

New Methods to Enhance the Study of Environmental Crimes and New Instruments to Strengthen Crime Prevention

The new special issue of the Journal of
Contemporary Criminal Justice

**Colloquium: Safety, resilience, and community:
Challenges and opportunities beyond the city**

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The rationale behind the special issue

New methods and new data to empirically study environmental crimes

- › The idea of the special issue «**New Quantitative and Qualitative Methods to Investigate Environmental Crimes**» was born considering the «need» to produce new solid empirical research on environmental crimes using **unexplored data and new quantitative/qualitative methods**
- › Lynch et. al. in 2017; Lynch & Pires in 2019; Nobles 2019
- › In 2018, I started to contact authors and JCCJ published the call for proposal to collect several contributions from all over the world considering 1) **different types of environmental crimes** covering different **geographical areas**; 2) different **methods** and 3) different **data**
- › **Special issue available at:** <https://journals.sagepub.com/toc/CCJ/current>

The contributions and contributors

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1. **Counter-mapping and activist tools** to investigate **environmental crimes** and to quantify environmental harm in Australia (Barnes & White, 2020)
2. **RTM modeling** to study **fauna and flora-related illegal activities** (e.g., illegal logging, flora and fauna poaching) in two protected areas in Cambodia to highlight risk factors associated with crimes at micro level (Cowan et al., 2020)
3. **Statistical modeling of social networks** to both reconstruct a network comprising connections between those countries that **illegally exchange waste** and to investigate the correlates of this global trafficking network (Favarin & Aziani, 2020)
4. **Crime script analysis to investigate the illegal harvesting of live corals** in Indonesia and Fiji (Sosnowski et al., 2020)
5. **Complementary data sources** (i.e., police crime records and newspaper articles) **to both produce a spatiotemporal analysis of environmental and wildlife crime (EWC) in Sweden and to explain the causes of chronic EWC hotspots** (Stassen & Ceccato, 2020).
6. **Cross-disciplinary approach** (i.e., computer science, criminology, conservation science, and law enforcement expertise) to analyze **online marketplaces for the illegal trade of endangered plants** (Lavorgna et al., 2020)
7. **Suggestions to create broader datasets for corporate environmental crime** analysis (Greife & Maume, 2020).

The Global Waste Trafficking and Its Correlates

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Aim:

- 1) Reconstruct the global network of waste trafficking
- 2) Statistically analyse the correlates of illicit waste trafficking

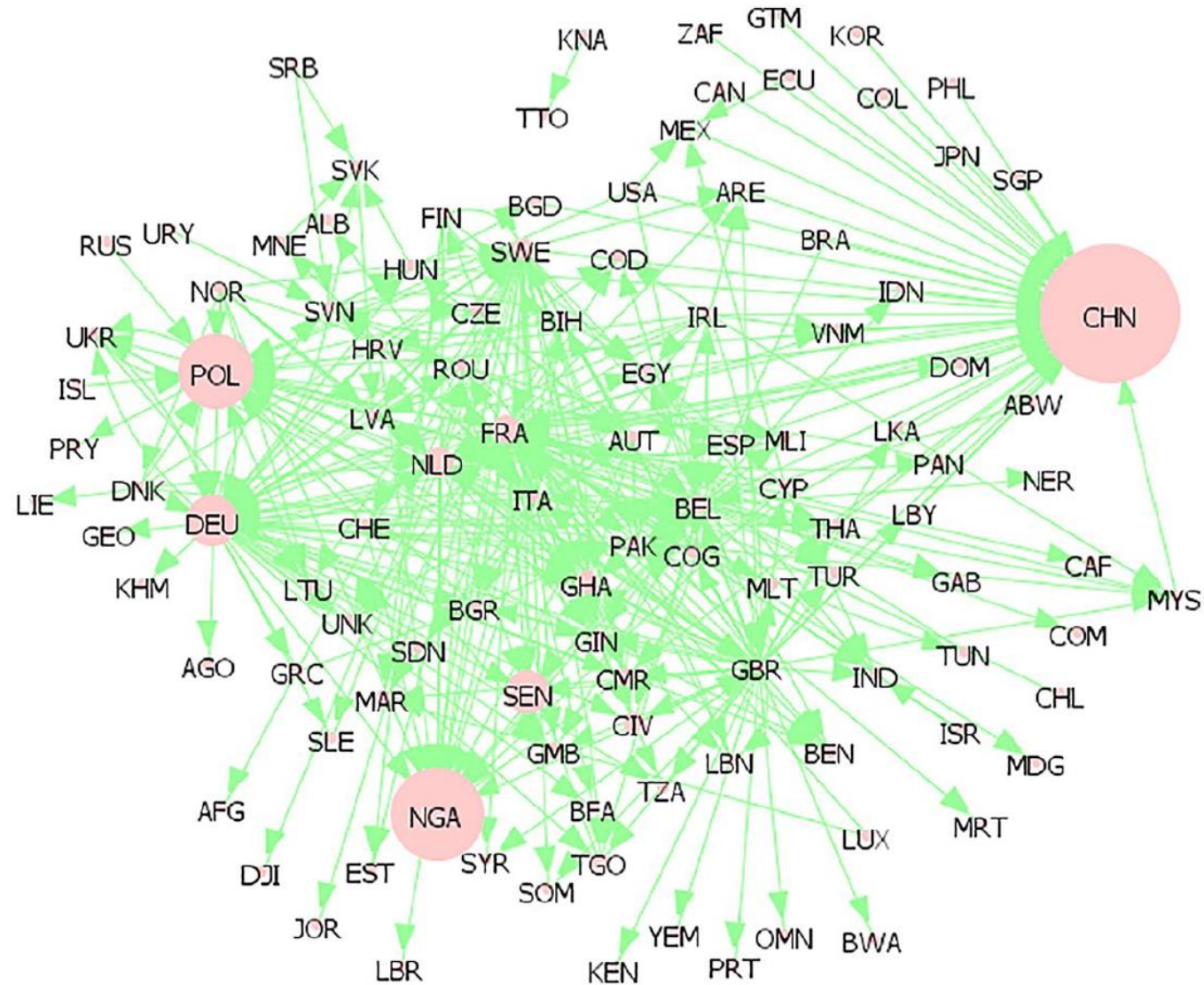
Data used:

We systematized data of 2016-17 **Basel Convention National Reports on IWT cases**

Methods:

SNA: to create a network of connections. Every time a country—importer or exporter—was indicated as being involved in a trafficking case with another country a link was established between the two.

LOGISTIC REGRESSION: to investigate the correlates of IWT.



The Global Waste Trafficking and Its Correlates

	Cases = 0 if no trafficking, 1 if trafficking				
	(m1)	(m2)	(m3)	(m4)	(m5)
Socioeconomic factors (Hypothesis 1)					
Infant mortality, importer	1.02*** [1.01, 1.03]	1.03*** [1.02, 1.04]	1.03*** [1.03, 1.04]		1.03*** [1.02, 1.04]
Conflicts index, importer		0.85*** [0.78, 0.92]	0.89* [0.81, 0.97]	0.93 [0.85, 1.02]	0.89** [0.82, 0.96]
GDP growth, importer		1.03 [1.00, 1.07]	1.03 [1.00, 1.06]	1.05 [1.00, 1.09]	1.03 [1.00, 1.07]
Shadow economy, importer				1.04*** [1.02, 1.06]	
Shadow economy, exporter				0.95 [0.92, 0.99]	
Waste production and management and demography (Hypothesis 2)					
Generated waste pc (ln), importer	0.05*** [0.01, 0.19]	0.11*** [0.03, 0.36]	0.14** [0.04, 0.47]	0.03*** [0.01, 0.15]	0.07** [0.01, 0.40]
Generated waste pc (ln), exporter	27.40*** [3.88, 193.68]	30.63*** [4.32, 217.11]	33.46*** [4.46, 250.95]	6.77 [0.42, 108.43]	0.98 [0.08, 12.22]
Recycling, importer				1.02 [1.00, 1.03]	1.01 [1.00, 1.03]
Recycling, exporter				1.01 [0.98, 1.04]	0.99 [0.97, 1.02]
Population density, importer			0.87 [0.55, 1.37]	0.84 [0.48, 1.46]	0.73 [0.38, 1.39]
Population density, exporter			0.84 [0.67, 1.07]	0.81 [0.66, 1.00]	0.91 [0.76, 1.09]
Population size (ln), importer	1.79*** [1.63, 1.97]	1.92*** [1.74, 2.12]	2.18*** [1.98, 2.40]	2.01*** [1.81, 2.24]	2.21*** [2.01, 2.44]
Population size (ln), exporter	1.64*** [1.31, 2.04]	1.65*** [1.33, 2.05]	1.98*** [1.55, 2.53]	1.69*** [1.28, 2.22]	1.88*** [1.51, 2.35]
Colonial ties (Hypothesis 3)					
Colonial relation	10.11*** [5.92, 17.26]	10.51*** [6.12, 18.06]	11.20*** [6.71, 18.70]	13.18*** [8.44, 20.59]	9.96*** [6.74, 14.72]

The Global Waste Trafficking and Its Correlates

- › Our results indicate that illicit waste is trafficked toward poorer and more insecure countries, primarily via former colonial connections.
- › Mere adherence to international treaties and promulgation of environmental laws does not in/of themselves explain whether a country is part of the network, although the establishment of dedicated courts/tribunals does reduce risk of being a recipient of trafficked waste.
- › Solid anticorruption measures and a strong rule of law increased the likelihood of being a source country in the IWT network, which, in turn, calls for a more global approach to the management of environmental issues.

THANK YOU

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