

Connective action and the boomerang pattern to end deforestation in the Democratic Republic of the Congo

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Abstract Investigating deforestation politics in the Democratic Republic of the Congo, the chapter addresses the prospect of national actors engaging in connective action to deploy the boomerang pattern—using social media to form transnational coalitions and put pressure on powerful international actors to leverage influence on national policy. The chapter thus proposes an alternative path for policy change under the Advocacy Coalition Framework to improve its explanatory power, especially in policy processes involving international actors and a hegemonic state apparatus. Hypotheses are first proposed and then tested by applying inferential network methods to data on the interactions among 159 organisations on Twitter. Analysis reveals a coalition of Congolese political establishment and major donor governments that is challenged by a coalition of national and international conservation organisations. Instead of donor governments, however, members of the latter only tend to appeal to intergovernmental organisations to influence policy. Areas for future work are proposed.

Keywords biodiversity policy; climate change policy; constructivism (international relations); networked advocacy; multilevel governance; transnational advocacy network

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Appendix

Statement on data and code availability

Due to the General Data Protection Regulation of the European Union, we cannot provide open access to our data. For inquiries, please contact the corresponding author. The code [Python and R] to replicate the analyses is hosted on https://github.com/malkamont/drc_coalition.

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Figure 1. Marginal probability of coalition assignments

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Table 1. Coalitions by name, type, scope, and centrality of members

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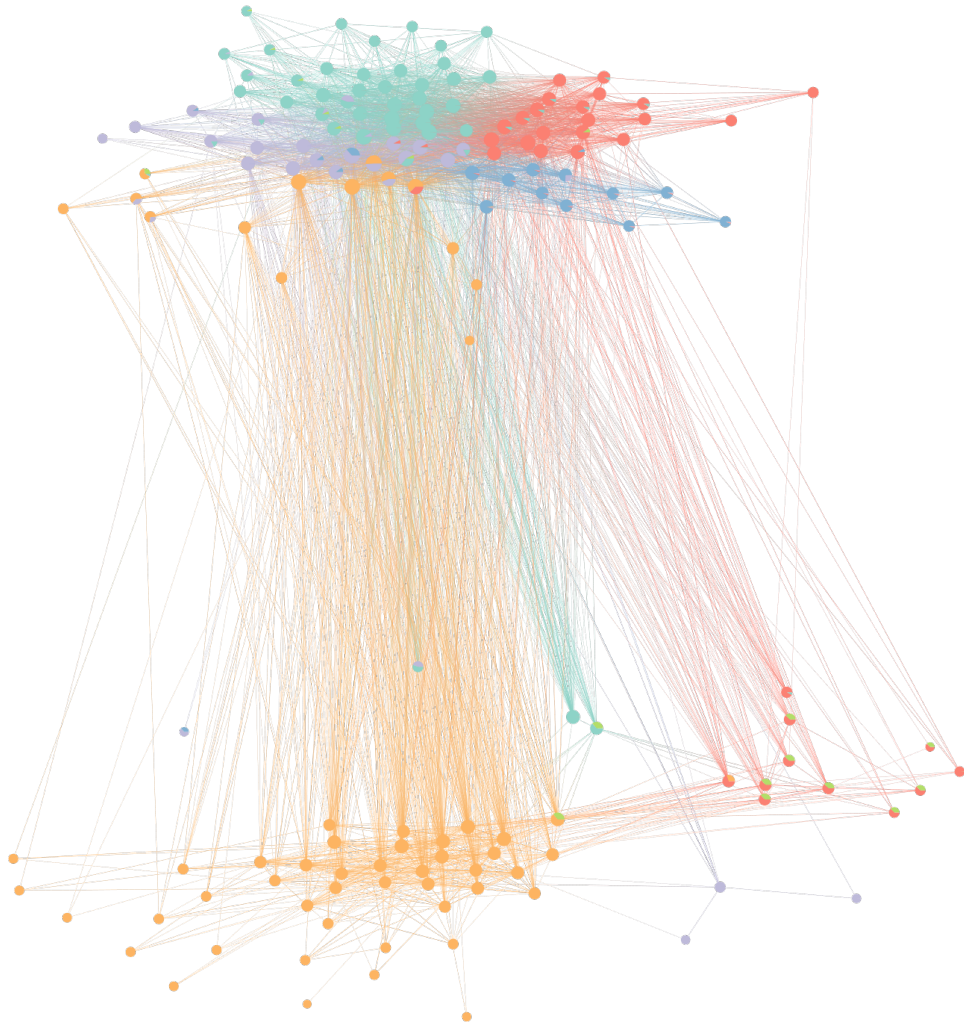


Figure 1: Marginal probability of coalition assignments; vertices at the lower and upper levels refer to national and international organisations

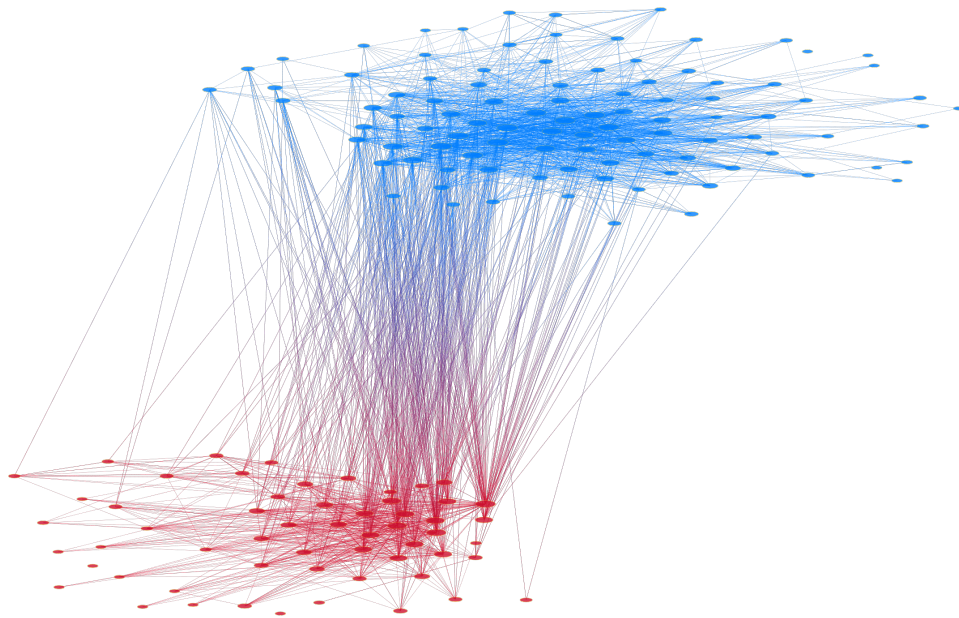


Figure 2: Mention network; edge arrowheads referring to the direction of each mention have been suppressed for clearer visualisation; vertices at the lower and upper levels refer to national and international organisations belonging to coalitions

Table 1: Coalitions by name, type, scope, and centrality of members; BUS: business, DGV: international development agency, IGO: intergovernmental organisation, INT: interest group, MRY: ministry, NGO: non-governmental organisation, POC: political coalition, SCI: scientific organisation, TRU: trade union; Global: international or regional, Local: national or local; degree refers to the number of connections; strength refers to the total number of interactions (i.e., weighted degree)

	Type	Scope	Degree	Strength	Closeness	Betweenness
Development industry						
World Bank	IGO	IN	113	17,492	0.778	0.041
United Nations Development Programme	IGO	IN	106	11,989	0.752	0.021
United Nations Framework Convention on Climate Change	IGO	IN	94	16,459	0.709	0.016
International Fund for Agricultural Development	IGO	IN	76	6,495	0.653	0.018
World Food Programme	IGO	IN	75	4,977	0.656	0.012
Netherlands Ministry of Foreign Affairs	DGV	IN	71	4,313	0.642	0.007
African Development Bank	IGO	IN	71	5,010	0.642	0.012
Green Climate Fund	IGO	IN	68	3,855	0.625	0.004
African Union	DGV	IN	67	3,021	0.635	0.004
France Ministry for Europe and Foreign Affairs	DGV	IN	65	3,224	0.629	0.006
Alliance of Biodiversity Int. and Int. Centre for Tropical Agric.	SCI	IN	60	3,766	0.610	0.003
Germany Federal Ministry of Economic Coop. and Development	DGV	IN	56	1,318	0.605	0.003
International Food Policy Research Institute	SCI	IN	42	2,916	0.564	0.001
Int. Institute of Tropical Agric.	SCI	IN	42	2,138	0.568	0.005
Climate Investment Funds	IGO	IN	25	819	0.527	0.000
European Development Finance Institutions	IGO	IN	22	1,814	0.520	0.000
Korea Ministry of Foreign Affairs	DGV	IN	4	8	0.469	0.000
Rés. des Org. de la Société Civ. pour l'Écon. Verte en Afr. Cent.	NGO	N	2	2	0.443	0.000

Establishment+						
European Commission	DGV	IN	121	17,459	0.810	0.049
United Kingdom Foreign. Commonwealth and Dev. Office	DGV	IN	104	5,508	0.745	0.038
United States Agency for International Development	DGV	IN	98	2,052	0.725	0.036
Human Rights Watch	NGO	IN	98	4,317	0.725	0.034
Belgium Ministry of Foreign Affairs. For. Trade and Dev. Coop.	DGV	IN	72	2,059	0.648	0.007
Lutte pour le Changement	NGO	N	70	3,347	0.637	0.018
Ministère des Affaires Étrangères	MRY	N	69	2,085	0.637	0.024
Ministère de l'Environnement et Développement Durable	MRY	N	66	754	0.629	0.010
Desk Nature	NGO	N	62	2,393	0.617	0.018
Présidence de la République Démocratique du Congo	MRY	N	58	1,482	0.608	0.022
Environews	NGO	N	55	465	0.596	0.007
Université de Kinshasa	SCI	N	54	767	0.598	0.015
Fédération des Entreprises du Congo	INT	N	48	514	0.587	0.005
Ministère des Finances	MRY	N	47	503	0.585	0.009
Coalition Lamuka	POC	N	44	1,621	0.577	0.012
Primature de la République Démocratique du Congo	MRY	N	43	383	0.577	0.010
Congo Environnement et Nature	NGO	N	43	228	0.577	0.004
Observatoire de la Dépense Publique	NGO	N	42	300	0.568	0.006
Congo Research Group	SCI	N	41	1,540	0.572	0.004
Ministère de l'Industrie	MRY	N	38	443	0.560	0.001
Ministère des Mines	MRY	N	38	392	0.564	0.002
Ministère de la Communication et Médias	MRY	N	37	393	0.558	0.004
Observatoire de la Gouvernance Forestière	SCI	N	36	199	0.560	0.002
China Ministry of Foreign Affairs	DGV	IN	35	248	0.556	0.003
Front Commun pour le Congo	POC	N	34	349	0.556	0.007
Carter Center	NGO	IN	32	175	0.552	0.002
Equity Banque Commerciale du Congo	BUS	N	32	65	0.551	0.001
Université de Lubumbashi	SCI	N	31	228	0.549	0.002
Ministère du Plan	MRY	N	27	243	0.537	0.003
Le Congo N'est Pas à Vendre	NGO	N	27	644	0.537	0.001
Cap pour le Changement	POC	N	27	229	0.521	0.002
Droits. Environnement et Citoyennete Organisation	NGO	N	25	160	0.532	0.002
Japan International Cooperation Agency	DGV	IN	21	96	0.520	0.001
Glencore	BUS	IN	20	84	0.525	0.000
Ministère de l'Agriculture	MRY	N	19	96	0.518	0.001
BBOXX	BUS	IN	17	91	0.515	0.000
Vodacomcongo	BUS	N	14	23	0.502	0.000
African Resources Watch	NGO	IN	14	44	0.489	0.000
Ministère de la Coopération Int.. Intég. Régionale et Francophonie	MRY	N	12	68	0.505	0.000
Observation Forestière dans le Bassin du Congo	SCI	IN	12	35	0.491	0.000
Aera Group	BUS	IN	11	28	0.498	0.000
Ministère des Affaires Foncières	MRY	N	10	74	0.467	0.000
Sino-Congolaise des Mines	BUS	N	9	41	0.467	0.000
Ministère de l'Aménagement du Territoire	MRY	N	9	37	0.497	0.000
Ministère des Infrastructures et Travaux publics	MRY	N	8	22	0.462	0.000
Générale des Carrières et des Mines	BUS	N	7	25	0.446	0.000
Ministère du Commerce Extérieur	MRY	N	5	5	0.445	0.000
Ministère de l'Économie Nationale	MRY	N	5	9	0.404	0.000
Ministère des Droits Humains	MRY	N	5	10	0.425	0.000
Plantations et Huileries du Congo	BUS	N	4	8	0.418	0.000
Université de Kisangani	SCI	N	4	11	0.433	0.000
China Railway Group	BUS	IN	3	3	0.457	0.000
Ministère des Hydrocarbures	MRY	N	3	4	0.402	0.000
Rés. des Pop. Autoch. et Loc. pour la Gest. Dur. des Ecos. For.	NGO	N	3	3	0.455	0.000
Conférence Épiscopale Nationale du Congo	NGO	N	2	3	0.426	0.000
Somicongo	BUS	N	1	1	0.379	0.000

Family farming							
Comité National pour la promotion de l'Agriculture Familiale	INT	N	13	192	0.500	0.005	
Confédération Paysanne du Congo	INT	N	2	6	0.401	0.000	
Confédération Nationale des Producteurs Agricoles du Congo	INT	N	2	8	0.377	0.000	
Financial justice							
Oxfam International	NGO	IN	77	4,505	0.658	0.009	
L'Initiative pour la Transparence des Industries Extractives	NGO	IN	58	2,178	0.612	0.007	
Transparency International	NGO	IN	54	2,402	0.592	0.002	
Natural Resource Governance Institute	NGO	IN	52	2,199	0.583	0.002	
Interpol Environmental Security Programme	IGO	IN	46	729	0.572	0.001	
Global Financial Integrity	NGO	IN	41	1,638	0.562	0.001	
Tax Justice Network	NGO	IN	37	6,596	0.554	0.001	
Global Forest Coalition	NGO	IN	29	3,658	0.527	0.000	
African Centre for Tax and Governance	NGO	IN	29	1,575	0.525	0.000	
International Centre for Tax and Development	SCI	IN	20	1,264	0.516	0.000	
Financial Transparency Coalition	NGO	IN	16	1,450	0.495	0.000	
Forest watchdog							
Greenpeace	NGO	IN	92	11,089	0.702	0.015	
International Institute for Environment and Development	SCI	IN	91	21,001	0.696	0.030	
Mongabay	NGO	IN	83	5,263	0.672	0.010	
Forests and the European Union Resource Network	NGO	IN	75	3,188	0.640	0.008	
Global Witness	NGO	IN	70	2,452	0.635	0.008	
Rainforest Foundation	NGO	IN	69	2,079	0.627	0.010	
350	NGO	IN	68	8,492	0.627	0.003	
Extinction Rebellion	NGO	IN	64	8,383	0.615	0.004	
Rights and Resources Initiative	NGO	IN	64	2,274	0.612	0.005	
Forest Peoples Programme	NGO	IN	64	2,292	0.610	0.004	
Rise Up Movement	NGO	IN	63	12,281	0.615	0.002	
Friends of the Earth	NGO	IN	62	5,845	0.608	0.004	
Environmental Investigation Agency	NGO	IN	51	1,268	0.579	0.001	
Global Alliance for Tax Justice	NGO	IN	47	574	0.570	0.001	
Rainforest Action Network	NGO	IN	44	1,125	0.560	0.001	
International Rivers	NGO	IN	44	649	0.562	0.002	
EarthSight	NGO	IN	38	773	0.543	0.001	
Oakland Institute	NGO	IN	36	298	0.543	0.001	
ICCA Consortium	NGO	IN	33	923	0.532	0.000	
Save Virunga	NGO	N	32	264	0.549	0.001	
Rés. pour la Conservation et la Réhabilitation des Écos. For.	NGO	N	30	157	0.545	0.003	
Groupe D'Action Pour Sauver L'Homme Et Son Env.	NGO	N	25	145	0.532	0.001	
Actions pour la Prom. et Protec. des Peuples et Espèces Men.	NGO	N	24	170	0.527	0.004	
Coalition des Femmes Leaders pour l'Env. et le Dév. Dur.	NGO	N	24	56	0.518	0.001	
Assoc. Paysanne pour la Réhab. et Protec. des Pygmées	NGO	N	22	76	0.503	0.001	
Carbon Market Watch	NGO	IN	20	278	0.506	0.000	
Congo Education Partners	NGO	N	16	59	0.489	0.000	
World Rainforest Movement	NGO	IN	14	142	0.467	0.000	
Centre d'Appui à la Gestion Durable des Forêts Tropicales	NGO	N	10	29	0.472	0.000	
Groupe de Travail Climat REDD	NGO	N	9	33	0.482	0.000	
Femmes Solidaires	NGO	N	8	32	0.473	0.000	
Coalition Nat. de Lutte contre l'Exploit. Illég. du Bois en RDC	NGO	N	2	2	0.418	0.000	

Science-policy regime							
United Nations Food and Agriculture Organisation	IGO	IN	111	28,116	0.771	0.031	
Center for International Forestry Research	SCI	IN	98	22,368	0.718	0.016	
World Wildlife Fund for Nature	NGO	IN	96	16,442	0.712	0.016	
World Resources Institute	NGO	IN	96	17,837	0.712	0.015	
United Nations Environment Programme	IGO	IN	94	37,992	0.705	0.012	
International Union for Conservation of Nature	NGO	IN	86	9,154	0.684	0.011	
Global Environment Facility	IGO	IN	79	11,970	0.658	0.006	
Conservation International	NGO	IN	78	5,161	0.650	0.005	
Global Landscapes Forum	NGO	IN	76	19,490	0.648	0.005	
International Council for Research in Agroforestry	SCI	IN	67	9,047	0.625	0.004	
UN-REDD	IGO	IN	66	7,825	0.620	0.004	
Wildlife Conservation Society	NGO	IN	65	3,427	0.620	0.002	
Tropical Forest Alliance	NGO	IN	64	4,407	0.612	0.002	
Central African Forest Initiative	IGO	IN	60	837	0.612	0.005	
Forest Trends	NGO	IN	59	1,339	0.596	0.002	
CongoPeat Programme	SCI	N	58	1,216	0.592	0.002	
NYDF Global Platform	NGO	IN	57	2,328	0.598	0.002	
Global Canopy Programme	NGO	IN	55	2,584	0.585	0.001	
Norway Ministry of Climate and Environment	DGV	IN	54	599	0.592	0.002	
European Forest Institute	IGO	IN	51	2,800	0.583	0.002	
Centre de Coop. Int. en Recherche Agronom. pour le D��v.	SCI	IN	50	1,527	0.579	0.002	
Forest Stewardship Council	NGO	IN	48	1,803	0.575	0.002	
Proforest Group	NGO	IN	47	1,555	0.566	0.001	
International Union of Forest Research Organizations	SCI	IN	44	2,232	0.564	0.001	
Tropenbos International	NGO	IN	43	407	0.564	0.005	
Groupe de Travail Climat REDD R��nov��	NGO	N	40	327	0.562	0.003	
African Wildlife Foundation	NGO	IN	40	688	0.558	0.001	
Verra	NGO	IN	31	384	0.530	0.000	
Central African Forests Commission	IGO	IN	30	150	0.527	0.001	
Congolaise Industrielle des Bois	BUS	IN	29	165	0.536	0.000	
Wildlife Works Carbon	BUS	IN	22	93	0.515	0.000	
Preferred by Nature	NGO	IN	22	316	0.500	0.000	
Association Technique Internationale des Bois Tropicaux	INT	IN	21	162	0.502	0.000	
International Tropical Timber Organisation	IGO	IN	19	246	0.497	0.000	
University of Maryland Global Land Analysis and Discovery	SCI	IN	19	193	0.502	0.000	
Global Forest Observations Initiative	IGO	IN	18	539	0.505	0.000	
International Tropical Peatlands Center	IGO	IN	16	484	0.494	0.000	
Institut National d'��tudes et de Recherche Agricoles	SCI	N	15	98	0.492	0.000	
Observatoire Satellital des For��ts d'Afrique Centrale	SCI	IN	9	74	0.476	0.000	

Organisations not on Twitter		
Booming Green	BUS	N
Brabanta	BUS	IN
Compagnie Forestière de Transformation	BUS	IN
Congo BioFuels	BUS	IN
Congo Emissions Management	BUS	N
Congo Oil and Derivatives	BUS	IN
Établissements Kitenge Lola	BUS	IN
Forêt Ressources Management	BUS	IN
Fortescue Metals Group	BUS	IN
Ibi Batéké Degraded Savannah Afforestation Project	BUS	N
Industrie Forestière du Congo	BUS	N
Kipay Investments	BUS	N
Maniema Union	BUS	N
Motema	BUS	N
Pharos Energy	BUS	IN
Sinohydro	BUS	IN
Société d'Exploitation Agro-industriel de Bukanga Lonzo	BUS	N
Société de Développement Forestier	BUS	N
Société Forestière et Agricole de la M'Bola	BUS	N
Société Forestière et des Matières Ligneuses Africaines	BUS	N
Société Forestière pour le Développement du Congo	BUS	N
Société Industrielle Congolaise De Bois	BUS	N
Société Industrielle et Forestière du Congo	BUS	N
Société la Millénaire Forestière	BUS	N
Association Congolaise des Exploitants Forestiers Artisanaux	INT	N
Fédération des Industriels du Bois	INT	N
Union Nationale des Agriculteurs, Pêcheurs et Éleveurs du Congo	INT	N
Ministère du Développement Rural	MRY	N
Ministère des Ressources Hydrauliques et Electricité	MRY	N
Alliance Nat. d'Appui et de Prom. des Aires du Patrim. Autoch. et Communaut.	NGO	N
Cercle pour la défense de l'environnement	NGO	N
Conseil National des ONG de Développement	NGO	N
Conseil pour la Défense Environnementale par la Légalité et la Traçabilité	NGO	N
Dynamique des Groupes de Peuples Autochtones	NGO	N
Ligue nationale des associations des autochtones pygmées du Congo	NGO	N
Organisation Congolaise des Ecologistes et Amis de la Nature	NGO	N
Réseau d'Information et d'Appui aux ONG Nationales	NGO	N
Réseau des Communicateurs pour l'Environnement et l'Information en Afr. Cent.	NGO	N
Réseau National des Observateurs Indépendants en RDC	NGO	N
Réseau Ressources Naturelles	NGO	N
Le Hub Rural	NGO	IN
Cellule d'Analyses des Indicateurs de Développement	SCI	N
L'Ecole Rég. Postuni. d'Aménag. et de Gest. intégrés des For. et Territ. Tropic.	SCI	N
Confédération Démocratique du Travail	TRU	N
Confédération Générale du Travail du Congo	TRU	N
Union Nationale des Travailleurs du Congo	TRU	N

Table 2: Keywords to filter retweets by subtopic

Agriculture	agric, agro, bamboo, bambou, banana, banane, bananeraï, blattner elwyn, brabanta, bukanga lonzo, caoutchouc, Feronia, huile de palme, kuramo, oil palm, palm oil, palmier, phc, plantations et huileries, rattan, rotin, rubber, slash and burn, slash-and-burn, socimex, sur brulis
Bioenergy	bio carbur, bio char, bio energ, bio fuel, bio mass, biocarbur, biochar, bioenerg, biofuel, biomass, congo biofuels, hawkwood
Economy	bank, banque, budget, capital, capitalism, commerce, communism, croissance, econom, économi, financ, growth, industr, infrastruc, invest, liberalism, libéralisme, marché, market, trade
Ecology	bio diversit, biodiversit, biological diversit, braconn, carbon, climat, conserv, durabilité, ecosyst, écosyst, emission, émission, endangered species, environment, environnement, espèces menaces, espèces sauvages, incendie, peat, poach, poche, preserv, préserv, sustainab, tourbier, wildfire, wildlife
Equity	activism, activist, autochtone, capital flight, colonial, corromp, corrupt, droit foncier, droit humain, égalité, equality, équité, financial flow, flux financier, food safety, human right, illicit, impôt, indigene, indigenous, justice, land right, militant, pygmé, pygmy, sécurité aliment, tax, transparenc
Extractives	china infrastructure, china railway, cobolt, conflict mineral, conflit mineral, copper, exploration pétroli, extractive, fortesque, gécamines, glencore, hydrauliq, hydro, katanga, kipay, mines, minier, mining, oil explor, pharos, power construction corporation, sicomines, sino-congo, sinohydro, virunga
Forestry	acacia, arbre, atibt, bassin du congo, bois, booming green, charpent, congo basin, congolaise industrielle des bois, déboi, defore, défore, eucalypt, fodeco, forabola, forest, forêt, forêt, kitenge lola, logging, lumber, maniema union, motema, nordsudtimber, norsudtimber, olam, rebois, refore, sicoboï, siforco, silvic, sodefor, soforma, somicongo, somifor, silvic, timber, tree, wood
Policy	afr100, belt and road, bio econom, bioeconomy, bonn challenge, ceinture et la route, certificat, circular econom, comifac, cop2, déclaration de glasgow sur les forêt, déclaration de new york sur les forêt, declaration on forest, défi de bonn, développement durab, durabilité, économie circul, économie verte, eiti, flegt, flr, forest declaration, fsc, green econom, ibi batéké. itie, nydf, pafc, paiement pour l'éco, paiement pour l'env, payment for eco, payment for environmental, pefc, redd, route de la soie, sdg, silk road, sustainability, sustainable devel, traçabilité, traceability
Ambiguous	concession, congo river, fleuve congo, la nature, land manag, land use, landscape, natural park, nature, parc naturel, paysage, plantation, resource, ressource, terre, territoire