

Knowledge, Attitude and Practice of Custom Agents on Wildlife Trafficking in Three Bottlenecks Border Custom Checkpoint of Southeastern Ethiopia

¹Getachew Mulualem, ²Weldemariam Tesfahunegny, ²Mengistu Walle,
²Abeje Kassie, ³Nibret Alene and ⁴Mebrahtom Mesfin

¹Animal Biodiversity Case Team, Mekelle Biodiversity Center,
Ethiopian Biodiversity Institute, Mekelle, Ethiopia

²Wild Animal Case Team, Animal Biodiversity Directorate,
Ethiopian Biodiversity Institute, Addis Ababa, Ethiopia

³Department of Statistics, College of Natural & Computational Sciences,
Dire Dawa University, Dire Dawa, Ethiopia

⁴Crop and Horticulture Case Team, Mekelle Biodiversity Center,
Ethiopian Biodiversity Institute, Mekelle, Ethiopia

Abstract: Wildlife trafficking involves the illegal gathering, transportation and distribution of animals and their derivatives either internationally or domestically. The survey was carried out from November to January 2016. The study was aimed at assessing the knowledge, attitude and practice of customs agents on wildlife trafficking in three custom checkpoints of southeastern Ethiopia. It was carried out in Togowechale, Dewele and Beyokobebe custom checkpoints. The data were collected by preparing both open and close-ended questionnaire for interviews. The data were collected taking the individual transit route as a cluster and hence cluster sampling was used. Final sampling units from each cluster were taken using purposive sampling. The data were analyzed using descriptive methods to understand the nature of the data for wildlife trafficking. 100% of the custom personnel's in all the selected checkpoints responded that, priority of the enforcement targets was controlling illicit trade of wildlife and their derivatives. The result of the ranking has shown that, lack of transparency is the 1st most serious challenge which halts wildlife trafficking crimes. About 80% of customs agents in Togowechale replied that, illicit export of wildlife is a very serious issue. About 70% of custom checkpoint officers know about the convention on international trade in endangered species of flora and fauna and the convention on biological diversity. About 60% of the custom units know about the domestic legal frameworks about wildlife genetic resource conservation. According to the custom officers, lack of communication channel between and among enforcement agencies affects the enforcement process of wildlife trafficking in the border points custom units of north Eastern Ethiopia. Almost half (56%) of the informants reported that, the custom checkpoints administration has no wildlife investigation manual prepared based on the guidelines of CITES. Hence, capacitating custom staffs and institutionalize the checkpoints in a manner which halts illicit trade of wildlife and their derivatives should be a focus of future endeavor.

Key words: CITES • Togowechale • Transit Routes • Convention

INTRODUCTION

Wildlife trade is any sale or exchange of wild animal and plant resources by people. This can involve live

animals and plants or a diverse range of products needed or prized by humans including skins, medicinal ingredients, tourist curios, timber, fish and other food products [1].

Corresponding Author: Weldemariam Tesfahunegny, Wild Animal Case Team,
Ethiopian Biodiversity Institute, Addis Ababa, Ethiopia. E-mail: weldea2012@ibc.gov.et.

Global trade in illegal wildlife is potentially vast illicit economy, estimated to be worth billions of dollars each year impeding international efforts to conserve rare and endangered plants and animals [2]. Most plants and animals are trafficked from developing countries in the western world [3, 4]. Globally the recent illicit trade in wildlife is estimated to be worth US\$50-150 billion per year [5]. Wildlife trafficking is a transit crime that has wide-ranging implications for society. Not only does it severely affect the environment by impacting biodiversity, it also hampers social and economic development in many communities [3, 6]. Furthermore, wildlife trafficking represents an increasing threat to national and global security [1] being run by sophisticated crime groups who use the profits for terrorism and rebel uprising [1, 4]. Trafficking of wildlife is linked to other serious crimes such as drug trafficking, arms trafficking, human smuggling and document counterfeiting. It is often cited as a means to finance the most violent and destructive activities of criminal and terrorist organizations because of the major financial benefits derived from a relatively minimal time investment, low risks of detection and lack of serious punishment. The huge profits made from the illicit wildlife trade act as incentives to organized crime networks [7]. Ivory provides income to groups such as the Lord's Resistance Army, currently operating in South Sudan, Central African Republic and the Democratic Republic of Congo [8].

There is also growing evidence that noncompliant or militia groups in Africa use profits from the illegal sales of wildlife to fund terrorist activities [9].

The demand for wildlife products is considerably influenced by culture and depends on different consumer groups [4]. Zimmerman [10] has identified three main types of criminals involved in wildlife trafficking, local farmers trying to supplement their incomes, mafia-style groups operating in developing countries and international smuggling rings. Evidence suggests that most wildlife trafficking, particularly with regards to the initial part of the market supply chain, is carried out by individuals; opportunistic villagers who try to supplement their income and professional trappers [4]. Wildlife crimes typically occur in remote rural regions characterized by low population density and diverse geographical features. These factors make it difficult for law enforcement agents to solve wildlife trafficking crimes and bring the executors of these offenses to justice [11]. Although environmental laws and regulations provide a variety of enforcement mechanisms to curb the illicit wildlife trade, enforcement mechanisms pose a huge

challenge. Inadequate financial, human resources and lack of institutional capacity are barriers to enforcing these environmental laws [12].

Wildlife crime is also linked with corruption at local, regional and international levels. Poor detection of transboundary good by customs service's plays a key role in facilitating the illicit trade of wildlife. As well, the markets for protected plants, animals and animal materials include Belgium, China, the Czech Republic, France, Hong Kong, Israel, Japan, Netherlands, Romania, Spain, the United Kingdom and Vietnam. Without the commitment of customs and enforcement bodies in these countries and in the countries from which trafficking originates the illegal trade in endangered species will continue [12].

The great concern for Africa is loss of security, revenue from tourism, which creates jobs and contributes resources for national development. All the while, some species are pressed towards extinction at 1000 times the natural rate [3].

Ethiopia has a relatively short history of dealing with environmental crimes [13]. Currently there are prominent, encouraging efforts to reduce illegal trade of wildlife by signing an international conservation and law enforcement conventions [14]. Nevertheless, Ethiopia is identified both as a source and a key trade hub for illegal ivory trafficking [14].

Ethiopia has signed the CITES convention, which prohibits illegal wildlife trade in 05/04/1989 [15].

Despite the fact that, wildlife trafficking practices still persist through border points. The present study sites are the most suspected land based transboundary locations for wildlife trafficking outside the country. Owing this, there is a need for research on knowledge, attitude and practice of law enforcement agents on wildlife trafficking in three bottleneck transit routes of southeastern Ethiopia.

MATERIALS AND METHODS

Description of the Study Area: TogoWuchale transit route is found in the Somalia regional state, Eastern Ethiopia. It is located 40 km away from the capital of Ethiopian Somalia national regional state. The transit is bordered by Somali land. The livelihood of the community is based on cross border trade. Dewele is a town on the Ethiopia and Djibouti border 256 km far from Dire Dawa city. It is found in the Shinile zone in the Ethiopia Somali region. It is located at a longitude and latitude of 11°2'N 42°37'E with an elevation of 898 meters above sea level. Dewele is the first point inside the boundaries of Ethiopia to receive train service.

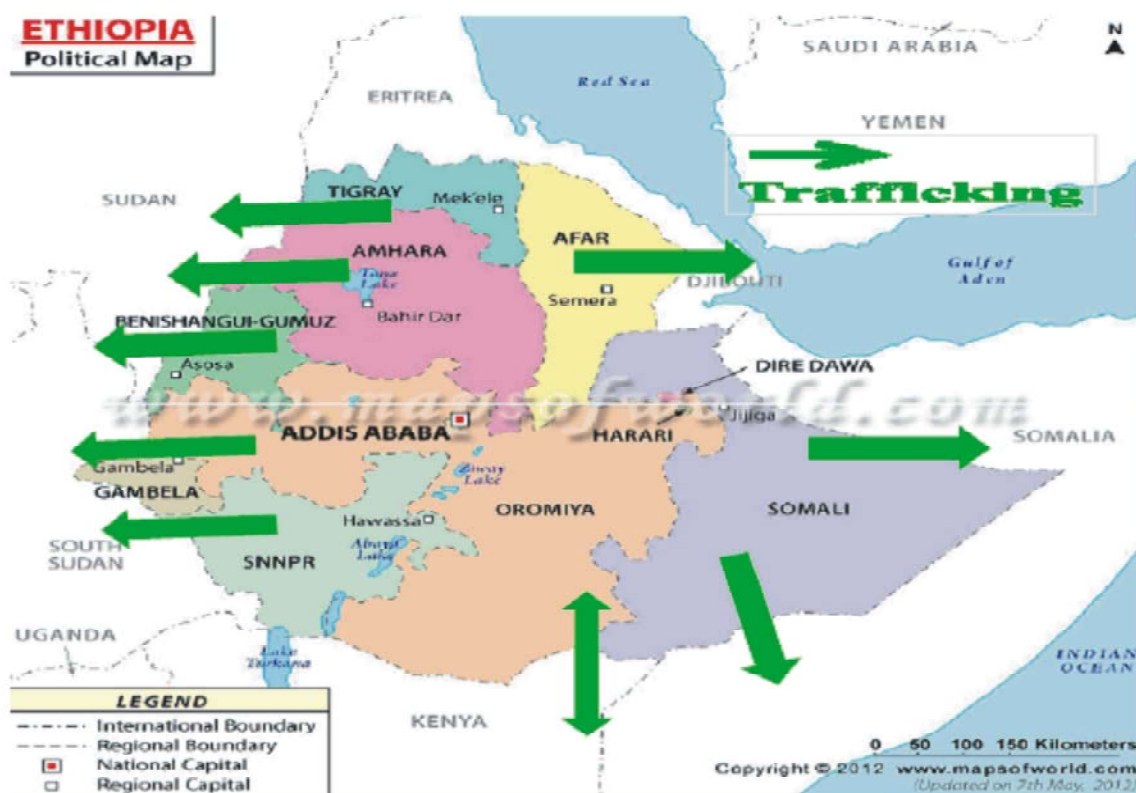


Fig. 1: Map showing transit routes of Eastern Ethiopia [16]

Beyokobebe is a transit route to the port of Djibouti and Somali land. The custom checkpoint is found on a horn highway to both Djibouti and Somali land. The checkpoint is an entry point of wildlife and their derivatives to Somaliland from Babile elephant sanctuary were by poacher's exercise trafficking activities.

Methods

Methods of Data Collection: The target group of this study was custom Authority who is working in the transit routes. The researcher uses primary data for the study. The data were collected by preparing both open and close ended questionnaire for interviews and observation checklist. Enumerators, with continuous supervision, was contacted each and every respondent face- to- face to get questionnaire filled. Furthermore, the consent of wildlife trafficking for law enforcement personnel was confirmed being fully informed of the study objectives prior to the interview. In order to avoid communication discrepancies between the data collector and the respondents, the questions were translated to Amharic. The scaling of knowledge and attitude was done according to Lousi [17] who illustrates the test of personality. This was followed by formulating a problem

statement, designing lickert scale for rating, psychological judgment, factor analysis for possible modification of the questions. The response variable of the study was the status of customs agents about wildlife trafficking practice that are sampled from the population. It is categorized as 'practice wildlife trafficking and not practice wildlife trafficking.

Study Design: The sampling procedure was designed to collect primary data. The Southeastern part of Ethiopia does have three bottleneck wildlife trafficking transit routes, so the data were collected taking the individual transit route as a cluster and hence cluster sampling was used. After determining the total sample size (n), proportional allocation to each cluster (i.e. Route) was done by further considering the amount of law enforcement personnel on wildlife trafficking from each route. Final sampling units from each cluster were collected making use of the purposive sampling.

Methods of Statistical Analysis: The data was analyzed using descriptive methods to understand the nature of the data for wildlife trafficking. Different percentage values were calculated for the selected variables.

RESULTS

Socio Demographic Characteristics of the Interviewed Custom Units:

The age, working experience and educational background of the interviewed custom officers was presented in (Table 1). The average age of the interviewed custom officers is 30%, 33%, 37% in Togowechale, Dewele and Beyokobebe respectively. The average working experience of the interviewed custom officers was 5 years.

The educational background of almost half of (44%) the interviewed custom officers was Diploma. As well, (36%) of the custom enforcement units have bachelor of art degree. Likewise, (12%) of the custom officers has completed 10th grade.

Priority of the Enforcement Targets of Custom Checkpoints:

In the current study the highest (7) targeted enforcement priorities in the three surveyed custom checkpoints were controlling illicit trade of wildlife and their derivatives.

Challenges of Monitoring Wildlife Trafficking Practices in Southeastern Ethiopia:

The findings of the ranking on challenges has shown that, lack of transparency was the 1st most serious defy to halt conservation crimes of wildlife and their derivatives (Table 4). Lack of resource and monitoring performance were the 2nd and the 3rd conservation challenges of fighting against illicit trade of wildlife and their derivatives.

The Extent of Wildlife Trafficking Practices in the Border Point Custom Checkpoints:

Almost half (50%) of the respondents of Togowechale custom office responded that, poaching or illicit flora collection is some very serious issues. About, 50% of enforcement units reported that, poaching or illicit floral collection is a somewhat a serious issue.

The majority (80%) of the custom agents in Togowechale replied that, illicit export of wildlife is a very serious issue (Table 5). The majority (70%) of the custom units of Dewelle responded that illicit export of wildlife is a very serious issue. About 32% of the respondents of the three custom offices reported that, illicit import of wildlife is a somewhat a serious issue. About 30% and 40 % of custom officers in Togowechale and Beyokobebe don't know about the illicit import of wildlife (Table 5). About (60%) of custom officers

reported that, illicit transit of wildlife is a very serious issue. The majority (80%) of the informants in Beyokobebe reported that illicit transit of wildlife is a somewhat a serious issue.

Knowledge of the Custom Enforcement Units on International and Domestic Laws of Wildlife Trafficking:

Almost half (60%) of the custom check point units in Togowechale reported that, combating the illicit trade in wildlife is included in the custom checkpoint administration's strategic plan cascaded individually (Table 6). The majority (70%) of the custom checkpoints officers know about the convention on international trade in endangered species of flora and fauna and the convention on biological diversity. Around (90%) of the enforcement units in Dewele don't know about the convention on international trade in endangered species of flora and fauna and the convention on biological diversity (Table 6).

About (60%) of the custom units of Togowechale checkpoint, know about the domestic legal frameworks about wildlife genetic resource conservation. Almost half (50%) of the enforcement units in Dewele does not know about the domestic legal frameworks on wildlife genetic resource conservation (Table 6).

Knowledge of Custom Enforcement Agents on Investigation and Basics of Wildlife Trafficking Crimes:

Majority (80%) and (70%) of the custom officers reported that, they detain and notify the competent authorities when they detect suspicious specimens of endangered wild fauna and flora in Togowechale and Dewele respectively.

About 90% and 100% of the custom units in Togowechale and Dewele carry out joint investigations with cross border checkpoint agents in wildlife trafficking some years ago, as part of a temporary joint investigation unit. Almost half (56%) of the three custom checkpoint staffs reported that, they acquire some training in the custom checkpoint administration regarding combating the illicit wildlife trade.

The majority (64%) of the custom officers reported that, lack of a communication channel is the challenge most limiting the custom checkpoint administration in cooperating with other relevant authorities, including foreign customs administrations.

Table 1: Socio-demographic characteristics of the interviewed custom officers

		Selected transit routes/checkpoints							
		Togowechele (n=10)		Dewele (n=10)		Beyokobebe (n=5)		Total (n=25)	
No	Variables	Mean	SD	Mean	SD	Mean	SD	Mean	SD
1.	Age of the Personnel (yr)	30.60	3.921	33.30	8.084	37.0	8.0	32.96	6.834
2.	Working Experience (yr)	5.00	3.333	4.40	4.061	5.00	3.082	4.76	3.467

Table 2: Educational background of the interviewed custom officers

		Selected transit routes/checkpoints (%)				
No	Variables	Categories	Togowechele (n=10)	Dewele (n=10)	Beyokobebe (n=5)	Total (n=25)
1.	Educational background	10+3	10	0	0	4.0
		10 th	0	20	20	12.0
		12 th	0	10	0	4.0
		Diploma	40	40	20	44.0
		Bachelor of art	50	30	60	36.0

Table 3: Priority of the enforcement targets in the checkpoints of southeastern Ethiopia

No	Contraband goods	Illicit trade in wildlife	Money laundering	Smuggling of counterfeit goods	Smuggling of illegal drugs	Smuggling of tobacco goods	Smuggling of weapons
Togowechele (n=10)	1.0	7.0	5.0	5.2	4.4	3.3	2.0
Dewele (n=10)	1.5	7.0	4.7	5.1	4.5	3.0	2.2
Beyokobebe (n=5)	1.0	6.0	6.0	4.8	3.8	3.0	3.4

* 7- the most important target, 1- the least important target

Table 4: The Challenges of monitoring wildlife trafficking practices in the custom points

		Selected transit routes/checkpoints			Ranking
Enforcement challenges		Togowechele (n=10)	Dewele (n=10)	Beyokobebe (n=5)	
Lack of monitoring performance		2.4	1.6	2.6	3
Lack of resources		2.85	2.0	3.2	2
Lack of capacity		1.85	1.4	3.0	4
Lack of interagency cooperation		1.55	0.8	1.2	5
Lack of transparency		2.90	5	5.0	1

* 5- the most important challenge, 1- the least important challenge

The Attitude of Custom Enforcement Units on Illicit Wildlife Trafficking Practices: The highest mean score (2.9) of the scaling of attitude was disagree for the existing legislation to prevent wildlife crime offenses is satisfactory in Dewele checkpoint. As well, a mean score of 2.6 was recorded by Togowechele enforcement units as they disagree with the issue.

A mean score of 1.93 was recorded for the attitude of custom units towards wildlife crime as insignificant in Dewele. Similarly, a mean score of disagreement 1.5 was recorded in Togowechele. A mean score of agreement 3.2 was recorded in Beyokobebe for officials involved in wildlife law enforcement take or solicit bribes to ignore the relevant offenses.

As well, a disagreement means score of 2.3 was recorded in Dewele. A mean score of agreement (3.6) was obtained in Togowechele for inadequate

capacity as the challenge of effective wildlife law enforcement operations.

Likewise, a mean score of neutrality 3.3 was recorded for Dewele custom checkpoint. A mean score of agreement 4.1 was recorded in Dewele in inadequate collaboration between and among enforcement agencies affect the enforcement. Moreover, a mean score of neutrality 3.5 was recorded in Togowechele in inadequate collaboration between and among enforcement agencies affect the enforcement practices of wildlife trafficking.

A mean score of neutrality 3 was recorded in Beyokobebe about the jurisdiction of the customs authority towards wildlife trafficking is satisfactory. The highest mean score of neutrality (3.6) was recorded in Togowechele for the duties and responsibilities of each custom office to monitor wildlife trafficking is clearly defined and understood by the staff.

Table 5: The degree of wildlife trafficking in the border custom checkpoint administration

No	Questions	Categories	Selected transit routes/ checkpoints (%)			
			Togowecheale (n=10)	Deweale (n=10)	Beyokobebe (n=5)	Total (n=25)
1.	Poaching or illicit flora collection	Not an issue	10	0	20	8
		Not serious issue	0	0	0	0
		Don't know	10	30	0	16
		Somewhat serious	30	50	40	40
		Very serious issue	50	20	40	36
2.	Illicit export of Wildlife	Not an issue	0	0	0	0
		Not serious issue	0	0	20	4
		Don't know	0	10	0	4
		Somewhat serious	20	20	40	24
		Very serious issue	80	70	40	68
3.	Illicit import of wildlife	Not an issue	0	0	0	0
		Not serious issue	20	20	20	20
		Don't know	10	30	40	24
		Somewhat serious	50	10	40	32
		Very serious issue	20	40	0	24
4.	Illicit transit of wildlife	Not an issue	0	0	0	0
		Not serious issue	0	10	0	4
		Don't know	0	10	0	4
		Somewhat serious	40	60	80	56
		Very serious issue	60	20	20	36

Table 6: The knowledge of custom enforcement agents on international and domestic laws and convention on biodiversity conservation

No	Questions	Categories	Selected transit routes/ checkpoints (%)			
			Togowecheale (n=10)	Deweale (n=10)	Beyokobebe (n=5)	Total (n=25)
1.	Is combating the illicit trade in wildlife included in your custom checkpoint administration's strategic plan cascaded individually?	Yes	60	30	40	44
		No	30	60	40	44
		I don't know	10	10	20	12
2.	Do you know about the Convention on International Trade in Endangered Species of Flora and Fauna and Convention on Biological Diversity?	Yes	70	10	100	32
		No	0	90	0	56
		I don't know	30	0	0	12
3.	Do you know the legal frameworks about wildlife genetic resource conservation?	Yes	60	30	60	48
		No	0	50	0	20
		I don't know	40	20	40	32

Togowecheale and Beyokobebe staffs reported that, the custom checkpoint administration is dedicated to monitoring wildlife trafficking based on the enforcement of CITES and access and benefit sharing laws with a mean score of neutrality 3.4. Togowecheale and Dewele staffs reported that, Wildlife trafficking offences are at the attention of checkpoint customs administration authorities with a mean score of 2.8.

The highest mean score of neutrality (3.2) was recorded in Dewele for Plants is a lower priority in your custom checkpoint enforcement authorities. A mean score of agreement (4.3) was recorded in Dewelle custom checkpoint for the enforcement units are obliged to check import and export of wildlife and their derivatives in my

checkpoint. As well, a mean score of agreement 3.9 was recorded in Togowecheale for they are obliged to check import and export of wildlife and their derivatives in my checkpoint.

The Extent of Wildlife Trafficking Practices in the Surveyed Custom Checkpoints: About (56%) of the interviewed custom officers of the three checkpoints does not have wildlife investigation manual prepared based on the guidelines of CITES. On the other hand, (88%) of the enforcement units responded that, law enforcement agents are deployed strategically in some important locations proximal to custom branch offices (Table 9).

Table 7: The knowledge of local custom enforcement agents on investigation and basics of wildlife trafficking

No	Questions	Categories	Selected transit routes/ checkpoints (%)			
			Togowechele (n=10)	Deweale (n=10)	Beyokobebe (n=5)	Total (n=25)
1.	When you detect suspicious specimens of endangered wild fauna and flora, which of the following actions did you take?	Detain and notify the competent authorities	80	70	20	64
		Impose sanctions or fines	0	0	20	4
		Confiscate the specimens	20	30	20	24
		Investigate	0	0	40	8
2.	Does your custom checkpoint administration carry out joint investigations with cross border checkpoint agents in wildlife trafficking?	Yes, as part of a permanent joint investigation unit	10	0	40	12
		Yes, last year, as part of a temporary joint investigation unit	0	0	20	4
		Yes, some years ago, as part of a temporary joint investigation unit	90	100	20	80
		No, has never participated in a joint investigation of this kind	0	0	20	4
3.	Does your custom checkpoint administration carried out a joint investigation with other law enforcement agencies during the last 12 months?	Yes	30	50	60	44
		No	20	40	20	28
		I don't know	50	10	20	28
4.	Do you acquire any training in your custom checkpoint administration regarding combating the illicit wildlife trade?	Yes	40	60	80	56
		No	10	20	0	12
		I don't know	50	20	20	32
5.	What challenge most limits your custom checkpoint administration in cooperating with other relevant authorities, including foreign customs administrations?	Lack of a legal basis	10	0	60	16
		Lack of human and financial resources	20	0	0	8
		Lack of a communication channel	70	70	40	64
		Lack of mutual trust on joint investigation	0	0	0	12
6.	Does your law enforcement unit receive CITES (Convention On International Trade of Endangered Species) related technical assistance (e.g., identification of specimens) from relevant organizations authorized by CITES?	No incentive	0	30	0	-
		Yes	20	0	0	8
		No	10	50	40	32
		I don't know	70	50	60	60

Table 8: The attitude of custom enforcement personnel's on wildlife trafficking

No	Questions	Selected transit routes/checkpoints							
		Togowechele (n=10)		Deweale (n=10)		Beyokobebe (n=5)		Total (n=25)	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD
1.	The existing legislation to prevent wildlife crime offences is satisfactory	2.6	1.265	2.9	1.449	2.4	1.517	2.68	1.345
2.	Wildlife crime is insignificant crime	1.5	0.707	1.90	1.663	1.0	0	1.56	1.158
3.	Officials involved in wildlife law enforcement take or solicit bribes to ignore the relevant offences	2.0	0.816	2.30	0.949	3.20	1.095	2.36	0.995
4.	Inadequate capacity is the challenge of effective wildlife law enforcement operations	3.60	1.174	3.30	1.252	3.20	1.643	3.40	1.258
5.	Inadequate collaboration between and among enforcement agencies affects the enforcement	3.50	1.434	4.10	0.876	3.60	1.342	3.76	1.20
6.	The jurisdiction of the custom authority towards wildlife trafficking is satisfactory	2.50	1.434	2.30	1.252	3.00	1.581	2.52	1.358
7.	The duties and responsibilities of each custom office to monitor wildlife trafficking is clearly defined and understood by the staff	3.60	1.265	1.60	0.516	2.80	1.643	2.64	1.411
8.	The custom checkpoint administration is dedicated to monitor wildlife trafficking based on the enforcement of CITES and access and benefit sharing laws	3.40	1.430	2.70	1.494	3.40	1.342	3.12	1.424
9.	Wildlife trafficking offences are at the attention of checkpoint custom administration authorities	2.80	1.549	2.80	1.317	4.2	0.837	3.08	1.412
10.	Plants are a lower priority in your custom checkpoint enforcement authorities	2.20	1.135	3.10	1.101	3.20	1.304	2.76	1.20
11.	I am obliged to check import and export of wildlife and their derivatives in my checkpoint	3.90	0.994	4.30	1.059	5.0	0	4.28	0.980

*1: Strongly disagree 2: Disagree 3: Neutral 4: Agree 5: Strongly agree

All (100%) of the enforcement units replied that, custom documents are cross-checked against the actual contents of shipments in the custom checkpoint administration. About (44%) of the custom officers of the surveyed sites reported that, custom checkpoints administration uses informants to support wildlife trafficking intelligence system (Table 9).

Almost half (52%) of the custom staffs of the surveyed border points reported that, EWCA is responsible for managing investigations of CITES related offenses in their custom checkpoint administration. About

(48 %) of custom checkpoints administration have no specialized unit or departments exclusively working in wildlife trafficking. About (48%) of the custom officers don't know that, whether the results of investigations, prosecutions and court decisions shared among the relevant enforcement agencies that handed over the case in question or not. On the other hand, about (48%) of the units reported that, the results of investigations, prosecutions and court decisions shared among the relevant enforcement agencies that handed over the case in question (Table 9).

Table 9: Extent of wildlife trafficking practices in the border custom checkpoints

No	Questions	Categories	Selected transit routes/checkpoints (%)			
			Togowechele (n=10)	Dewele (n=10)	Beyokobebe (n=5)	Total (n=25)
1.	Does your custom checkpoints administration have wildlife investigation manual prepared based on the guidelines of CITES?	Yes	30	40	0	28
		No	60	50	60	56
		I don't know	10	10	40	16
2.	Does your custom checkpoints administration law enforcement agents deployed strategically in important locations?	Yes	80	90	100	88
		No	0	10	0	4
		I don't know	20	0	0	8
3.	Does custom documents are cross-checked against the actual contents of shipments in your custom checkpoint administration?	Yes	100	100	100	100
		No	0	0	0	0
		I don't know	0	0	0	0
4.	Does your custom checkpoints administration use informants to support wildlife trafficking intelligence system?	Yes	30	50	60	44
		No	50	40	0	36
		I don't know	20	10	40	20
5.	Who is responsible in managing investigations of CITES related offences in your custom checkpoint administration?	EBI	30	20	40	28
		EWCA	30	80	40	52
		Federal Supreme Court	0	0	0	0
		ECRA	40	0	20	20
6.	Does your custom checkpoints administration have specialized unit or departments exclusively working in wildlife trafficking?	Yes	20	20	20	20
		No	50	50	40	48
		I don't know	30	30	40	32
7.	Are the results of investigations, prosecutions and court decisions shared among the relevant enforcement agencies that handed over the case in question?	Yes	60	30	60	48
		No	0	10	0	4
		I don't know	40	60	40	48
8.	Does your custom checkpoints administration employ community policing strategy related to wildlife offences?	Yes	10	40	100	40
		No	50	20	0	28
		I don't know	40	40	0	32
9.	How is wildlife trafficking information recorded in your custom checkpoint administration?	Manually	10	0	20	8
		Electronically	60	60	20	52
		Not recorded	10	0	20	8
		I don't know	20	40	40	32
10.	Are plants specimens a target when investigating illicit wildlife trafficking of shipments in your custom checkpoint administration?	Yes	50	60	60	56
		No	50	40	40	44

About (40%) of the enforcement units reported that, the custom checkpoints administration employs a community policing strategy related to wildlife offenses. Almost half (52%) of the enforcement units reported that, wildlife trafficking information was recorded electronically in the custom checkpoint administration.

About (56%) of the informants reported that, plant specimens are a target when investigating illicit wildlife trafficking of shipments in the custom checkpoint administration.

Institutional Capacity of Border Custom Checkpoints Towards Halting Wildlife Trafficking Crimes: The majority (96%) of the enforcement units responded that,

there are no specialized security units, to monitor and detect wild animals, plants and their derivatives. Moreover, (100%) of the enforcement units replied that, there is no a canine unit, which helps to sniff out wildlife products and track wildlife offenders. All (100%) of the law enforcement units reported that, there is no horse unit, to ease movement in mountainous terrains during patrolling efforts. Around (88%) of the law enforcement units reported that, there is no prosecution unit for handling wildlife related offenses. The majority (92%) of the enforcement units reported that, there is security research and analysis unit, to study emerging trends and recommend appropriate solutions (Table 10).

Almost the majority (88%) of the law enforcement units responded that, there is no wildlife investigation unit, which responds to wildlife crime. The majority (96%) of the law enforcement units responded that, there is no intelligence unit, which gathers information intended to preempt wildlife crime and emergency management unit, to deal with urgent situations, there is no security data management unit for conservation crime data management (Table 10). Almost the majority (88%) of the custom agents reported that, there is no an anti- poaching plan in the custom checkpoint administration routes and there is no enough human resource to effectively patrol in and around the custom checkpoint area (Table 10).

All (100%) of the custom staffs are not well-armed to pore over wildlife trafficking offenses in the custom checkpoint. About (84%) of the respondents of each checkpoint reported that, the existing communication system is not adequate to monitor wildlife trafficking in the custom checkpoint.

The majority (96%) of the custom units reported that, vehicle numbers are not sufficient for patrolling and inspection of illicit trafficking of wildlife and there is no wildlife trade monitoring network with the local communities in the custom checkpoint (Table 10).

Table 10: Institutional capacity of border custom checkpoints on wildlife trafficking practices in southeastern Ethiopia

No	Questions on institutional structure of custom checkpoints	Categories	Selected transit routes (%)			
			Togowechale (n=10)	Deweile (n=10)	Beyokobebe (n=5)	Total (n=25)
1.	Are their specialized security units, to monitor and detect wild animals, plants and their derivatives?	Yes	10	0	0	4
		No	90	100	100	96
2.	Is there a canine unit, which helps to sniff out wildlife products and track wildlife offenders?	Yes	0	0	0	0
		No	100	100	100	100
3.	Is there horse unit, to ease movement in mountainous terrains during patrolling efforts?	Yes	0	0	0	0
		No	100	100	100	100
4.	Is there prosecution unit for handling wildlife related offences?	Yes	10	0	40	12
		No	90	100	60	88
5.	Is there security research and analysis unit, to study emerging trends and recommend appropriate solutions?	Yes	0	0	40	8
		No	100	100	60	92
6.	Is there wildlife investigation unit, which responds to wildlife crime?	Yes	10	0	40	12
		No	100	100	60	88
7.	Is there intelligence unit, which gathers information intended to preempt wildlife crime?	Yes	10	0	0	4
		No	90	100	100	96
8.	Is there emergency management unit to deal with urgent situations?	Yes	10	0	0	4
		No	90	100	100	96
9.	Is there security data management unit for conservation crime data management?	Yes	10	0	0	4
		No	90	100	100	96
10.	Is there an anti- poaching plan in your custom checkpoint administration routes?	Yes	10	30	0	12
		No	90	70	100	88
11.	Is there enough human resource to effectively patrol in and around your custom checkpoint area?	Yes	10	10	20	12
		No	90	90	80	88
12.	Are the staffs well- armed to examine wildlife trafficking offences in your custom checkpoint?	Yes	0	0	0	0
		No	100	100	100	100
13.	Are the staffs trained in all aspect of anti-poaching and follow up in your custom checkpoint	Yes	10	10	0	8
		No	90	90	100	92
14.	Is the existing communication system adequate to monitor wildlife trafficking in your custom checkpoint?	Yes	10	10	40	16
		No	90	90	60	84
15.	Are vehicle numbers sufficient for patrolling and inspection of illicit trafficking of wildlife?	Yes	0	0	20	4
		No	100	100	80	96
16.	Is there patrol book to record inspection result of wildlife trafficking in your custom checkpoint?	Yes	10	10	0	8
		No	90	90	100	92
17.	Is their wildlife trade monitoring network with the local communities?	Yes	10	0	0	4
		No	90	100	100	96

DISCUSSIONS

In the current study the highest (7) targeted enforcement priorities in the surveyed custom checkpoints is controlling illicit trafficking of wildlife and their derivatives. This might be connected with the concern of the custom checkpoints towards fighting against wildlife trafficking. This is in contrary to the preliminary survey conducted in the Afar regional state, where by the custom staffs focus on contraband goods [18]. This is in contrary to the study conducted in west central Africa; custom checkpoints reflected a higher importance of priority of the enforcement targets on tax evasion [19].

The result in ranking of wildlife trafficking enforcement challenges has shown that, lack of transparency is the 1st most serious challenge to halt wildlife trafficking crimes. Lack of resource & monitoring performance were the 2nd and the 3rd conservation challenges of illicit trade of wildlife and their derivatives. This probably reflects the awareness gaps and the less prominence of empowered government sectors.

Poaching or unlawful flora collection is a very serious issue in the surveyed custom checkpoints. This might be allied to the availability of wildlife of trafficking importance within the catchment of the surveyed sites. Illicit export of wildlife is a very serious issue. This could be associated with the proximity to the Babile elephant sanctuary where by the CITES restricted African elephant species is profusely found. This is consistent with a study which reports, the potential for confusion and inaction is enormous unless cooperation protocols against wildlife trafficking are established [20, 21].

The custom enforcement units did not include wildlife trafficking plan in their custom endeavors. This might be related to the less emphasis given to the mainstreaming of the control measures by authorized sectors. The knowledge of custom checkpoint officers about the convention on international trade in endangered species of flora and fauna and the convention on biological diversity varied across sites. This revealed that, there is inconsistency of knowledge on international laws signed by Ethiopia and the associated domestic laws of wildlife trafficking among border checkpoints of southeastern Ethiopia.

The custom officers detain and notify the competent authorities when they detect suspicious specimens of endangered wild fauna and flora. This probably reflects the commitment of the officers to discourage wildlife traffickers through legal ground in the checkpoints.

Majority of the custom officers reported that, lack of a communication channel is the challenge most limiting the custom checkpoint administration in cooperating with other relevant authorities, including foreign customs administrations. This might be associated with the less emphasis of the custom units towards halting the trafficking crimes via effective communication channels.

Highest mean score of disagreement was recorded about whether the existing legislation to prevent wildlife crime offences is satisfactory or not in each checkpoint. This revealed that, the existing law is not practically fitted with the prevailing conservation crimes operating at border points. The attitude of custom units towards wildlife crime is insignificant crime. This revealed that, the enforcement units are aware of the scale of the threat despite having any training on the problem being faced in the checkpoints.

Highest mean score of neutrality was recorded for officials involved in wildlife law enforcement take or solicit bribes to ignore the relevant offences. This probably reflects the custom units are not soliciting bribe for wildlife trafficking. Highest mean score of agreement was recorded for inadequate collaboration between and among enforcement agencies. This is consistent with a study, which reports, insufficient coordination between national law enforcement agencies and wildlife law enforcement agencies affects combating illegal wildlife trafficking practices [20, 22]. The highest mean score of neutrality was recorded for plants as a lower priority in the custom checkpoint enforcement priority.

The custom checkpoints do not have wildlife investigation manual prepared based on the guidelines of CITES. This showed that, the custom units are enforcing wildlife laws based on habitual practices than systematic basis. Moreover, the enforcement units responded that, law enforcement agents are deployed strategically in important locations. This might be associated with the staff commitment to halt the illicit trafficking of every goods. Majority of the custom staffs of the surveyed border points reported that, EWCA is responsible in managing investigations of CITES related offenses in their custom checkpoint administration. This shows that, the EBI is missed as the authorizing agent of access and benefit sharing practices.

The majority of the enforcement units responded that, there are no specialized security units, to monitor and detect wild animals, plants and their derivatives. This revealed that, the monitoring efforts of custom branches are based on customary practices than defined units. On the other hand, all of the enforcement units replied that,

there is no canine unit, which helps to sniff out wildlife products and track wildlife offenders. This shows that, there is a superficial checking than depth analysis of shipments. All of the law enforcement units reported that, there is no horse unit, to ease movement in mountainous terrains during patrolling efforts. This is an indication that, the terrains are poorly patrolled.

Almost majority of the custom agents reported that, there is no anti-poaching plan and there is no enough human resource to effectively patrol in and around the custom checkpoint administration. This revealed that, monitoring of wildlife trafficking is done without a plan.

The enforcement units of each checkpoint reported that, the existing communication system is not adequate to monitor wildlife trafficking in the custom checkpoint. This probably reflects the communication practices are poorly connected with the targeted enforcement practices. The majority of the custom units reported that, vehicle numbers are not sufficient for patrolling and inspection of illicit trafficking of wildlife and there is no wildlife trade-monitoring network with the local communities in the custom checkpoint. This makes the monitoring process so difficult and loosely linked with the society. Despite new efforts to monitor and halt wildlife trafficking, more research is needed on the type of wildlife being trafficked, the exit points, smuggling cursors and key smuggling actors involved in wildlife trafficking.

CONCLUSIONS

From this survey, it was concluded that wild animal genetic resource trafficking is a priority in custom checkpoints of southeastern Ethiopia. Despite the fact that, the fundamentals and legal knowledge of the staffs is not in a way to halt illicit wild animal trafficking. Hence, the problem of anthropogenic threats coupled with less emphasis given to illicit trafficking might lead to the deterioration of our wild animal genetic biodiversity. The situational analysis of the problem being surveyed was assessed in the light of CITES, CBD, state legislation, world custom organization, authorizing state organizations, Ethiopian wildlife law and body of scientific literature. In view of that, the circumstances are not in a way to effectively rescue our genetic resource from trafficking. Moreover, the institutional structure is not in way to tackle and systematically patrol susceptibility and vulnerability of the checkpoints against wild animal trafficking. In an effort to address the problem, areas of intervention should be devised in the light of training, research, policy, legal, harmonization with pertinent

sectors. This can be effective when universities within the catchment, regional sectors, Ethiopian biodiversity institute and Ethiopian wild life conservation authority work in collaboration.

Recommendations:

- ▶ The enforcement challenges operating against wildlife trafficking should be mainstreamed to various sectors engaged in similar endeavors.
- ▶ The extent of illicit trade of wildlife and their derivatives should be addressed via cross sector and trans-boundary discussion of decision makers.
- ▶ Plans of controlling illicit trafficking of wildlife and their derivatives should be integrated into the custom checkpoint institutional frameworks.
- ▶ Enforcement staffs should be capacitated on the basics of CITES and CBD in a manner which help them to act accordingly and fight the anticipated problem.
- ▶ The institutional capacity of the surveyed border point custom branches should be designed based on best practices of wildlife trafficking mitigating practices.

ACKNOWLEDGEMENTS

We would like to extend our heartfelt thanks to the Ethiopian Biodiversity Institute, Mekelle biodiversity center for logistic support of the fieldwork. We would like to extend our thanks to federal police of the surveyed border custom checkpoints. We would also like to thank Ethiopian custom & revenue authority administration of Togowechale, Dewele and Beyokobebe checkpoints for their hospitality during the interview.

REFERENCES

1. IFAW, 2008. Criminal Nature: The Global Security Implications of the Illegal Wildlife Trade. Report, Yarmouth Port, MA: International Fund for Animal Welfare.
2. Liana and Pervaze, 2013. International Illegal Trade in Wildlife: Threats and U.S. Policy. Congresses research service. pp: 1-26.
3. Warchol, G.L., 2004. The international illegal wildlife trafficking. Criminal Justice Studies: a Journal of Crime, Law and Society. 17(1): 57-73.
4. Dalberg, 2012. Fighting Illicit Wildlife Trafficking: A Consultation with Governments. Report. Gland (Switzerland): WWF.

5. UNEP, 2014. UNEP Year Book 2014: Emerging Issues in our Global Environment. United Nations Environment Programme, Nairobi.
6. Sollund, R., 2011. Expressions of speciesism: the effects of keeping companion animals on animal abuse, animal trafficking and species decline. *Crime, Law and Social Change*, 55(5): 437-451.
7. David Karanja, 2012. The Role of the Kenya Wildlife Service in Protecting Kenya's Wildlife. *The George Wright Forum*, 29(1): 74-80.
8. Theo Van der Merwe, 2017. Resource extraction and violent extremism in Africa. *Policy insight*. pp: 1-12.
9. Nellemann, C., R. Henriksen, P. Raxter, N. Ash and E. Mrema, (Eds), 2014. *The Environmental Crime Crisis - Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources*. A UNEP Rapid Response Assessment. United Nations Environment Programme and GRID-Arendal, Nairobi and Arendal.
10. Zimmerman, M.E., 2003. The black market for wildlife: combating transnational organized crime in the illegal wildlife trade. *Vanderbilt Journal of transnational Law*, 36: 1657-1689.
11. Eliason, S.L., 2011. Patrolling the peaks and the plains: An examination of Big Sky game wardens. *Criminal Justice Studies*. 24(4): 409-418.
12. Kaaria, D. and M. Muchiri, 2011. Ninth International Conference on Environmental Compliance and Enforcement. pp: 204-208.
13. Rose Mwebaza, Philip Njuguna Mwanika and Wondowossen Sintayehu Wonndemagegnehu, 2009. *Situation Report Environmental crimes in Ethiopia*. pp: 1-44.
14. Ethiopian wildlife Conservation Authority, 2014. *National Ivory Action Plan for Ethiopia*. pp: 1-18.
15. Mulualem, G. and W. Tesfahunegn, 2016. Contemporary Status of Illicit Wildlife Genetic Resource Trafficking: Future Policy, Legal and Institutional Consideration of Sustainable Wildlife Conservation in Ethiopia. *Journal of Zoology Studies*. 3(4): 91-101.
16. Fetene Hailu, 2013. Horn of Africa wildlife law enforcement network (HA-WEN). pp: 1-13.
17. Lousi, 2001. *The psychologist book of personality test*. 1st edition. John Wiley & Sons. Network. pp: 1-222.
18. Getachew Mulualem, 2016. *Knowledge, Attitude and Practice of Custom Agents on Wildlife Trafficking in four Custom Checkpoints of Northeastern Ethiopia*. Technical report submitted to Mekelle Biodiversity center, Mekelle Tigray. pp: 1-70.
19. Chang-Ryung, H., 2014. A survey of customs administration perceptions on illegal wildlife Trade. *Research paper*, 34: 1-21.
20. Environmental Investigation Agency, 2004. *The Enforcement Imperative: Combating the illegal trade in ivory*.
21. Theo Van der Merwe, 2017. Resource extraction and violent extremism in Africa. *Policy insight*. pp: 1-12.
22. Pimm, S., C. Jenkins, R. Abell, T. Brooks, J. Gittleman, L. Joppa, P. Raven, C. Roberts and J. Sexton, 2014. The biodiversity of species and their rates of extinction, distribution and protection. *Science*, 344: 987-997.