

UNBREAKABLE: FEMALES FIGHTING POACHING



Photo Courtesy of IAPF

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Key Takeaways

- The global conservation community is increasingly aware of the detrimental impact corruption has on conservation efforts. Strategies to combat corruption are now a top priority in policy dialogues and international donor investments. Yet, in countries with systemic corruption, initiatives designed to decrease corruption have had minimal results to date.
- This paper aims to explore the role of gender in stemming corruption in poaching through a review of three case studies of all-female anti-poaching units in Africa that have been perceived by some as having successfully contributed to addressing corruption, decreasing poaching, and enhancing security.
- Preliminary research of all-female anti-poaching units in Africa indicates that these units may provide an innovative approach to reducing corruption and stemming poaching. Based on in-depth interviews with academics and program managers of Africa's first three anti-poaching units to innovate via gender roles in wildlife conservation – the Black Mambas (South Africa), the Akashinga (Zimbabwe), and Team Lioness (Kenya) – there have been zero incidents of corruption reported to date in and among their units and poaching numbers have been largely reduced in the areas patrolled by these women.

Exploring Gender and Corruption in Poaching

A 2019 [Global Assessment Report](#) on Biodiversity noted an average of around 25 percent of plant and animal species are threatened, suggesting that around 1 million species already face extinction, many within decades, unless action is taken to reduce the intensity of biodiversity loss. This wildlife crisis has seized the attention of media, academics, governments, policymakers, conservationists, as well as criminal syndicates. Corruption largely undermines the efforts of governments, international bodies and civil society to protect wildlife and regulate trade effectively. In addition, corruption within wildlife enforcement agencies, customs, and the judiciary branch further undermine democracy, good governance and transparency in these institutions.

While there is limited research on effective strategies to disrupt the illicit supply chain of wildlife trafficking and how to effectively stem the corruption that fuels it, such as the relationship between gender and corruption in anti-poaching efforts, there is substantial [literature](#) on the correlation between gender and corruption in other sectors such as policymakers and economics from which we can extrapolate conclusions. Some have posited that when women are in policymaking positions, corruption is reduced due to the types of policies women enact, making a case for the benefits of female authority figures in other fields as well (Jha C., Sarangi S., 2015). Combating corruption in any sector is difficult and complex, but it has been widely perceived that the inclusion and empowerment of women in these efforts does tend to greatly reduce the rate of reported incidences.

Across the globe, women are dramatically underrepresented in the law enforcement community. In the United States, for example, where women make up more than half of the U.S. population,

less than 13% of [law enforcement](#) officers are women. There is limited information on the numbers of rangers globally or in Africa specifically, but traditionally, anti-poaching units and ranger roles have been occupied by men. There are no reliable estimates found globally on the percentage of females that make up the ranger workforce, but a 2019 [Life on the Frontline Report](#) by WWF surveyed rangers from 28 countries over the course of three years with over 6,000 responses received, finding approximately 7.5% of women make up the ranger workforce. A 2020 study by J. Seager also cites that 3-11% of the workforce consists of female rangers, highlighting not only a clear lack of gender *balance* in the workforce, but even more importantly the need to address gender *equality* in this area of work (J. Seager 2020).

In 2013, the first all-female anti-poaching unit was formed in South Africa. This model was similarly adopted and further developed in Zimbabwe and Kenya in 2017. The all-female anti-poaching units boast an impressive record of zero reported incidents of corruption within the units closely tracked by the Program Head and in the broader context of anti-poaching efforts, major reductions in poaching activities in the areas that they cover and patrol, and an increase in sightings of wildlife activity as reported by the interviewees. The potential benefits of increasing the number of all female anti-poaching units globally as well as increasing the number of female rangers within anti-poaching units could be significant; from stemming corruption at local levels to social and economic empowerment of communities.

This paper aims to explore the role of gender in stemming corruption in poaching through a review of three case studies of all-female anti-poaching units in Africa that have successfully addressed corruption, decreased poaching, and enhanced security, while acknowledging limitations with the small sample size and limited time for research.

Defining Terms

- **Corruption:** The abuse of entrusted power for private gain. Corruption erodes trust, weakens democracy, hampers economic development, and further exacerbates inequality, poverty, social division, and the environmental crisis.
- **Gender:** The roles, behaviors, activities, and attributes a society considers appropriate for men and women. Gender is part of the broader socio-cultural context, including class, race, poverty level, ethnicity, sexual orientation, and age (IUCN).
- **Poaching:** Illegal hunting, killing, capturing, or taking of wildlife violating local or international wildlife conservation laws.
- **Wildlife trafficking:** Involves the illegal trade, smuggling, poaching, capture, or collection of endangered species, protected wildlife (including animals or plants that are subject to harvest quotas and regulated by permits), derivatives, or products thereof. There is, however, no universally accepted definition of the term and different jurisdictions and organizations employ different terminology.
- **Wildlife Crime:** Considered a subset of environmental crime, any violation of a criminal law expressly designed to protect wildlife (both fauna and flora) at the national level or international level.

Conservation groups, like the International Anti-Poaching Foundation (IAPF), have found that involving women in anti-poaching efforts and placing them in positions of authority greatly reduces incidences of corruption within the ranks, an observation noted by many of those interviewed. While the claim made by all of the interviewees, that “Women are less susceptible to corruption,” is too broad to substantiate in this study or most others, the purpose of this research is to explore key characteristics of all-female anti-poaching units in order to examine potential causes of corruption reduction in this field. Our preliminary findings are specifically related to female ranger units in Africa and the possibility that this model may in fact prove to be less prone to corruption within conservation efforts.

Since the role of a ranger is typically served by a male, the administrative duties of the ranger are also undertaken by men. However, when women are hired as rangers, they tend to fill more of the administrative role in the parks and protected areas with few options for promotion or significant decision-making authority. All-female anti-poaching units challenge this norm and provide more opportunities for women to ascend the ranks and enter more authoritative roles.

The core overarching themes that were collated and found central throughout the discussions were the following (in this order of importance):

1. Community
2. Culture and Context
3. Training
4. Patriarchy/Hierarchy
5. Gendered Approaches

Study Limitations

The author acknowledges limitations to this analysis that include the following:

1. This study excludes Asia’s two all-female anti-poaching units in [Nepal](#) and the [Lion Queens of India](#) given that the focus of this study is on Africa. It is worth noting that Nepal’s protected areas have faced [near zero poaching](#) of rhinos from 2011-2018, yet the Asia based female ranger units have not received as much media attention as the African units.
2. This study also excludes a newly established all-female anti-poaching unit in Kenya’s Segera Conservancy, which is supported by the Zeitz Foundation with a 6-month training led by a military-trained professional ranger. This unit is too new to generate measurable data and identify trends, but is unique and different in their approach as they integrate yoga and meditation into the rangers training, is a co-ed unit (post-training) informed by IAPF’s *Akashinga* model and receiving equal pay for equal work alongside their male counterparts.
3. The information gathered in some of the interviews was provided by the Program Directors versus the women rangers, who were not interviewed due to limited time and COVID-19 restraints.

4. The researchers understand that the sample size of interviews conducted was small and that it serves as a limitation to our study. It would be beneficial to take our study to a greater audience of respondents to buttress the power and validity of our insights.

A deeper dive into all five global specific female units is recommended for further research.

Case Studies

The Black Mambas

In 2013, Craig Spencer from Trans-frontier Africa created the first ever all-female anti-poaching unit, *The Black Mambas*, based in the wilderness of Balule Nature Reserve in the Greater Kruger area, South Africa covering 52,000 hectares. The selection process for *the Black Mambas* is a rigorous interview and fitness test as well as a polygraph exam mirrored to what men have to achieve to become rangers. Per a 2020 Impact Assessment Report, approximately 30 women have been recruited to date and have contributed to the reduction in poaching and snaring events in the areas they patrol by 76%, surpassing what a male unit typically accomplishes in a similar size area; a critical impact in a country that is home to 70% of the world's white rhinos, with less than 30,000 remaining in the wild.

The Black Mambas take on a similar approach as the British Police or “Bobbies,” where being dressed and looking the part of a ranger serves as a strong deterrent to prevent crime. The Black Mambas are thus not armed, as Spencer hopes to avoid an arms race with the poachers and keep these women out of dangerous situations. The female rangers are placed on the periphery of the poaching locations to detect and feed information to their centralized control room. They are away from home on 21-day patrols, like male rangers, which can be a challenge for women with families and small children, given the traditional gender roles around family rearing among the communities from which these rangers come.

To join the team the women are required to undergo a rigorous 3-month training which incorporates both physical and classroom skills development, such as surveillance practices. The rigorous training that is required by the Black Mambas, which is equal to that which male rangers undergo, is what Spencer attributes to no casualties and a strong and sustainable team. An internal 2020 impact survey conducted on the *Black Mambas* found that the female rangers experienced dramatic improvements in their self-esteem and gender role expectations compared to their previous experiences. Additionally, the *Black Mambas* have had a positive influence on conservation awareness which has led to a decrease in support of poaching activities in the surrounding communities in which they operate (D. Danoff-Burg, A. Ocanas, 2020).

Akashinga

Zimbabwe is ranked as one of the most corrupt countries in the world, positioned at 158 out of approximately 180 countries on the 2019 Transparency International Corruption Perception Index. The *Akashinga*, translated to “The Brave Ones” have been operating for nearly 4 years in the Lower Zambezi Valley of Zimbabwe where one of the largest remaining elephant populations resides, and have thus far seen zero reported incidents of corruption within their units. Established in 2017, they now have over 200 rangers who have conducted nearly 200 arrests and

have contributed in part toward the reduction of elephant poaching by 80% countrywide in Zimbabwe with reductions in the specific areas where the Akashinga patrol in the Zambezi. These women patrol and protect 8 reserves for a total of 1.25 million acres. The rigorous interview and physical fitness selection program were originally developed by former military special forces and the IAPF Founder Damien Mander for earlier programs for training male rangers. Now his aim is to create the same opportunities for the most marginalized and vulnerable members of the local community. The physical fitness test is at the same level of difficulty that was developed for the men he trained prior to developing the Akashinga.

The initial cadre of women who passed the grueling test of endurance were all survivors of serious sexual assault and domestic violence, orphans or single mothers, all of which were a part of the selection criteria, where these women demonstrated strength and resiliency equal to that of their male counterparts. There is no education requirement for these women to join the ranks. The trainings were identical to those that men had been trained previously by Damien. Since *Akashinga's* program inception, IAPF has transformed their model from a militarized approach to a more intelligence-based approach which has been instrumental for furthering community support. The *Akashinga* are still fully armed, outfitted similar to the military, but there has been only one instance that a female ranger had to fire her weapon. The program also includes a food and nutrition program for youth that are administered by the women rangers in their communities, gaining strong key stakeholder support, including from local tribal elders. Additionally, their community work will contribute to bettering the society through access to water and health. Today, an *Akashinga* position is highly respected and sought after, with younger women aspiring to become rangers.

Team Lioness

In 2017, the International Fund for Animal Welfare (IFAW) supported the creation of *Team Lioness*. Under the oversight of the Olgulului Community Wildlife Rangers (OCWR), who work alongside but are separate from the Kenya Wildlife Service, *Team Lioness* protects the traditional Maasai community land that surrounds Amboseli National Park in Kenya. Maasai women are deeply connected to their communities and land, making them key proponents for local conservation efforts with insider knowledge and unique perspectives to offer their male ranger units. In 2019, the Government of Kenya announced a 90% decrease in poaching countrywide., noting that since 2012, poaching rates have steadily declined.

The female rangers are part of the male ranger units in a mixed gender model, with one female representative coming from each of the 8 sub-clans of the Maasai Indigenous Community to ensure greater community buy-in and fuller representation among the existing male units. The women rangers are not completely isolated from men as they are integrated with the male rangers. When the women rangers are recruited and trained, they are together with the men for the first 90 days where there is value placed in integrating the teams early on for team cohesion. Men can learn the non-violent and non-aggressive tactics from the women rangers and women are pushed further in their physical fitness training alongside the men. While it is a community based all-female ranger unit, it does operate alongside men.

The Team Lioness recruitment selection process is also a rigorous one that incorporates the tribal leaders' support and is based on leadership, academic achievements, physical fitness, and integrity. While the Black Mambas also have an education requirement, similarly to Akashinga, Team Lioness does not have a minimum education requirement. The young women for Team Lioness are among the first in their families to secure employment in their long history. Therefore, the ranger position is considered an extremely high honor, which likely also contributes to the greater scrutiny and importance placed on ensuring zero corruption.

Analysis

Since the formation of these three female ranger initiatives, approximately 250 women rangers have been trained and deployed in protected areas in Africa and have been successful in reducing poaching activity. Of the nearly 250 women hired there was not one single incidence of corruption reported among the units despite the Program Directors' close monitoring for corrupt practices, which occurs across the board for all team members, staff, and units. In one such case with the Akashinga, a women ranger turned in her own husband for illegal poaching activities.

There is limited research on wildlife law enforcement efforts compared to other forms of policing and even less data on the impact of corruption on conservation related issues, including data for male rangers and corruption, but they are certainly not immune to corruption (Gibbs et al, 2009, Moreto, 2015, Agu and Gore 2019). It is important to note though that this correlation between the inclusion of female rangers and reduced incidences of corruption does not represent causation. Therefore, there is a need for a measurable baseline and further research to develop methods in order to establish tracking and measuring that includes not only gender but also captures the rank, role and position of the women rangers given that decision-making is tied to rank within the service.

In a 2018 gender study that explored if corruption increased for women as their rank/position rose across policymakers in Parliament in Europe, the conclusion was that corruption is lower when women enjoy a greater equality with men, possibly because they are better able to affect policy making (Jha and Sarangi, 2018).

Perception. The perception of corruption has been found to be highly correlated with actual corruption, the perception of corruption is important in itself as individuals' decisions are based on perceptions (Kaufmann et al, 2011, Huntington, 2017). Therefore, if the perception by the general public as well as those women in the ranks is that women rangers are less corrupt or less likely to engage in corrupt practices, by this logic we can deduce that women are less likely to be offered corrupt opportunities by others for fear of being turned in, thus reducing rates of corruption.

“One way to combat corruption within law enforcement is to hire more women and the rationale is that women are incorruptible and while that is an overstatement there is the perception that seems to hold true. Women are more risk averse than their male counterparts.” -Tanya Wyatt, Professor of Criminology, North Umbria University

Whether or not women are less corrupt than men remains unclear, but studies have suggested that women in positions of power can reduce corruption (Eckel et al, 2008). In fact, of the three case studies, over 200 of the approximately 250 women rangers were members of all-female units; hence they were led by females up through the ranks of a military equivalent ranking system. These case studies have shown thus far that placing women in positions of authority greatly reduces the chances of corruption within and among the ranks.

Additional potential factors contributing to decreased corruption among all-female anti-poaching units include:

Few or no alternative job opportunities for these women, resulting in a sense of appreciation and risk aversion to doing anything that would jeopardize this opportunity. In their service as rangers these women face the same challenges as their male counterparts, including being away from their home and children for long periods of time, braving extreme heat or flooding when tracking animals, and ongoing danger posed by human-wildlife conflict, which many of these units face without the aid of firearms or other protective gear. One possible reason these women rangers are not taking bribes, engaging in theft, or turning a blind eye to a poacher at a border post—all manifestations of wildlife related corruption—may be attributed to the fact that these women have more to lose than men. This adds to the argument that the perception of women as less likely to engage in corrupt practices leads to lower rates of corruption with all-female anti-poaching units, although this link has not been officially proven. Women have also overcome historical patriarchal cultures where they often are not employed, nor do they serve as the main income providers for the family.

The rigor in recruitment, selection and training processes of these women rangers ensures only properly vetted, resilient, and driven candidates are selected. Simply, women candidates who are selected to be rangers must demonstrate equal or greater valor, emotional strength, and physical endurance to their male counterparts. A limitation that was frequently noted was the limitation of physical strength to their male counterparts.

Central role women play in information gathering and dissemination. In addition to lower corruption rates than their male counterparts, female rangers have also proven to be effective in anti-poaching. As noted earlier, we saw significant drops in poaching in protected areas patrolled by women rangers. Nearly all of the interviewees noted that women in law enforcement tend to excel at information gathering on a personal encounter level as well as among their social networks in the local communities and neighboring villages they often live and work in (Miller, Segal 2018). IAPF has noted that only 3% of the crimes solved by law enforcement are solved by catching someone in the act, the other 97% are resolved by intelligence-led operations, requiring information gathering skills. Women form the backbone of informal communications in rural societies that further reduces wildlife crimes; hence why the *Akashinga* model has migrated toward an information-gathering focus.

“The connection between the community and wildlife security is so important and overlooked. It is the connections to the community that allows for information gathering which can uncover

tactics used by poachers/traffickers that were previously unaware of.” -Faye Cuevas, Department of Defense, U.S. Air Force

This integral role of the community was a resoundingly important aspect to all of the units. Interviewees noted that some women rangers play an active role in grassroots education efforts to raise awareness of the negative impact of poaching as well as elevating the status of rangers, including female rangers, among the youth. Additionally, the importance of women in the community cannot be underestimated on their impact to not only contribute toward the family, youth, but also the local economy. A 2018 UN Women study discovered that **women are likely to invest 2.5 times more of their time into their community compared to men.**

Another possible deterrent to corruption among women rangers is the notion of communal shame and punishment. In the case of the Team Lioness rangers, for example, tribal elders **held these female initiates to the highest standards**, while their male counterparts did not undergo equal scrutiny. Much has been written on women receiving harsher punishments than men, in general, including ethical violations at work (Vedantam, 2016, Barnes et al, 2017, NIJ Special Report, 2019). Women have greater hurdles to jump through due to social context, and if they get into a position of authority, they potentially have more to lose. Women reportedly give greater emphasis than men to community needs which can provide a strong disincentive to be corrupted.

The other key thematic area that was frequently noted of importance by the interviewees is the cultural and environmental context behind community support. Understanding this is critical if the model is scaled and deployed elsewhere, as different communities may view corruption and its various forms differently (Wyatt, 2013 and 2015, Uhm and Moreto, 2018). There is also a large connection between poverty, economic stability, and corruptibility, and why people engage in bribery across the supply chain.

While each of these units utilizes different models and approaches as shown in the table below, all three anti-poaching units noted the following outcomes: 1) major reduction in wildlife poaching activities in the areas they are responsible for patrolling; 2) zero incidents of corruption found or reported within the all-female anti-poaching units; and 3) an increase in community engagement and support for wildlife conservation.

	Trans-Frontier Africa The Black Mambas	IAPF Akashinga	IFAW Team Lioness
Established	2013	2017	2017
Location	South Africa	Zimbabwe	Kenya
TI Corruption Perception Index by Country	70	158	137
Armed		●	
Approach	All Female	All Female	Co-Ed
Managed by Men	●	●	●

Community Engagement	•	•	•
Polygraph Used	•		
Recruited and managed by NGOs	•	•	•

Lessons from the Cases

- 1. Community and Cultural Context Are Key.** All respondents frequently noted that in order to operate successfully and sustain the project effectively, projects are reliant upon full community engagement and support as well as understanding the cultural context. Interviewees from the three projects, reported that the ranger units all needed the village elder or tribal leader's full support, in some instances even participating in the recruitment and selection process. Each community is very distinct; therefore, the culture is different and must be taken into consideration for the development of such units. Women rangers have been perceived to be better at engaging with communities than their male counterparts, which is valuable in anti-poaching efforts.
- 2. No one size fits all.** Interviewees agreed that the model of an all-female anti-poaching unit can be scaled to other parts of Africa and beyond as an effective way to stem poaching and trafficking of wildlife, but not necessarily replicated. The experience of involving female rangers has thus far indicated positive results in terms of fighting corruption and reducing poaching activities in all three places. However, the exact model of one ranger unit that works well in a particular park/reserve may not work in another. For example, most of the Project Directors/Founders of these three units have favored limiting weapons and keeping the all-women units out of heavily-armed situations. It would be important to assess whether this model would be appropriate in areas where parks have been heavily militarized.
- 3. Perception is as important as reality.** The females in these anti-poaching units have developed comradery, elevated self-esteem, experienced professional development and received training. Some of the young women have risen up in the ranks to decision making and leadership roles. And the media has bestowed global attention on their efforts and impact. These women have changed hearts and minds across their community and among children which can have a generational shift in mindset to be more conservation aware and protect, rather than poach, wildlife when faced with economic hardship. They perceive their job to be important, breaking historical and patriarchal barriers/glass ceilings, and therefore will likely not risk losing their position by engaging in corrupt practices.
- 4. An overall increase in women rangers is critical.** While this paper reviewed the all-female anti-poaching units in Africa, it is just as relevant to study the role of women in law enforcement among majority male units as well. Women make up roughly 13% of law enforcement officers across the United States, this figure is much less in other developing countries. Estimates for female rangers globally are unknown, but some estimates place it at 7%. This disparity needs to narrow from a hiring perspective while maintaining organizational

effectiveness. There has been sufficient evidence that increasing women in leadership roles makes teams, organizations, economies, and societies better and stronger.

- 5. Further research is needed.** Further research includes developing a baseline to establish corruption within male ranger populations that can then be used to compare results of the female ranger units in order to measure positive returns to female presence in ranger positions. This would allow for researchers to accurately compare the effects of gender on poaching and wildlife trafficking. Therefore, we need more data and to conduct more in-depth studies to support the claim that female rangers better reduce corruption than men in the field.

This paper posits the idea that not only is increasing the number of all-female anti-poaching units worth exploring, but also equal rank opportunities should be a target. This paper serves as a comparative review for the existing all female anti-poaching units that exist in Africa as a set of guiding principles, but there is no blueprint that can be replicated exactly from any of these quite varied or different models. What is consistent is that all female anti-poaching units seem to be successful across the board in not engaging in corrupt activities such as bribes, graft, or theft within their ranks and units, in particular if empowered and in a position of authority, to aim for zero corruption among the ranks, and do their role well in stemming poaching and to a lesser extent wildlife trafficking activities. If key stakeholders continue to explore ways to scale this model in other places, it will have to be implemented carefully with an emphasis placed on the selection, recruitment, and training coupled with strong community support and buy-in. Employing women (gender balance), empowering women (gender equity), and equipping women to do the job of a ranger is good for the community, the economy, and the environment with a lasting impact that can shift the hearts and minds of children to serve as protectors of wildlife for generations to come.

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About the Author

Jessica Graham has nearly fifteen years of experience working in private, public and non-profit sectors focused on international conservation and security issues. She previously worked as a Senior Policy Advisor for the U.S. Department of State, Bureau of International Narcotics and Law Enforcement Affairs as well as with INTERPOL Environmental Security Programme.

Annex I: List of Interviewees

Name	Title	Organization	Areas of Expertise
Faye Cuevas	Africa Regional Strategy Officer	U.S. Department of Defense, Air Force	Military, Conservation, anti-poaching, Wildlife Trafficking, supported the establishment of Team Lioness
William Moreto	Associate Professor, Ph.D.	University of Central Florida	Academic on conservation, criminology, anti-poaching, wildlife crime and ranger perception
Tanya Wyatt	Professor, Ph.D.	North Umbria University	Academic on criminology, corruption, conservation, anti-poaching, and wildlife crime
Craig Spencer	Managing Director	Trans-frontier Africa	Military, Conservation, Anti-poaching, Wildlife Trafficking, Law Enforcement, Founded the Black Mambas
Chris Galliers	President	International Ranger Federation (IRF)	Conservation, wildlife management, Law Enforcement, Ranger Protection, and President to the IRF
Damien Mander	Founder and CEO	IAPF	Military, Training, Conservation, Anti-poaching, Wildlife Trafficking, Law Enforcement, Founded Akashinga
Shane Sergeant	Consultant	None	Military, Training, Conservation, Anti-poaching, Wildlife Trafficking, Law Enforcement, supported the establishment of Kenyan group of female rangers

References

- Agu H., Gore, M. (2020). 'Women in wildlife trafficking in Africa: A synthesis of literature', *Global Ecology and Conservation*, vol. 23 e01166, <https://doi.org/10.1016/j.gecco.2020.e01166>.
- Barnes, T., Beaulieu, E., Saxton, G. (2017). 'Restoring Trust in the Police: Why Female Officers Reduce Suspicions of Corruption', *Governance*, vol. 31(1), pp. 143-161.
- Danoff-Burg, D., Ocanas, A. (2020). 'Individual & Community-Level Impacts of the Black Mamba Anti-Poaching Unit', *The Living Desert Zoo and Gardens*, pp. 1-49. (Confidential Copy)
- Eckel, C., Grossman, P. (2008). "**Men, Women and Risk Aversion: Experimental Evidence**," *Handbook of Experimental Economics Results*, in: Charles R. Plott & Vernon L. Smith (ed.), *Handbook of Experimental Economics Results*, edition 1, volume 1, chapter 113, pages 1061-1073, Elsevier.
- Gibbs, C., Gore, M. L., McGarrell, E. F., & Rivers, L., III. (2009). Introducing conservation criminology: Towards interdisciplinary scholarship on environmental crimes and risks. *British Journal of Criminology*, 50, 124–144.
- International Anti-Poaching Foundation (2019). 'Akashinga: The Brave Ones, Nature Protected by Women'.
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2019), 'SUMMARY FOR POLICYMAKERS, The Global Assessment Report on Biodiversity and Ecosystem Services'.
- Jha, C., Sarangi, S. (2018). 'Women and Corruption: What Positions Must They Hold to Make a Difference?', *Journal of Economic Behavior & Organization*, vol. 151, pp. 219-233.
- Jha, C., Sarangi, S. (2015). 'Do Women in Power Have an Impact on Corruption?', *International Growth Center*, available at: <https://www.theigc.org/blog/do-women-in-power-have-an-impact-on-corruption/>
- Kaufmann, D., Kraay, A., Mastruzzi, M. (2011). 'The Worldwide Governance Indicators: Methodology and Analytical Issues', *Hague Journal on the Rule of Law*, vol. 3(2), pp. 220-246.
- Miller, A. and Segal, C. (2018). 'Do Female Officers Improve Law Enforcement Quality? Effects on Crime Reporting and Domestic Violence' <https://ssrn.com/abstract=2335990>
- Moreto, W. (2015). 'Poaching in Uganda: Perspectives of Law Enforcement Rangers', *Deviant Behavior*, vol. 36(11), pp. 1-21.

National Institute of Justice Special Report (2019). 'Women in Policing: Breaking Barriers and Blazing a Path', *US Department of Justice*, available at:
<https://www.ncjrs.gov/pdffiles1/nij/252963.pdf>

Seager, J. (2020). 'Gender Balance in the Ranger Workforce', Bentley University.
Confidential Copy

Transparency International. (2020), 'Corruption Perceptions Index', available at:
<https://www.transparency.org/en/cpi>

Uhm D., Moreto, W. (2018). 'Corruption Within the Illegal Wildlife Trade: A Symbiotic and Antithetical Enterprise' *The British Journal of Criminology*, Volume 58, Issue 4, Pages 864–885, <https://doi.org/10.1093/bjc/azx032>

Vedantam, S. (2016). 'Women Held to Higher Ethical Standard than Men, Study Shows', NPR All Things Considered, available at:
[https://www.npr.org/2016/06/02/480487259/women-held-to-higher-ethical-standard-t
han-men-study-shows?t=1596043528550](https://www.npr.org/2016/06/02/480487259/women-held-to-higher-ethical-standard-than-men-study-shows?t=1596043528550)

WWF and TRAFFIC Wildlife Crime Initiative. (2015). 'Strategies for Fighting Corruption in Wildlife Conservation: A Primer', available at:
[https://wwfeu.awsassets.panda.org/downloads/wci_strategies_for_fighting_corruption
_wildlife_conservation.pdf](https://wwfeu.awsassets.panda.org/downloads/wci_strategies_for_fighting_corruption_wildlife_conservation.pdf)

WWF Nepal. (2018). 'Nepal's Zero Poaching Standard', available at:
https://wwfeu.awsassets.panda.org/downloads/nepal_zero_poaching_standard.pdf

Wyatt, T. (2013). 'Uncovering the Significance of and Motivation for Wildlife Trafficking', in South, N., Brisman, A. *Routledge International Handbook on Green Criminology*, London: Routledge, pp. 303-316.

Wyatt, T., Cao, A. (2015). 'Corruption and Wildlife Trafficking', U4 Anti-Corruption Resource Centre.