

A Concise Review On Wildlife Crimes And Wildlife Conservation In The Region Of Kerala And Tamil Nadu

Debaditya Roy¹, Dr. Vinod Kumar^{2*}

¹PhD Scholar, Amity Law School, Amity University, Jaipur

^{2*}Associate Professor, Amity Law School, Amity University, Jaipur

Abstract: Wild life crime is a major threat to the endangered species. Due to these crimes several animals have been extinct. But now people from different parts of the world are trying to conserve these endangered species and make them to lead their beautiful life in their own habitat. In order to make such actions, the information about the events, crimes, accidents and conservation techniques happened in the region should be known to everyone. Hence the proposed study reviewed the wildlife crimes and conservation techniques adopted in the region of Kerala and Tamil Nadu. The study used the data from the e-media articles and other research studies conducted in the same region. It has been revealed that several challenges involved in preserving the wildlife for the authorities and as well as other environmental lovers. It is necessary to understand the challenges involved in these regions to take further actions or steps to prevent wild crimes.

Keywords: Wildlife Crime, Wildlife Conservation, Tamil Nadu, Kerala, Endangered species

I Introduction

Earth is the home for many known and unknown species. As an apex predator of this millennium, Human beings dominate the kingdom of animals. Humans and other animals co-exist in this beautiful ecosystem for many years. But this co-existence of humans and animals is nowhere close now. It is mainly due to hunting. For many years humans have hunted animals for food, skin to suit several needs. At one point, the hunting becomes more extreme and it started consuming wildlife. After through several level of realizations and research studies it has been found that hunting has been brought down. And several countries had made the decision to stop hunting and started preserving wildlife. It doesn't come easily and it doesn't going easily as well. Though, the hunting has been stopped officially in India, the illegal hunting are still continued. To stop hunting of wildlife, the Wildlife protection Act was passed in 1972 aiming to conserve wildlife in India. Especially during the colonization India had lost a huge variety of species and becomes a great loss for the Nation.

And today the modern India faces numerous challenges in conserving wild life and the crimes related to Wildlife grows rapidly. The demand for the exotic species for various purposes like meat, bones, furs, and as a trophy, it becomes complex to stop these crimes. In addition to that people encourage these illicit activities for religious and superstitious beliefs as well. There are agencies

and government bodies are there to monitor and take action against these heinous crimes. But the challenges still persists as the crimes are not appropriately reported. Sometimes the types of species used for the illegal trading is difficult to find. To make it worse, when the world think wildlife around the world enjoying the beauty of the world, the demand for the meat taste reflected in the increased poaching activities during the COVID-19 pandemic.

Also, the increased human-animal interactions also makes an impact in the conservation of wildlife. In India, several forest areas are declared as protective areas to prevent the human-animal interaction. The present study tried to explore the wildlife crimes happened in the region of Tamil Nadu and Kerala and conservation actions took in the region to ensure the conservation of the animals. These two states share the Western Ghats region and have sanctuaries that are home to many wild life species.

2 Recent wild life crimes in India

The research study explored three major problems in wildlife conservation. The first problem is the drivers of illegal hunting of animals and their methods in the last decade, the second one is the local community dependence. And finally the law awareness among the local community in the perception of 415 forest guards. The findings from the study showed that there was increased hunting activities using the

electrical wires and snares. In addition to that the community depends on the woods from the forest and they do have some knowledge associated with wildlife and forest. The research study provided the knowledge from the forest guards for the better improvement of tiger reserves.

The research study analyzed the samples from the local market and found to be samples belongs to the *Varanus* species commonly known as monitor lizards which was protected under Indian Wildlife protection Act, 1972. The samples were fetched from different sources like local markets of Rishikesh, Haridwar, Dehradun and online website (Amazon). Among the samples were tested two of them are plastics and remaining were identified through DNA analysis using BLAST search tool and found to be matched with Monitor lizard. And the study also stated that a strong protection measure should be taken or else these *Varanus* species could be considered as endangered species. In addition to that the government should take steps to prevent the sales of “Hatha Jodi”.

The illegal trade merging illegal trade of bear body parts makes the threat for the preservation of Asian bear species. The research study tried examine the authenticity of the Asian black bears seized by the law authorities. Among the three seized gall bladders one found to be the Asian bear, Sambar deer and another is cattle. This shows us the intensity of the demand for gall bladders of bear. The study showed the importance of illegal trading involved in bear and techniques to examine the authenticity of the parts to understand the type of animals being targeted.

The research study tried to bring attention about the Golden Jackel poaching. The demand for the Jackel horn trade increases rate of poaching of golden Jackel. Recent media reports showed that seizure of 370 Jackel horns between the 2013 to 2019 time periods. The rise of the demand are often fueled by the religious practicing people and other online endorsements. The motive of the study to show the potential threat of Golden Jackel.

The research study was aimed to report the illegal trade of pangolin in India for a time period between 2009 to 2018. And from the e-media coverage, it has been observed that about 119 pangolins were seized from illegal trading and 7500 pangolins were killed in the past decade for trading purpose. The Northeast parts of India were the hub for trading pangolins.

The research study showed the awareness on the illegal trading of Shahtoosh an unique fine wool obtained from skins of Tibetan Antelope. These

antelopes were considered as endangered species due to the illegal trading. Although there is ban for trading of antelope skins and other products from them at both international and national level, the demand for the trading of products from antelopes makes the hunting of antelopes are still continued in India and as well as global level. Often the smugglers use different techniques like hiding the Shahtoosh among other woolen products like Cashmere and Pashmina. To overcome the problem, the wildlife crime control bureau have initiated the “Soft Gold” operation. After the initialization of the operation, 62 cases on Shahtoosh trading from 2009 to 2020 has been noticed. Among these cases, most of them caught at the exit point of the smuggling chain which is the airports. The smuggling network analysis in the study showed that the illegal trading was connected between several countries like China, UK, Pakistan, Spain, Oman, Hong Kong, Switzerland and Oman. From 2000, 474 tiger’s body parts have been seized in India. And at least one tiger is killed in every 10 days.

3 Wild life crimes in Kerala and TN

The press releases showed the arrest of a group of people for killing a wild boar by the forest department on July 4, 2021. Later, found that arrested people were involved in some earlier hunting activities. In the Mettupalayam – Sathyamangalam region, field workers captured the poachers roamed with hunting rifles on February 28, 2021. One of the forest official in the article indicates the hunting incident happening outside the reserved forest are, this type of cases happens due to the migration of animals seeking food and water. During the pandemic, when the nation was in lockdown, a pair of tigers was found dead caused by poison at the Annamalai tiger reserve in 2020. Killing animals using poison could be an act of seeking vengeance to kill the animal for loss of human life or livelihood damage. As per the article, in response to the special team formation by the Madras High Court in 2019, one of the top forest personnel responded that the data recorded in the files are poor regarding the poaching and however other personnel didn’t care to leave any comment.

The research study conducted a survey on the Forest Range Officers comprising of both protected and non-protected areas and collected information about the interaction of humans and wildlife interactions, poaching incidents, and other challenges faced by them. And the strategies planned by the wildlife management

had shown improvement in the past five years. The number of active anti-poaching camps is higher inside the protected area than the non-protected area. The study was focused on showing the resources differences between the protected area and non-protected area. This facilities the increased conflicts of wildlife crimes and creates a huge gap in the resource availability of protected and non-protected area.

On a press release, the Environment secretary Supriya Sahu said that illegal trading of wildlife has become organised creating networks all over the world and motivated by money. Also she added the recent arrest of smugglers who were trying to smuggle fresh water turtles by the DRI and Madhya Pradesh special task force in Chennai showed the species involved in the smuggling and their endangerment. In 2015, The Wildlife Crime Control Bureau investigated the wildlife crime cases in Valparai, Megamalai, the Sigur Range, Nilgiris, Coimabtoire, Sirumugai and Theni in 2015. The report from bureau indicates the poaching of elephant tusks mostly around the Nilgris zone. The Wildlife Crime Control Bureau report pointed out the poor investigation methods, and failed to mention the individual names involved in the crimes around the Coimbatore zone. At several instances the authorities have shown their disappointments and indicated the handling of the wild crime cases in a careless manner in the report. The state elephant population has been reduced from 4000 to 2800 between the years 2012 to 2017. The deaths of the elephants does not quantify with the overall population and it's sad. On another study it was indicated that three pangolins are also traded illegally in the Tamil Nadu and Kerala region.

A female wild elephant, aged around 35, was gunned down by two farmer siblings near Mettupalayam in July 2020, allegedly because of crop damage. In Kerala the forest department has provided proper guidance to villagers living around bear-bearing areas such as Periyar Tiger Reserve and Parambikulam Tiger Reserve on how to avoid interaction with sloth bear

4 Animals endangered in the region

Among the personnel interviewed, 50% of them exposed the wild life crimes. They have also listed the animals that are subjected to such crimes, Elephant, Wild pig, Leopard, Bonnet macaque, Sloth bear, Sambar, Gaur, Dhole, Chital and Tiger. As per the press release based on the reports from Bureau, animals like Chimpanzee, Macaws, Marmoset monkeys, and Capuchin monkeys are illegally smuggled. Also,

some species of turtles are seized during as they have violated the State and International laws. Mongoose are captured for their hairs to use them in brush and often found in the local and international illegal trades. Also, the states has been considered as the big importer of wild animals of different varieties and these imported animals were considered as endangered species by International Union for Conservation of Nature. And on another research study Pangolins were found to be one of the wildlife species that are captured and traded illegally in the region Tamil Nadu and Kerala.

The Wayanad bird sanctuary known for diversity of different animals and birds. And recently, the Wildlife Biology, Social Forestry and Hume centre for Ecology records 140 species comprising wetland birds. The group recorded data from the Banasura and Karapuzha districts and water bodies in the Ammavayal and Golur Sanctuaries. And found that some of the wet birds like ducks have been seen in less numbers.

The press release showed the data about the siting of White bellied sea eagle, one of the rarest species to be see. And the team has found 22 active nests of the bird in a 150 km stretch in Kerala. Earlier survey data from 1996 showed it had 25 nests and in 2020 it had 20 active nests. One of the major reason that could endanger this species is cutting down of tall trees in the coastal regions as these birds tends to choose tall trees for nesting and breeding along the shorelines. The Mangrove forest destruction and the commercial presence in the shore lines could be the reason for declining the number of nests.

Salem Ali's fruit bat are one of the notorious animal in the region of Western Ghats. These fruits bats also now have been considered as endangered in the Western Ghats region. However, there is still some uncertainty over the habitat distribution and biology of this species. The climate change in the environment influences a lot on the species and considered as one of the reason for the decline in the numbers. And the study presented a habitat model which could suits the species. As a result, the species could survive in 9531 sq.km of habitat in Western Ghats. The study recommends to further explore the long term sustainability for the species as it gets warmer further the species could be endangered. In a another press release, the wildlife researcher Dijo Thomas spoke about the conservation of the "Neelagiri cheruvan" which was found in the region of Nilgiris and in the number of around 30 to 40, these species could be in brink of danger and needs further data for the conservation of the species. The research study explored the four bear

species such as Black bear, Sun bear, Sloth bear and Brown bear. There is abundance population of sloth bear is observed in India. The sloth bears in the reserve forest regions in Tamil Nadu and Kerala are subjected to threats from poaching and Hunting. And the suspects the endangerment of the species.

5 Wild life conservation in the region

In Wayanad wildlife Sanctuary, the Kerala forest government to inaugurate the first animal hospice and palliative care for big cats and placed over the abandoned pepper plantation. The animals after the treatment are subjected to serious habitat issues which needs to be resolved further. Currently, the unit could hold four animals like leopards and tigers are the two which are captured for treatment. The facility included with four holding rooms with cages and an open area of about 500 sq.m. For safety measures trenches used around the care unit and solar fencing will be enforced. In three years, the department had captured 10 adult tigers and a cub for various reasons from Wayanad so a care centre was much required.

A survey in butterflies at the Peechi-Vazhani wildlife region shown increase in the species. During the survey the smallest butterfly found was “*Grass Jewel*” and the largest found was “*Southern Birdwing*”. Also, the state butterfly “*Buddha Peacock*”. From the survey it was recorded 326 butterflies from 156 butterfly species in the 242 sq. m. The Forest Department of Kerala and Travancore Nature History Society conducted this four day survey based on 14 camps around the regions of Chimmony, Chulannur, and Peechi-Vazhany sanctuaries. People from NGOs, students, forest officials were involved in the survey. The team also recorded other wildlife such as reptiles, spiders, amphibians and birds. According to the survey team, in the region of Peechi-Vazhany about 152 birds were found and in the Chulannur region about 77 birds species found. The sanctuary also holds bunch of other animals like elephant, tiger, flying squirrels, and dhole.

Recently, the Anamalai and Mudhumalai tiger reserve in Coimbatore and Nilgiris district of Tamil Nadu received a global recognition in tiger Conservation. Among the southern region of Palghat gap Anamalai tiger reserve holds one of the largest landscapes which was about 4000 Sq. km. The Mudumalai Tiger Reserve in the Nilgiris, is a huge hotspot for bio-diversity hotspot in the Western Ghats. The Galaxy frog, a species known for its district nature of evolution

has been declared for flagship to conserve. It was seen in Mathikettan Shola National Park in Idukki. It was found during the survey of reptiles and amphibians in 2019. For the flagship declared species, proper conservation steps needs to be taken.

5.1 Modern techniques used in wildlife preservation

The special investigation units formed by government in order to prevent wild life crimes will be supported with modern weapons, modern data collection, tracking, and mini cyber cell units. Also GIS unit for mapping, surveying the zones involving crimes. The government also formed a new Forest Sniffer Dog Unit which will be comprised of 12 well trained sniffer dog with handlers. And these units will be placed in the critical regions where the chance of occurrence of the crime is higher such as Nilgris, Analamali, Hosur, Meghamalai, Sathyamangalam, Dindigul, Trichy, Coimbatore, and Ramanathapuram. The dogs are trained to sniff bones, skins of tiger and leopard, bear pile, elephant ivory, deer antlers, pangolin scales, live birds, red sanders and turtle carapus.

The research study examined the movement tracking in Hosur forest zones and able to test different elephant detection methods to track elephant movements. The study considers the poaching, crop raiding problems for evaluating the elephant movement. On mapping it has been found the elephant movements are seasonal and they follow the same movements. The study discussed the mitigation measures to resolve the human elephant conflict based on the detected elephant movement. The real-time data collection from the villages was done to observe the elephant movements. To examine the elephant movement pattern and spatial distribution is analyzed by spatial distribution. For the determination of elephant movement spatial distribution the Arc GIS software and Getis-Ord Gi* were used. The rainfall in the forest impacts the elephant movement occasionally and in order to prevent further human-elephant conflicts.

5.2 Community support and Role of NGOs

In a press release the Chief Wildlife Warden stated that the intelligence gatherings from the local community who are habitat in the closer region of protected areas from a network formation said intelligence gathering, are valuable in preventing crimes by the hunters and

poachers. The head of TRAFFIC India, Shekhar Kumar Niraj, had played a role in forming the special investigation units to prevent the wild life crimes. The TRAFFIC India is an NGO that monitors wildlife trade networks. Now the Bureau will make a centralised data bank for wildlife crimes. The Bureau has setup investigation units to investigate wild life crime in Virudhunagar, Coimbatore, Trichy and Tirunelveli. Moreover, the task force will be represented with personnel from Forest, Customs and Police Department. As per the press release, these units will have the authority to make raids and seize illegal trading parts of wildlife. Sadiq Ali, wildlife and Nature conservation Trust founder, told that the wildlife crime investigations are not effective in the region of Tamil Nadu which nullifies the efforts of NGOs like WPSI, Wildlife SOS, TRAFFIC, and WTI. Sharath Babu, a wildlife activist, have raised the concerns over the committee formation to investigate the elephant deaths by the forest department in Tamil Nadu.

6 Role of Law and Authority in preserving wildlife

In Kerala, the initiative by the state government to make ambulance service and tele-veterinary units for the animals across the state. These units will be comprised of Ultrasound Machines, X-Ray Machines. Also, the corresponding department assured the veterinary doctor's availability in all panchayats. The Minister of the forest department issued orders to intensify the ban on plastic products in forests, tourism places, wild life protected areas. Based on section 32 of the wildlife protection act 1972, the actions will be taken if needed corresponding amendments will be added to the Forest Protection Act for the department. He also stated to increase the availability of water for the visitors and would make further actions to ensure the cleanliness of the forest and preserving wildlife. In Tamil Nadu, the conviction rate of cases under the 1972 Act was 3% and due to lack of evidence some of the accused had to walk away. To overcome such issues the government body has formed an inter-agency Tamil Nadu Forest and Wildlife Crime Control lead by the Additional Principal Chief Conservator Forests (APCCF) rank officer.

To control the invasion of species, sometimes the animals needs to be killed in order to maintain the bio-diversity. Sometimes it ends up in culling. But the press release shows the plea to permit the tribal communities to engage in hunting of the wild boars to take control of the population

instead of culling them. The research Unit recommended to move the wild boars from schedule 3 to schedule 5 of Wildlife Protection Act for a certain period of time would support the local communities. It can be also as used in meat products. Also it suggests to allow hunting rights for the local community and monitor them closely as the population declines, it needs to be removed immediately.

6.1 Challenges

There are also challenges for the government authorities in conserving the wildlife. As it was said earlier, the complexity in the conservation of wildlife becomes huge with year by year. The followings are the observations taken from the press release and research studies reviewed

- Patrolling is one of the complex task to be endured in the forest duty, especially during the night in the dense forest known for many dangers. In such regions patrolling private property is difficult and one of the main reason is the lack of manpower.
- Also the control over the species depends on the water bodies does not comes under the forest department. And thereby preventing the crimes involving species depends on the water bodies are difficult to prevent. If it continues further these animals could go extinct.
- Similar to the earlier case, small animals like mongoose and other birds are in the edge of dangers for being hunted for the meat and fur.
- Sometimes the animals tends to get overpopulated and often end up spreading widely and it results in roaming of animals beyond the reserve forest. This makes the animals to be marked for easy targets. Animals like wild boar and spotted deer are often subjected to this case.
- The mitigation measures to control the human – animal interaction were similar for both protected and unprotected areas. These need to be enhanced further to prevent the human – animal interactions.
- The funds sanctioned for the unprotected areas are lesser and could not able to provide support for the preservation of wild animals effectively.
- The Data collection about the wild life crimes to prevent the poachers, hunters are not organised effectively.

7 Methods adopted in other countries

The crisis of the endangered species are often preserved by the human care. The natural breeding often ends in failure and therefore there are new technologies to preserve these species. There has been advancements in reproductive technology for these wild life species apart from routine technologies. The study discusses the usage of modern reproductive technologies like artificial insemination, vitro fertilization, sematic and stem cell depending technologies in conserving the wildlife species. The research study explored the religious based methods and theories to preserve the wildlife. The Findings from the study showed that messaging based on religious themes were effective and Belief congruence theory had shown that it could be effective for marketing and preservation of wild life. And another research study uses social media and marketing methods to create awareness for the wildlife preservation. The study involved with reviewing the articles, blogs, online post, and extracted data and analyzed semantically and used a messaging strategy and framework to get explicit meaning from the online content through social learning theory. This could create in promoting the awareness about the wildlife crimes happening around the world. But in another research study, the authors used a body condition scoring system to monitor the wildlife species Banteng, which is under the verge of extinction. The study was aimed to evaluate the health of the species in Thailand's Salakphra sanctuary, through images collected from the camera traps after they have re-habituated into the sanctuary for preservation.

8 Challenges

Apart from the crimes caused by the human beings, there are further challenges in the conserving wildlife. And they are as follows:

- Forest fire is one of the biggest challenge in preserving wildlife. In summer season forest department of Kerala experiences a hard time as the grasslands tends to catch fire easily. The forest survey of India, showed the 17 fire incidents in the forest area of Kerala and considers as large fire incidents in the districts of Kottayam, cumbum, Thenmala, and Pathanamthitta. The state reported about 106 Wildfire incidents in the year 2021 and vegetation about 259.39 hectares was destroyed.
- The wildlife conservations is often considered for the animals and birds based on the land. The fishes in the water ecosystem in the land and marine are not considered. On a press

release, fishes are known for protein consumptions. But overconsumption could lead to the endangerment of the species. The fish biodiversity is often rarely discussed among the researchers especially for the species belongs to the land based water bodies like river, ponds, and lakes.

- The Breeding ability of the animals also one of the prominent challenge for conserving the species. In some animals the breeding becomes failure due to several reasons. And at times, the species reliant on human technologies which reduces the chance of survival.

9 Conclusion

Wildlife conservation is one of the major challenges faced by the world in meeting the Bio-diversity conservation. Although the government has made several actions and formed special units to prevent the wildlife crimes. The high demand and the greedy nature of the human beings encourages people to commit the crimes for their own benefits for several reasons. The wildlife conservation is a challenging task, with the help of the local community, researchers, activists, and government agencies there are efforts have been taken continuously. But it has to be admitted that the strong network formation is highly required among these people to ensure the preservation of the wild life. The study reviewed the wildlife crimes involved in the region of Kerala and Tamil Nadu. And it has been revealed that there are crimes happening in the region and rarely be comes into records. Data collection and managing is one of the critical issue as noted. And moreover, the conservation steps taken by the several agencies, researchers and community shown that there is hope for the conserving these wildlife. The challenges faced by the authorities need to be reviewed further to make some recommendations for preserving wild life. Like other countries, the usage of modern technologies could be encouraged further to see the significance in the conservation of the wildlife.

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