primarily used for training and capacity building, multi-stakeholder process and CSO participation. Substantial efforts by donors and development partners to strengthen participation have taken place, and as a result some of the Lao NPAs, organized in Lao CSO Network, are now formally represented in the VPA negotiations. This network is trained in issues that they should be aware of (according to the opinions of respondents from the government and development partner organizations) concerning forest governance, illegal logging, timber legality, forest communities and the FLEGT VPA process. However, their role in the CSOs, as argued by the interview respondents, is limited and is in line with the mainstream policy actors and their policy agenda, rather than counterbalancing it. The reasons given by the interview respondents included that the only way for the CSOs to participate in the process is to be in alignment with the international partners and the government, and that it is better to cooperate than to be in the constant state of conflict with the government. This is in accordance to the lower reported preferences for CSO participation in the VPA (Appendix 2), as well as with the recent academic literature, which suggests that the regulatory framework concerning transparency, openness and freedom of speech has tightened, rather than relaxed since 2014 (Baird, 2018; Creak, 2018; Creek & Barney, 2018). Contrary to this scholarly literature, the results from the SNA reveal higher policy preferences for transparency and accountability. This contradiction as we note above might be due to methodological limitations and the Lao patronizing political culture (Creak, 2018; Creek & Barney, 2018), which are likely to skew the responses towards the recently popularized discourse that the VPA, as well as the new government prioritize transparency and accountability. One of the major setbacks for CSO participation, as well as transparency and accountability in fact, is the recent introduction of the Decree on Associations, Decree 238 (GOL, 2017b). The decree proposes a long list of complicated procedures for registration of Lao NPA (domestic CSOs), and a similarly long list of governmental agencies with a mandate to regulate the NPAs and their activities. An anonymous policy analysis referring to Article 56 of Decree 238 (Anonymous Review, 2017) states: "*The decree gives broad authority to government agencies to "control," "scrutinize" and "examine" the associations without giving clear guidance on what information they should be looking for, or what actions they have the authority to take based on that information" (original emphasis)*". The broad authority and unclear guidance are often used as mechanisms for controlling the work of CSOs, which may be subject to arbitrary scrutiny and demands by the governmental agencies (Hall et al., 2011). Notable cases include imprisonment and/or expelling of

Lao citizens and foreign nationals for criticizing the government (ASEAN, 2017; Baird, 2018; Gindroz, 2017; Sims, 2017). The discrepancy between the stated policy goals show the reluctance of the state agencies to deliberate decision-making power to non-state policy actors, such as the SCOs, despite the policy pressure applied by some powerful actors in the VPA network (i.e. donor communities and development partner organizations).

The power structures and policy networks (Figs. 2 and 3) are well representing the current political settings and the highly regulated policy space, which remains limited to a handful of policy actors. This takes us back to the importance to distinguish between power as a function of resource independence and the flow of transactions only (Dahl, 1957), versus power as an exercise of mobilizing resources, using formal and informal ways and interactions, shaped by the social and politically-laden relations between the actors (Krott et al., 2014). The eventual outcomes of the 'pathways of influence' will depend not only on power seen as formal exchanges of resources, but also on power seen as, and expressed through the daily politics, social relations, historical and political context. This wider conceptualization of power explains why despite the VPA focus, external pressures and significant time and resources placed on multi-stakeholder process and participation of CSOs, the actual outcomes contradict the policy aims, highlighting the role of social relations between the actors and the wider political context in the country.

5. Conclusions

The most powerful actors in the Lao FLEGT VPA policy process consist of the central government and the international development partners, including the donor and the international technical assistance agencies. Domestic CSOs and village authorities were the least politically powerful and influential in the VPA process, while the private sector, academia, international CSOs and provincial authorities held a medium level of political power and influence. The strongest policy networks and interactions were observed between the above named most powerful actor groups and among the actors from the private sector, while the rest of the policy actors were less connected. Unequal power distribution and representation of actors in the VPA policy network in turn imply unequal opportunities to influence the VPA, which is reflected in the higher preferences for policy issues related to timber legality compared to those related to social impacts and CSO participation, for instance. Unequal power structure and representation also imply unequal distribution of benefits and rights, which in turn could result in continued dominance of the traditionally powerful actors and their privileged control over resources, discourses and political power, possibly resulting in further marginalization and disempowerment of forest communities and informal small-scale operators. The implications of the VPA for forest communities and small-scale operators remain a critical issue requiring further research. To avoid possibly unfavorable social implications, more systematic efforts to reach the informal forest sector actors, including local forest communities in the VPA process is recommended and required.

The specific Lao political context, as described above, is at odds with the VPA's requirement for participation along the lines of a multi-stakeholder process. Bridging the tensions between domestic and international policy goals, resulted in establishment of the Lao CSO FLEGT network, funded and co-created by the international donors and development partner organizations, while highly regulated by the governmental agencies. To what extent such a CSO Network can influence the policy direction, represent forest communities and provide independent VPA monitoring remains to be seen.

Authors declaration

The authors of this manuscript certify that they have seen and approved the final version of the manuscript being submitted. They warrant that the article is the authors' original work, hasn't received prior publication and isn't under consideration for publication elsewhere.

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Conflict of interest

None.

Appendix 1. Explanation of social network analysis procedures

Formal explanation of social influence model (From Lovrić, Da Re, Vidale, Pettenella, & Mavsar, 2018)

The applied model (Friedkin & Johnsen, 1997) can be described by two equations, where the first one describes the initial policy preferences:

$$y^1 = Xb \tag{1}$$

where y^1 is the initial opinion for $n \times 1$ vector of individuals, X is an $n \times k$ matrix of variables of endogenous variables that formed the initial opinion, and b is a $k \times 1$ vector of coefficients, which determine the relative weight of these endogenous variables. The second equation describes subsequent change from the initial opinions:

$$y^t = \alpha W y^{(t-1)} + (1-\alpha)y^1 \tag{2}$$

for $t = 2, 3\ldots$, where y^t is a $n \times 1$ vector of individual policy preferences at time t, and where $W = [w_{ij}]$ is an $n \times n$ matrix of endogenous interpersonal influences where the total sum of interpersonal influences upon an individual totals 1 (i.e. $0 \le w_{ij} \le 1$, $\sum_j^n w_{ji} = 1$), and α – the coefficient of social influence, is a scalar weight which determines the relative contribution ($0 \le \alpha \le 1$) of the exogenous and endogenous effects to the formation of an opinion. The model assumes long-term equilibrium of opinions, where:

$$y^\infty = y^1 + Vy^1 \tag{3}$$

and where (Friedkin & Johnsen, 1990):

$$V = \alpha W + \alpha^2 W^2 + \alpha^3 W^3 + \alpha^4 W^4 + \ldots + \alpha^\infty W^\infty \tag{4}$$

Factions routine

Factions routine searches for groups where the actors are maximally interconnected within the group, but at the same time are having as few as possible interconnections with other groups. The routine always produces a result, given a pre-specified number

of factions. The 'fit' of the result to the ideal is reflected in the measure of badness of solution's fit. If there is only gradual, linear decrease in the badness of fit with the increase in the number of factions, it means that the network has no (multiple) clearly identifiable cohesive sub-groups.

Such situation occurred with the power-based network, where the routine was run with two to ten faction solutions. Same results were achieved with running the factions routine on the power network dichotomized by quintiles. The mutual dependence network same linear decrease in the badness of solution's fit was observed; however, it identified a single group that has in-group density at least six times higher than all other in-group densities, consistently in all tests (top-left of Fig. 3). The routine on dichotomized versions of network by quintiles shows consistent result with in-group binary density >0.7 (while for all others it is <0.2), and this group is located at the bottom-centre of Fig. 3.

Categorical core-periphery routine

The 'opposite test' to factions routine is the categorical core-periphery routine, which searches for maximally interconnected core and minimally interconnected periphery, and provides a measure of the solutions' fit (i.e. correlation coefficient) to the routine's ideal. On the power-network, the correlation of the solution to the routine's fit was 0.28, and the actors are located in the bottom-left of Fig. 2.

Modularity Q

Newman and Girvan (2004) modularity Q. The values of modularity range from −1 to 1, and positive values mean that the ties within the group occur more than expected, and values larger than 0.3 indicate strong community structure.

Appendix 2 . Policy actors' power and preferences

Policy actors' Acronyms (alphabetic order)	Policy actors' full names	Sector	Actors' Power	Actors' mutual dependence	Total mutual dependence
ACTD	Association for Community Training and Development	Lao NPAs (Domestic CSOs)	62	24	23
ARMI	Association for Rural Mobilisation and Improvement	Lao NPAs (Domestic CSOs)	22	190	52
Attapeu-PAFO	Attapeu Provincial Agriculture and Forestry Office	Provincial government office	113	88	99
Burapha	Large scale plantation owners (Burapha)	Private sector	86	241	126
CAMKID	Community Association for Mobilizing Knowledge in Development	Lao NPAs (Domestic CSOs)	42	141	42
CODA	Community Development Association	Lao NPAs (Domestic CSOs)	140	178	17
Customs/MOF	Customs Department/Ministry of Finance	Central Government	119	31	59
DFRM/MAF	Department of Forest Resource Management	Central Government	262	6	31
DIH/MOIC	Department of Industry and Handicraft (DIH)/Ministry of Industry and Commerce (MOIC	Central Government	241	10	27
DIMEX/MOIC	Department of Import and Export (DIMEX)/ Ministry of Industry and Commerce	Central Government	164	117	94
DOF/MAF	Department of Forestry (DOF) /Ministry of Agriculture and Forestry (MAF)	Central Government	413	18	143
DOFI/MAF	Department of Forest Inspection	Central Government	249	63	212
DPC/MAF	Department of Planning and Cooperation	Central Government	111	146	144
DIPC/MPI	Department of International Planning and Cooperation (DIPC) / Ministry of Planning and Investment (MPI)	Central Government	80	51	68
ED/National Assembly	Economic Department /National Assembly	Central Government	19	233	97
ECCDA	Environment Conservations and Community	Lao NPAs	102	237	19

(*continued on next page*)

Appendix 2 (*continued*)

Policy actors' Acronyms (alphabetic order)	Policy actors' full names	Sector	Actors' Power	Actors' mutual dependence	Total mutual dependence
	Development Association	(Domestic CSOs)			
EFI FLEGT Facility	EFI (European Forest Institute) FLEGT Facility	Donor/ Development Partner	250	0	0
EU Delegation, Laos	EU (European Union) Delegation in Laos	Donor/ Development Partner	260	33	77
EU-FAO FLEGT Programme	EU-FAO (EU– Food and Agricultural Organisation) FLEGT Programme on Laos	Donor/ Development Partner	144	127	151
FLEGT Standing Office		Central Government	167	140	226
FOF/NUoL	Faculty of Forestry (FOF)/National University of Laos	Central Government/ Academic	200	12	33
GCA	Green Community Alliance	Lao NPAs (Domestic CSOs)	14	102	54
GCDA	Green Community Development Association	Lao NPAs (Domestic CSOs)	27	110	59
GIZ	German Society for International Cooperation	Development Partner	202	146	174
Khammouane-PAFO	Khammouane Provincial Agriculture and Forestry Office	Provincial government office	119	170	112
LFTU	Lao Federation of Trade Union	Private sector	14	137	73
Lao Furniture Assoc.	Lao Furniture Association	Private sector	123	61	89
Law Dept./MOJ	Department of law/Ministry of Justice	Central Government	103	21	15
LBA	Lao Biodiversity Association	Lao NPAs (Domestic CSOs)	124	24	50
LNCCI	Lao National Chamber of Commerce and Industry	Private sector	96	254	72
Luang Prabang Teak Project	Small/family-scale plantation owners	Private sector	105	234	37
MHP	Maeying Houamjai Pathana	Lao NPAs (Domestic CSOs)	55	110	55
NAFRI	National Agriculture and Forest research Institute	Central Government/ Academic	34	174	111
NCSEZ	Lao National Committee for Special Economic Zone (NCSEZ), Prime Minister Office	Central Government/ Academic	8	206	67
PADETC	Participatory Development Training Center	Lao NPAs (Domestic CSOs)	105	61	45
PRDPA	Rural Research and Development Promoting Knowledge Association	Lao NPAs (Domestic CSOs)	85	44	55
RECOFTC	The Centre for People and Forest	International CSOs	53	136	99
SAEDA	Sustainable Agriculture and Environment Development Association	Lao NPAs (Domestic CSOs)	25	201	77
SODA	Social Development Alliance Association	Lao NPAs (Domestic	17	137	46

Appendix 2 (*continued*)

Policy actors' Acronyms (alphabetic order)	Policy actors' full names	Sector	Actors' Power	Actors' mutual dependence	Total mutual dependence
		CSOs)			
Stora Enso	Large scale plantation owners (Stora Enso)	Private sector	119	30	49
Tax Dept/MOF	Tax Department /Ministry of Finance	Central Government/ Academic	77	83	89
VFI	Village Focus International	International CSOs	121	153	129
Village Authorities Attapeu	Village authorities in Attapeu Pilot Province	Village authorities	77	214	115
Village Authorities Khammouane	Village authorities in Khammouanne Pilot Province	Village authorities	42	190	139
Village Forestry (DOF/ MAF)	Village Forestry Division at DOF/MAF (SUFORD-SU Project Piloting VF)	Central Government/ Academic	225	105	78
WCA	World Conservation Association	Lao NPAs (Domestic CSOs)	113	49	24
WCS	World Conservation Society	International CSOs	122	238	30
WWF	WWF (World Wildlife Fund) FFLEGT Project in Laos	International CSOs	150	124	193
Mean values			117	117	81

Actors acronyms	Initial Policy Preferences for the 13 policy issues[13]												
	1	2	3	4	5	6	7	8	9	10	11	12	13
ACTD	0,850	0,900	0,940	0,940	0,950	0,690	0,030	0,970	0,130	0,960	0,850	0,960	0,930
ARMI	0,975	1,000	0,970	0,820	0,890	0,500	0,500	0,900	1,000	1,000	0,875	0,990	0,670
Attapeu-PAFO	1,000	1,000	1,000	1,000	1,000	1,000	0,205	1,000	0,760	0,590	1,000	1,000	1,000
Burapha	0,950	0,120	0,490	0,800	0,730	0,790	0,000	0,510	0,500	1,000	0,930	0,950	0,510
CAMKID	0,000	1,000	1,000	0,500	1,000	0,500	0,100	1,000	0,000	0,000	1,000	1,000	1,000
CODA	0,960	0,960	0,550	0,980	0,950	0,000	0,910	0,930	0,930	0,930	0,920	0,920	0,940
Customs/MOF	0,773	0,867	0,155	0,761	0,314	0,485	0,742	0,788	0,527	0,898	0,905	0,917	0,708
DFRM/MAF	1,000	1,000	1,000	1,000	1,000	1,000	0,500	1,000	0,500	1,000	0,500	0,500	0,500
DIH/MOIC	1,000	1,000	1,000	1,000	1,000	1,000	0,000	1,000	0,000	1,000	1,000	1,000	1,000
DIMEX/MOIC	0,992	0,981	0,989	0,989	0,985	0,875	0,381	0,876	0,966	0,955	0,873	0,951	0,804
DOF/MAF	1,000	1,000	1,000	1,000	1,000	1,000	1,000	0,500	0,000	1,000	1,000	1,000	0,500
DOFI/MAF	1,000	1,000	1,000	0,880	1,000	1,000	1,000	0,890	0,564	0,780	0,539	0,660	0,365
DPC/MAF	0,995	0,995	0,995	0,992	0,992	0,870	0,328	0,831	0,653	0,992	0,992	0,939	0,916
DIPC/MPI	0,636	0,508	0,689	0,561	0,576	0,644	0,523	0,682	0,894	0,720	0,962	0,720	0,568
ED/National Assembly	0,924	0,917	0,902	0,894	0,902	0,894	0,909	0,909	0,879	0,894	0,871	0,856	0,909
ECCDA	0,920	0,860	0,870	0,860	0,880	0,190	0,890	0,860	0,830	0,920	0,930	0,930	1,000
EFI FLEGT Facility	1,000	0,920	0,920	1,000	0,900	0,760	0,000	0,500	1,000	0,995	1,000	1,000	0,885
EU Delegation, Laos	1,000	0,950	0,950	0,910	0,950	0,950	0,370	0,970	0,950	0,950	0,950	0,930	0,960
EU-FAO FLEGT Programme	1,000	0,830	1,000	1,000	1,000	0,840	0,770	1,000	1,000	1,000	1,000	1,000	1,000
FLEGT Standing Office	1,000	1,000	1,000	1,000	1,000	1,000	1,000	0,000	0,500	1,000	1,000	1,000	0,540
FOF/NUoL	0,977	0,977	0,977	0,977	0,977	0,523	0,977	0,723	0,962	0,977	0,977	0,977	0,977
GCA	0,720	0,920	0,815	0,485	0,990	0,320	1,000	0,860	0,690	1,000	1,000	0,935	0,750
GCDA	0,980	0,970	0,980	0,970	0,825	0,795	0,635	0,810	0,570	0,705	0,890	0,845	0,705
GIZ	0,970	0,640	1,000	0,890	0,580	0,255	0,210	0,830	0,915	0,945	0,955	0,975	0,910
Khammouane-PAFO	1,000	1,000	1,000	0,750	1,000	1,000	0,750	0,840	1,000	1,000	1,000	1,000	1,000
LFTU	0,819	0,815	0,762	0,908	0,762	0,558	0,762	1,000	1,000	0,962	0,981	0,662	0,896
Lao Furniture Assoc.	0,783	0,759	0,771	0,741	0,771	0,723	0,392	0,392	0,813	0,687	0,699	0,819	0,898
Law Dept/MOJ	1,000	1,000	0,500	1,000	1,000	1,000	0,000	0,500	1,000	1,000	1,000	1,000	0,500
LBA	0,890	0,930	0,900	0,870	0,890	0,590	0,870	0,870	0,870	0,870	0,860	0,820	0,940

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Appendix 2 (*continued*)

Actors acronyms	Initial Policy Preferences for the 13 policy issues[13]												
	1	2	3	4	5	6	7	8	9	10	11	12	13
LNCCI	0,923	0,931	0,885	0,915	0,908	0,723	0,892	0,962	1,000	1,000	1,000	1,000	1,000
Luang Prabang Teak Project	1,000	1,000	1,000	0,630	1,000	0,770	1,000	0,580	0,490	0,550	0,580	0,520	0,520
MHP	0,960	0,310	0,980	0,460	0,870	0,960	0,960	0,990	1,000	1,000	1,000	0,900	1,000
NAFRI	0,969	0,958	0,796	0,692	0,696	0,773	0,746	0,846	0,773	0,977	0,973	0,969	0,946
NCSEZ	0,915	0,892	0,915	0,923	0,908	0,908	0,900	0,915	0,900	0,892	0,862	0,885	0,892
PADETC	0,850	0,920	0,720	0,670	0,780	0,680	0,000	0,810	0,720	0,480	0,800	0,880	0,830
PRDPA	0,880	0,920	0,910	0,960	0,960	0,980	0,970	0,950	0,960	1,000	1,000	1,000	0,950
RECOFTC	0,913	0,873	0,630	0,627	0,473	0,373	0,120	1,000	0,897	0,827	0,927	0,927	1,000
SAEDA	0,980	0,970	0,940	0,510	0,930	0,990	0,070	1,000	0,670	0,720	1,000	1,000	1,000
SODA	0,750	0,750	1,000	0,750	1,000	0,750	1,000	1,000	1,000	0,750	0,942	0,942	1,000
Stora Enso	1,000	1,000	1,000	1,000	0,740	0,470	0,255	0,630	1,000	0,900	1,000	0,940	0,500
Tax Dept/MOF	0,576	0,742	0,720	0,697	0,545	0,152	0,758	0,758	0,780	0,591	0,955	0,955	0,955
VFI	1,000	0,730	1,000	1,000	0,760	0,770	1,000	1,000	0,910	1,000	1,000	1,000	1,000
Village Authorities Attapeu	1,000	1,000	0,875	0,750	1,000	1,000	0,688	0,625	0,813	0,938	0,938	0,938	0,688
Village Authorities Khammouan	0,903	0,947	0,882	0,780	0,964	0,922	0,685	0,711	0,833	0,909	0,912	0,885	0,715
Village Forestry (DOF/MAF)	0,962	0,977	0,981	0,969	0,885	0,846	0,362	0,865	0,750	0,750	0,750	0,962	0,808
WCA	0,960	0,970	0,980	0,980	0,980	0,980	0,510	0,970	1,000	1,000	1,000	1,000	1,000
WCS	0,815	0,854	0,915	0,892	0,885	0,854	0,408	0,869	0,800	0,800	0,746	0,792	0,762
WWF	0,667	0,667	0,667	0,837	0,667	0,523	0,560	0,667	0,667	0,667	0,667	0,667	0,667
Mean values	0,898	0,8797	0,87333	0,84417	0,87007	0,73282	0,57576	0,81432	0,75759	0,86414	0,90645	0,90447	0,82319

[13]Policy issues: (1) legality of exported timber, (2) legality of domestic timber, (3) legality of timber from 'conversion forests', (4) legality of timber from plantations, (5) legality of timber from village use forests, (6) legality of non-timber forest products, (7) bilateral relations with neighboring and regional partners in timber trade, (8) forest communities' rights to forest and land, (9) livelihood impacts on small-scale operators and family businesses, (10) livelihood impacts on forest communities, (11) transparency of decision making process, (12) accountability of decision makers to stakeholders and wider public, (13) CSO participation.

Actors acronyms	Equilibrium policy preferences for the 13 policy issues[8]												
	1	2	3	4	5	6	7	8	9	10	11	12	13
ACTD	0,854	0,900	0,939	0,937	0,949	0,693	0,051	0,964	0,158	0,957	0,852	0,958	0,927
ARMI	0,932	0,830	0,897	0,923	0,872	0,889	0,599	0,779	0,702	0,890	0,919	0,892	0,886
Attapeu-PAFO	0,981	0,966	0,959	0,970	0,964	0,957	0,360	0,921	0,723	0,690	0,947	0,956	0,897
Burapha	0,848	1,000	1,000	1,000	0,846	0,600	1,000	1,000	0,827	0,798	0,899	0,856	1,000
CAMKID	0,725	0,920	0,935	0,789	0,912	0,681	0,435	0,847	0,595	0,678	0,918	0,925	0,867
CODA	0,945	0,852	0,974	0,827	0,833	0,894	0,366	0,838	0,889	0,861	0,928	0,941	0,907
Customs/MOF	0,784	0,872	0,204	0,769	0,354	0,508	0,727	0,793	0,540	0,899	0,905	0,917	0,717
DFRM/MAF	1,000	0,999	1,000	1,000	1,000	0,999	0,502	1,000	0,504	1,000	0,504	0,504	0,504
DIH/MOIC	0,999	0,999	0,998	0,998	0,999	0,996	0,006	0,997	0,011	0,998	0,998	0,998	0,997
DIMEX/MOIC	0,953	0,946	0,909	0,932	0,910	0,842	0,472	0,777	0,719	0,914	0,858	0,895	0,747
DOF/MAF	0,999	0,998	0,995	0,999	0,998	0,992	0,981	0,507	0,021	0,999	0,999	0,999	0,509
DOFI/MAF	0,990	0,977	0,968	0,881	0,976	0,944	0,889	0,864	0,592	0,806	0,611	0,706	0,445
DPC/MAF	0,963	0,913	0,916	0,932	0,904	0,816	0,455	0,773	0,696	0,937	0,921	0,914	0,795
DIPC/MPI	0,676	0,564	0,714	0,598	0,620	0,659	0,524	0,699	0,882	0,736	0,953	0,744	0,609
ED/National Assembly	0,876	0,871	0,881	0,829	0,876	0,598	0,212	0,743	0,647	0,823	0,925	0,945	0,763
ECCDA	1,000	1,000	0,830	1,000	1,000	1,000	0,943	0,644	0,719	0,930	0,798	0,856	0,476
EFI FLEGT Facility	1,000	0,920	0,920	1,000	0,900	0,760	0,000	0,500	1,000	0,995	1,000	1,000	0,885
EU Delegation, Laos	0,995	0,947	0,947	0,909	0,945	0,933	0,370	0,957	0,936	0,946	0,946	0,925	0,949
EU-FAO FLEGT Programme	0,953	0,870	0,934	0,926	0,909	0,790	0,599	0,866	0,824	0,901	0,947	0,945	0,895
FLEGT Standing Office	0,934	0,935	0,891	0,905	0,894	0,826	0,633	0,596	0,673	0,888	0,894	0,894	0,714
FOF/NUoL	0,977	0,977	0,976	0,977	0,977	0,529	0,966	0,725	0,959	0,976	0,976	0,976	0,974
GCA	0,815	0,904	0,850	0,653	0,952	0,514	0,797	0,831	0,729	0,960	0,961	0,930	0,788
GCDA	0,965	0,928	0,930	0,925	0,855	0,786	0,578	0,797	0,644	0,795	0,892	0,876	0,750

Appendix 2 (*continued*)

Actors acronyms	Equilibrium policy preferences for the 13 policy issues[8]												
	1	2	3	4	5	6	7	8	9	10	11	12	13
GIZ	0,929	0,877	0,863	0,902	0,811	0,674	0,454	0,746	0,659	0,898	0,922	0,931	0,801
Khammouane-PAFO	0,920	0,881	0,900	0,928	0,859	0,770	0,502	0,788	0,734	0,874	0,814	0,838	0,748
LFTU	0,866	0,867	0,832	0,876	0,851	0,673	0,603	0,862	0,799	0,889	0,916	0,838	0,836
Lao Furniture Assoc.	0,803	0,784	0,779	0,770	0,778	0,718	0,450	0,451	0,767	0,724	0,738	0,840	0,878
Law Dept/MOJ	0,993	0,996	0,515	0,993	0,997	0,988	0,019	0,509	0,990	0,991	0,996	0,996	0,513
LBA	0,893	0,929	0,898	0,873	0,891	0,595	0,852	0,866	0,865	0,872	0,862	0,824	0,935
LNCCI	0,973	0,744	0,938	0,929	0,861	0,967	0,000	0,397	0,057	0,810	0,665	0,708	0,405
Luang Prabang Teak Project	0,963	0,939	0,951	1,000	0,903	0,905	0,517	0,764	0,459	1,000	1,000	1,000	0,897
MHP	0,957	0,617	0,950	0,693	0,891	0,900	0,749	0,924	0,855	0,965	0,968	0,926	0,926
NAFRI	0,930	0,885	0,920	0,911	0,885	0,700	0,484	0,768	0,814	0,872	0,883	0,892	0,805
NCSEZ	0,900	0,887	0,840	0,856	0,844	0,676	0,326	0,751	0,588	0,873	0,895	0,897	0,720
PADETC	0,865	0,921	0,753	0,712	0,801	0,699	0,100	0,807	0,717	0,553	0,814	0,883	0,827
PRDPA	0,889	0,921	0,909	0,955	0,957	0,961	0,919	0,934	0,936	0,989	0,988	0,990	0,935
RECOFTC	0,934	0,907	0,831	0,832	0,777	0,674	0,416	0,814	0,734	0,857	0,881	0,894	0,828
SAEDA	0,828	0,833	0,908	1,000	0,863	0,650	0,881	0,719	0,842	0,884	0,903	0,911	0,822
SODA	0,895	0,867	0,936	0,857	0,920	0,762	0,653	0,865	0,827	0,858	0,917	0,925	0,887
Stora Enso	0,995	0,994	0,994	0,993	0,748	0,489	0,273	0,643	0,988	0,901	0,994	0,937	0,518
Tax Dept/MOF	0,680	0,799	0,772	0,746	0,651	0,327	0,728	0,781	0,773	0,680	0,942	0,939	0,923
VFI	0,943	0,919	0,938	0,905	0,914	0,812	0,609	0,766	0,707	0,901	0,879	0,902	0,739
Village Authorities Attapeu	0,885	0,797	0,907	0,990	0,815	0,494	0,405	0,885	0,693	0,849	0,854	0,890	0,874
Village Authorities Khammouane	0,944	0,865	0,912	0,916	0,858	0,702	0,383	0,819	0,705	0,851	0,890	0,929	0,857
Village Forestry (DOF/MAF)	0,960	0,961	0,958	0,949	0,912	0,874	0,463	0,821	0,661	0,825	0,769	0,891	0,728
WCA	0,962	0,971	0,979	0,977	0,980	0,968	0,557	0,936	0,935	0,995	0,993	0,993	0,963
WCS	1,000	0,965	1,000	1,000	0,917	0,807	0,735	0,770	0,498	1,000	0,933	0,913	0,674
WWF	0,839	0,825	0,827	0,859	0,826	0,710	0,587	0,744	0,666	0,791	0,789	0,796	0,746
Mean values	0,9148	0,89661	0,88694	0,89794	0,87406	0,76461	0,52356	0,78225	0,69286	0,87667	0,89072	0,89654	0,78726

Appendix 3. Limitations of the study and reflections on theoretical and methodological approach

A frequent critique of policy network analyses is that although they are well-developed mathematical models and are frequently used in policy science, they do not offer an explanation of the underlying phenomena on their own, but instead rely on other theories (such as resource dependence or diffusion theory) to do so (see for example Raab & Kenis, 2007, Salancik, 1995). In this study, we have done the same using the policy network model as a mathematical model, which we then frame in the context of more general resource dependence framework theory. This kind of research design may overemphasize direct relations between organizations, which have a clear theoretical underpinning in resource dependence frameworks. The downside is that we may lose some other explanations of the situation that are rooted in indirect and informal relations and dependencies. An example of this situation could be division of organizations based on the roles they play in the network, as set by regular equivalence tests (Borgatti & Everett, 1992). A standard questionnaire survey is not the best suited method for gaining in-depth understanding of political and cultural contexts, especially in the case of Lao PDR, where political culture may limit the respondents' freedom to provide honest responses to the questions. This potential bias may have led to higher ranking for policy preferences related to governance principles (e.g. transparency and accountability) and social issues (e.g. forest communities' livelihoods and rights to forest), and thus one should bear this in mind when looking at the policy preference results. Including a limited number of qualitative interviews, which offers a deeper understanding of the political environment and power relations in the country, may correct for this bias, at least to an extent. However, additional and more systematic interviews with more respondents, as well as mid- or long-term longitudinal perspective of the network would be needed to provide richer in-depth insights into the social networks and their power compositions. Another potential limitation may have resulted from the need to follow locally accepted norms of social interactions. Namely, when distributing the questionnaires to governmental agencies, in some cases we needed to leave the questionnaire forms to be delivered to the intended respondents (i.e. those working on/with the FLEGT VPA process) via another person, as we were not always able to secure a meeting with them directly. Similarly, in the villages the questionnaires were distributed with the help of a CSO representative working on FLEGT process in the village. While in the latter case, the CSO representative was trained how to conduct the questionnaire (e.g. no interference and influence of the respondent), this was not possible in the former case. Final limitation relates to how power is operationalized in these mathematical models – i.e. as resource sufficiency/dependence only. While the adopted operationalization of power provides a overview of the decision-making power (Dahl, 1957) and provides some insight into its non-decision making aspects (i.e. issues that might be left out from future discussions, as indicated by actors' low level of support and high interquartile range of preferences; see Bachrach & Baratz, 1963), we emphasize that power is much more than resources. The conceptualization of power on which the models build cannot account for self-perceptions of what is considered 'right' in the

Laos FLEGT process (Lukes, 1974), nor does it account for the daily politics and governmentality in the studied policy process (Burchell et al., 1991; Foucault, 1983). The further the power concept expands, the more limited is the explanatory power of the research designs that operationalize power as resource (in)dependence. All of the more holistic conceptualizations of power require qualitative research design and one which is deeply rooted in the Lao political context, preferably with a longitudinal character. These are the directions future studies should focus on.

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