BALTIC JOURNAL OF LAW & POLITICS
A Journal of Vytautas Magnus University
VOLUME 16, NUMBER 2 (2023)
ISSN 2029-0454

Cite: *Baltic Journal of Law & Politics* 16:2 (2023): 602-615
DOI: 10.2478/bjlp-2023-0000044

Strengthening Wildlife Trade Legislation In Curbing The Spread Of Zoonotics Diseases Through Empowerment Of Orang Asli From Malaysia Perspective

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Received: December 10, 2022; reviews: 2; accepted: January 15, 2023

Abstract

The evidence strongly suggests that the first cases of Coronavirus disease 2019 (COVID-19) outbreak were reported in a market in Wuhan. It is considered as the latest zoonotic diseases. Zoonotic diseases are a disease transmitted from domesticated animals or wildlife animals to human caused by virus, pathogens and bacteria. This transmission to human is made easier through wildlife trade both legal and illegal. The supply chain of illegal wildlife from the forest area, transportation to the open markets allows for natural spillover and spread as it escaped the sanitary control. However, wildlife trade generates a profitable income. As long as there is a demand for wildlife product either for a delicacies and traditional medications the spread of zoonotic diseases is deemed as a threat to the society. Legal mechanism alone is no longer sufficient to control wildlife crime. Therefore, this research suggests for empowerment of Orang Asli to strengthen the enforcement of law. This research employs a qualitative methodology. The primary data will be analyzed using thematic and content analysis. Doctrinal and policy analysis will be used to analyze data collected from secondary source.

Keywords

Legislation, Orang Asli, Wildlife crime, Zoonotic diseases.

Introduction

In June 2020, Malaysia documented a total of 2,649 occurrences of zoonosis, an infectious illness that may be transferred from animals to humans, said Health Director-General of Malaysia (The Sun Daily, 2020). Of the total, 1,484 cases included Leptospirosis Knowlesi Malarias (1,156), Japanese Encephalitis (7), Rabies (2), while no cases were reported for Brucellosis and Q fever. Due to high population density, close proximity, and interactions between humans, livestock, and wild animals, South East Asia is seen as a decent target for the growth of zoonoses. This is exacerbated in certain nations by poor pandemic response capability due to weak disease monitoring and health care infrastructure. (Kamigaka T., Oshitani H. (2010). In view of the present SARS-CoV-2 epidemic, the causes, and pathways of zoonotic exposure in Southeast Asia warrant careful investigation, particularly in professional contexts where animal-human transmission is still common. Most human illnesses, equally traditional and innovative, have being triggered by infections that infect several hosts. A study of 1,407 human pathogenic pathogens was conducted, 816 (58%) were classified as zoonotic, a term created by Virchow and defined by the World Health Organization in 1959 to mean "those illnesses and infections (the agents of) which are naturally transferred between (other) vertebrate animals and man." (Woolhouse M.E., Gowtage-Sequeria S., 2005). The precise proportion of developing human illnesses caused by nonhuman animals is unclear. Woolhouse and Gowtage-Sequeria, on the other hand, (2005), of the 177 "emerging" human diseases uncovered, 130 (73 percent) were zoonotic. The seminal Institute of Medicine (IOM) study Emerging Diseases discovered that "the magnitude of zoonoses in the advancement of human infections cannot be overstated." (Lederberg et al. ,1992).

Most novel human diseases with significant implications on human health or economics have emerged in animals over the last three decades. (Murray, K.A *et al* 2016). Coronavirus disease 2019 (COVID-19) is the most recent of these zoonotic maladies, and it has currently become a pandemic with over a million fatalities worldwide. Since of the wildlife trade, there is direct contact among humans and animal species, as well as the growing fragmentation of wildlife habitat which are the two key triggers to the development of zoonotic diseases. (Everard, M. *et al*., 2020). The wildlife-human interaction is becoming progressively intricate, causing in increased human-wildlife contact. The Asian wildlife trade is backed up by live markets in many population centers, which involve sales of both local and alien species. These animals are frequently housed in overcrowded and filthy circumstances, exposing both vendors and purchasers to pathogens and zoonotic illnesses and creating ideal conditions for infections to cross the species barrier (Cantlay, J.C *et al* 2016). Wildlife markets jeopardize the survival of many species, contributing to the extinction catastrophe that threatens the majority of Asia's natural wildlife. (Hughes, A.C 2016). Furthermore, forests, wetlands, and aquatic

resources with high biodiversity are being demolished and converted throughout Asia to fulfil the increasing needs of burgeoning population of humans. As a result of the fragmentation of organic ecosystems, domestic animals are coming into greater interaction with wild animals, which may be a reservoir of zoonotic diseases that may be readily transferred to rural humans, and subsequently more generally to humankind worldwide populations. (Rulli, M. C *et al* 2017).

For millions of years, humans and our predecessors have most certainly ingested bushmeat, or wild animals hunted for sustenance. (Boesch C., 1994). During the 20th century, however, commercial hunting with guns and wire snares to supply logging and oil exploration concessions along new highway networks has raised the catch in Central African forests considerably. It is estimated that 579 million wild animals are captured each year and devoured in the Congo basin, amounting to 4.5 million tonnes of bushmeat, include up to 5 million tonnes of wild animal meat from the Amazon basin. (Fa et al. 2002).

Illegal wild trade is the illegal trade wild animals and plants, as well as their derivatives (for example, bushmeat, ivory, rhino horn, and fur), with a monetary value is projected to be worth up to US$23 billion. This endeavor, like illicit bushmeat imports, may endanger public health owing to the spread of agents of zoonotic transmission from exporting locations. The threat of getting zoonotic diseases from wildlife is heightened for those directly participating in this activity (e.g., poachers, local market vendors, and consumers) due to the dangers connected with improper exploitation and ingestion of these animals, their products, or both. Consumption of illegally trafficked wildlife meat has also been linked to food-borne zoonotic diseases. Because of the lack of sanitary inspection and insufficient manipulation, this technique offers severe public health concerns, as it may enable zoonotic parasite transmission to hunters, dealers, and customers. Bushmeat-related activities have been connected to viral illness epidemics such as Ebola virus, HIV-1, monkeypox virus, and severe acute respiratory syndrome (SARS), emphasizing the dangers of this practice. (Marcos A. *et al*. 2021).

Table 1 list down the list of animals with its roles either as reservoir or vector for specific virus or bacteria. A reservoir refers to the animal, plant, or habitat in which a disease may live for a long time. Some bats, for example, act as rabies reservoirs and can spread the illness by biting humans. However, due of built-in immunity, bats and other reservoir species may not develop symptoms. A vector, on the other hand, is any living organism that may transmit an illness to another live species, such as ticks.

Table 1: the list of animals with its roles either as reservoir or vector for specific

virus or bacteria

Name of the animal	Scientific name	Roles (Reservoir/vector)	Virus	Bacteria
BatGrey Fruit BarSpotted-winger fruit batBlack-capped fruit batSunda Short-nosed Fruit BatHorsfield's Fruit BatDayak Fruit BatCave Nectar BatLesser Long-toungues Nectar Bat(117 species in Malaysia)	Aethalops AlectoBalionycteris maculateChironax melanocephalusCynopterus brachyotisCynopterus horsfieldiiDyacopterus spadiceusEonycteris spealeaMacroglossus minimus		Severe Acute Respiratory Syndrome Coronavirus (SARS-Cov),Middle East Respiratory Coronavirus (MERS-CoV),SARS-CoV-2Swine acute diarrhoea syndrome coronavirusRabies birusNipah virusHendra VirusZaire Ebolavirus	-
MacaqueLong-tailed macaques	Macaca fascicularis	Tick	Rickettsia felis	
				Borreliosis (Lyme disease) caused by Borrelia burgdorferi
Western lowland gorillas	Gorilla gorilla gorilla	Bats	Zaire ebolavirus	
Common chimpanzees	Pantroglodytes	Bats	Zaire ebolavirus	
Rodents			Rickettsial diseasAnaplasma sp.Ehrclichia sp.	
Pig	Sus scrofa		Yersinia enterocolitica (Yersiniosis)	
		Mite	Sarcoptes scabiei (scabies)	
		Fruit Bats (Nipah virus)	Porcine respiratory and neurologic syndromeProcine respiratory and encephalitic syndrome (PRES),Barking pig syndrome (BPS)	*natural infecton of dogs with Nipah Virus causes a distemper-like syndrome with a high mortality rate.
		Pig	Porcine circoviruses (PCV)	
Horse	Equus caballus	Fruit Bats	Hendra Virus	

Name of the animal	Scientific name	Roles (Reservoir/vector)	Virus	Bacteria
Elephant	Elephas maximus	-	- Elephant endotheliotropic herpesvirus-hemorrhagic disease (EEHV-HD)* Commonly recorded in juvenile captive-born Asian elephants in North America.- Cowpox virus (Orthopoxvirus)Parasite-cryptosporidium spp.	BacteriaBacillus anthracisMycobacterium tuberculosis complex
Pangolin	Chinese Pangolin – manis pentadactylaIndian pangolin – Manis crassicaudataPhilippine pangolin – Manis culionensisMalayan/Sunda pangolin – manis javanica	Itself or mites	ProtozoaEimeria tenggilingiEimeria nkakaTrypanosoma bruceiTrypanosoma vivaxHelminthDipetalonema faustiLeipernema leiperiProlospirura hamospiculalaMiteManisicola Africana	
Bear	American black bears – ursus americanusSun bear – Helarctos malayanus		ProtozoaAnaplasma phagocytophillumToxoplasma gondiiBorrelia burgdorferiTrichinella spiralisFrancisella tularensisVirusLyssavirus	BacteriaBrucella anthracisLeptospira spp.Yersinia pestis
Tiger	Panthera tigris jacksoni		ParasiteCryptosporidium spp.Toxoplasma gondiiTrichinella spp.VirusLyssaviruses	BacteriaBartonella henselaeLeptospira spp.Pasteurella spp.Yersinia pestis
Deer spp.	Muntiacus muntjakRusa unicolor		ProtozoaCryptosporidium spp.Giardia spp.Toxoplasma gondiiTrichinella spp.VirusHepatitis E virusOrf virus (Parapoxvirus)	BacteriaBacillus anthracisBrucella spp.Campylobacter sppChlamydophila spp.Erysipelothrix rhusiopathiaeEscheria coliLeptospira spp.Mycobacterium tuberculosis complexSalmonella spp.Yersinia pestis

This scientific discussion provides a platform to continue further with the analysis from legal perspective of wildlife conservation and empowering orang Asli to strengthening the law.

Methodology

This research employs a library-based research. The primary data will be analyzed using thematic and content analysis. Doctrinal and policy analysis will be used to analyze data collected from secondary source. This study's secondary data came from legislation, books, journals, articles on the internet, and statistics from the zoonotic and veterinary departments.

Result And Discussions

The COVID-19 outbreak has brought global attention to the issue of surging of wildlife trade either legal or illegal. The Corona virus disease 2019 (COVID-19) epidemic, which began in Wuhan, is regarded one of the most recent zoonotic illnesses (Brenda S. P. Ang. Et. al., 2018). Zoonotic diseases are a disease transmitted from domesticated animals or wildlife animals to human caused by virus, pathogens, and bacteria. As for example, bat was identified as a transmitter of the coronavirus (Lau, S., 2020; BSP Ang et.al, 2018). Other animals identified as carrier for zoonotic diseases are birds (M.Y. Ain-Najwa et.al, 2020), macaques (K.M. Fornace et.al, 2019), and per-domestic animal (J.J, Khoo et.al, 2021). This wildlife caught and trapped in the wild are traded in the market as a delicacies and ingredients in traditional medication. Indeed, the payment is lucrative and has become the sources of income for the local people.

3.1 Wildlife Crime And Wildlife Legislation

In Malaysia, Wildlife is safeguarded under the International Trades in Endangered Species Act 2008 (Act 686), Wildlife Conservation Act 2010 (Act 716) and National Parks Act 1980 (Act 226). Meanwhile, in Sarawak, the applicable law is Wildlife Protection Ordinance 1998 and in Sabah, the Wildlife Conservation Enactment 1997 was implemented. With reference to Part VII of the Wildlife Conservation Act 2010, pursuing threatened wildlife with no license, carrying on a trading company without a licence, importing without a licence, protected wildlife, it is illegal to hunt animals with poison, or to hunt wildlife with weapons or traps that are not prescribed. The Act offers a detail description of the offence subject to the category of animals as stated in the Schedule. For example, First Schedule list down the name of the protected wildlife and Second Schedule list down the name of the totally protected wildlife.

In relation to the list, Section 60 of the Wildlife Conservation Act 2010 provides any person who (a) hunts or keeps any protected wildlife (other than immature protected wildlife or the female of a protected wildlife); or (b) takes or keeps any part or derivative of any protected wildlife without a licence commits an offence and is punishable by a fine not exceeding 50,000 ringgit or imprisonment

for a term not exceeding one year that exceeding two years or to both. Whereas section 60(2) of the Act provides that Any person who commits an offence under subsection (1) involving Common Shama (Copsychus malabaricus), Oriental White Eye (Zosterops palpebrosa), or Hill Myna (Gracula religiosa) more than twenty heads shall be penalised with a fine of not less than 20,000 ringgit and not more than 50,000 ringgits, or with imprisonment for a term not exceeding three years.

Section 65 of the Act stipulates that any person who imports, exports, or re-exports any protected wildlife or any part or derivative of a protected wildlife without a licence commits an offence and is subject to a fine of not less than 20,000 ringgit and not more than 50,000 ringgits, as well as imprisonment for a term not exceeding one year, if convicted.

In as much as the Wildlife Conservation Act 2010 was adopted, Malaysian flora and fauna must be protected and conserved. The traditional method of command-and-control may not be effective at this point of time. Law enforcements tend to thwart the local people to benefit from the natural resources. In a challenging situation, wildlife trade can offer good income to support the local people. In this case, orang Asli depend so much on the natural resources including the wildlife not only for their consumption but also for their income. Wildlife trading be able to provide a lucrative payments and cash money to the orang Asli. With the legislation to control poaching and illegal trading, the community may be forced to commit an offence of hunting and trading wildlife illegally. This has become a reason for the effectiveness of the wildlife law to be questioned.

3.4 How Empowering orang Asli be able to control Wildlife Crime

Orang Asli implies to the original people or the first people occupying or settling in certain area (Izawati Wook, 2017). The definition of Orang Asli is specified in Section 3 of the Aboriginal Peoples Act 1954 (Act 134) which means, ‘the father who is a member of the Orang Asli ethnic groupings, who speaks the Orang Asli languages, and who follows the Orang Asli way of life and customs, including the descent via the man'. The right of Orang Asli to be recognised as the original people is secured in the Federal Constitution. Orang Asli are categorized into three primary groups: Negrito, Senoi, and Proto-Malay. To date, some Orang Asli are currently settling in the city and suburban areas. This is the result of resettlement after certain area demands to be developed. Nevertheless, there are Orang Asli who nonetheless resides in rural areas or villages thus, remain connected with the forest and its natural resources. For instance, Orang Asli villages located in Belum-Temenggor Forest Complex and Orang Asli villages at Taman Negara Pahang.

Forest area plays an extremely vital role in protecting the environment. This is due to a reason that forests are habitats for biodiversity and offers ecosystem services that are crucial to human well-being (Brockerhoff, E.G, et al., 2017). Appreciating its importance, Malaysia has gazetted numerous forest area as national and state parks, animal reserves or sanctuaries, maritime parks, protected

forests, and other statutory protected areas These protected areas will be managed effectively and sustainably to guarantee that natural resources are used properly and in a methodical manner. Although biodiversity in a forest benefits the whole community, local populations, particularly the Orang Asli communities, rely heavily on forest products, especially animals. These forest components provide necessities, food supply, medicines, fuel, building shelters (Adzidah Yaakob & Izawati Wook, 2015).

Even though there is legal mechanism and appropriate management to protect and conserve the forest area, forest depletion and degradation nevertheless become the environmental issue. Wildlife crime, illegal logging, uncontrolled development activities, commercialisation of parks as tourism industry, agriculture activities are among the factors which contributed towards degradation of forest area. As the Orang Asli communities depending closely to the forest produce, forest degradation gives adverse impact to their lives. Restricting their rights to hunting and selling the wildlife is likewise something which is against their natural rights.

Realising the important role of the of the Orang Asli and their involvement in land planning and environmental decision-making, the laws must be amended to clearly require the government to obtain consent or to consult the Orang Asli before passing any policy and law related to them. The terms "public involvement" and "public consultation" are used interchangeably (Ainul Jaria, 2011; 2012). In the aspect of Land Use and Planning Law, consultation refers to "strategies have been made to consult with individuals and organisations who may be impacted by policies in development plans or who might contribute to their creation". According to Chee and Phang, participation can take several forms and levels of involvement, and the word encompasses minimum four broad attributes that, while not complete, appear to suggest in local government, a system of representative or participatory democracy: a. Consultation, *i.e.* when the council acknowledges an impediment and solicits community's input; b. Direct participation or power sharing, in which the community is a full member of the decision-making body; c. Community action, in which groups present their own demands; and d. Community self-management, in which groups have control over facilities and resources.

With relation to the right to self-determination, the United Nation Declaration on the Rights of Indigenous Peoples (UNDRIP) distinguishes that indigenous people have the right to create and preserve their own decision-making institutions and authorities in addition to their right to engage in external decision-making processes that impact them while exercising their right to self-determination. This is critical to their capacity to retain and develop their identities, languages, cultures, and faiths within the context of the State in which they reside. Research reveals that, there is absence of discussion which emphasize the rights of Orang Asli to be consulted in the process of land use planning and environmental decision-making. As of now, the Orang Asli is obliged with whatever priorities imposed on them by the authority (Subramaniam. Y. ,2013). Sato, Danielle T. (2019), in her research concluded

that the Orang Asli constantly being manipulated and marginalised by the state. Subramaniam. Y. (2015) robustly suggested that the government recognised and clarify the legal status of Orang Asli. Again, Subramaniam. Y., (2011) highlighted that Orang Asli should have rights to decision-making in respect of land and resource rights.

Despite the urge to incorporate Orang Asli participation in the decision-making process, Section 51 of the Act demonstrates that the drafters did not address the needs of the orang Asli. In Section 51(1) it states that an aborigine may hunt any protected animal listed in the Sixth Schedule for his or his family's sustenance. Furthermore, any protected animal hunted under subsection (1) may not be removed, sold, or traded for food, monetary benefit, or anything else, according to paragraph (2). Any aborigine who violates this section commits an offence and is subject to a fine not exceeding ten thousand ringgit or imprisonment for a term not exceeding six months, or both.

Based on sixth schedule, as in Table 2, there are limited list of animals that Orang Asli can hunt and consume. During pressing time, illegal trade of wildlife or illegal hunting may become the last resort. Thus, law enforcement is no longer effective to control illegal wildlife trade. Therefore, over spill of wildlife in the market will happen without sanitary control. As a result, it will enhance the spread of zoonotic diseases.

Table 2: Sixth Schedule – List of Wildlife for aborigine's consumption

Scientific Name	**Local Name**	**Common Name**
Sus scrofa	Babi Hutan	Wild Pig
Rusa unicolor	Rusa Sambar	Sambar Deer
Tragulus napu	Napuh	Large Mousedeer
Tragulus javanicus	Pelanduk	Lesser Mousedeer
Macaca nemestrina	Beruk	Pig-tailed Macaque
Trachypithecus cristatus	Lotong Kelabu	Silvered-Leaf Monkey
Hystrix brachyura	Landak Raya	Malayan Porcupine
Atherurus macrourus	Landak Nibong	Brush-tailed Porcupine
Amaurornis phoenicurus	Ruak-Ruak	White-breasted Waterhen
Chalcophaps indica	Punai tanah	Emerald Dove

Hence, it is suggested that law enforcement together with empowerment of orang Asli should be the alternative to solve these two issues of illegal wildlife trade and spread of zoonotic diseases. Other than including Orang Asli in drafting policy relevant to conservation of Wildlife, their roles is important as enforcement agent in monitoring illegal wildlife trade and to patrol National Parks, Wildlife Reserve and Permanent Forest. Wildlife crime is a sophisticated and organised crime as it is a borderless crime due to the nature of large forest area. It necessitates more agencies and stakeholders to act collectively to monitor the area. It also requires the expert

who understand very well the area to monitor all the activities in the forest area thoroughly. In this regard, the effort taken by Perak State Park Corporation (PSPC) should be applauded when it has appointed and trained a new community-based wildlife protection patrol unit named Menraq to guard the Royal Belum State Park from illegal poachers (Elena Koshy, 2021). This team comprise of Jahai tribe which is Orang Asli who have been living in the Royal Belum for generations. Appointment of these orang Asli should be done properly and taking into consideration their reasonable salary and other incentives. It is a challenge to appoint orang Asli directly under the State Park or as PERHILITAN rangers as they need to meet the minimum education prerequisite for government service. As in the case of Menraq unit, this team is hired under sponsored community-based conservation programme. Further research will be anticipated in this area as contributions from companies will provide great assistance. Based on the theory of change, being the guardian of the forest, the orang Asli should be empowered in strengthening wildlife trade legislation (Roe, D. et. al.,2016;2017). When the wildlife trade is properly monitored, it might curb the propagate of zoonotic diseases.

4.0 Conclusion

The spread of Zoonotic diseases for example Coronavirus disease 2019 can be controlled when the illegal trade of wildlife is successfully put to a halt. In ensuring the law operate effectively, it is proposed that the orang Asli in Malaysia be empowered to assist the enforcement and regulating the law. Nevertheless, command and control as a traditional method can no longer operate alone. It needs a holistic approach which requires participation of the orang Asli as the stewardship of the jungle and similarly, in the policy making process. Secondly, empowering orang Asli with other opportunity namely job opportunity will ensure that they are not left with one and only source to sustain their livelihood.

Acknowledgments

Thank you to Faculty of Law, Universiti Teknologi MARA, for providing funding in presenting this paper.

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