ජාතික විගණන කාර්යාලය
தேசிய கணக்காய்வு அலுவலகம்
NATIONAL AUDIT OFFICE
NAOSL

වාර්තාවේ අංකය : ENV/2024/01
அறிக்கை இல. : ENV/2024/01
Report No. : ENV/2024/01

ශ්‍රී ලංකාවේ ජාතික උද්‍යාන වල තෘණ භූමි සංරක්ෂණ ක්‍රියාවලිය ඇගයීම පිළිබඳ පාරිසරික විගණන වාර්තාව

இலங்கையின் தேசிய பூங்காக்களிலுள்ள மேய்ச்சல் நிலங்களை பேணிப்பாதுகாக்கும் நடைமுறையினை மதிப்பீடு செய்தல் தொடர்பான சுற்றாடல் கணக்காய்வு அறிக்கை

Environmental Audit Report on Evaluation of Grassland Conservation Process in National Parks of Sri Lanka

පරිසර විගණන අංශය
சுற்றாடல் கணக்காய்வுப் பிரிவு
Environment Audit Division

1. Executive Summary.

The National Parks controlled by the Department of Wildlife Conservation under the Wildlife and Flora Ordinance (Authority 469) are forest resources that must be protected in Sri Lanka and these zones provide significant support in maintaining the balance of the environment and the survival of wildlife. The grasslands in these national parks are of high ecological importance by being habitats for a large number of herbivorous animals, being biodiverse, maintaining a balance of flora and fauna, protecting soil quality, adding attractive beauty to nature by spreading gracefully in open areas without vegetation cover, these national parks have many benefits such as adding an attractive beauty to nature, attracting a large number of tourists to watch the animals like elephants, deer, and elk that live in the grasslands and these grasslands owned by national parks provide many benefits such as the country can collect a coniderable amount of income by attracting tourists and thereby develop the economy. The Department of Wildlife Conservation has declared 26 National Parks at present. The existence of these parks has been challenged due to the problems that have arisen recently. Accordingly, 09 national parks and 02 sanctuaries were focused, in order to evaluate the role of the responsible government institution for it and to evaluate the impact on the environment through these ecosystems. There has been an increase in threats to the existence of grasslands due to the fact that the importance of these grasslands belonging to national parks has not been considered so far. The purpose of this audit was to evaluate whether the relevant authorities have accomplished their activities for the conservation of grasslands and to discuss the existing problems since there is a risk of destruction of these ecologically important grasslands.

It was observed in this audit that the human elephant conflict has increased and crop damage caused by wild elephants due to lack of grass, which was the main food of herbivores mainly wild elephants in the national park ,without being a national policy and management plan for grassland conservation and management, rapid spread of invasive alien plants, inadequate focus on grassland conservation, illegal cultivation and illegal settlements, loss of food in herbivores by unauthorized entry of cattle into parks and the maintenance of unauthorized cattle ranches in parks., natural grasslands are disturbed due to filling up of tanks during the release of water for new water projects and irrigation works, problems of implementation of rules and regulations, existence of boundary problems,not receiving sufficient provision, patterns of animal behavior,certainly not sustainable environmental management by not controlling environmental conditions and agriculture in a balanced manner, obstacles of the sustainable existence of grasslands and not restoration of tanks, the sanctuaries which belong to department of wildlife conservation have not been declared as national parks by gazetted (Kahalla Pallekale, Kala Wewa) , not exsistance environmental data systems in national parks, not preparing plans that do not cause conflicts between the environment and animals in the implementation of development schemes, revenues of the national parks declined because of declined of turists , the spread of invasive plants has been a major impediment to the

growth of grasses in existing reservoir systems and other grasslands in all of the national parks audited.

It is recommended to manage the grasslands in the national parks properly and prepare plans to provide continuous food for the animals, to prepare a national policy for the conservation of these grasslands, to implement legal provisions and to allocate financial resources, to deploy staff and to provide adequate other basic facilities , preparing a system for the control of alien invasive species, controlling the entry of domestic animals into grasslands,well planning development projects and managing them so that animals do not collide with the environment, preparing timely plans for the control of human-elephant conflict and managing national parks and to maintain an updated data system to review progress in relation to the above observations.

2. Background and Nature of Report

2.1. Bacground

2.1.1. Introduction to existing grasslands in Sri Lanka.

It can be seen about 12,000 square kilometers (18 percent) are scattered grasslands. They play a great role in soil conservation in areas with no vegetation cover out of land area of 65,610 square kilometers of Sri Lanka. These grasslands are grouped as the wet Pathana in wet mountain, dry Pathana in dry mountain, Damana wich was found in dry zone, savannas and Villus.

Grasslands in Sri Lanka can be classified as follows.

(I) **Wet Pathana lands.**

These **Wet Pathana lands** are found in areas of dominant tropical montane forest above 2,000 meters. The are spread over an area of about 5,500 hectares and they are spread in Horton Plains, Elk Plains, Mann Plains, Sita Eliya, Bagavantala and Bopattalawa.

Wet Pathana lands with widespread heavy rainfall are wet and swampy throughout the year. The grass species are bushy and have a thin coarse hard texture. Unlike dryland areas, these **Wet Pathana lands** also have individualy growing trees. Most of these trees are of the “Maharatmal” (Rhododendron Zeylancium) species. The trunks of these trees are twisted and the main trunk and branches are covered with lichen that grows very thickly. Other grasses growing with Chrysopogon zeylaneus and Chrysopogon are Arudinella, Pollinia, Ischacmum and Themeda, which are characteristic of wet fallows. There are few plants other than grasses unlike in the dry fall. The Pteridium aquilinum, a fern that usually grows in dry areas, is also can be found here.

(II) Dry Pathna lands.

The dry fall is more widespread than the wet fall with an area of about 75,000 hectares. The Welimada Plateau is the clearest example of**.** A large area of this grass land was completely treeless except for small forested areas in the dry Pathna lands, valleys and foothills of the hills. Other areas with such grasslands are found in Knuckles Hills and Deniaya-Rakwana Hills. These areas have undulating terrain and circular peaks. The Cymbopogon nardus was a special type of dry Pathna grass. Associated grass species with this species are Arudinella villosa, Pollinia and Ischaemum. The fern Pteridium aquailinum was also found here. These grasses thrive in areas with moist, deep soil and on low slopes.

Many areas of dry pathna were also used for that when tea cultivation started. Afforestation projects were implemented in these provinces since the 1930s. In some areas where tea plantations were abandoned, fall has re-emerged.

(III) Low country grasslands.

Grasslands found in the lowlands can be divided into thalawa and Damana according to the climatic zone which they belong to. The term thalawa is applied to grasslands in the wet areas of the lowlands and grasslands in the drier regions. Both have a common origin as they are formed by chena cultivation. After the chena cultivation, the reforestation process is inhibited due to the loss of soil fertility and the frequent fires in the abandoned land, resulting in grassland.

(IV) Thalawa

Plain grasslands are found in Kalutara, Galle and Matara districts. Laterite soil can be seen in these. The soil was very barren with gravel as the topsoil has often been washed away due to soil erosion. Some of the grass species growing in the plains are Chrysopogon sp. Cynodon dactylon, Ischaemum rugosum, Themeda tremula and Cymbopogon nardus. Shrubs and deciduous species are also present here, mostly in areas that have been protected several years from fire. Abolutely, these shrubs and ornamental plants indicate the beginning of a flora and some of such shrubs were Osbekia aspera, Hedyotis fruiticosa, Sysygium spp., Ochlandra stridula and Dicranopteris linearis. The Nepenthes sp., an insectivorous plant grows in some places.

(V) Damana Grasslands

Thalawa was found in many places in the grassland region and is found in large numbers in the Eastern Province (Examples: - Digamadulla and Batticaloa) The dominant grass species was Imperata cylindrica. Besides, Cymbopogon nardus and Chrysopogon aciculatus can be seen. The species such as Cynodon dactylon, Echinocloa, Eragrostis tenella, Sporobolus diandrus are commonly found in these pastures. In addition, the Aswenna, Karal Haba, Vara, Ranavara, Hathavariya, Grona triflera and

Gadapana which was identified as invasive species can be seen in these grasslands. The carbon of the soil and nitrogen concentrations in the Damana grasslands were slightly lower compared to the dry mixed evergreen forests that form the forest community in this region. The magnesium/calcium ratio was high.

(VI) **Villu GRalands**

The Villu **Grasslands were** found in consistently moist areas such as abandoned old tanks, large tanks, and riverbanks. The humus soil was rich in fertile. The concentration of carbon, nitrogen, phosphorus and potassium in the soil was high. The soil remains moist even in the dry season. The stability of these grassland communities can be attributed to the moisture content of these habitats. There are large tanks in Maduru Oya, Polonnaruwa, Tamankaduwa, Manampitiya which are located at the outlet of the Mahaweli River. The grass that grow on the ground are liquid plants because of this area continues to be moist. Some of the species here are Paspalidium, Cynodon grass and Fimbristyhs.

(VII) **Savanna grasslands**

The savanna grasslands are divided into two parts as highland savanna and lowland savanna. These savanna grasslands are spread over fairly large areas of 100-500 meters above the sea level, including parts of the lowland and midland interzones and the dry zone. The special feature in these grasslands and scattered vegetation. It is believed that savanna grasslands have been formed as a result of constant clearing and burning of dry evergreen forests, which were generally in dry zone forests. It has been left only fire-resistant plants and grasses in this environment and many trees have been destroyed due to constant fire. Savannahs are characterized by isolated trees growing between layers of grassy underlayer. The tree species are Aralu, Bulu, Nelli, Kahata, Kudumberiya, Gammalu and Dau. It is a special feature of all these plant species that there are medicinal properties in them. These forest-related ecosystems can be seen in areas like Badulla, Bibila, Ella, Wellawaya, Nilgala, Lunugala, Balangoda and Galoya.

The upland savannahs are mostly seen on the Uva plateau. Its average annual rainfall is between 1400-2000 mm. Also, there is dry weather in June, August and mid-September. The soil is infertile due to frequent burning and erosion. There are remnants of forest blocks with shrubs up to 10 meters high and grass species such as citrus and manna can be seen in the grasslands in places of the savanna grasslands. An invasive shrub species such as Lantana camara and medicinal species such as Bovitia, Vishnukranta, Heen Undupialiya, Maha Undupialiya, Athadi, Ginihiriya can be seen in the savanna grasslands at present. Animals such as deer, hippopotamus and rabbits live here and hunters set fire to the grasslands to hunt animals for meat.

2.1.2. Importance of Grassland Biosystem.

The importance of this system can be summarized as follows.

(i) The grassland ecosystem is biodiverse and a primary habitat for many species.

(ii) Grassland is an ecosystem essential for the survival of a large number of mammals. (Elephants, Elves, Deer etc.).

(iii) The balance of plants and animals in the grassland ecosystem and its soil quality are preserved.

(iv) Beautifully spread grasslands in an open area are of attractive beauty.

(v) Grasslands cover nearly a quarter of the land area of the Earth and are one of the largest biomes in the world.

(vi) Grassland is a very useful ecosystem for humans.

2.1.3 Existing restrictions on grassland development.

The following limitations can be identified.

(i) Lack of adequate legal provisions and policies for grassland management.

(ii) Lack of adequate provision in the national research system makes it difficult to carry out grassland-related research.

(iii) Inadequate infrastructure in grassland areas.

(iv) Inadequate up todated research information relating to grasslands.

(v) Insufficient of recognition of the importance of education widly.

(vi) Inadequacy of annual financial allocations.

2.1.4 The potential impact of climate change on grasslands.

Climate change can have a direct impact on the sustainability of grasslands. It has been predicted through various research results in the world that grasslands with very high biological diversity may suffer desertification in the future if attention had not been given to through the sustainable management.

The grasslands provide services such as wildlife habitat, stormwater management, soil conservation, soil carbon storage, aquifer recharge, soil water conservation during droughts, and improvement of soil physical and chemical properties, but these services may be threatened by climate change. The long-term droughts can be predicted through climate change. Therefore, there is a greater tendency to suffer from catching fire during such periods. It is recognized that the impact of the possible response to these changes is uncertain but care could be taken.

2.1.5 Grassland conservation and methods of grassland conservation.

Grassland conservation is the action taken of protecting or improving grasslands that are abused or threatened. It is necessary to be positioned in the same areas and supervise and engage in the same activities.

The United Nations Department of Natural Resources Conservation Service of Agriculture has identified several grassland conservations practices for sustainability as follows:

- Access Control
- Brush Management
- Stabilizing Fence
- Forage Harvest Management
- Grade Stabilization Structure
- Heavy Use Protection Area
- Nutrient Management
- Pasture and Hay Planting
- Pest Management
- Prescribed Burning
- Prescribed Grazing
- Riparian Forest Buffer
- Water Well
- Watering Facility
- Wildlife Habitat Management
- Wind Break/ Shelter belt Establishment
- Pasture Condition Score
- Establish and maintain of fire belts.

2.1.6 National Parks which there were more grasslands in Sri Lanka.

The Minister may, declare any specified area of the Government as a national reserve according to section 2. (1) (b) of the Wildlife and Flora Protection Ordinance (469) by means of an order published in the Gazette, for the purposes of this Ordinance. The said national reserve land may be declared as a national park in it is entiretly or any specific part thereof by means of the same rule or by way of a rule published in the Gazette. There were 26 National Parks which declared by covering an area of nearly 5,734 sq km as at the date of audit. Among these, the information about some of the national parks where there were more grasslands was as follows.

(a) Horton Plains

Horton Plains is the highest plateau surrounded by a beautiful mountain range covered with highly biodiverse cloud forest. The Horton Plain was named after the British national Mr. Robert Horton who served as the Governor of Sri Lanka and on 05 December 1969 and Horton Plain was converted into a nature reserve and on 16 March 1988 and it had been converted into a National Park and placed under the Department of Wildlife Conservation. The UNESCO World Heritage Convention declared Horton Plain as a World Heritage Site on 2 August 2010.

Horton Plain is located at an altitude of 1800-2300 meters above sea level with an annual rainfall of about 2500 mm. This national park is located in the northern part of the ferry hill Spread over an area of 3160 hectares and in the west of it is the Kirigalpotta hill. The Walawe and Kelani rivers, Bhagavantala Oya and Agar Oya originate from the Horton Plain among the main rivers of Sri Lanka.

(i) Grassland belonging to Horton Plains.

The total land area of Horton is 3,160 hectares according to the classification which belongs to the wet grassland type and 75% of the total area or around more than 500 hectares have reserved as grassland and 25% grassland. The quantity of hectares had not been identified by surving the grassland area and foret area seperatly. The Grasslands are found in the high mountains and high slopes of this land. The 03 types of grass are found here. That is Maha Tuttiri, Gowara and as an unidentified type of grass.

The Horton Plains has been designated as a nature reserve, national park and World Heritage Site because of unique ecosystem of it.

(From the of A Nature guide to the world's end trail Horton Plains)

(ii) Soil of the Grassland.

The soil of the grasslands in Horton plain consists of 04 layers and the top soil layer is black in color due to the humus soil and the blackness caused by the frequent fire of these grasslands. The roots of these grasses extend only up to the black soil layer, followed by a stony soil layer with a yellowish soil layer underneath and finally a reddish-brown soil layer. The spreading roots of these grasses retain soil moisture and prevent soil erosion.

The distinctive feature of the Horton plains is that the forest and grasslands are separated and not contiguous. It has been reported that the reason for this is the humus soil layer is limited to grasslands and not allowed to enter the forest.

(Pearson Report 1899- page 66)

(iii) Plants native to the Horton grassland.

A significant number of plants, endemic to Sri Lanka can be found in this highly biodiverse land, of which some plants endemic to grasslands are shown below.

- *Rhododendron Arboreum*
- *Exacun Walkeri*
- Wild cocinium fenetratum
- *Gaultheria Rudis*
- *Aponogeton Jacobsenii*
- Rosa acicularis
- *Eriocaulon S.P*
- *Satyrium Nepalense*
- *Osveckia Wightiana*
- *Anathalis S.P*
- *Anaphalis Brepifolius*
- Centela Asiatica
- *Bupleurum Wighti*
- *Cynogiossun Furcatun*
- *Cymvopogon Nardus*
- *Rhodomyrtus Tomemtosa*
- *Dicranopteris Linearis*
- *Arisaema Leschenaultii*

(iv) Grasses of the Horton Plain

A large area of these plains was used for potato cultivation in the past and 03 types of grass brought from Africa for animal farms located in the central mountains were found in this grassland after this cultivation was stopped for environmental conservation around 19th century. The Gawar, Tuttiri and unidentified grasses are mentioned. (A Nature guide to the world's end trail Horton Plains, C.V.S. Gunethilake and with the manual.

- *Garnotia Exaristata* – Tuttiri - Common in grasslands near streams.
- *Chrysopogon Zeylanicus* – Gawara - A tall, dominant grass species in grasslands.
- Unidentified type of grass.

The *Sinarundinaria densifolia* which grows on the waterside of this land, plays a valuable role in protecting the watersheds here and this plant is unique to the Horton Plains. The *Sinarundinaria densifolia* was the smallest type of bamboo in Sri Lanka and the elks prefer to eat the young shoots of them.

(v) Animals native to Horton Plain.

Although the larger animals can not be seen in Horton Plains National Park, but well grown herds of elks, tigers, bear monkeys, sand deer, squirrels, leopards, wild boars and rabbits can be seen there. An Ancutussa endemic to Ceylon and bear monkey endemic to the mountains occupy an important place.

It is reported that 02 types of local birds and 11 types of migratory birds can be seen in this park and Lankan Pitakan Kondaya, Lankan Sitasia, Lankan Arangaya and Dark Nilmasimara are unique among the endemic birds. The 17 endangered bird species can be seen in this national park out of 34 species. This national park is also an ideal natural habitat for the butterflies of the country. The Pied Bushchat bird is a grass nesting bird and the non-venomous *Aspidura brachyorrhos- Boie* was also endemic to this grassland.

(vi) Elks add to the beauty of Horton's Plain.

It is very important to protect the elk, which is an animal group that has won the tourist attraction associated with the beauty and survival of the Horton plain and this grassland should be well managed for the survival of this grassland and for the survival of the elk. The annual income of this national park is approximately 400 lakhs and it is a high contributor to the activities of the wildlife department, therefor it is the responsibility of the government and the department of wildlife conservation to maintain this national park with proper management.

(b) Minneriya National Park

Minneriya National Park had been declared by Gazette No. 988/4 on 12th August 1997. This national park of 8,889 hectares belonging to the Polonnaruwa district of the North Central Province is known as a national park entire of natural beauty where a large number of elephants can be seen at the same time.

ii. Reident Herbivores and quantity of grasslands in Minneriya National Park.

The types of animals and numbers of grazing animals in Minneriya National Park are roughly given below and include elephants, deer, elks, rabbits, domestic cattle, cattle and water buffaloes among these.

Table no - 01 Species of herbivores in Minneriya National Park

Types of animals that grass consuming	**Number of Animals (Approx.)**
Elephant	Between 500 – 750
Deer	More than 1000
Elk	More than 400
Rabbits	More than 1000
Buffaloes/Cows	Between 500 – 750

(Data obtained by park Warden)

The number of animals that consume grass as the main food living in Minneriya National Park was ingnificant according to the above note and the total land area is 8,889 hectares of which only approximately 1,210 hectares are under grassland. The details are as follows.

Table no – 02 Grassland expansion in Minneriya National Park

Location of the Grassland	**Approximat Quantity (Hectares)**
Minneriya Tank Ground	1,000
The main Ground	20
Wera Pitiya	10
Garden Path	100
Una Pitiya	20
Power lines way	10
Minor grasslands	50
	1,210

(Data obtained by park Warden)

(c) Kaudulla National Park

The Kaudulla National Park located in the Polannaruwa District of the North Central Province had declared as a National Park by Gazette No. 1230/5 dated 01 April 2002.The herds of elephants and their attractive activities can be seen in this national park which was spread over 6,656 hectares. A national park was full of natural beauty, inhabited by deer, bulls and various birds.

Table no - 03 Grass-consuming animals which live in Kaudulla National Park

Grass-consuming animals that live in Kaudulla National Park	Quantity(Approximatly)
Elephant	More than 400
Deers	More than 100
Elk	More than 100 100
Sand deer	More than 100 100
Domestic cattle	Around 1,500

(Data obtained by park Warden)

Table no - 04 Grassland expansion in Kaudulla National Park

Location of the Grasslands	Approximatequantity (Hectaras)
Ground of Reservoir tank	1,000
With in the parck	80
	1,080

(Data obtained by park Warden)

There are a large number of grazing animals living in Kaudulla National Park according to the above notes and only 1,080 hectares of the total area of 6,900 hectares belong to grasslands. That was approximately 16 percent.

(d) Kala wewa National Park

The Kalawewa National Park is located in the Anuradhapura District of the North Central Province and it had noted on a board located in the National Park that it has been opened by the Minister of Sustainable Development and Wildlife on 17 October 2015.

This national park which spread over an area of approximately 5,044.97 hectares is notable for the large herds of elephants that migrate during the dry season.It had been observed that there are 04 herds of tuskers in which there are 22 large tukers and 26 small tukers according to the unofficial census conducted by the wildlife officials in August 2018. Similarly, the book of Tuskers of Kalawawa National Park had included photos of 18 elephants in Kalawawa National Park. It had been identified that there were about 7 percent tuskers in Sri Lanka and the highest number of tuskers are residing in the Kalawewa National Park. It has become a part of their natural movement pattern that the elephants gather in large numbers to eat these when the water dries up with the dry season and light grass emerges in the tank area. There are around 150-350 elephants between April and August and around 50-75 elephants have their permanent

residence in the Kalawewa Park and these elephants roam in close groups in the forest system near the Kalawewa and it has been observed that they roam in this forest during the dry season as well as sometimes throughout the year. It was reported that the migrating elephants leave this area with the onset of the rainy season and the permanently settled elephants stay here. Kalawewa National Park is need to be protected with many tuskers that tourist attractions are easily accessible in a very beautiful environment and it is known to be a paradise for elephants.

(e) Lunugamwehera National Park

It was announced by the Extraordinary Gazette Notice No. 900/1 dated 08 December 1995 and No. 1610/06 dated 13 July 2009 the area within the Divisional Secretariat Divisions of Wellawaya, Tanamalvila, Kataragama and Buttala in Monaragala District of Uva Province and an area of 27,185.85 hectares located within the Lunugamwehera Divisional Secretariat of the Hambantota District of the Southern Province is included to the Lunugamwehera National Park .This is a resident to more than 100 species of herbivores like antelope, deer, hares and elk and this national park is famous among tourists as a place where large numbers of elephants can be seen.

(f) Kumana National Park

Kumana National Park belongs to the Yala East part of Ampara District and has declared on 05 June 2006 and pread over an area of 35,664 hectares. Kumna national park is famous among tourists as a paradise for migratory birds and Approximately 6,000 of herbivorous deer, 2,500 of cattle, and 50 number of elephants live in this national park according to the data obtained by the park Warden.

(g) Lahugala National Park

This national park became the Lahugala National Park on 20 July 2006 which located in the Ampara district of the Eastern Province. The land area is 5,131 hectares. The park is famous as a kingdom of elephants and a proper place to watch them. There were approximately 75-100 elephants, 50-75 deer, 75-100 rabbits, and 30-50 elk live among the animals living in this national park according to the data obtained by the park warden.

(h) Horopathana National Park

Horopathana National Park is the 23rd National Park located in the North Central Province. This park, located in an area of 2,570 square kilometers, which was declared as a national park on 06 December 2011 by Gazette No. 1735/21. The first Elephant Holding Ground of Sri Lanka was established in this park in the year 2015 and the capacity of the elephants were nearly 40. The above requirement had been requested through the Cabinet Memorandum No.

12/0151/549/001 17 dated March 2012 and the elephant detention park built at a cost of Rs.345 has been opened in the year 2015.

(i) Wilpattu National Park.

Wilpattu National Park is known as one of the oldest wildlife reserves in Sri Lanka. It is famous as the place where the first "Arya" migration took place and it is reported that the ruins of ancient settlements clearly reflect that. The name Wilpatttu has been coined because there are a group of naturally situated tanks and these tanks can be seen in a wide range. Wilpattu National Park was declared a National Park on 25 February 1938 and has an area of 131,667.7 hectares.

The Wilpattu National Park is the largest national park in Sri Lanka which spreads across the three districts of Anuradhapura, Puttalam and Mannar that bordering the northern part of the park is the Malwatu Oya and the Modaragam Aru and bordering the southern part is the Kala Oya. The plains of Wilpattu National Park have created a wonderful landscape for the habitat of wild animals. This national park boasts a mind-blowing environment that captivates the eyes of the beholders with grassy lowlands and an aquatic environment of forests, streams, tanks, and ponds.

(j) Ampara Sanctuary

Ampara sanctuary was declared as a sanctuary on 12 February 1954 by Gazette No. 10/640.

(k) Buddhangala Sanctuary

Buddhangala Sanctuary was declared as a sanctuary on 1 November 1974 by Gazette No. 136. Wild elephants migrate to Ampara and Buddhangala sanctuaries through Maduru Oya and Gal Oya reservoirs through elephant tracks and migrate to Buddhangala sanctuary through Ampara sanctuary according to their natural migration pattern and both these sanctuaries are temporary lodges for elephants. It was revealed that around 180 elephants are staying in this sanctuary during that period.

2.2. Authority for Audit

The audit wa carried out under my direction in pursuance of provisions in Artical 154(1) of the Constitution of the Democratic Socialist Republic of Sri Lanka in conjunction with provisions of the NationalAudit Act No.19 of 2018.

2.3. Audit objective

2.3.1. Audit objective

Evaluation of the contribution of public sector to grassland protection and enhancement in National Parks of Sri Lanka.

2.3.2. Audit sub-objectives

i. Examine of the legal background.
ii. Evaluation of the adequacy of physical and financial provision.
iii. Evaluation of preent threats and action taken in this regard.

2.4. Access to audit

(a) It is emphasizing of the importance of understanding and focusing on the threats that have arisen reultant to the importance of grasslands within national parks of Sri Lanka.

(b) The basic foundation of this audit was to discuss the environmental problems, incidental problems and the reasons identified due to the gradual growth of the existing threats to the prevalence of the grasslands in the national parks of Sri Lanka and not paying much attention to it.

2.5. Audit scope and scope limitation

2.5.1. Compliance with international standards

My audit was conducted in accordance with the International Auditing Standards of Supreme Audit Institutions (ISSAI 5110 – ISSAI 5140).

2.5.2. Scope

An examination will be conducted of the present situation and the action taken regarding the conservation, protection and enhancement of grasslands in Sri Lanka of the natural grasslands in the National Parks of Horton Plains, Minneriya, Kaudulla, Kala Wewa, Lunugamwehera, Kumana, Lahugala, Horovpatana, Wilpattu which are among the 26 National Parks declared by the Department of Wildlife Conservation and sanctuaries of Buddangala and Ampara .

Furthermore, examine the legal background on the grassland conservation process in National Parks of Sri Lanka, evaluation of the adequacy of physical and financial provisions and the preent threats faced and the action taken in that regard were also examined.

2.5.3. Limitation of scope.

(a) There were incidences where the relevant parties had not respond properly to obtain the information in order to verify the facts included in this report.

(b) A limited number of physical inspections have to be conducted due to the Covid 19 pandemic in 2020.

(c) Physical inspection activities had to be restricted due to the fuel crisis in the country in the year 2022.

(d) Inadequancy of up to dated information (including sourvey of the actual exsisting hectare and other data).

2.6. Audit methodology.

Evidence was collected through the following methods.

(ix) Documented data
(x) Survey data
(xi) Analytical data
(xii) Information obtained from physical examination.
(xiii) Interviews.
(xiv) Questionnaires.
(xv) Expert knowledge exchange.
(xvi) Examination of international audit reports.

2.6.1. Source of evidence.

Evidence was collected under the following sources of evidence.

(v) Discussion with the officials of the Department of Wildlife Conservation and obtaining written information regarding the same
(vi) Discussion with Forest Department officials and obtaining written information
(vii) Gazette Notifications
(viii) Obtaining information through media (television, magazines, newspapers, research reports, books and internet)

2.7. Audit criteria

2.7.1. Laws, Regulations and Bylaws.

(i) Animal and Flora Protection Ordinance as amended by Acts No. 44 of 1964 and No. 01 of 1970 and No. 49 of 1993 (Authority 469)
(ii) Forest Animals and Flora Protection (Amendment) Act No. 22 of 2009.
(iii) Forest Ordinance as amended by Act No. 13 of 1966 (Authority 451).
(iv) Forest (Amendment) Act No. 65 of 2009.
(v) Soil Conservation Ordinance No. 25 of 1951
(vi) National Policy, Strategy and Action Plan on Endangered Species of Wild Fauna and Flora of Sri Lanka - June 2016.
(vii) A pictorial guide to identifying invasive alien species in Sri Lanka.

2.7.2. Research reports

iii. The National Red List of Sri Lanka; Conservation status of the fauna and flora.

(Ministry of Environment and the National Botanic Gardens)

2.7.3. Criteria under various Ordinances

Table no - 05 - Criteria under various Ordinances

Name and section of the Act	**Description**
(a) Fauna and Flora Ordinance (Authority 469)	Section 6 - Prohibited Activities in National Parks
Section 6 (e)	Clearing or excavating any land for cultivation, mining, or any other purpose
Section 6 (f)	Lighting or carrying a fire
Section 6 (h)	Reforestation
Section 6 (i)	To construct or occupy a building so constructed or under the authority of a permit issued by the proper officer for the construction of any permanent or temporary building or to occupy a building so constructed;
Fauna and Flora Protection (Amendment) Act No. 22 of 2009.	
Section 4.2a (1).	A management plan may be prepared for a particular national reserve by a management planning committee appointed by the Director General Based on such guidelines as may be prescribed.
(9) Section (5) – Amendment of section 6 (3) of the main Ordinance	No person shall bring any domestic animal into any national reserve or allow such animal to roam in such land.
(b) the Forest Ordinance, as amended by Act No. 13 of 1966 (Authority 451)**.**	
Section 9 and Chapter iii - Rural Forests - Section (b)(2).	Power of Minister to suspend in certain cases rights for grazing cattle etc.
Section 14 (b) (2)	Cattle shall not graze in contravention of any order made by the Minister under sub-section.

Chapter iv conservation of forests and forest materials 20(1)	No person shall engage in the cultivation of grass or the utilization of forest materials in a forest that is not included in a reserved forest or rural forest except in accordance with the rules made by the Minister.
20(1) (3) (e)	Regulating or prohibiting cutting of grass and grazing of cattle and regularization of fees (if any) payable on grazing and grazing of such cattle.
Section 78	"forest material" (b) the fine parts of non-tree plants, including grasses, vines, reeds and sedges, or their derivatives;
(c) Forests (Amendment) Act No. 65 of 2009 - Prohibited acts in protected forest.	
Section 9 (6) (2) (c)	Any person who allows cattle to trespass in a protected forest or cuts grass or any other plant but gives such grass or plant as food for the cattle, shall be guilty of an offence.
Section 10 (7) (1) (b)	A person who allows cattle to trespass or cuts grass or any other plant or feeds grass or plants to cattle shall be guilty of an offense.
Section 20 (1) (e).	A person who grazes cattle, hunts, shoots, fishes or sets traps, nooses or guns in a forest other than a conservation forest, reserve forest or rural forest shall be guilty of an offence.
(d) Soil Conservation Ordinance No. 25 of 1951	
Section **(**4) (e)	Limiting the use of land for cultivation or grazing in cases where it is necessary to do so for the purpose of stopping or limiting soil erosion or protecting the spring areas and banks of canals.

Section **(**4) (f)	Prohibit or restrict harmful use of forest and grassland areas for protecting the soil and reducing danger or damage caused by fire.
Section (6) (e)	Grazing by animals on land to the extent that it interferes with the cultivation of that land or contributes to the reduction of soil fertility by such grazing or to the extent that such grazing contributes to the loss of soil by washing away from it.
Section (6) (g)	Prohibit or limit the spread of fires in graland burning and hay burning.

3. Audit obervations

3.1. Institutional background

3.1.1. The requirement of national policy

There is only a management plan-based process for grassland management national parks in Sri Lanka and it has not been observed a national policy and strategic plan based on grassland management. Although it was possible to clearly identify the institutional role, objectives, relationship between institutions, activities, it was observed that due to the absence of a national policy, those functions were not fulfilled as expected.

3.1.2. Law, Rules and regulations

Although the audit revealed that the need for a formal, timely and comprehensive legal system regarding grassland management of National Parks in Sri Lanka, so far proper attention has not been paid to it.

3.1.3. Grassland Management Plans in National Parks.

(a) The Forest Fauna and Flora Protection (Amendment) Act No. 22 of 2009 is relevant for the management of grasslands in the National Parks of Sri Lanka and although Section 4.2.a.(1) of the Act provides the proviion for the preparation of management plans for national reserves and sanctuaries, it had not been updated the management plans of Hortonthanna, Kaudulla, Minneriya and Lunugamwehera national parks out of the national parks that were audited. Furthermore, it was observed that these management plans did not pay enough attention to the management of grasslands in the respective national parks.

(b) Controlling the spread of invasive plants requires a convenient management plan and a useful action plan and it was observed that adequate financial allocation at the right time was essential, but this had not been done.

(c) The reducing the impact of invasive alien species ha been identified under Goal 2 of the National Biodiversity Strategic Action Plan 2016-2022 and it was observed that the preparation of exclusive management plans for each species of invasive alien species identified as the 11th activity of the related action plan had not been done sufficiently**.**

3.2. Grassland conservation

The observations related to the grassland conservation process were as follows similar to the role assigned to the Department of Wildlife Conservation.

3.2.1. Grasslands to be conserved.

The department of wildlife conservation had identified the grasslands belonging to the following national parks as grasslands that should be conserved with special attention.

Table no - 06 Grasslands that should be conserved with special attention.

Erial no:	Name of the National Park to which the grassland belongs	Date of Gazetted as a National Park
01	yala	25 February 1938
02	Lunugamwehera	08 December 1995
03	Bundala	04 January 1993
04	Udawalawe	30June 1972
05	Kumana	05 July 2006
06	Maduru Oya	09 November 1983
07	Lahugala	20 July 2006
08	Wilpattu	25 February 1938
09	Horowpathana	06 December 2011
10	Wasgamuwa	07 August 1984
11	Kaudulla	01April 2002
12	Horton Plain	16 March 1988

The Department of Wildlife Conervation has not taken adequate actions to conserve the grasslands of these national parks which have been identified as grasslands that require special attention and conservation. In addition to this, eventhough it was identified that the grasslands located in the Victoria, Randenigala, Rantambe sanctuary and Ravana Ella sanctuaries have been identified as grasslands that need to be conserved with special attention, but sufficient actions have not been taken to conserve these as at 23 September 2022 which the date of audit.

3.2.2. Prevalence threats to the existence of grasslands.

The preent threats had been identified to the existence of grasslands include the rapid spread of invasive plants, the unauthorized entry of domestic cattle into the protected areas, frequent heavy rains and fires during the dry season, and the disruption of the maintenance of grasslands due to various weather changes. However, it was observed during the physical inspection that the Department of Wildlife Conervation had not taken adequate actions to reduce the obstacles such as the rapid spread of invasive plants and unauthorized entry of domestic cattle into the protected areas.

3.2.3. Proceeding projects related to grassland conservation.

The following projects had implemented regarding the removal of invasive plants in grasslands and protected areas during the period from 2015 to 2020.

Tble no - 07 - Continuing projects related to grassland conservation

Year	Name of the project	Period of project
2018	Removal project of the lantana invasive species in Udawalawe National Park	6 months
2018	Removal project of *Prosopia juliflora* in Tabbowa Sanctuary	01 year
2018	Removal Project of *Prosopia juliflora and Katupotha* in Bundala National Park	01year
2019	Removal project of invasive plants in Bundala National Park	03 month
2019	Removal project of the lantana invasive species in Udawalawe National Park	01 year
2020	Removal project of *Prosopia juliflora* in Bundala National Park	01year
2020	Removal project of *Prosopia juliflora* in Tabbowa Sanctuary	01 year

(a) It was observed during the physical inspection that although invasive plant removal projects should be carried out continuously, the desired removal of invasive plant by those projects could not be successfully conducted due to the above projects were limited to a short project period.

3.2.4. Programs implemented in relation to grasslands under the action plan of the Department of Wildlife Conervation.

The expenditure incurred for the programs implemented in relation to grasslands under the action plan of the Department of Wildlife Conservation from 2017 to 2021 was as follows.

Table no - 08 - Continuing projects related to grassland conservation

	2017	2018	2019	2020	2021
Area - Hectares	987.5	415	187	272	662.39
Program Cost (Rs.)	4,145,342	2,050,580	1,940,044	8,123,617	26,988,288

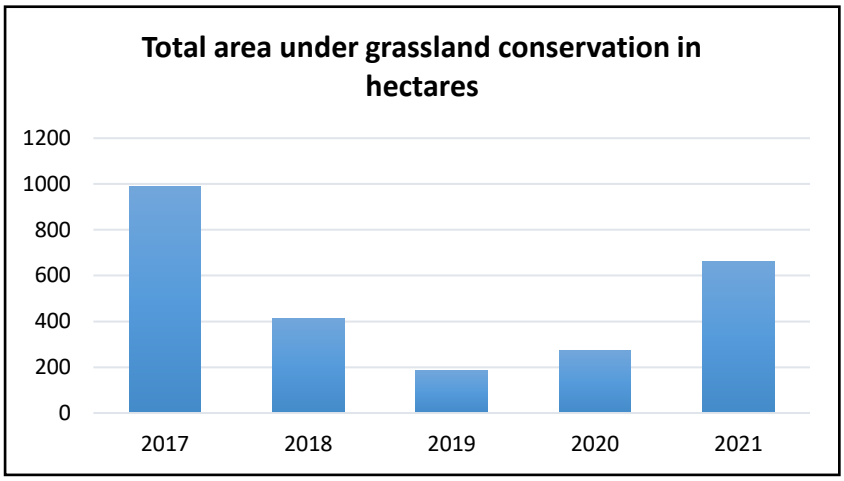

Figure - 01 - Total area under grassland conservation

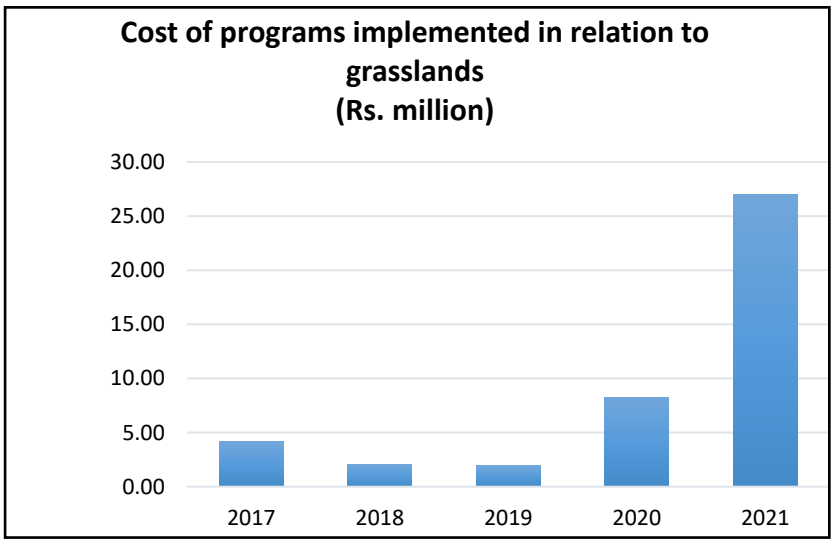

Figure - 02 - Cost of programs implemented in relation to grasslands

(a) The area of grassland conservation and the expenditure incurred had been gradually increased in the past 05 years. It was observed that although the relevant activities should be conducted continuously according to a scientific basis, this had not been conducted in the National Parks which were audited.

3.3. Impact of invasive plants

An invasive alien plant species is a non-native plant that has become widespread in one or more habitats due to its ability to grow and reproduce rapidly and adapt quickly to new ecosystems and spread quantitatively within the area. An invasive plant species have been recognized as an existing factor which threat to grassland biodiversity, food for herbivores, grassland beauty and tourist attraction.

3.3.1. Horton Plains National Park

Ulex Ecuropeus had identified as an invasive plant at the time of the audit in the Horton Plains grassland which covers an area of approximately more than 500 hectares. The Ulex plant is a plant with small yellow flowers with thorns and is pollinated by bees.

In addition to this, the "*Rhododendron*" plant, which had not been classified as an invasive plant, was also a prominent plant species in Horton plain biodiversity.

The following observations were made in this regard.

(a) It was oberved during the physical inspection that the Ulex plant (Ulex Ecuropeus) is invading the grasslands at Horton Plain and spreading over the grasslands. It was observed that to the grasslands of the Hortont plain National Park may cause great damage in environmentally as a consequence of this which is considered as a world heritage. Further it was observed that it had not been able to be properly controlled until now, although various organizations, government intitutions and the Department of Wildlife Conservation intervened to control the spread of the Ulex invasive plant, since 2009.

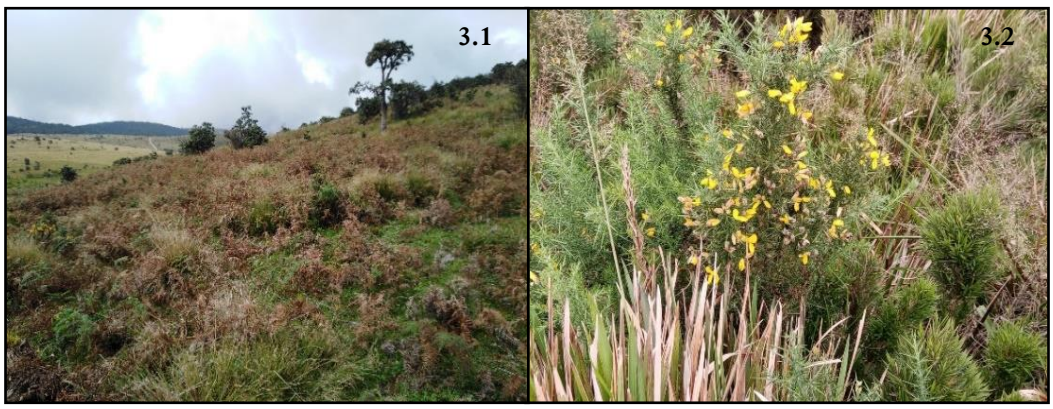

Figure no- 03 - Spread of invasive plants

(b) Maharatmal (Rhododendron arboretum) is known as a remarkable plant species found in Horton plain. During the period of April to July these are filled with deep red flowers. The Zosterops Ceylonensis a bird endemic to Sri Lanka is found in association with the Maharatmal plant which is pollinated by birds. This plant is found in significant numbers as both small and large trees throughout the grasslands of the Hortons plain at present and it is seen a rapid spreading. It was observed that it may threaten the existence of grasslands in the future if rapid growth takes place in such manner and planning should be taken to manage in an environmentally friendly manner using scientific knowledge, according to the discussion held during the field inspection. The damage to the grassland increases due to the control of the spreading after the scattering of the growth of the Mahratmal plant and the trees grow largely, Horton Plains will face a number of problems, including decreae the attraction of tourist by high costs and a decline in elk population due to food shortages.

figure - 04 - Propagation of Mahratmal plant

3.3.2. Minneriya National Park

The prevalence of invasive plants in the 1,160 hectares of grassland in Minneriya National Park can be described as follows.

The following were the observations.

Table - 09 - Spread of invasive plants in Minneriya National Park

Extend of the graland	**Spread of invasive plants**	**species of invasive plant**
1000 hectares ground of reservoir	30% of the land	Agada, Kayla
20 hectares of main ground	75% of the land	Podisingnjomarang
10 hectares of "Wera pitiya"	75% of the land	Podisingnjomarang, Lantana
Parkway road system 100 hectares	75% of the land	Podisingnjomarang, Lantana
20 hectares of "Una pitiya"	75% of the land	Katuuna, Lantana, Podisingnjomarang
10 hectares of power lines road	75% of the land	Podisingnjomarang

(Data obtained by park warden)

(a) According to the above note, it was observed that the spread of invasive plants in the limited grassland area of Minneriya National Park is extreamly harmful to the survival of grazing animals and may also hinder the survival of the park. The spread of invasive plants over the grasslands was also confirmed during the physical inspection and it was observed that action had not been taken to the detection and control of the spread of annual and perennial invasive plants which has spread over the grasslands of the park should be taken action continuously according to a scientific method.

(b) It was oberved that Minneriya National Park which is a unique place in the world where it can see a large number of elephants and tuskers from one place, but the presence of elephants has significantly reduced at present**.**

Figure - 05 - Spreading of invasive plants in Minneriya National Park

3.3.3. Kaudulla National Park

Following were the observations.

(a) It was observed that the invasive plants like Agada, Podisinjnomaran, Kayla have been spread widely in Kaudulla Tank Ground, Dora Navaya area, Doora Deka area, Doora Hathara area, Maila Pitiya area, out of the 1,080 hectares of grassland in Kaudulla National Park during the field inpection conducted on 21 January 2022.

(b) It was observed that in these national parks where there are a large number of animals that mainly herbivores and the coniderable attention should be given to control of the spread of invasive plants and the action should be taken promptly and continuously.

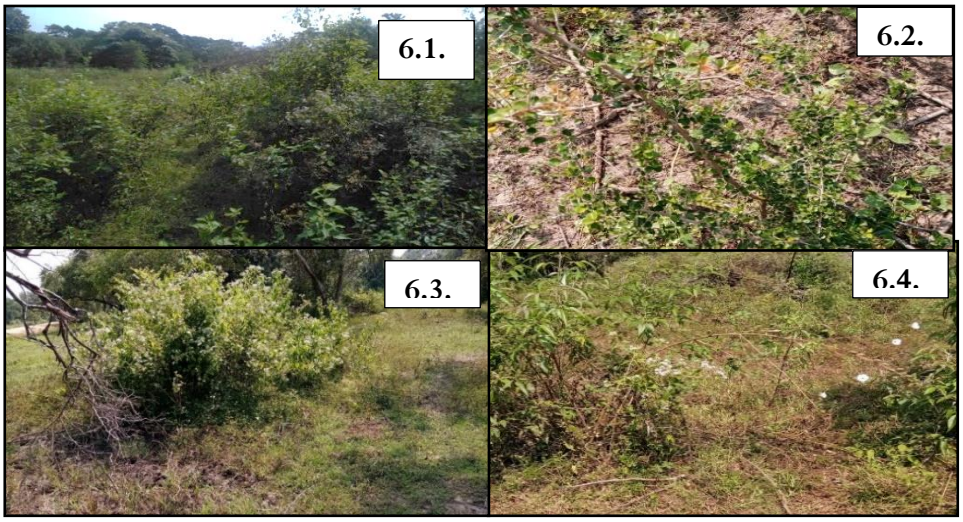

Figure - 06 - Spread of invasive plants in Kaudulla National Park

3.3.4. Kalawewa National Park

An invasive plant such as Agada, Water hyacinth and salvinia had seen spreading in Kalawewa Reservoir located in Kala Wewa National Park and systematic program had not been implemented to control those.

Figure - 07 - Spread of invasive plants in Kalawewa National Park

3.3.5. Lunugamwehera National Park

The total grassland area within the Lunugamwehera National Park is approximately 3,000 hectares and an invasive plant including lantana, podicignomaran, capepetia have spread over in an area of about 2,000 hectares, but the spreading of invasive plants has been controlled only in an area of about 1,000 hectares. The loss of this limited area for food and habitat for elephants and other herbivores is also extreamly troublseome. It was observed that initial action is critical to continuouse control of the spread of invasive plants.

Figure - 08 - Spread of invasive plants in Lunugamwehera National Park

3.3.6. Kumana national park

Following were the observations.

(a) Kumana National Park has approximately 8,000 hectares of grasslands and out of that 1,025 hectares (12.81 percent) are covered with an invasive plants including gandapana, Katu pathok, podisinjnomaran but it was revealed that the spreading of invasive plants has been controlled in an area of 55 hectares that was 5.36 percent by the year 2021.Further it was observed that the grassland management is highly essential in this national park where a large number of herbivores live and it was further observed that the animals have enough food, water and shelter to live naturally thereby.

(b) It was observed that meanwhile the elephants are restricted in their movement over a large area,the social problems similary elephant-human conflict can be controlled through good management of the sustainability (abundance and quality of food) of bio-systems in the protected park.

3.3.7. Lahugala National Park

The total grassland area in Lahugala National Park is approximately 1,408 hectares and which of 543.48 hectares had spread with invasive plants such as Water hyasinth, Patus and Podisinjnomaran. The spread of these invasive plants has been controlled in a very tiny area of about 10 hectares that was 1.54 percent and the Water hyasinth had spread in the Maha Wewa (Lahugala Tank) which is the largest tank in this national park.

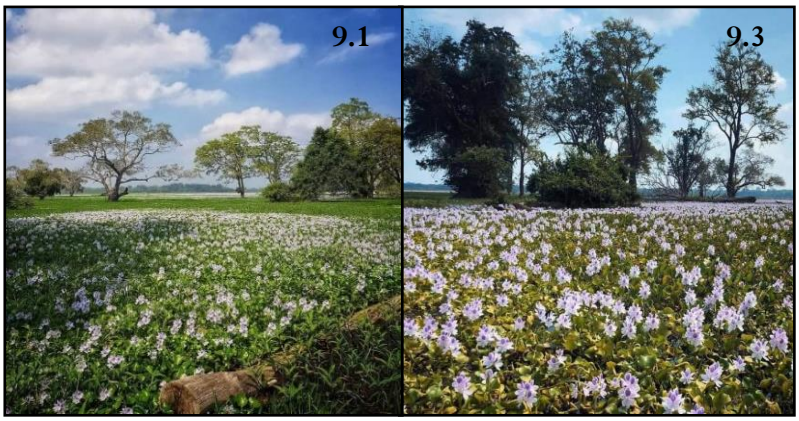

Figure - 09 - Spread of invasive plants in Lahugala National Park

3.3.8. Horopathana National Park.

It was revealed that Horopathana National Park has approximately 120 hectares of grassland only by the year 2021 which of 35 hectares are spraed with invasive plants. it was reported that the spread of invasive plants has been controlled at about 29 hectares by the year 2021. It was revealed that more than 100 deer and elk and 50-75 elephants are living in this national park and invasive plants have not been continuously controlled in this park which has a small area of land. This is detrimental to the survival of herbivores living there as well as the survival of the protective plant system of grassland.

3.3.9. It was observed that invasive plants were spread in all the grasslands in the National Parks which was audited and that they were threatening the survival of the grasslands.

3.4. Unauthorized settlements and illegal cultivation

An unauthorized cultivation in each national park adversely affects the survival of the bio-system of it and the audit observed that a number of severe environmental and social problems are likely to arise due to the gradual reduction in the extent of legally recognized land areas. Further, it was observed during the sample audit that the losing the land of national parks to the animals living in the park can be harmful to the survival of those animals and also affect the reduction of food and habitats of the animals. It was observed that although there are rules and regulations related inline with this and regulations are not being implemented properly due to certain influences. This was also due to the obstacles to the relevant officials on exercising their powers.

3.4.1. Impact at the national park level

3.4.1.1. Minneriya National Park

It was revealed that legal action has been taken due to attempts to cultivate traditional rice fields with permits and without permission in 110 acres of paddy fields In Minneriya National Park under the Gal Linda Maha Wewa in Higurakgoda Mahasen Grama Niladhari divisionIn. It was observed during the sample audit that the loss of land to wild animals as mentioned above may harm the existence of those animals in this national park with limited space.

3.4.1.2. Kaudulla National Park

An unauthorized paddy cultivation sites were observed in Kaudulla National Park and application for cultivation of areas that have not been cultivated for many years as traditional cultivation land has become a major problem faced by the National Park. The details of illegal paddy cultivation are as follows.

Table no - 10 - Unauthorized paddy cultivation in Kawdulla National Park

Unauthorized paddy cultivation areas	**Extend of land under unauthorized cultivation (Acres Approximatly)**
Panaha Pitiya	72
Pahala Wela	42
Palu Waddena	06
	120

The following were the observations.

(a) An unauthorized paddy cultivation was observed in Kaudulla National Park during the field inspection conducted on 21 January 2022 and paddy fields had been cultivated illegally in an area of nearly 120 acres as above. It was revealed that the above area was a grazing land and the food and habitat of the animals directly affects by the loss of that land in the park. Due to this, elephants raiding villages in looking for food has become a major cause of aggravation of the elephant-human conflict at present.

Figure - 10 - Unauthorized paddy fields within Kaudulla National Park

3.4.1.3. Lunugamwehera National Park

It was revealed that people are living in a large area of land claiming to be residents when it was declared as a national park in the year 1995 and that illegal cultivation and paddy fields have been cultivated which the lands inside of the park.

Figure - 11 - Unauthorized cultivations and settlements in Lunugamwehera National Park

3.4.2. Existence of boundary matters

Aulthough the Department of Wildlife Conservation should have determined the boundaries of the National Parks and marked those using mile stones while announcing the National Parks through gazettes, this had not been done accordingly.

3.4.2.1. It was revealed that there are matters related to the boundaries of Bogaha Tank, Devramwehera and Karawele Dambe area in Lunugamwehera National Park and it was further observed that the not settling of these boundary matters is a problem for the well-being and security of the National Park.

3.4.2.2. It was revealed that there are matters in the eastern and western borders of the Lahugala National Park and that unauthorized paddy cultivation and other agricultural activities are being taken place in the lands belonging to the park and this matter has been occured due to the fact that the boundaries of the eastern border had not been marked accurately.

3.4.2.3. Since the Horovpatana National Park was a national park which has been declared on GPS coordinates and not on natural boundaries and it was reported that the people of this area are encroaching on the land of the national park for conducting chena cultivation near the park**.** The boundaries have been marked in an area of about 10 km at present and it was not satisfied with the actions taken by the concerned officials regarding the border matters.

3.4.3. Cattle trespassing in parks and conducting cattle sheds.

According to Section (9) (5) of the Wildlife and Flora Protection (Amendment) Act No. 22 of 2009 it has been stated that no person shall lead or allow any domestic animal to stay in any National Reserve. It is monitored and regulated by the Department of Wildlife Conservation.

The following facts were observed.

3.4.3.1. Minneriya National Park

According to the statistics, it was clear that between 500-750 illegal cattle (buffaloes and cattle) are continuously roaming in the national park. This was a major threat to the herbivores of the park and the eco system is also severely affected.Thus, it was revealed that, it takes a extensive time for regrow the grass according to the way these cattle grazing and the grazing land is damaged by the hoofs of the cows and this was further confirmed during the field inspection of audit.It was observed during the audit that a permanent solution should be provided for the same and for the feeding system of domestic cattle as this matter has become a complication for many national parks.

3.4.3.2. Kaudulla National Park

The observations in this regard were as follows.

(a) It was revealed that around 1,500 domestic cattle were existing in the park and this was a major threat to the grazing animals living in the park.

(b) It was confirmed during the field inspection of audit that an unauthorized cattle farm is being conducted in the national park and it was observed during the audit that necessary actions should be taken to prevent such illegal activities happening in a national park.

(c) The animals which living in the park have a very limited extend of grazing land and there have been many problems such as the spread of invasive plants, unauthorized cultivation and not renovation of tanks and it was observed that the existence of the national park was threaten by domestic cattle arriving and grazing on those limited grazing lands and therefore all the responsible and related institution should take an effort together for the existence of these national parks and take action promptly.

Figure - 12 - Area observed for unauthorized cattle sheds

(d) It was revealed that this national park was a place where it can be seen the natural behavior patterns of Asian elephants (Elephas Maximus) and the grasslands around the reservoir were a great refuge for elephants**.**It was observed that the necessity to conserve and improve this ecosystem with different types of grasslands during the audit.

3.4.3.3. Kalawewa National Park.

It was revealed that there were nearly 5,000 cattle which illegally entering into the Kalawewa National Park and as a result of that the loss of grazing land for wild elephants, destruction of grass plants by cattle hooves and grazing of grasses can lead to the spread of diseases (mouth disease, foot and mouth disease) to wild animals. It was also observed that unauthorized cattle sheds are being maintained in this park.

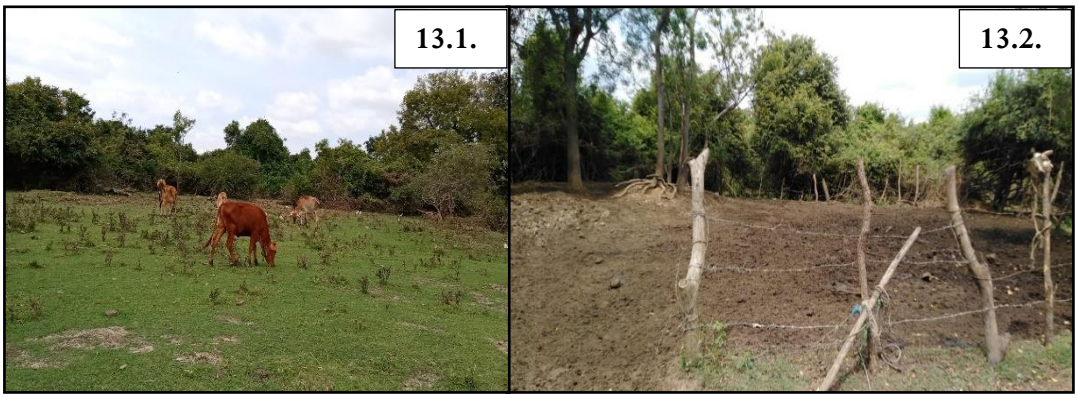

Figure - 13 - Area where the unauthorized cattle sheds were observed in Kalawewa National Park

3.4.3.4. Lunugamwehera National Park

A significant number of domestic cattle were brought into the park by the villagers and allowed them to grazing in the ground of the tank and it was revealed that about 11 unauthorized cattle sheds are being conducted in the park and it was observed that these cattle sheds continue to be conducted as it is and although 16 cases were filed from 2018 to 2022.

Figure - 14 - Unauthorized cattle shed inside of the Lunugamwehera National Park

3.4.3.5. Lahugala National Park

It was revealed that domestic cattle are being entered into the National Park in the eastern border of Lahugala National Park and the situation has become an uncontrollable matter despite the legal actions had been taken. It was observed that grazing of the limited grazing areas within the National Park by large herds of cattle that resulted in the absence or reduction of food for other herbivores within the National Park.

The damage to the grasslands was significant due to the unauthorized entry of domestic cattle into Minneriya, Kaudulla, Kala Wewa, Lunugamwehera, Lahugala National Parks, and it has become the reason for the decrease in the quantity of food for the herbivores living in the national parks, encroachment of wild elephants in to villages, crop damage and loss of life.

3.5. Other factors

The human activities, various development projects and several natural issues are the main factors affecting to maintaining of the balance of ecological system in Sri Lanka and such impacts of a few national parks are summarized and mentioned below.

3.5.1. Horton Plains National Park

The main animal groups found in Horton Plains National Park are Elk (Cervus unicolour), Leopard (Panthera Pardus Kotiya), Bear Monkey (Semnopituecus.vetuls Monticola), Sand Deer (Muntiacus Muntjalc Malabaricus), Stick Squirrel (Ratufa Macrour), Cat Leopard (Felis rabiginosa), Wild Boar (Sus Scrofa) and Rabbit (Lepus nigricollis) were the most frequent animals in the park and although efforts were taken by the department of wildlife to protect these animals, the relevant officials confirmed that illegal hunting is being conducted in this grassland.

The wildfires occur in the Horton Plain due to foolish actions which was carried out by men and causing extensive damage to grasslands and forests by that. In the year 1989, in particular Fire has spread to the forests and caused a lot of destruction and at present, the wildlife department has controlled it to some extent by informing the public about forest fires.

The audit was conducted the field inspection in October 2021 which was a very minimal period of time of tourists even, it was seen that lying the face masks used by the tourists on the ground where in the grassland in several places. It was observed during the audit that such actions hinder the maintainance of the balance of the ecological system of the National Park.

3.5.2. Minneriya National Park

3.5.2.1. Moragahakanda Reservoir Project Impact on Grasslands.

It was revealed that the migration of wild elephants takes place in the following manner based on the 03 National Parks namely Kaudulla National Park, Minneriya National Park and Hurulu National Park according to the natural weather pattern throughout the year.

Table no - 11 - Migration of wild elephants according to natural weather patterns

Migration period of Wild elephant	**National Park**
May, June, July, August and mid-October	Minneriya National Park
October, November, Decemberand mid-January	Kaudulla National Park
January, February, March and end of April	Harulu National Park

The following facts were observed.

(a) It was revealed that the elephants moving into the Minneriya National Park mainly for grassing in the Kaudulla and Minneriya tank grounds during the above periods. Further it was revealed that wild elephants migrate to this park during the period of grass sprouting in an area of about 1,000 hectares, because they like to feed this grass during the above period, with the decreasing of water in these tanks. The water in the reservoirs is constantly filling up throughout the year out of the natural weather pattern due to the Moragahakanda Reservoir project, which has directly affected the migratory and behavioral patterns to which the wild elephants are habituated and the herds of wild elephants have started migrating to different areas especially Welikanda, Dimbulagala, Somavathia and areas outside the reserves in search for food due to this reason. It was observed in the analysis of wild elephant damage data that the elephant-human conflict has increased due to this in the last years. Therefore, it was revealed that the Annual Elephant Gathering (Area Elephant Gathering) has decreased in Minneriya and Kaudulla National Parks due to the Moragahakanda Reservoir Project.

(b) It was observed that the water level of these reservoirs should gradually decrease from April to October according to the natural climate pattern , the grazing ground for the food required by the wild elephants is lost due to the filling of these reservoirs with more than 70 percent water from time to time as aresult of to the Moragahakanda Reservoir Project. It was revealed that the loss of the food and habitat they need has provided room for elephant-human conflict as well as has directly affected the decreasing of tourists as a result of this.

(c) The research conducted by the former director of wildlife on the natural behavior patterns of elephants since 2016 has revealed that the number of elephants visiting Minneriya National Park has decreased due to the Moragahakanda project. For that, it had been taken under the observation since the September of the year 2018 in which more elephants are migrating to the Minneriya National Park.

Details were given below.

Year	Month	Number of elephants
2016	September	389
2017	September	402
2018	September	354
2019	September	223
2020	September	210

2021	September	20
2022	September	NA (Count in Progress)

(Elephant Researcher Studying the Social Behavior of elephants in the minneriya kaudulla population)

It has been depicted that the presence of elephants has decreased rapidly when it is compared to the year 2017 and the presence of elephants has decreased by 95 percent in the year 2021 according to the above data. Thus, it was noted in this report that elephants were observed to be leaner in 2022 than in 2021 due to lack of food for elephants. It had been mentioned that the lack of food affects the female animals and the newly born calves suffer from malnourishment and it is a threat to their growth. Department of Irrigation and the Department of Wildlife Conservation should work together to find solutions to this unfortunate situation and take appropriate solutions immediately and the report warned that a large number of elephants may die other than due to malnutrition. It was observed that the loss of grazing land in tank fields was mainly responsible for this shortage of food.

(d) Crop damage caused by elephants

The details regarding property and crop damage from the year 2015 to the year 2019 are given below according to this (research) report.

Year	Number of crop damage
2015	06
2016	02
2017	04
2018	22
2019	30

Thus, the lack of balanced attention to aspects such as conditions of environmental, behavior of wildlife and agriculture had led to such problems when starting this project.

(Elephant Researcher Studying the Social Behavior of elephants in the minneriya kaudulla population - Excerpted from a Research Report of the former Director of Wildlife Conservation.)

3.5.3. Kaudulla National Park

The following facts were observed

(a) Not renovation of two tanks within Kaudulla National Park

Although it was proposed for the renovation of the Weheragala Tank and the Olumaduwa Tank in the National Parks, those activities have not been completed until now. While the spread of grass is limited in the ground of the tank related to those tanks and it was observed that since the reservoirs around these tanks provide food and habitat for herbivores, these places should be renovated immediately.

(b) Impact of the Moragaha Kanda Reservoir Project on the water level of Kaudulla Tank

It was revealed that almost 1,000 hectares of grassland in the tank area has been lost to animals due to the constant release of water from the Moragaha Kanda Reservoir into the Kaudulla Tank due to the water being full throughout the year. The filling and draining of water in the tank in a natural weather pattern was a natural cycle that has happened since the time of immemorial and Wild animals are facing this threat due to the supply of water outside the natural system by these water supply projects and it was observed that a solution should be found in joint discussions with the relevant institutions.

3.5.4. Kalawewa National Park

3.5.4.1. Had not been gazetted as a National Park.

(a) The Kahallapallekale Sanctuary belonging to the Department of Wildlife Conservation is located in the districts of Kurunegala and Anuradhapura which of extended of 21,690 hectares and had been gazetted on 11th July 1989 by an Extraordinary Gazette No. 556/5 and Kalawewa and Balaluwewa were located in this Kahallapallekele sanctuary and it had been decided to be upgraded to the status of a national park from the existing sanctuary for the need of wildlife conservation works which a quantity of 5,044.97 hectares of those two reservoirs and the surrounding area. Accordingly, Kalawewa National Park was opened by the Minister of Sustainable Development and Wildlife on 17 October 2015. But it is observed that it had not been duly published through a gazette untill the date of an audit.

(b) A written request had given to the District Surveyor (Anuradhapura) to identify the government lands and private lands in the area under the proposed Kalawewa National Park separately and provide the relevant reports and maps after the draft of the gazette notification of the proposed Kalawewa National Park has been forwarded to the legal draftmen according to the letter of the Assistant Director (North West) No. Waji/West West/04/02/682/2020 dated 23 July 2020. A letter had referred to the Assistant Director Wildlife Conservation Zone Office on 12 May 2021 under the No. 11/M/06/ Kalawewa National Park/2021/Cost by the Senior Survey Officer in response to that and although it had been informed that an amount of 54,528,876 rupees was required as the relevant measurement fees, related actions had not been taken until now.

3.5.4.2. Impact on National Park resultant to acceleration the water level of Kalawewa - Period after 2016.

The following situations were revealed during this period.

(a) Small scale hydropower project

The hydropower is being produced using water from the Ibbankatuwa Reservoir and the water released from this small-scale hydropower plant is collected in the Kalawewa through the Dambulu Oya under the Dambulu Oya Small Scale Hydropower Project and causing of that the water level of the Kalawewa is accelerating. It was observed that there was a risk of losing the ground area of the Kalawewa and losing the necessary food mainly for the elephant and other wild animals due to this reason.

(b) Release of water by Department of Irrigation.

The Department of Irrigation maintains Kalawewa and Balaluwewa at maximum levels of water throughout the year to release water to Nachchaduwa and Tisawewa for agricultural purposes and for the drinking water requirements of the people of Anuradhapura city.

Figure - 15 - Release of water by Department of Irrigation

The wild elephants damage the crops and properties of the villagers at night as well as during the day due to the lack of exposure of the grasslands necessary for finding food for wild animals, especially the wild elephants and the loss of space to freely roam around the Kalawewa for this reason and it has been reported that elephant-human conflict has escalated resultant the rapid increase in harming the lives of the peple and elephant deaths and injuries of wild elephants have been observed frequently consequent of this. The highly valuable tuskers had been died by an electrocuted that had pulled in a corn cultivation at Kekirawa Ilukegama because of visiting the village in search of food.

Figure - 16 - A tusk elephant named Revata died after being electrocuted

(c) Malfunctions of Electric fence

The water level has reached closer to the electric fence built around Kalawewa and Balaluwewa due to the rising of the water level of Kalawewa and Balaluwewa and it was revealed that wild elephants have lost their habitats and movement routes around the KalaWewa and Balalu tanks resultant to the electric fence was inactive in some places (Olanbewa, Horapola) due to the electric fence was flooded as well as water level reaching near the electric fence. further, it was revealed that the people of the area are acquiring land without permission and conducting cultivation activities close to the existing electric fence.

3.5.4.3. Common issues related to Kalawewa National Park.

The conservation of the grasslands in the National Park had not been conducted efficiently resultant to the problems of the physical and financial facilities of the Kalawewa National Park as well as the following general problems related to the conservation and management of the National Park.

The following general matters were observed.

(a) There was no entrance gate to Kalawewa National Park and the office is currently being conducted in a rented house without an office building. There were 02 temporary offices made of container boxes at the access roads of Vijitapura and Galkiriagama, but they have been closed at present.

(b) It was observed that there were not enough vehicle facilities for Kalawewa National Park.

(c) It was revealed during the audit field inspection that it had not been done any promotional work, conservation or maintenance activities and Kalawewa National Park was limited to a name board only. It was observed that the issues faced by this National Park should be solved urgently by joining with the Department of Irrigation, Mahaweli Authority and related institutions, first obtain the legality by getting the survey done and gazetted.

(d) Actions should be taken promptly to protect including the precious tusks elephants and resource of wild elephant which inside of this national park and although there was a possibility to increase income of the country through the development of the tourism industry and related businesses, but it had not been taken actions by the relevant institutions.

Figure - 17 - Kalawewa National Park entrance

3.5.5. Lahugala National Park

3.5.5.1 There was not a data system on environmental conditions in Lahugala National Park. A data system was not maintained which included information about the natural environmental conditions of the National Park and the animals living there. The rainfall pattern affecting the national park, dry weather, period of arrival of migrating elephants, number of elephants, number of elephant calves, number of elephants with special physical characteristics, water capacity of natural tanks, area of reservoirs, water availability of reservoirs during dry season, information about the size of the land, the types of grass suitable for the animals to consume in the grounds of tank as a example which affecting to the national park and the the reasons if there is a lack of elephant migration, information about the arrival of migratory animals, diseases that animals are suffering from, spread pattern of invasive plants, details of newly identified species of plants and organisms and it was observed during the physical audits of these national parks that it was very important to collect and record information about the changes that occur within a national park. Thus, maintaining a data system was important in the conservation of grasslands within the National Park as well as when initating various projects related to grassland conservation and management.

3.5.5.2. Impact of Hada Oya Irrigation Project.

This project has been implemented in the year 2013 with the aim of improving infrastructure and providing irrigation water in the areas of Lahugala, Panam and Pothuvila under the Lahugala and Pothuvil Divisional Secretariat of Ampara District. Under this project, collect the water through an anicut constructed across Hada Oya and filling the water into the Maha Wewa through the canal flowing from the left bank of Hada Oya undrt this project and the maximum water capacity of the tank is retained throughout the year due to the construction of a raised Dam at the outlet of the tank,therefore the water in the tank does not decrease or increase according to the natural weather pattern.

Figure - 18 - Canal arriving from the left bank of Hada Oya

The following was observed

(a) The water in the Maha Wewa was at the maximum water capacity throughout the year.

The tank ground of about 2,000-acre feet had been lost, out of the 2,670-acre feet of volume of the tank, due to the water in the Maha Wewa in Lahugala National Park was at its maximum capacity throughout the year from the Hada Oya project. Before the implementation of the project, the water in the tank fills up during the rainy season and the water decreases during the dry season and the ground of the tank becomes larger according to the natural weather pattern and while the grass sprouts and it was revealed that beru grass was abundantly spread over which was a species of grass favored by elephants. This type of grass requires about 1 ½ feet of water to grow this type of grass requires about 1 ½ feet of water to grow.

3.5.5.3. Increasing numbers of wild elephants invading the villages and elephant-human conflicts.

It was observed that there has been an increase in the number of invading the villages in search of food with the loss of the reservoir ground inside the national park to wild elephants according to the following data.

(a) Details of crop damage caused by wild elephants.

Details of crop damage caused by wild elephants are given below.

Year	Number of cases affected
2014	01
2015	01
2016	01
2017	-
2018	-
2019	-
2020	87
2021	216
2022 September	82

(b) Details of property damage caused by wild elephants

Year	Number of cases affected
2013	02
2014	01
2015	01
2016	-
2017	01
2018	-
2019	10
2020	09
2021	13
2022 September	11

(c) Issuance of elephant Crackers.

Year	Thunder Flash small	Thunder Flash Large	Serpent flash
2011	-	720	50
2012	-	1525	275
2013	-	3450	630
2014	-	950	400
2015	50	3062	915
2016	450	4825	1475
2017	450	2145	1550
2018	2775	2475	2550
2019	5175	2350	2775
2020	3875	1875	2705
2021	3525	4010	2560
2022 September	2900	800	1750

The large and small thunder flashes were issued to villagers and two large and small thunder flashes were issued to a person at a time depending on the stock avalibilty of the store and Serpent flash were issued only to the the officials of the wildlife and wild elephant drive teams provided by the Civil Defense Force.The serpent flash were not issued to ordinary civilians.

(d) Thus, it is observed that crop damage and property damage caused by wild elephants and the release of elephant crackers have increased in the years 2019 and 2020 compared to the period of 2011 to 2014.

(e) Number of wild elephant death

Year	Number of wild elephant death		
2013	05		
2014	11		
2015	18		
2016	13		
2017	17		
2018	15		
2019	12	08	Elephant death under 20 years. Death had happened as consumed of Hakkapatus
2020	08	03	
2021	04	-	
As at.05.09. 2022	05	04	

There have been 108 elephant deaths in Lahugala National Park from 2013 to 5 September 2022. Among these deaths, it had revealed that the main reason for the deaths of elephants under the age of 20 was from conuming Hakkapatus left by humans. The elephants die unfortunately due to invading the villages in search of food.

3.5.5.4. Artificial planting of beru grass.

An artificial planting of beru grass had been conducted in several places in the park including Kitulana Tank, Raumwala Thimbiriyawala and a total area of about an acre of beru grass as a pilot project for the spread of that grass due to the extinction of beru grass in the Maha Wewa in the national parks. It ha been found that the grass had grown successfully and the cattle that were kept in the park were consuming this grass, which formed a problem to maintain the growing grass.

Fugure – 19 - Artificial planting of beru grass

3.5.5.5. Erosion of the Dam of Maha Wewa.

Although the tank was filled and supported by canals and the raising of the outlet, the tank wall had broken due to the lack of strengthening of the dam of the tank under the Hada Oya project and It was observed that there was a threat of breaking the dam of the tank with the increase of water in the tank during the rainy season. It was observed that the existence of the national park could be hindered due to the breaking of the dam and the overflowing of the water, which could also damage the grasslands in the downstream area as well.

Figure- 20 - Dam of the tank of Maha Wewa in Lahugala National Park

3.5.6. Lunugamwehera National Park

3.5.6.1. Tourists visiting Lunugamwehera National Park and annual income.

Below are the details of the number of tourists (local, foreign) who visited the park from 2017 to 2021 and income. (Includes Park Fees, Vehicle Fees, Service Fees, Bungalow Fees, Textile Fees and Donations)

Table no. - 12 - Tourists visiting Lunugamwehera National Park and Annual income

Year	Number of tourists		Income excluding VAT Rs.
	Domestic	Foreing	
2017	5,786	3,345	7,489,992
2018	2,893	1,119	3,528,471
2019	2,204	647	2,369,115
2020	1,877	222	1,208,252
2021	1,936	49	817,700

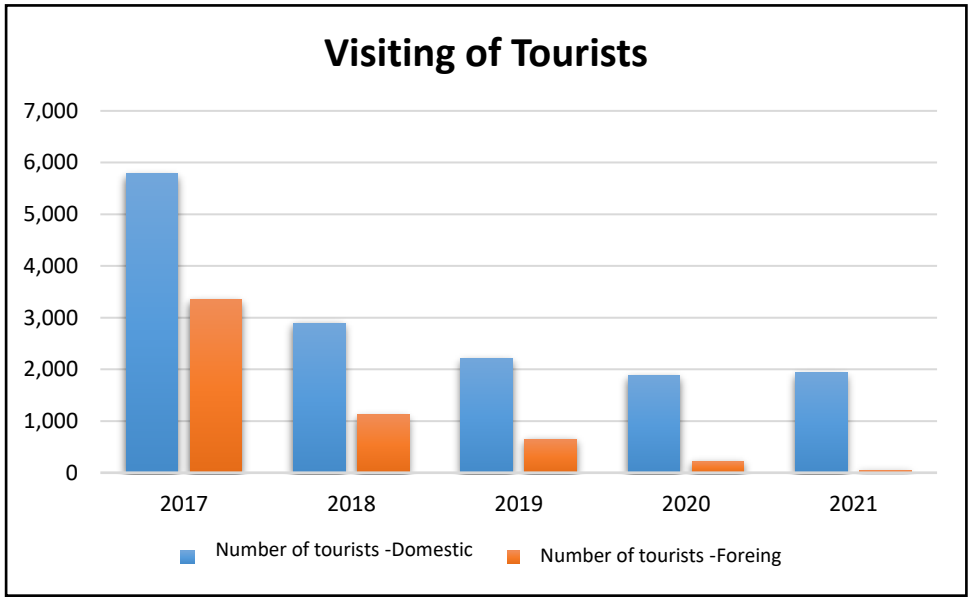

Figure - 21 - Visiting of tourists to Lunugamwehera National Park

(a) According to the above income reports, Although the government had received higher income and an increase of tourists in the years before the year 2019 , the income had decreased due to the stagnation period which wa occurred had time to time since 2019 and the income had decreased around 90 percent in the year 2021. It was observed that necessary actions should be taken to formulate the plans and implement them to prevent these adverse situations which can be arisen in the future.

The funds could be generated by increaing the revenue from national parks for maintaining the the grassland and thus, the existence of elephants can be confirmed which are important for the attraction of tourists.

3.6. Financial provision for grassland management and conservation

The table shows below the expenditure for grassland management in several national parks from 2017 to 2021.

3.6.1. Lahugala National Park

The following table shows the amount of cash spent for the management of grasslands in Lahugala National Park during the period of 05 years from 2018 to 2021.

Table no - 13 – Utilization of Provisions for management of grassland in Lahugala National Park

Year	Amount required for for the year (Rs).	Amount received for for the year (Rs)	Amount spent for for the year (Rs)	Reason for spent
2017	-	860,262	No	
2018	-	-	-	
2019	-	-	-	
2020	-	-	-	
2021	-	477,463	477,487	Removal of underlayer

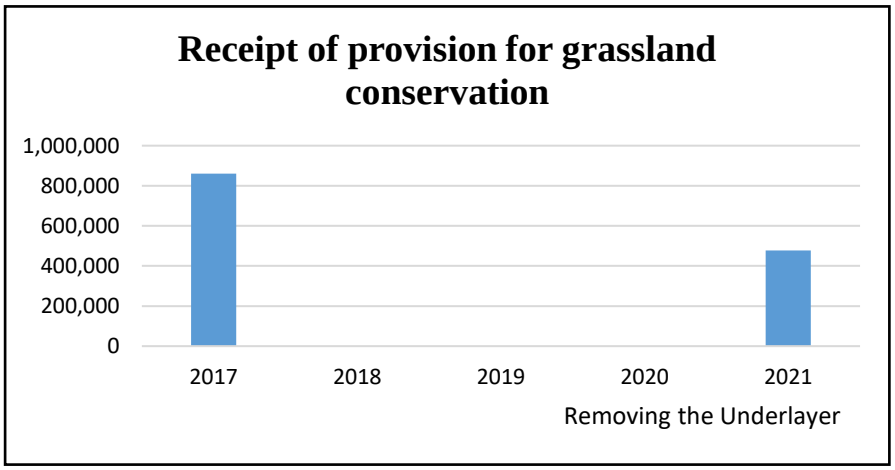

Figure - 22 - Receipts of allocations for conservation of grassland in Lahugala National Park.

(a) Although funds had received for management of grassland in Lahugala National Park in 2017, it had not been conducted any management activity and the funds received had used to remove underlayer after 03 years. It is observed that it is not possible to control the spread of invasive plants in the national parks due to the lack of funding and financial allocation according to the above plan.

3.6.2. Minneriya National Park.

The table shows below the amount of cash spent on grassland management in Minneriya National Park.

Table no - 14 - For grassland management in Minneriya National Park

Utilization of Provisions

Year	Amount received for the year Rs.	Amount spent for the year Rs.	The reason spent
2019	1,510,973	100%	Removal of underlayer on Rambawila-Batuoya road.
	1,007,315	100%	Removal of underlayer on Kirioya Padupola road.
	1,309,510	100%	Removal of underlayer on Mahaoya-Pek Kulam road.
	1,007,315	100%	100 acres clearing underlayer on the road.
2020	750,450	50%	Removal of underlayer in Mahapitiya area.
2021	805,852	100%	100 acres clearing of underlayer on the road in Talkot.
	1,510,973	100%	Clearing the underlayer of the road of power lines.
	1,510,973	100%	National Park Headquarters - Underlayer clearance on Batu Oya Road.
	1,007,315	100%	Removal of underlayer on Kirioya - Padupola road.
	1,309,510	100%	Clearing of underlayer on Pek Kulam - Mahawewa road.
	109,515	100%	Removal of Agada plants in the ground of tank.

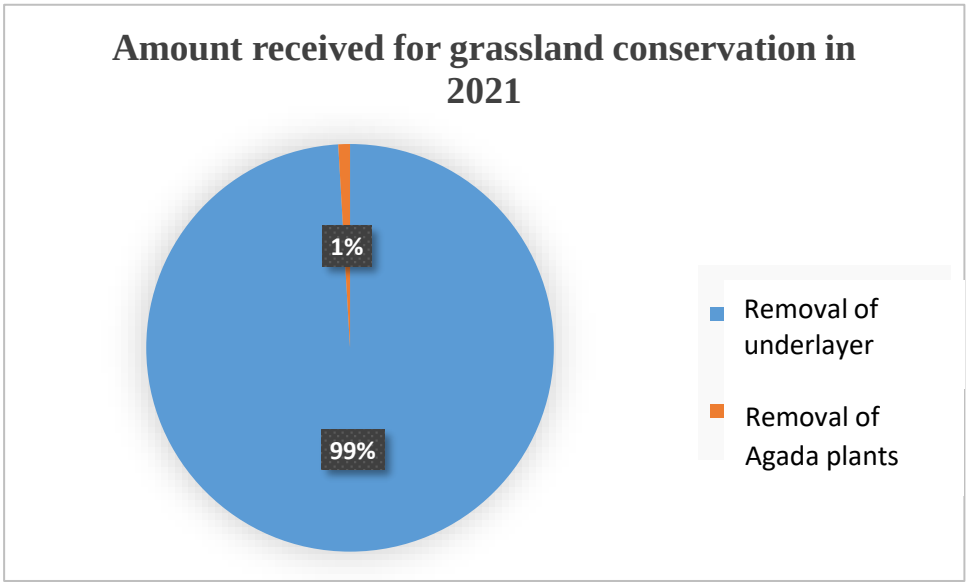

Figure no - 23-- Amount received for conservation of grassland in Minneriya National Park.

(a) The areas where invasive plants have spread in Minneriya National Park are Vavpitiya, Mahapitiya, Verapitiya, Unapitiya and the road of power line power line and The control of the spread of invasive plants in the above areas had not been prioritized when considering the cash spent on management of grassland from 2018 to 2021. Although, in order to control the spread of invasive plants, those should be removed continuously but it had not been done when examing the above description cost. For example, 75 percent of the 20 hectares of land in the Maha Pitiya area was covered with invasive plants and the spread has been controlled only 25 percent of the land and the amount of Rs. 750,449 (physical and financial performance 50 percent) had given for that, in the year of 2020.

3.6.3. Kumana National park

The table below shows the amount of cash spent on management of grassland in Kumana national park.

Table no - 15 - An utilization provisions for management of grassland in Kumana National Park

Year	Amount spent Rs.	Number of hectares	The reason for spent
2017	537,117		Removal of the underlayer on both sides of the road.
2018	2,016,187	44Km	Removal of the underlayer on both sides of the road.
2019	1,510,973	15Km	Removal of the underlayer on both sides of the road.
	3,777,433	75Ha	Removal of the underlayer of grasslands.
2020	9,991,691	30Km	Removal of the underlayer on both sides of the road.
	2,452,812	50Km	Removal of the underlayer of grasslands
2021	4,790,020	48Km	Removal of the underlayer on both sides of the road.
	4,532,919	90Km	Removal of the underlayer of grasslands

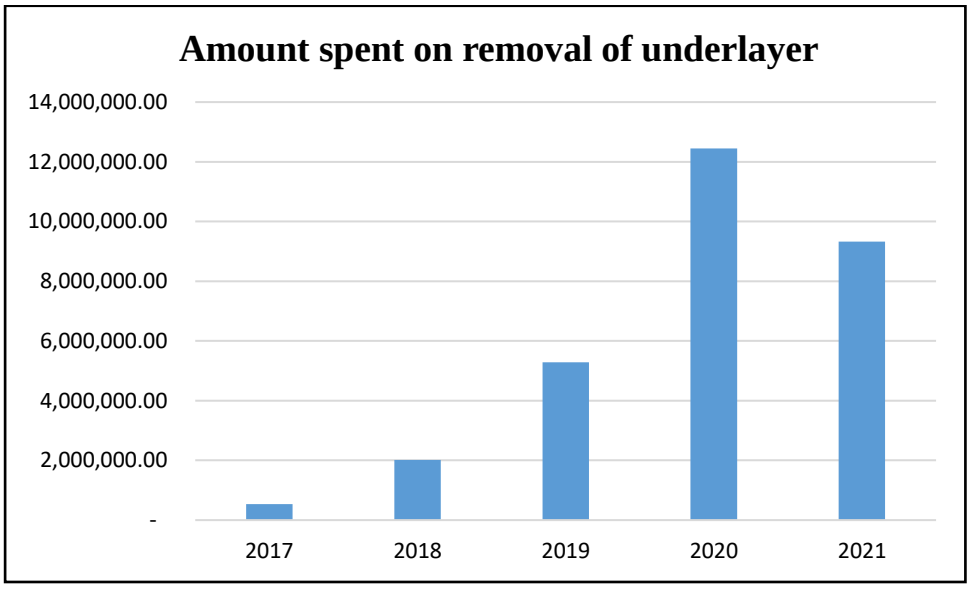

Figure no - 24 - Amount spent on removal of underlayer

The total grassland area covered by invasive plants was about 1050 hectares In Kumana national park and only 215 hectares of grasslands have been removed of invasive plants for the years 2019, 2020 and 2021. The amount spent was Rs. 10,763,165. Details were given above. Thus, it was observed that it had not paid adequate attention for the management of the grasslands.

3.6.4. Wilpattu National Park

The table below shows the amount of cash spent on management of grassland in Wilpattu National Park.

Table no - 16 - Utilization of Provisions for management of grassland in Wilpattu National Park

Year	Amount pent Rs.	Area of land in Hectares	The reason for spent
2018	1,012,720	65	Eth Athuru sevana and Elephant Holding Centre
2019	1,259,144	25	Removal of invasive plants in Maha Wewa, Kuduk Tank and Menik Tank areas.
2020	1,000,315	20	Removal of invasive plants in grasslands.
2021	4,029,216	80	Removal of the underlayer and establish of grasslands.
	2,014,630	40	Removal of subsoil and establish of grassland in Thanthirimale area.
	1,007,315	20	Etablish of grassland in Kokmote Pitiya
	1,510,973	30	Etablish of grassland in Pomparippu Pitiya
	755,488	15	Etablish of grassland in Kokkariya pitiya
	503,657	10	Etablish of grassland in Menikwila pitiya

It was observed that although cash had not spent according to a proper plan in the years 2018, 2019, 2020, 2021 when looking at how cash has been spent for management of grassland in Wilpattu National Park.

3.6.5. Horowpathana National Park

The table below shows the amount of cash spent on management of grassland in Horowpathana National Park.

Table no - 17 - Utilization of Provisions for management of grassland in Horowpatana National Park

Year	Amount of provision requested for the year (Rs.)	Amount received for the year (Rs.)	The amount received as a percentage of the amount requested for (%)
2019	3,200,000	146,060	05 percent
2020	4,500,000	1,007,315	22 percent
2021	3,550,000	2,089,729	58 percent

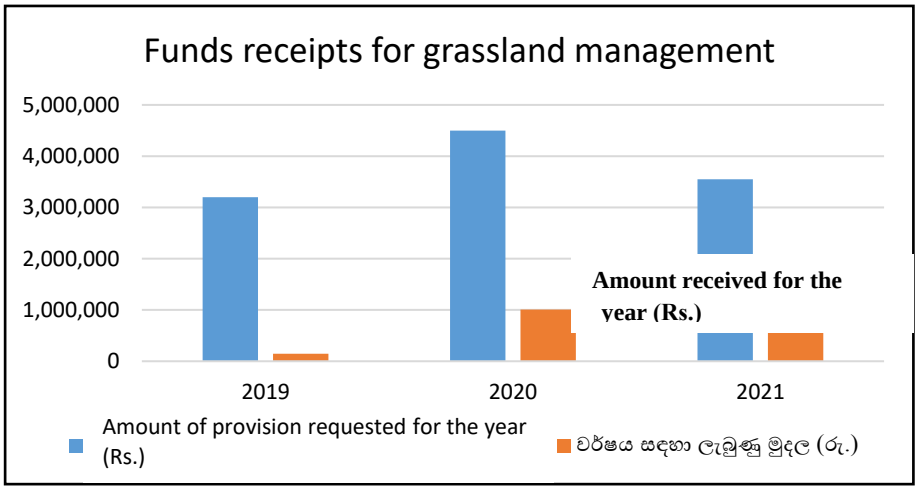

Figure - 25 - Funds receipts for grassland management in Horowpatana National Park

It had been received a 5 percent 2019, 22 percent in 2020 and 58 percent in 2021 of the requested amounts according to the above information and it was observed that the inadequate of proper provisions hinders the continuous control of the spread of invasive plants.

3.6.6. An observation of Ampara Sanctuary and Buddhangala Sanctuary.

It was reported that there were approximately 600 hectares of grassland only in Ampara Sanctuary and approximately 500 hectares of grassland in Buddhangala Sanctuary.There were more than 100 animals similary elephants, deer, rabbits, and the elk live in the Ampara sanctuary. Although it was reported that more than 100 of these herbivores live in the Buddhangala sanctuary, the funds had not been allocated for the management of these grasslands in the last 5 years that was from 2017 to 2021.

3.6.7. Allocation of financial provisions for grassland conservation.

It was observed that reasons may be led to insufficient allocation such as not having a proper plan for grassland conservation, not reciving the continuous allocations and not clearly identifying the priority of grassland conservation in prioritization.

Although it was reasonable not to allocate provisions in view of the current economic crisis, it had not taken actions even before this situation where the country had been normalized.

4. Recomendations

4.1 Preparation and implementation of a national policy on grassland management and conservation and to be prepared and implemented the management plan, action and followed up in that regard. [Paragraph No. 3.1.1 , Paragraph No. 3.1.3]

4.2 Implementation, monitoring of the National Policy and Action Plan on control of invasive species and identifing the invasive plants at the initial stage and take necessary actions to continuouse control of the spreading of plants and providing the necessary financial facilities. [Paragraph No. 3.1.3 (a), (b), (c) / 3.2.3 (a), (b) / up to (3.3.1 – 3.3.8)]

4.3 Taking necessary actions to conserve existing grasslands and improve grasslands and also taking the necessary actions to provide the required financial allocations for the grassland conservation process in due time. [Paragraph No. 3.2.3 (b)]

4.4 Taking necessary actions to control the entry of domestic cattle into the grazing lands within the national parks and taking steps to protect the resources of cattle in a systematic manner. [Paragraph No. 3.4.3 - 3.4.5]

4.5 An adverse action caused by human activities may be aggravated due to factors including the increase in tourists, therefore the department of wildlife should take appropriate timely actions in this regard. [Paragraph No 3.5.1]

4.6 Taking necessary actions to reduce the obstacles to the natural existence of grasslands in the tank fields and since the continuous filling of the tanks throughout the year has hindered the growth of grass in the tank fields during the release of water for new water projects and irrigation activities, therefore being balanced in the implementation of such projects and pay further attention for it.(Para No. 3.5.2 (i), (ii) / Para No. 3.5.4 (c) / Para No. 3.5.5 (b) (i))

4.7 Taking necessary actions for the proper management of the grasslands as it is the main reason for the invading of wild elephants to villages due to the improper management and conservation of the grasslands in the national parks. [Paragraph No. 3.5.5 (c) (ii)]

4.8 Taking actions to maintain a data system (monthly reports) on environmental conditions in relation to National Parks. [Paragraph No. 3.5.5]

Sgd./W.P.C. Wickramaratne
Auditor General

W.P.C. Wickramaratne
Auditor General
05 March 2024