

Analysis of Best Practices for a Proposed Environmental Judicial Agency in Gabon

Katherine A. Coviello, Adetayo Oke, & Sean McDowell

ABT 289: D-10 Final Report of J.O.G.E.L.

University of California, Davis

Executive Summary:

Gabon is a central African country struggling to enforce environmental laws. Illegal logging, poaching, and pollution jeopardizing the country, its natural resources, and the welfare of Gabonese citizens. Most of the population is not adequately informed and knowledgeable about both Gabonese environmental policies and its benefits; Gabonese environmental law was ratified in 2019 so it is still relatively new and unfamiliar. Corruption also undermines these laws and policies. The Judicial Observatory of Gabonese Environmental Law (J.O.G.E.L.) is the proposed solution by our client, a Gabonese judge named Alain-Georges Moukoko. As an autonomous entity, J.O.G.E.L. will increase enforcement of Gabonese environmental laws through policy implementation, data collection, and education. Most courts and law enforcement agencies are not adequately trained or equipped to address and judge the cases of environmental crimes. Our research focuses on an analysis of best practices based on case studies and models.

The agency will work with each of the nine provinces in Gabon to collect accurate data on the illegal removal of environmental resources, poaching, deforestation, pollution, and other crimes that will guide the process of educating officials and the public about the current environmental crisis. Gabon houses the rarest tree species in the world and half the Elephant population of the Congo Basin. These species are being poached and removed at a rapid rate; in 2018, over 30,000 elephants were illegally killed and exported from the country. These environmental issues deprive Gabon of resources capable of improving the living conditions of the citizens. The consequences of these activities threaten the environment, increase the pace of climate change and increase poverty.

Gabon struggles with corruption and lack of technology. In 2010, the penetration rate of the internet was only 9.6%. At this time in Europe, there was a 65% penetration rate of the internet. Access to the internet continues to be a problem in 2020. Moukoko has been working on developing conferences and workshops to train and educate law enforcement agents, such as police officers, rangers, lawyers, and judges, on proper management of environmental injustices and the consequences of illegal resource removal. J.O.G.E.L. will also reach out to the public and raise awareness that helps enforcement, support implementation, and data collection efforts.

By creating an autonomous entity that addresses these violations and works with international agencies, Gabon can protect its citizens and resources to sustainably develop the country without exploitation. International support will garnish awareness, credibility, and accountability as well as establish J.O.G.E.L and support it in its mission of effecting environmental change and improving citizen welfare. Analysis of case studies and comparable projects will allow J.O.G.E.L. to avoid common pitfalls and focus on effective methods.

Introduction:

J.O.G.E.L. is a proposed environmental justice agency that will oversee the implementation of the recent Gabonese environmental laws. The Congo Basin region of Africa, where Gabon is located, is home to many animals, natural resources, and people. As an agency, J.O.G.E.L.'s role is to protect the environment. The three main aspects of the agency: policy implementation, data collection, and education. Education is divided into two sections: training of law enforcement agents and officials and public awareness. Public awareness will be achieved through grassroots support, media campaigns, and environmental education in schools. Through an analysis of case studies and models from other countries, we will recommend best practices for J.O.G.E.L.

Policy implementation has many barriers to success. There is a lack of local awareness and resistance to enforcement, corruption, and lack of resources inhibit implementation. Loose enforcement of policies in Gabon has partially been responsible for some corruption, although some permission of loose enforcement can sometimes lead to trust garner public trust and improve enforcement. Some case studies for corruption observatories including the European Corruption Observatory, the Hong Kong Independent Commission Against Corruption, Conflict and Environment Observatory, and the Observatorio de integridad. The Environment and Natural Resources Division and Hawaii's state environmental courts are great U.S. models for prosecuting environmental crimes. While internet access is limited in Gabon, a centralized electronic filing system modeled after Peru's judicial capacity-building efforts could be beneficial in reducing corruption and improving accessibility.

Province specific data collected on environmental crimes will guide the process of educating officials and the public of the current environmental crisis. The agency will work with the nine provinces in Gabon to collect data on the illegal removal of environmental resources. The consequences of the different environmental crimes threaten the environment and decrease citizen welfare. Methods like interviews, the capture-mark-recapture (CMR) method, the Dung Rainfall Model, and aerial surveying will allow the government to track, monitor, and respond to environmental crimes. Further research and analysis, as well as widespread and consistent monitoring, will be a valuable asset for conservation.

J.O.G.E.L. will also coordinate conferences and workshops with experts in order to train and educate law enforcement agents and officials on the management of environmental crimes and their consequences. The agency will seek to raise public awareness of the negative impacts of environmental crimes. Student outreach will help develop grassroots support for conservation. While online tools would be useful and cost-effective, Gabon lacks the necessary resources. An analysis of several environmental education case studies resulted in recommendations for best practices in environmental education.

Methodology:

Life Cycle Analysis, S.W.O.T. analysis, and stakeholder analysis are strategic planning and organizational tools. The life cycle analysis was employed to identify the lifespan and funding of the project. The S.W.O.T. analysis considers the Strengths, Weaknesses, Opportunities, and Threats of a project. The next method we looked at was the Stakeholder Analysis. This is used to help identify any individuals or groups who would be affected by this project in both a negative and positive outcome. In this stage of our methodology process, we made a chart that depicted the high and low interest as well as the High and Low power of different stakeholders. Our main methodology was a thorough analysis of relevant case studies, models, and academic papers. Overall, our methodologies were able to help us move to gather information and gave a smooth transition to gathering our final results for the project.

Results and Discussion:

The results discussed are from the following: Stakeholders and SWOT analysis, the prior art study and results, and resources for the project.

Key findings from the Life Cycle, Stakeholder, and S.W.O.T. Analysis:

For J.O.G.E.L. to exist in perpetuity it must be incorporated into the National Budget after its initial grant-funded start-up in 2020. In the Life Cycle Analysis, it was noted that Moukoko's goal was to have this project last for over a decade. A timeline was drawn up with the hopes that this project would make it to 2025 at least. As the primary force of implementation law enforcement and government officials were Identified as having and high impact. The educational institutions likely to be involved in the implementation of environmental law education are the PARCS Gabon Ranger School, the National Magistry Special School, and National Police School in Libreville. Overall, our stakeholders identified for the project were the clients, the corrupt politicians, and other NGOs. With the help of our S.W.O.T Analysis, our group was able to recognize our strengths, weaknesses, opportunities and overall threats to the project.

Prior Art in Education, Data Collection, and Policy:

One of Moukoko's primary goals with J.O.G.E.L. is to educate legal workers and judicial officials about environmental laws and the impact of environmental crime. J.O.G.E.L.'s primary focus in education will be the education of legal workers, officials, and law enforcement. The agency should bring awareness, knowledge, and information to as many people as possible and inspire action that leads to increased policy implementation from both grassroots support and government policy. Education on environmental policy in schools will create a path for increased knowledge and awareness that builds a foundation for conservation long term. In Botswana, teachers struggled to understand the nuance of the highly technical English resources and communicate those ideas to their students [10]. Having French books, syllabi, and resources for

teachers is the first step for success in educating people in Gabon. A primary constraint in Gabon is technology. Online education and training are very cost-effective [25], but the lack of access to computers, internet, and other technology limits the effectiveness and potential benefits of using these tools. In South Africa, one of the problems assessed after the attempted implementation of environmental policy was a lack of opportunities for a public voice and participation in the project design phase [33, 39, 1]. While it may seem obvious, local input is very valuable but is often dismissed as slowing down the process. The Environmental Protection Agency of Ghana reported that “time constraints did not allow for a thorough grassroots participatory process in the preparation of the [environmental education] strategy.” Often international stakeholders have competing influences and high power, so local opinions are lost. Participation by objection has become one of the most effective and seriously considered methods, but that needs to improve. With communities that lack resources, local input (of both local government and citizens) is very valuable and can provide helpful feedback. The education branch of J.O.G.E.L needs to work with different communities and agencies to facilitate an integrated and comprehensive approach to both audiences (the public and government officials/law enforcement). The project should bring awareness, knowledge, and information to as many people as possible and inspire action that leads to increased policy implementation

If there is to be a shift in the way Gabon views and treats environmental policy, data collection is imperative. It is going to require people who are willing to record the numbers on how much environmental problems and find results to solve these problems. The problems that need to be recorded and addressed range from natural resource theft including Illegal fish, and logging, to elephant poaching and beach littering. The best way to collect data on the numbers of elephants being poached is to do what is called a "dung rainfall model". This survey was done in Gabon as well as neighboring countries surrounding the country. How this survey is done is by closely watching and following specific elephant populations on a large scale to monitor large trends. When this survey was done in the Minkebe National Park in Gabon, the researchers were able to conclude the deconditioning number of elephants was caused by poachers and hunters [35]. Another environmental problem faced in Gabon is illegal logging and polluting. There was an aerial survey done in Gabon that was used to record the number of logs being dumped on the beach of Pongara National Park. For a year, an airplane was flown across the park while using GPS receivers that we're able to accurately calculate the longitude, latitude, date and time [35]. Part of the reason for these aerial surveys was to admittedly watch turtle migrations to the ocean, however, the same researchers had another method called Capture-Mark-Recapture or CMR for short. This is done by taking and monitoring a group, tagging them and studying them within a controlled environment where researchers can study the group [17].

Many countries have judicial and enforcement divisions that aid in the implementation of environmental policies and the prevention of corruption. Commissions and agencies which fight corruption have been implemented to varying degrees of success around the world and in the region. Analysis of these commissions such as the European Corruption Observatory, the

Hong Kong Independent Commission Against Corruption, Conflict and Environment Observatory, the Observatorio de integridad, and anti-corruption divisions in the US serve as models in deterring corruption [4, 8, 13, 24, 32]. Another policy measure which deters corruption is accessible recording systems. Transparency International EU, a coalition against corruption, created a searchable online database with legal documents and news articles which aim to improve accountability and by permitting oversight by the public and other institutions [13]. Additionally, a World Bank funded project in Peru for Judicial capacity building, reports not only successful in implementing an electronic filing systems, but also reduced the formal and informal (bribes) cost of accessing legal help in along with increasing the average training of judicial officials [9]. The US is a case study in established and effective federal and state-level environmental judicial and enforcement practices. The US Department of Justice Environment and Natural Resources division litigates cases on environmental crimes and improves the functioning capacity of environmental justice and enforcement [11]. The division has nine other sections it oversees, including public lands, implementation, enforcement, and defense of land-mark environmental statutes. Other countries have had success modernizing and improving judicial capacity though grant projects which increase legal worker education [,9]. The US Environmental Protection Agency and other US agencies use specially trained investigators [7] . The agencies collaborate with the courts, collect fines, manage resources, and permit licenses[7, 11, 27].

Proposal and Budget

The submission requirements for a grant proposal from US Fish and wildlife services for environmental projects in Africa were utilized as an outline for the needs of a proposal [15]. With this grant proposal as an outline, we used notes and recordings from conversations with Moukoko, our project brief, and research and analyses of case studies to form the proposal draft. The sections included were: project title goal, title, project summary, project narrative, deliverables, stakeholders, timeline, financial stability, and project lead. We are currently collaborating on this with Moukoko by editing the proposal and incorporating the sources and analysis from prior art. We also created an excel document to act as an outline for forming a project budget and provided sources (see appendix A) which could be use as guides for outline more specific cost in the budget such as The US EPA's budget report, California' EPA's budget report and the DOJ ENRD budg. International and Environmental Law [11, 14]. Additionally, in the budget we provide examples and links to potential grants, funding sources to apply to in the US and potential partnerships. Potential partners include the University of Oregon Urban Sustainability program, Global Environmental Education Partnership (GEEP), Global Learning and Observations to Benefit the Environment (GLOBE), the Central Africa Regional Program For The Environment (CARPE), and the United States Agency for International Development (USAID).

Recommendations for moving forward:

D-Lab 2's purpose is to construct a final product for the client based on research and planning in D-Lab one. Due to the intricacy of J.O.G.E.L. and its long term nature juxtaposed with our ten-week timeline, the completion of the grant proposal draft and budget spreadsheet draft were our deliverables. The complexity, long term, and conceptual nature of J.O.G.E.L. are outside the bounds of the studio aspects of the next D-Lab, so we do not suggest the project continues in D-Lab 2. However, we do suggest continued involvement and interaction of D-lab students with the project, on an as-needed basis, or be continued as a project for a single student to do further research and preparation more closely with Moukoko for the implementation phase.

Areas identified for further reach in the prior art analysis are education programs for enforcement officers and those systems effectiveness, especially in sub-Saharan and Equatorial Africa, dealing with programs and effective education for legal workers and officials. In data collection, further research is needed on the data collection methods system and organizations which are effective in Africa and the United States and further review of data collection in each section of focus. This includes methods for data within the justice system and data which is useful for education and enforced. For policy, a deeper analysis of the US models as case studies focusing on the litigation of environmental crime in us at the federal and state level as well as the collaboration between judicial and environmental enforcement agencies.

From our research, we would recommend continuing to focus on policy implementation, data collection, and education. Methods like interviews, the capture-mark-recapture (CMR) method, the Dung Rainfall Model, and aerial surveying will allow the government to track, monitor, and respond to environmental crimes and work well for data collection. Specific considerations for environmental education include prioritizing local stakeholders and having French educational materials. There are many anti-corruption models as well. Another resource would be increased internet and technology access which would affect all three branches of J.O.G.E.L.

6. References:

1. Aikens, K., McKenzie, M., & Vaughter, P. (2016). Environmental and sustainability education policy research: a systematic review of methodological and thematic trends. *Environmental Education Research*, 22(3), 333–359. <https://doi.org/10.1080/13504622.2015.1135418>
2. Albertson, B., & Busby, J. W. (2015). Hearts or minds? Identifying persuasive messages on climate change. *Research & Politics*, 2(1), 205316801557771. <https://doi.org/10.1177/2053168015577712>
3. Aker, J. C., & Mbiti, I. M. (2010). Mobile phones and economic development in Africa. *Journal of Economic Perspectives*, 24(3), 207–232. <https://doi.org/10.1257/jep.24.3.207>
4. Conflict and Environment Observatory. Conflict and Environment Observatory 2020 <https://ceobs.org/about/>
5. CEQ, DOE, "federal-agency-nepa-implementing-procedures" 2019. PDF file
6. “Crime and Violence in Central America Volume II” The Central America Unit Poverty Reduction and Economic Management Unit Latin America and the Caribbean Region. The World Bank, September 2010. Report No. 56781-LAC
7. “Criminal Enforcement: Special Agents.” EPA, Environmental Protection Agency, 5 July 2016, www.epa.gov/enforcement/criminal-enforcement-special-agents.
8. AfriMAP, issuing body. Effectiveness of Anti-Corruption Agencies in East Africa: Kenya, Tanzania and Uganda, 2016.
9. Enhancing Access and Quality of Justice Services in Peru. World Bank, The World Bank Group. April 10, 2017. <https://www.worldbank.org/en/results/2017/04/10/enhancing-access-and-quality-of-justice-services-in-peru>
10. *Environmental Education Policy Implementation Challenges in Botswana Schools | Ketlhoilwe | Southern African Journal of Environmental Education*. (n.d.). Retrieved February 11, 2020, from <https://www.ajol.info/index.php/sajee/article/view/122752>

11. Environmental and Natural Resource Division. The United States Department of Justice. <https://www.justice.gov/enrd/about-division>
12. Environmental Court, Hawaii State Judiciary, special projects. 2020 Hawaii State Judiciary. https://www.courts.state.hi.us/special_projects/environmental_court
13. European Corruption Observatory, A searchable database of European media reports on corruption. Transparency international EU. Transparency International EU, 2020. <http://transparency.eu/project/european-corruption-observatory/>
14. EPA US gov “ FY 2020 budget in brief ” PDF. file <https://www.epa.gov/sites/production/files/2019-03/documents/fy-2020-epa-bib.pdf>
15. Finarelli, M. (1998). GLOBE: A Worldwide Environmental Science and Education Partnership. *Journal of Science Education and Technology*, 7(1), 77–84. <https://doi.org/10.1023/A:1022588216843>
16. Fish and Wildlife US gov “Notice of Funding Opportunity and Application Instructions” <https://www.fws.gov/international/pdf/notice-of-funding-opportunity-africa-2019-english.pdf>
17. Fossette, Sabrina, et al. “The World's Largest Leatherback Rookeries: A Review of Conservation-Oriented Research in French Guiana/Suriname and Gabon.” *Journal of Experimental Marine Biology and Ecology*, Elsevier, 12 Feb. 2008, www.sciencedirect.com/science/article/pii/S0022098107005928.
18. “Gabon : Trafic De Bois Précieux.” *BBC News Afrique*, BBC, 2 Nov. 2015, www.bbc.com/afrique/region/2015/11/151102_gabon_bois.
- 19.
20. *GLOBE Home Page - GLOBE.gov*. (n.d.). Retrieved February 11, 2020, from <https://www.globe.gov/>
21. “Governance-fact_sheet-english_6ago2019” USAID PDF file. https://www.usaid.gov/sites/default/files/documents/1862/governance-fact_sheet-english_6ago2019.pdf
22. Grube, D. C. (2017, January 1). Rules, Prudence and Public Value: Public Servants and Social Media in Comparative Perspective. *Government and Opposition*. Cambridge University Press. <https://doi.org/10.1017/gov.2015.21>

23. Home | *Global Environmental Education Partnership* (GEEP). (n.d.). Retrieved February 11, 2020, from <https://thegeep.org/>
24. Hong Kong Independent Commission Against Corruption. ICAC, 27 August 2019. <https://www.icac.org.hk/tc/about/history/index.html>
25. Islam, S., Chowdhury, M., Bausman, D. C., Khan, S. M., & Mitchell, J. (2017). Current Practice of Design and Delivery of Online Training for Transportation Professionals at Public Agencies. *Public Works Management & Policy*, 22(4), 335–355. <https://doi.org/10.1177/1087724X16677997>
26. LAHM, S. A. 1993. Ecology and economics of human wildlife interaction in Northeastern Gabon. PhD Dissertation. New York University. 325 pp.
27. Laws & Regulations Summary of the clean air act. EPA United states environmental protection agency <https://www.justice.gov/enrd/about-division>.
28. M. Auer et al., Towards an Improved Understanding of Illegal Logging and Associated Trade, U.S. Forest Service, International Programs (Washington, DC: May 30, 2003).
29. Mavoungou, Par Charles Stéphane. “Gabon : Trafic De Bois à Grande Échelle.” *BBC News Afrique*, BBC, 14 June 2016, www.bbc.com/afrique/region/2016/06/160614_gabon-forets-trafic.
30. Medjibe V. “Certified and Uncertified Logging Concessions Compared in Gabon: Changes in Stand Structure, Tree Species, and Biomass” Putz F, Romero C, *Environmental Management* 2013 51:524–540DOI 10.1007/s00267-012-0006-4.
31. National Environmental Policy Act of 1969. NEPA.GOV. <https://ceq.doe.gov/laws-regulations/laws.html>
32. Observatorio de integridad Integrity Observatory 2020, <https://www.observatoriointegridad.pe/veedurias>
33. Patel, Z. (2009). Environmental justice in South Africa: Tools and trade-offs. *Social Dynamics*, 35(1), 94–110. <https://doi.org/10.1080/02533950802666956>
34. Pikesley, Stephen K., et al. “Here Today, Here Tomorrow: Beached Timber in Gabon, a Persistent Threat to Nesting Sea Turtles.” *Biological Conservation*, Elsevier, 3 May 2013,

www.sciencedirect.com/science/article/pii/S0006320712004545#f0005.

35. Poulsen, John R., et al. "Poaching Empties Critical Central African Wilderness of Forest Elephants." *Current Biology*, Cell Press, 20 Feb. 2017, www.sciencedirect.com/science/article/pii/S0960982217300246#bib1.
36. Rob White, Grant Pink. "Policing wildlife : perspectives on the enforcement of wildlife legislation." Palgrave MacMillan, 2016. ISBN 978-1-349-55981-7
37. Robinson. "Protecting Developing Countries Forests: Enforcement in Theory and Practice." Kumar, Albers *Journal of Natural Resources Policy Research*, 2010 vol: 2 (1) pp: 25-38
38. Roger Bowels. "Evidence-based Approaches to Crime Prevention in Developing Countries" Akpokodje, Tigere. *European Journal on Criminal Policy and Research*, 2005 11: 347–377
39. Rossouw, N., & Wiseman, K. (2004). Learning from the implementation of environmental public policy instruments after the first ten years of democracy in South Africa. *Impact Assessment and Project Appraisal*, 22(2), 131–140. <https://doi.org/10.3152/147154604781766012>
40. The Eagle Network "Eagle Wildlife Law Enforcement Briefing". October 2015. PDF file
41. "USAID/Central Africa Regional Central Africa Regional Program for the Environment (CARPE) Regional Development Cooperation Strategy (RDSCS) 2011-2020" USAID. 2011.
42. Urban Sustainability in Gabon | Gabon-Oregon Center. (n.d.). Retrieved February 11, 2020, from https://goc.uoregon.edu/urban_sustainability
43. Walters G. "Evolving hunting practices in Gabon lessons for community-based conservation" Schleicher J, Hymas O, Coad L, 2015. *Ecology and Society* 20(4):31. DOI 10.5751/ES-08047-200431
44. World Bank, A Revised Forest Strategy for the World Bank Group (Washington, DC: Oct. 31, 2002).

Appendix A:

FUNCTIONAL EXPENSES

Functional allocation of expenses: The costs of providing the various programs and other activities have been summarized on a functional basis in the statements of activities based upon the program and supporting services benefitted. Accordingly, salaries and related benefits and cost of office space have been allocated based upon the actual time incurred on program and supporting activities, and the cost of office space and other indirect costs have been allocated based upon rates determined by management.

In USA\$	For 2021				For 2022			
	Data Collection	Public Awareness/Outreach	Policy, Legal Assistance	Management and	Data Collection	Public Awareness/Outreach	Policy, Legal Assistance	Management and
Salaries, payroll taxes and benefits	120,000	180,000	80,000	75,000	300,000	200,000	160,000	160,000
Cost of office space	12,000	11,250	3,750		-	15,000	7,500	7,500
Insurance								
Equipment, furniture and supplies	2,200	1,800	600	600	2,200	600	400	400
Communications, postage, and printing								
Travel, meetings and conferences	4,000	3,000	1,000	800	4,000	3,000	1,000	10,000
Miscellaneous expenses								
Total revenue and support	138,200	196,050	85,350	76,400	306,200	218,600	168,900	177,900
Key Assumptions								
Size of Staff	2	3	1	1	5	4	2	2
Average Compensation with Benefits	\$60,000	\$60,000	\$80,000	\$75,000	\$60,000	\$50,000	\$80,000	\$80,000
Space, # of Sq Ft	800	750	250	250	1250	1000	500	500
Cost Per, Annually	\$15	\$15	\$15	\$15	\$15	\$15	\$15	\$15
Trips&Conference	4	3	1	10	4	3	1	10
Cost Per	1,000	1,000	1,000	80	1,000	1,000	1,000	1,000
Equipment (Per New Staff)								
small desk tops- each \$400	800				1,200		400	400
low priced laptops-each \$600		1,800	600	600		600		
display monitors \$200	400							
other electronics..	1,000				1,000			

Statement of Activites by Year

	2021	2022
Grants/Donations		
The Lincoln Slatton Family Foundation		
African Wildlife Foundation		
Global Environmental Fund		
USAID		
MacArthur Foundation		
Government Contracts		
Water and Forest Services		
World Wildlife Fund		
African Elephant Conservation Fund		
Non Governments Contract		
Google		
Total revenue and support	-	-
Data Collection	138,200	196,050
Public Awareness/Outreach	196,050	85,350
Policy, Legal Assistance	85,350	76,400
Management and general	800	4,000
Total Expenses	420,400	361,800
Change In Net Assets	(420,400)	
Net assets, beginning of year	-	(420,400)
Net assets, end of year	(420,400)	(420,400)