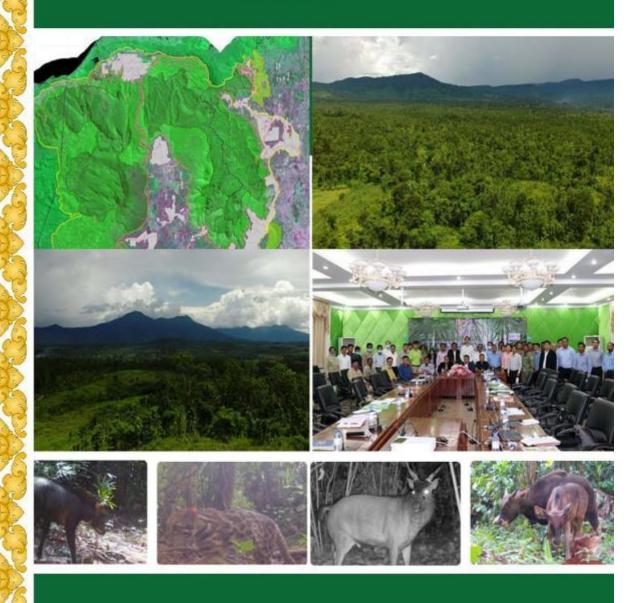






Management Plan Phnom Samkus Wildlife Sanctuary 2022 - 2031





2022

Messages

The Kingdom of Cambodia has been committed to protection and conservation of natural resources and biodiversity since 1925 with initial designation of Angkor National Park, the first natural protected area of its kind in Southeast Asia and now its protected areas have been increased to 76 sites which are the highly potential sources of natural capitals and assets to support the livelihoods of the local communities and significantly contribute to social, economic and cultural development as well as play a vital role in the region and world in mitigate greenhouse gasses in the context of climate change. To ensure the implementation of its missions in management, protection, sustainability, conservation and development of its protected areas in line with laws, regulations and policies of the Royal Government of Cambodia, the Ministry of Environment has modernized its institutional mandates to ensure environmental protection, conservation of natural resources and biodiversity, and sustainable uses of natural resources. In this regard, the General Directorate of Protected Areas which is the secretariat in charge of natural resource management has been effectively carried out its activities by means of delineation and zonation, installation of PA borders poles, state land registration, and infrastructure development with the PAs to promote and expand potential land-based ecotourism with an aim to ensure values and importance of natural resources and biodiversity in Cambodia protected areas.

The 10-year Phnom Samkus Wildlife Sanctuary (PSWS) Management Plan (2022-2031) is, therefore, important to inform the more effective leadership, management and actions; promote values, ecosystem functions, environmental balance; contribute to betterment of livelihoods of the community people; support national macro and micro economic development as well as mitigate climate change in line with laws and policies of the Royal Government of Cambodia under the wise leadership of Samdech Akka Moha Sena Padei Techo Hun Sen Samach Akka Seina Pakdeiy Hun Sen, Prime Minister of the Kingdom of Cambodia.

In this context, I am, on behalf of the Ministry of Environment, honored and happy to support and launch the 10-year Phnom Samkus Management Plans (2022-2031) and express my sincere thanks and appreciation to H.E. Excellencies, officials of the Ministry of Environment and representatives of line ministries, sub-national administrations, national and international organizations, private sector, local communities and stakeholders for the inputs and good cooperation in development of this valued document to ensure the tuned balance between conservation and sustainable development.

Phnom Penh,							•	•	• •	•	• •	•	•	•	• •	•	•	• •	•	•	•
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SAY Samal

Preface

Phnom Samkus Wildlife Sanctuary (PSWS) is one of the protected areas which were designated by the Royal Decree, dated 1 November 1993 to cover 333,750 hectares of land and geographically located within the provinces of Pursat, Battambang, and Koh Kong. The outstanding values and unique features of this PSWS include but are not limited to mountainous and forest landscapes, evergreen forests and pastures which are the sources of water, wildlife habitats, biological resources, and forest and non-forest products such as Sisal plants, Shorea thorelii, Syzygium zeylanicum, Trobtum, Mteastum, Silk cotton tree, Dimocarpus longa Lour, Hopea and Shorea, giant orchids, Loeung Chan which grow on the mountainous tops, sides and slopes and rich in Asia elephants, Northern red muntjac, Sambar, Gaur, Bantengs, Monkey, Gibbon, Civet, Loris, leopard and dholes etc. and areas with potential nature-based/ecotourism. This PSWS has contributed to improving the livelihoods of the local communities and socio-economic development in Cambodia. With such outstanding values and rich natural resources within PSWS and to ensure sustainable conservation and long-run uses of natural resources and protect and control such threats as forest clearance, land encroachments, logging, wildlife trapping and hunting etc.; the 10-year PSWS management plans (2022-2031) is an important, strategic framework to guide and support all stakeholders to pay attention to and get involved in management of this PSWS to realize the objectives and goals of the National Protected Area Strategic Management Plan (2017-2031) in a effective and sufficient manner.

On behalf of the General Directorate of Natural Protected Areas (GDPA) and PSWS Management Plan Working Group, I would like to express my sincere respect and gratitude to **H.E. SAY Samal, Minister for Environment,** and MoE leaders for their constant support and guidance for all of us on protection, management, and conservation of the natural resources and biodiversity and this management plan. I wish to express thanks to all the colleagues of GDPA and officials at all levels of the Department of Terrestrial Protected Areas Conservation of Southern Tonlesap, Ministry of Environment; ministries, institutions; sub-national administration; national and international organizations; local communities; and stakeholders who had spent their time to get involved and offer good cooperation in the development of this management plan as a compass for participatory, sustainable management of natural resources and biodiversity within PSWS.

Phnom Penh,	
Director General of GDPA	

Acknowledgments

The Ministry of Environment would like to express its sincere thanks to the ministries/institutions at the national and sub-national levels, development partners, NGOs, private sector, and all relevant stakeholders for their valuable and useful inputs for zoning and management plan for this PSWS under the facilitation and coordination of the chair of the task force whose compositions and roles and duties are as follows:

KINGDOM OF CAMBODIA NATION REGION KING

MINISTRY OF ENVIRONMENT

No. 003 S.S.Ro/MoE

DECISION ON ESTABLISHMENT OF WORKING GROUP FOR "ZONING AND MANAGEMENT PLANS" FOR PHNOM SAMKUS WILDLIFE SANCTUARY IN THE GEOGRAPHIC AREAS OF KOH KONG, BATTAMBANG AND PURSAT PROVINCES Pursuant to:

- The Constitution of the Kingdom of Cambodia;
- The Royal Decree No. NS/RKT/0918/925; dated 06 September 2018 on the Appointment of the Royal Government of Cambodia;
- The Royal Decree No. NS/RKT/0320/421; dated 30 March 2020 on the Appointment and Composition Adjustment of the Royal Government of Cambodia;
- The Royal Decree No. NS/RKT/0618/012; dated 28 June 2018; promulgating Organization and Functioning of the Cabinet of the Council of Ministers;
- The Royal Decree; dated 1 November 1993 on Law on Protected Areas;
- The Royal Decree No. NS/RKT/0208/007; dated 15 February 2008; promulgating the Law on Protected Areas:
- The Royal Decree No. NS/RKT/0196/21; dated 24 January 1996; promulgating the Establishment of the Ministry of Environment;
- The Royal Decree No. NS/RKT/1296/36; dated 24 December 1996; promulgating the Law on Environment Protection and Natural Resource Management;
- The Royal Decree No. NS/RKT/0801/14; dated 30 August 2001; promulgating the Law on Land;
- The Royal Decree No. NS/RKT/0196/13; dated 24 January 1996; promulgating the Law on Organization and Functioning of the Ministry of Agriculture, Forestry ad Fisheries;
- The Royal Decree No. NS/RKT/0802/016; dated 31 August 2002; promulgating the

- Law on Forestry;
- The Royal Decree No. 135 OrNPro.BK; dated 05 July 2016 on Organization and Functioning of the Ministry of Environment;
- The Sub-Decree No. 17 OrNkr/BK, dated 07 April 2000 on the Organization and Functioning of the Ministry of Agriculture, Forestry and Fisheries;
- The Sub-Decree No. 118 OrNkr/BK, dated 07 October 2005 on Management of State Land;
- The Sub-Decree No. 038 OrNkr/BK, dated 07 October 2016 on Transference of Rights to General Directorate of Administration of Nature Protection and Conservation to Decide the Proposal for Natural Resource Study in the Protected Areas;
- Prokas No. 556 BroK MoE; dated 29 December 2017 on Application of the Guideline on Zoning with the Protected Areas of the Ministry of Environment;
- Prokas No. 367 BroK MoE; dated 25 October 2018 on Application of the Technical Guideline on Management Plans within Protected Areas of the Ministry of Environment;
- The Notification No. 650, SchorN.SR; dated 03 July 2020 of the Office of Council of Ministers;
- The Notification No. 1963, SchorN; dated 08 July 2020 of the Ministry of Interior; and
- Necessity of the Minister of Environment

Decide

Article 1.

A Working Group on "Alienation, Zoning and Management Plan Development" for Phnom Samkus Wildlife Sanctuary within the geographic provinces of Koh Kong, Battambang, and Pursat with the following composition:

1.	H.E. KIM Nong	Director General of General Directorate of Protected Areas (GDPA)	Chair
2.	H.E. SOKH Vuthy	Deputy Governor of Koh Kong Province	Deputy chair
3.	H.E. SOME Bunrithy	Deputy Governor of Battambang Province	Deputy chair
4.	Mr. KHOV Rida	Deputy Governor of Pursat Province	Deputy chair
5.	Mr. KONG	Department Director of Terrestrial Protected	Permanent
	Kimsreng	Areas Conservation of Southern Tonlesap/GDPA	deputy chair
6.	Mr. EAR Sokha	Department Director of Inspection and Law Enforcement	Member
7.	Mr. LENG Chivin	Department Director of Geographic Information Services/GDEKI	Member
8.	Mrs KEN Bopreang	Department Director of Biodiversity	Member
9. 10.	Mr. ROS Chor Mr. Man Phalla	Department Director of Local Livelihoods/GDLC Provincial Department of Environment of Koh Kong	Member Member

11.	Mr. KORT Borann	Provincial Department of Environment of Battambang	Member
12.	Mr. Pann Morakok	Provincial Department of Environment of Pursat	Member
13.	Mr. ROS Viravuth	Provincial Department of Land Management, Urbanization, Construction and Cadaster of Koh Kong	Member
14.	Mr. OU Dary	Provincial Department of Land Management, Urbanization, Construction and Cadaster of Battambang	Member
15.	Mr. ON Sathea	Provincial Department of Land Management, Urbanization, Construction and Cadaster of Pursat	Member
16.	Mr. LAY Piseth	Provincial Department of Agriculture, Forestry and Fisheries of Pursat	Member
17.	Mr. LOEM Vakchira	Provincial Department of Agriculture, Forestry and Fisheries of Battambang	Member
18.	Mr. EANG Daravuth	Provincial Department of Rural Development of Koh Kong	Member
19.	Mr. VANN Thol	Provincial Department of Rural Development of Battambang	Member
20.	Mr. THIM Sotheara	Provincial Department of Rural Development of Pursat	Member
21.	Mrs KOEM Sabun	Deputy Department Director of Terrestrial Protected Areas Conservation of Southern	Member
22.	Mr. IN Visatha	Tonlesap/GDPA Office Chief of Department of Terrestrial Protected Areas Conservation of Southern Tonlesap/GDPA	Member
23.	Miss MOM Sary	Deputy Chief of Department of Local Livelihood and Social Safeguard Focal Point	Member
24.	Mr. SOPHA Sokhunarung	Official of Department of Natural Heritage and Focal Point in charge of Indigenous People	Member
25.	Mr. KHUT Osaphea	Chief of Provincial Administration Hall of Pursat	Member
26.	Mr. OUKVong Longvy	Deputy Chief of Provincial Administration Hall of Battambang	Member
27.	Mr. LIM Emeng	Acting Chief of Multidisciplinary Office of Battambang	Member
28.	Mr. HUN Marady	Deputy Director of Provincial Department of Environment of Koh Kong	Member
29.	Mr. EAR Koemcheng	Deputy Director of Provincial Department of Environment of Battambang	Member
30.	Mr. ENG Raksmey	Deputy Director of Provincial Department of Environment of Pursat	Member
31.	Mr. PRAK Vichet	Governor of Modulseima District, Koh Kog Province	Member
32.	Mr. SEUR Sameth	Governor of Samlaut District, Battambang Province	Member
33.	Mr. NHOEK Saren	Governor of Koh Kralor District, Battambang	Member
34.	Mr. HENG Sopheana	Province Governor of Veal Veng District, Pursat Province	Member

35.	Mr. OL Rann	Chief of Wildlife Office of Provincial Department of	Member
26	Mr. COENC Nameth	Environment of Koh Kong	M l
36.	Mr. SOENG Nareth	Director of Phnom Samkus Wildlife Sanctuary of	Member
37.	Mr. SREY Ra	Koh Kong Province	Member
37.	MII. SKEI Ka	Director of Phnom Samkus Wildlife Sanctuary of	Member
38.	Mr. PHAN	Battambang Province Director of Phnom Samkus Wildlife Sanctuary of	Member
50.	Sophearin	Pursat Province	MEIIIDEI
39.	Mr. EAV Kosal	Chief of Baklong Commune, Koh Kong Province	Member
40.	Mrs KOEM Ly	Chief of Tatauk Commune, Battambang Province	Member
41.	Mr. LACH Ham	Chief of Kampong Lapov Commune, Battambang	Member
т1.	WII. EMCII IIaili	Province	MCIIIDCI
42.	Mr. OUK Saroeun	Chief of Thnalmorn Commune, Battambang	Member
12.	oon bar ocan	Province	Piciniber
43.	Mr. PRUM Ngorn	Chief of Thmarda Commune, Pursat Province	Member
44.	Mr. UM Seng	Chief of Anlong Reap Commune, Pursat Province	Member
45.	Mr. TEP Kan	Chief of Krapeupi Commune, Pursat Province	Member
46.	Mrs SEK Samath	Chief of Promoy Commune, Pursat Province	Member
47.	Mr. SOKH Boeun	Chief of Osom Commune, Pursat Province	Member
48.	Mr. CHOEM Sarin	Chief of Ranger Station, Koh Kong Province	Member
49.	Mr. CHAP Siekny	Chief of Promoy Ranger Station, Pursat Province	Member
50.	Mr. TUY	Chief of Wildlife and Nature Alliance (WEA)	Member
	Sereywathana	,	
51.	Representative	Flora and Fauna International	Member
52.	Representative	Wildlife Alliance (WA)	Member
53.	Mr. SAO	Director of Natural Resource Conservation	Member
	Chamroeun	Federation	
54.	Mr. CHOEUT	Director of Por Indigenous Community	Member
	Chhorn		

Article 2.

The duties and responsibilities of the Working Group are as follows:

- Develop action plans and implementation schedules;
- Collect existing data and conduct field surveys to collect data on plant species, wildlife species, ecosystems, socio-economic conditions, cultural resources, religions of indigenous people, land uses, and relevant documents;
- Facilitate and conduct meetings, training sessions and consultation workshops at the national and sub-national levels;
- Widely raise and disseminate awareness and knowledge at the sub-national level to ensure that the relevant communities are sufficiently informed of preparation, zoning and management of the protected areas;
- Provide technical and political aspects on the development, zoning and management plans based on the actual conditions and legal documents;
- Work with the national and sub-national technical institutions and relevant stakeholders to develop, zone and prepare plans as smoothly and effectively as possible;
- Develop reports on alienation, zoning and management plans based on criteria of guideline on zoning and management plans;

- Develop draft Sub-Decree on Zoning and Management Plans of Phnom Samkus
 Wildlife Sanctuary to be submitted to the Ministry of Environment for review and approval from the Royal Government of Cambodia;
- Develop Phnom Samkus Wildlife Sanctuary Management Plans and submit them to the Minister for Environment for review and approval;
- The members of the working group shall attend any meetings as invited by the chair of the working group;
- The meetings can be attended by the stakeholders if required; and
- Develop reports to be submitted to leaders on progress and achievements of work of the working group.

Article 3.

Chief of the Minister Cabinet, Secretary General of General Secretariat of the National Council for Sustainable Development, all General Directorates of the Ministry of Environment, Inspector of Inspectorate, Administration Halls of Koh Kong, Battambang, and Pursat provinces, relevant stakeholders and respective individuals as stated in Article 1 shall carry out this Sub-Decree effectively based on their duties from the date of its signature onward.

Phnom Penh, 12 January 2021

Minister

SAY Samal

CC:

- Office of the Council of Minister;
- Ministry of Interior;
- Ministry of Economy and Finance;
- Ministry of Land Management, Urbanization and Construction;
- Ministry of Public Functions;
- Provincial Administration Halls of Koh Kong, Battambang, and Pursat province 'for information';
- As stated in Article 3 'for implementation' and
- Documentation-chronicles

Abbreviations

CBET Community Based Ecotourism

CPA Community Protected Area

GDNPA General Directorate of Natural Protected អគ្គនាយកដ្ឋានតំបន់ការ៣រធម្មជាតិ

Areas

GDLC General Directorate of Local Community អគ្គនាយកដ្ឋានសហគមន៍មូលដ្ឋាន

IP Indigenous People ជនជាតិដើមភាគតិច

IUCN International Union for Natural អង្គការសហភាពអន្តរជាតិដើម្បី

Conservation ការអភិរក្សធម្មជាតិ

ha Hectare ហ៊ិកភា

MoE Ministry of Environment ក្រសួងបរិស្ថាន

NGO Non-Governmental Organization អង្គការមិនមែនរដ្ឋាភិបាល

NPASMP National Protected Areas Strategic ផែនការយុទ្ធសាស្ត្រជាតិគ្រប់គ្រង

Management Plan តំបន់ការពារធម្មជាតិ

NTFPs Non-Timber Forest Products អនុផលព្រៃឈើ

PA Protected Areas តំបន់ការ៣រធម្មជាតិ

PDoE Provincial Department of Environment មន្ទីរបរិស្ថានខេត្ត

SMART Spatial Monitoring and Reporting Tool 2បករណ៍តាមដាន

និងរាយការណ៍រូបវ័ន្ត

USD US Dollars ដុល្លារអាមេរិក

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Executive Summary

The Phnom Samkus Wildlife Sanctuary (PSWS) was designated by the Royal Decree, dated 01 November 1993 with an area of 333,750 hectares and located in the geographical provinces of Pursat, Battambang and Koh Kong and is under the jurisdiction of the Ministry of Environment. This Wildlife Sanctuary plays an important role as a rainwater reservoir for the provinces of Pursat, Battambang and Koh Kong, receiving about 4,000 mm of rainfalls annually. The zoning and management plans of the sanctuary will contribute to the effective management and sustainable use of natural resources in each zone; especially core and conservation areas in line with the goals and objectives of this protected area.

People have inhabited in Phnom Samkus Wildlife Sanctuary (PSWS) for a long period of time; especially the indigenous Poar community, and their livelihood has been largely based on traditional agriculture, in particular rice—cultivation, running family-scale businesses, animal husbandry, and collection—of some important non-timber forest products, such as bamboo sprouts, cardamoms, medicinal plants, and mushrooms, etc.—. PSWS is rich in faunal diversity, more than—595 species: 213 bird species, 74 mammal species, 113 reptile species, 77 fish species and 41 amphibian species.

In addition to the abundance of natural resources and unique landscape, the PSWS offers potential scope to attract local and foreign tourists. Despite this, there are some challenges to the conservation and management of the sanctuary, such as land clearance, land encroachment for ownership and agricultural activities, trapping, logging, hunting, financial and human resources for the effective management of the wildlife sanctuary, especially research and law enforcement, are much .

The 10-Year Management Plan (2022-2031) will serve as the road map for Phnom Samkus management based on management programs and expected outputs within the period of five years as a foundation for management decisions . The management plan of Phnom Samkus Wildlife Sanctuary is of a vision to contribute to improve natural resources, increase the number of wildlife, and advance livelihoods of local and indigenous communities which are living within and nearby the PSWS. The mission is sustainable natural resource management in PSWS with involvement from national and international stakeholders for effective, efficient and equitable benefits. There are the five main goals in PSWS management plans, including (1) sustain and enhance the ecological and cultural values; (2) promote participatory community engagement and support for conservation and management; (3) develop innovative approaches to conservation and development, including opportunities for sustainable ecotourism and financing mechanisms; (4) provide specific, timely and relevant information for effective management; and (5) strengthen protected area management effectiveness and work with government organizations, local authorities, conservation NGOs, and development partners to address the problems in PSWS. The initial 5-year management plan developed consists of 4 strategic programs with 12 sub-programs and 56 priority activities with the total of 2,348,500 US dollars as follow:

Program 1 on Natural Resource Protection and Conservation focuses mainly on the threats caused by illegal activities and land encroachment. It is imperative, in this regard, to do boundary demarcations in each zone, leading to the state land registration. This program consists of 3 subprograms and 19 main activities with the total planned expenditures of about 1,609,500 millions US dollars.

Program 2 on Involvement and Benefits of Local and Indigenous Communities prioritizes their participation in the management of PSWS as participants in uses of natural resources and cooperative land so that they would get equal benefits and enhance their local livelihoods as well as address their threats through job opportunities, sustainable use of natural resources and alternative livelihoods. Program 2 consists of 3 subprograms, and 18 priority activities with a total budget of 464,500 US dollars.

Program 3 on Ecotourism Development focuses on identification and establishment of large-scale ecotourism managed by local communities and small-scale ecotourism development with less than 10 hectares where the impacts from infrastructure — development are minimized. With the approved ecotourism areas, the rangers are tasked to regularly monitor and evaluate the maintenance of the roads or trails; connecting other areas. The new job creation opportunities within ecotourism services such as forest camping, scenic viewing and wildlife watching are the main strategies for reducing pressures on uses of natural resources and increasing involvement of local and indigenous communities in natural conservation. The program 3 consists of 2 subprograms and 8 priority activities with a — total cost of about 133,000 US Dollars.

Program 4 on Institutional Capacity and Collaboration aims at building capacity of rangers and other officials on effective and efficient management. Management structure and sustainable financing in this wildlife sanctuary is also a priority activity in this program. This program consists of 4 subprograms and 7 main activities with a total expenditure of 110,000 US dollars.

The last chapter of this Management Plan focuses mainly on monitoring and evaluation on the management plan implementation through quarterly, semesterly and yearly meetings. Monitoring and evaluation of biodiversity, budgeting and risks of implementation are also raised in the meetings.

1. Introduction

Phnom Samkus Wildlife Sanctuary was established by the Royal Decree dated 1st November 1993 over an area of 333,750 hectares. The forests in Phnom Samkus Wildlife Sanctuary include evergreen forests, semi-evergreen forests and dry forests mixed with bamboos, pines and grassland, which are very good habitats for wildlife species of universal conservation value and for Cambodia. Based on previous and present assessments of habitat situations and forest resources, Phnom Samkus Wildlife Sanctuary is still an important area with more than 20 species listed on the Red List of the International Union for Conservation of Nature (IUCN); including Asian elephants, Gaur, Bantengs, leopards, wild dogs, Asiatic black bears, Sun Bears, Pileated Gibbon, Lorises, Sunda Pangolini, fish crocodiles, and Great Hornbill Buceros bicornis. Forest resources in this area are important for rainfall regulation and as a source of water supply for Pursat, Battambang and Koh Kong provinces.

The management plan is developed by Phnom Samkus Wildlife Sanctuary Working Group on "Alienation, Zoning and Management Plan Development," which was formally established on September 3, 2020 and January 12, 2021, with the Director General of the General Directorate of Natural Protected Areas (GDNPA) being the chair. There are 53 members of the interministerial working group; including representatives of relevant ministries and institutions of the Royal Government of Cambodia, international organizations, local authorities and indigenous peoples. The Working Group for Zoning and Management Plan for Phnom Aural WS is formed to mainly do the zoning and develop the management plan for natural resource management and biodiversity conservation while expanding the livelihoods of the local and indigenous communities within this PA.

After the PSWS working group was formed and approved, two provincial consultative meetings and an inter-ministerial meeting were held with an aim to jointly review and recommend (1) the Second draft of the zoning map, (2) Draft contents of the report on the zoning and management plan, and (3) Vision, Mission, Objectives, Programs, Sub-Programs and Priority Activities of PSWS Management Plan. In addition, the working group organized a consultation meeting on the collection of biodiversity and socio-economic data at the village, commune and district levels from June 7, 2021 to September 08, 2021 and deployed 55 camera traps for 2 and a half months to confirm the presence and absence of rare, threatened and endangered species. It also conducted the first provincial consultation meeting on the zonings of Phnom Samkus Wildlife Sanctuary on September 30, 2021 to review and comment on the zoning map of the management area and management plan and the second draft management plan. The second inter-ministerial consultation meeting was held on 10 February 2022 to comment on the final zoning map and the

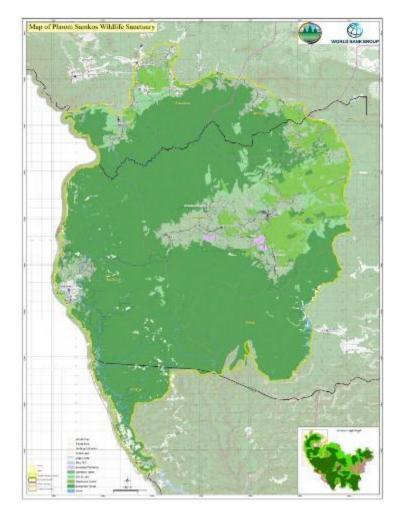
third draft management plan and held the final consultation meeting to review and revise the final management plan on July 15, 2022.

II. Description of PSWS

2.1 Geographical area

Phnom Samkus Wildlife Sanctuary (PSWS) was designated by the Royal Decree, dated November 1, 1993, covering an area of 333,750 hectares, bordering on the north by the Samlot District Administration, Battambang Province, on the east by the Biodiversity Conservation Corridor and Central Cardamom Mountain National Park, on the south by Mondul Seima District, Koh Kong Province, and on the west by Samlot Multiple Use Area and Thailand (Figure 1). PSWS is covered by a wide range of evergreen forests, semi-evergreen forests and dry forests, lowlands, grasslands, uplands and waterways, as well as slopes, valleys, streams, waterfalls, marshes, canyons, wetlands and a wide range of wildlife species. Therefore, PSWS is considered as an area with high value conservation of biodiversity and cultural resources. The PSWS covers a wide range of altitudes, endowing the area with very high levels of lowland to montane biodiversity.

Figure 1. Map of Phnom Samkus Wildlife Sanctuary in Pursat, Battambang and Koh Kong Provinces



2.2 Population distribution and socio-economics

2.2.1 Population distribution

According to the 2019 commune data, there are 40 villages within and nearby the Phnom Samkus Wildlife Sanctuary, of which 22 villages are located in the communes of Ta Toak, Kampong Lpou, Song and Ta Sanh; Samlot district, Battambang provinces while 17 villages in the communes of Krapeu Pi, Anlong Reap, Bramoy, Thmor Da and Ou Som; Veal Veng district, Pursat province and one village is in Bak Klang commune, Mondul Seima district, Koh Kong province. There are currently 13,580 families living in and near the sanctuary or 57,611 people (Table 1).

Table 1. Population Statistics around and within PSWS

Province	District	C	Phnom	Samkus Wildlife S	ianctuary	Whole Commune			
Province District		Commune	1-FAMILY	Total Population	2-FEM_TOT	1-FAMILY	Total Population	2-FEM_TOT	
Battambang Sandout	Ta Taok	1,437	7,076	3,507	1,437	7,076	3,507		
	S'lauri	Kampong Lpov	2,334	10,455	5,068	2,334	10,455	5,068	
	Samuout	Sung	388	1,596	822	1,827	8,269	4,182	
		Ta Sanh	1,196	5,521	2,756	2,863	12,046	5,976	
Purvat Veal Veaeng	Krapeu Pir	1,515	6,765	3,258	1,515	6,765	3,258		
	Veal Veaeng		Anlong Reab	1,648	6,566	3,232	1,648	6,566	3,232
		Pramaoy	2,715	10,372	4,978	2,715	10,372	4,978	
		Thma Da	621	2,565	1,250	621	2,565	1,250	
		Ou Saom	493	993	456	861	2,689	1,206	
Koh Kong	Mondol Seima	Pak Khlang	1,233	5,252	2,586	1,824	8,002	3,985	
	Total		13,580	57,161	27,913	17,645	74,805	36,642	

Source: 2019 Commune/Sangkat Data

Based on the 2020 data of the Ministry of Rural Development, there were Chorng an Por indigenous people living in and near this protected area with the 210 families or 798 population (403 females). They settled in Phnom Rai village, Ta Toak commune, Samlot district, Battambang province, and Chhay Lok village, Ou Som commune, Veal Veng district, Pursat province (Table 2).

Table 2: Indigenous People in and near of PSWS

Province	District	Commune	Village	1P	#Households	#Population	#Females
Battambong	Samlaut	Ta Toak	Phnom Rai	Por	153	563	286
Pursat	Veal Veng	Ou Saom	Chhay Louk	Chong	57	235	117
		210	798	403			

Source: 2020 Commune/Sangkat Data

2.2.2 Socio-economic status

There are people who have been living in Phnom Samkus WS for a long period of time and they strongly depend on natural resources in this protected area. For livelihoods, most of them are engaged in traditional agriculture, especially rice cultivation, family-scale businesses, animal husbandry and harvesting of forest and non-timber forest products.

The highest income of the local and indigenous peoples is from agricultural products, in which they earn an average of 9 million Riels per family per year, followed by animal husbandry with an income of 820,000 Riels per year, and forest and non-timber forest products about 270,000 Riels per year (Table 3). The 11 main types of non-timber forest products have been harvested and used for livelihoods and trade in wildlife sanctuary include bamboo sprouts , bamboos, mushrooms, Scaphium affines, cardamoms, fishing, fire woods, resin, Diospyros chevalieri, orchids, and medicinal plants (Table 4).

Table 3. Key Incomes of the local and indigenous communities in PSWS

Province	District	Commune	Paddy sale	Crop sale	Livestock sale	NTFP sale
13 0 4	£11	Tatoak	107,980	2,794,556	1,007,737	232,091
Battambong	Samlaut	Kampong Lpov	135,128	8,654,038	1,906,154	65,769
Pursat		Krapeu Pir	0	12,985,588	434,118	980,000
	Veal Veng	Anlong Reap	0	9,368,828	399,844	469,250
		Promoay	387,255	8,550,588	478,118	191,882
		Thma Da	0	31,975,000	0	0
		Ou Soam	0	5,767,273	54,545	181,818
Koh Kong	Mondol Seima	Pak Khlong	0	389,833	270,000	200,000
A	verage per HH	(Riels)	106,442	9,475,556	823,429	274,403

Source: 2021 Surveyed Data

Table 4. Forest and Non-Timber Forest Products Collected by the Local and Indigenous Communities in PSWS

		Collection Zone				
No.	Names of forest/non-timber forest					
140.	products	Sustainable Use	Conservation			
		Zone	Zone			
1	Bamboo shoot	√	V			
2	Bamboo	V	V			
3	Mushrooms	√	V			
4	Fruit (Scaphium affine)	√	V			
5	Cardamoms	√	V			
6	Fishing	√	V			
7	Firewood	√	V			
8	Resin	√				
9	Diospyros chevalieri	√				
10	Orchids	√				
11	Medicinal plants	√				

Source: 2021 Surveyed Data

2.3 Land Use

For Land Use in Phnom Samkus Wildlife Sanctuary, 40 villages are located within and nearby this PA the Phnom Samkus Wildlife Sanctuary, of which 22 villages are located in the communes of Ta Toak, Kampong Lpou, Song and Ta Sanh; Samlot district, Battambang provinces while 17 villages in the communes of Krapeu Pi, Anlong Reap, Bramoy, Thmor Da and Ou Som; Veal Veng district, Pursat province and one village is in Bak Klang commune, Mondul Seima district, Koh Kong province.

According to the 2017 Commune/Sangkat data, the land use in the 10 communes of 3 districts of Battambang, Pursat and Koh Kong provinces covers a total area of 405,955 hectares, including 27,151 residential land, 18,758 hectares of rice farmland and 100,323 hectares of upper farmland (Table 5).

Table 5. Land Use Data near and in Phnom Samkus WS

Province	District	Commune	Total (ha)	Settlement (ha)	Rice Field (ha)	Chamkar (ha)	Other
		Ta Taok	7,772	189	48	941	6,593
Battambang	Samlaut	Kampong Lpov	43,001	6,652	3,290	9,940	23,119
		Sung	6,870	1,340	2,500	2,850	180
		Ta Sanh	6,672	417	725	4,820	710
		Krapeu Pir	60,117	600	8,270	21,300	29,947
		Anlong Reab	15,780	4,891	15	7,797	3,077
Pursat	Vealveng	Pramacy	43,810	5,500	2,200	36,000	110
		Thma Da	90,713	1,500	0	10,513	78,700
		Ou Saom	84,600	1,400	1,690	1,500	80,010
Koh Kong	Mondulseima	Pak Khlang	46.620	4.662	20	4,662	37,276
Total			405,955	27,151	18,758	100,323	259,722

Source: 2017 Commune/Sangkat Data

After analyzing the findings of the consultation meetings on the collection of biodiversity and socio-economic data at the village, commune and district levels and the data from the camera traps, the Working Group developed the final zoning map and zoning and management plan reports with the geographical areas in each province as follows:

- The core area covers a total area of 112,715 hectares, equivalent to 33.89% of the total land area. The key areas of this are in Pursat province such as Kbal Domrey, Stung Keav, Phnom 1500, Phnom Samkus, Phnom Khsouch (1,7717 meters), Toek Vei, Samot Phuk, Kbal Ou Khting, and Khchae Tong while the main areas in Battambang province include Phnom Chamchar, Stung Ta Sambath, Kbal Lan, Phnom Tonle Phain Veal Rolim, and Ou Taveay and in Koh Kong such as Stung Kheav.
- Conservation area covers a total area of 112,240 hectares, equivalent to 33.75% of the total land area around the core area.
- Sustainable use area covers a total area of 66,644 hectares, equivalent to 20.04%
- Community area covers a total area of 35,798 hectares, equivalent to 10.76%

- Request for border adjustment from the provincial administration with a total area of 5,168 hectares, equal to 1.55%
- Infrastructure areas: The main infrastructure areas in this wildlife sanctuary are divided into 3 types, such as: (1) a road with a width of more than 8m, (2) a road with a width from 5m to 8m and (3) other roads with a width of less than 5m within the sustainable use zones. In addition, wildlife watch trails should be smaller than 5m, especially in conservation areas.
- The uses of forest and non-timber forest products, hunting are as follows:
 - Forest harvesting for commercial purpose and residential construction, exploration of valuable timbers is widespread and extends to densely forested, evergreen and semi-evergreen forests;
 - Extraction of vines, bamboo shoots, diospyros chevalieris, collections of resin, mushrooms, orchids, some traditional medicinal plants and other non-timber forest products that are needed in daily life must be located in sustainable use areas and conservation areas;
 - Harvesting of non-timber forest products in conservation areas should be investigated, monitored, and managed as much as possible, and if possible, these non-timber forest product collectors should be included as patrolling team members of local communities and indigenous peoples.

2.4 Values of Natural Resources

2.4.1 Wildlife species

Phnom Samkus Wildlife Sanctuary is rich in wildlife species and home to more than 595 species. These species include 213 species of birds and 74 species of mammals, 113 species of reptiles, 77 species of fish and 41 species of amphibians (Daltry & Momberg, 2000; Daltry et, al., 2002, Chay et al., 2005;). Using Camera Traps by MoE and from other sources (such as Wild Earth Alliance), about 27 species of wildlife have been recorded since 2019.

Table 6. Wildlife species recorded at Phnom Samkus Wildlife Sanctuary and wildlife species listed as endangered and listed as critically endangered, threatened or vulnerable species in the International Union for Conservation of Nature (IUCN) Red List

Species	No. recorded	Threatened/rare species
Mammal	74	26
Bird	213	35
Reptile	113	14
Fish	54	0
Amphibian	41	0
Plant	100	9
Total	595	84

There are three species of monkeys permanently found in the wildlife sanctuary: Pileated Gibbon, Northern Pig-tailed Macaque, and Crab-eating Macaque. In addition, many key wildlife species have been observed and trapped by the camera such as Asian Elephant, Gaur, Sambar, Mainland Serow, Malayan Sun Bear, Asiatic Black Bear, Sunda Pangolin, Marbled Cat, Dhole, Binturong, and Hog Badger. In addition, there are many bird species within the protected area like Grey-Headed Fish Eagle and Siamese Fireback and so on.



Hog Badger (left) and Asian Elephant (right)



Malayan Sun Bear (left) and Gaur (right)



Sambar (left) and Mainland Serow (right)



Asiatic Black Bear (left) and Pig-tailed Macaque (right)



Dhole (left) and Leopard cat (right)



Siamese Fireback (left) and Woolly-necked Stork (right)

All the above photos are from the camera traps of the Ministry of Environment and Conservation International Cambodia in 2019

2.4.2 Plant species

The elevation and climate of the Phnom Samkus Wildlife Sanctuary landscape is considered to be home to a wide range of plant species . The PAWS is mainly covered by evergreen and semi-evergreen forests (70.19%), and shrubs (6.12%) as indicated in table 7 below.

Phnom Samkus Wildlife Sanctuary is home to 100 species of plants, nine of which are endangered and rare species, including three-leafed pine (Pinus kesiya) by Thomas et al. (2007): Thomas, P., Sengdala, S., Lamxay, V. & Khou, E. (2007) and these species are also economically valuable, ecological representation, landscape and ecotourism in Cambodia. Therefore, this area requires an assessment of the economic and conservation values of these plants.

Table 7. Land Use Changes in 2010 and 2015 in PSWS

No.	Area	2010	2015	Change
1	Annual Crop	20356.63	37460.34	17103.71
2	Paddy Rice Field	80.71	328.10	247.39
3	Shifting Cultivation	3941.15	2199.00	-1742.15
4	Orchard	8.58	38.81	30.23
5	Grassland	1963.41	1233.81	-729.60
6	Shrubland	25,081.27	20,345.66	(4,735.61)
7	Urband	1,059.32	1,811.79	752.47
8	Bare Soil	1.14	73.07	71.92
9	Industrial Plantation	432.03	1,086.61	654.59
10	Deciduous Forest	37,478.71	32,056.00	(5,422.71)
11	Evergreen Forest	240,550.95	233,429.00	(7,121.95)
12	Bamboo Forest	259.85	257.26	(2.59)
13	Water Body	1,352.37	2,246.59	894.22
	Total	332,566	332,566	

2.5 Values of Cultural Resources

According to 2020 indigenous peoples data from the Ministry of Rural Development, at Phnom Samkus Wildlife Sanctuary, 210 indigenous Por and Chorng families were living in and near this sanctuary, equal to 798 peple, of whom 403 women in Phnom Rai village, Ta Toak commune, Samlot district, Battambang province, and Chhay Lok village, Ou Som commune, Veal Veng district, Pursat province (Table 8). These Por and Chhorng indigenous peoples still believe in the mountainous spirits and souls generated by their ancestors. Therefore, it is very important

to identify natural heritage sites and strengthen conservation values in each community in order to promote the values of cultural resources and eco-tourism by means of the cooperations between the Ministry of Environment and relevant stakeholders, especially indigenous people to appropriately identify these sites.

Table 8. Indigenous people living in and nearby PSWS

Province	District	Commune	Village	IP	#Households	#Population	#Females
Battambong	Samlaut	Ta Toak	Phnom Rai	Por	153	563	286
Pursat	Veal Veng	Ou Saom	Chhay Louk	Chong	57	235	117
	Total				210	798	403

Source: 2020 indigenous peoples data from the Ministry of Rural Development

2.6 Ecosystem services and ecotourism

2.6.1 Ecotourism and Recreation

There are mountainous areas with a wide range of natural landscapes and natural tourism sites that are of the potential to develop the national eco-tourisms due to the waterfalls, streams, mountains, slopes, valleys, mountain caves, forests and many natural landscapes. These eco-tourist sites need to be studied regarding the tourism market, and tourists visiting the main nature of Cambodia are from the United States, Europe and Australia. There is one large-scale tourism project with a total area of 2,265 hectares, while the ecotourism projects with less than 10 hectares in this area are still under evaluation while based on the findings from consultations with local and indigenous communities and existing reports in Phnom Samkus Wildlife Sanctuary, there are many potential areas for ecotourism, especially in Phnom 1500, Chhay Reap waterfall, Ou Kbal Chhay waterfall and Thmor Da Thom and Thmada Touch waterfall etc.

2.7 PSWS Management Structure and Facilities

There are 50 rangers, and each ranger is supposed to work on an area of 6,675 hectares, especially in Pursat and Koh Kong provinces, covering a large area, but only 16 rangers are working. As far as their working places are concerned, there are nine ranger stations: 5 main stations and 4 substations. For the patrolling purposes, while there are sufficient motorcycles for rangers; namely each ranger is equipped with one motorcycle, the guns and GPS tools are not enough (see Table 9).

Table 9. Number of rangers and equipment at Phnom Samkus Wildlife Sanctuary

	Pr	Province (PSWS area)				
	Pursat	Battambang	Koh Kong			
Area (ha)	257,000	59,780	16,970	333,750		
Management structure	I Director	1 Director	1 Director	3		
# of Rangers	26	21	3	50		
# of Rangers/100km ²	99	28	57	61		
Annual budget (USD) ¹	30,240	24,640	4,480	59,360		
# of Main Stations	1	2	0	3		
# of Sub-stations	4	2	0	6		
Subdecree 30			5,159			
# of CPAs	5	10	0	15		
Motorbikes	26	21	3	50		
GPS	1	4	1	6		
AK-47 rifles	26	21	3	50		

III. Management problems and challenges

Like other protected areas, Phnom Samkus Wildlife Sanctuary is facing a number of threats, such as forest clearance, land grabbing for individual occupations and agricultural activities, logging, wildlife trapping/hunting, limited financial and human resources for effective management of this PA, especially for the areas of research and law enforcement. The perpetrators are highly skilled wildlife trappers and can pose danger to the rangers and members of local and indigenous peoples. In addition, the management of this wildlife sanctuary has faced a number of challenges, such as the limited number of rangers and malaria affected rangers, especially in Pursat province.

Important Bird and Biodiversity Area (IBA) conservation identified a number of threats (Table below) in the PSWS. Agricultural expansion, exploitation of biological resources, invasion of non-native species, and expansion of infrastructure are the major threats to the ecosystem of PSWS.

Table 10: Analysis of threats to the ecosystem of PSWS (IBA, 2009).

Threats to the site	(pressure)				
Threat level 1	Threat level 2	Timi ng	Scope	Severity	Result
Agricultural expansion and intensification	Annual & perennial non-timber crops - small-holder farming	active	some of area/populatio n (10-49%)	slow but significant deterioration	medium

Biological resource use	Hunting & collecting terrestrial animals - intentional use (species being assessed is the target)	active	some of area/populatio n (10-49%)	slow but significant deterioration	medium
Biological resource use	logging & wood harvesting - unintentional effects: subsistence/small scale	active	some of area/populatio n (10-49%)	slow but significant deterioration	medium
Invasive and other problematic species and genes	invasive non- native/alien species/diseases - unspecified species	active	small area/few individuals (<10%)	no or imperceptibl e deterioration	low
Natural system modifications	dams & water management/use - small dams	active	small area/few individuals (<10%)	moderate to rapid deterioration	low
Residential and commercial development	Housing and urban areas	active	small area/few individuals (<10%)	slow but significant deterioration	low
Transportation and service corridors	roads and railroads	active	small area/few individuals (<10%)	no or imperceptibl e deterioration	low

3.1 Land Encroachment

Forest encroachment, agricultural expansion, and rice farming occur not only in this PSWS, but also in many other protected areas in the Kingdom of Cambodia, and these activities are largely carried out by the outsiders from other provinces. The forest clearing in this wildlife sanctuary is the most threatening activity compared to others and is carried out in the forms of forest burning, logging, and plantations, its purpose is to expand agricultural land and to own the land, and there are many other purposes. The key measure action to prevent illegal activities are including establish community protected areas, and state land registration in protected areas, which is a land management mechanism to solve the land conflict. In addition, law enforcement with local people's participation, speeds up court cases by exploring lawyers to support them should be implemented. Failures to demarcate and install border poles and clear zoning lead to difficulties in law enforcement.

3.2 Logging and hunting

Logging and poaching remain a threat to biodiversity resources in the Phnom Samkus Wildlife Sanctuary, especially mammals, and trapping is still a challenge for biodiversity

conservation in this PA. Forest and wildlife crimes in the area are perpetrated by migrants and local community people.

3.3 Limited Resources and cooperation

Management of the Phnom Samkus Wildlife Sanctuary has not been effective due to lack of human and financial resources, especially in Pursat Province, which covers three-quarters of the entire wildlife sanctuary. PSWS rangers have been particularly difficult along the Thai-Cambodian border thanks to inadequate transportation and some areas still have some unexploded ordnances, leading to natural resources—which has led to illegal activities in the area.

IV. Management Programs

4.1 Vision, Mission and Goals

Vision: PS WS will contribute significantly to the national economy and sustainable development, including poverty reduction through the conservation of biological diversity and sustainable use of biological, natural and cultural resources and other ecosystem services.

Mission: Realize the effective, efficient and equitable management of PS WS.

With the mission, the following **Goals** will be ensured:

- 1. Sustain and enhance the ecological and cultural values;
- 2. Promote active engagement, involvement and support of the local and indigenous communities in the management of PS WS;
- 3. Develop innovative approaches for the conservation and development; including opportunities for sustainable ecotourism and financing mechanisms;
- 4. Make available the relevant, accurate, and timely information for effective management; and,
- 5. Strengthen protected area management effectiveness and work with government organizations, local authorities, conservation NGOs, and development partners.

4.2 Approaches to Developing Management Program

The field assessments and surveys were conducted to identify the vulnerable areas and key biodiversity hotspots to understand the levels of natural resource uses and needs within PSWS. The field work focused on the assessment of situations of biodiversity, natural resources, ecosystem services, socio-economic factors, cultural and traditional resources as well as participatory management mapping with the participation from local community and indigenous groups. The involvement of community people and local authorities is crucial to assess the economic needs. Based on the biodiversity data compiled, especially the past five-year information

and field survey data in PSWS, its situations and forest cover are useful for forest conservation values and wetland. The development of conservation and core zone criteria are very important to be identified by local communities as they are of unique ecosystems and different from the areas where the community members are living and the areas where and depend on to collect the natural resources for their livelihood subsistence. The assessment for zoning must be a process fully involving the members of local and indigenous communities, local authorities and other stakeholders to identify socio-economic situations and key biodiversity hotspots. Key activities to be carried out to develop management plan as follows:

Preparation for village field survey: 40 villages near and inside PSWS have been selected for group discussions and interviews on the socio-economic status, biological resources, and participatory mapping for zoning. The villages selected are in the geographical provinces of Pursat, Battambang and Koh Kong while the key persons for this exercise are commune chiefs, village chiefs, local and indigenous community chiefs, old people who know the areas, IP representatives, and women.

Process of data collection preparation: Questionnaires were developed to do the field, village surveys; focusing on socio-economic and biodiversity status and participatory zoning process. In this exercise, the map with existing information and biodiversity data was used to collect field socio-economic and biodiversity data from the local and indigenous communities.

Interviews with villagers: The initial interviews were done to collect socio-economic data and information; especially the uses of natural resources and their economic activities, followed by interviews on biodiversity data and its status, habitats, wildlife species, and wildlife distributions which are known by local communities so far. Last but not least, zoning mapping was drafted; focusing mainly on draft boundaries of land uses and natural resources of the communities. Based on the knowledge of local and indigenous community people, core zone, conservation zone, sustainable use zone and community zone based on the Law on Protected Areas and relevant provisions of the Kingdom of Cambodia are determined in a participatory manner.

4.3 Applicable Laws and Relevant Regulations for Development of Management Plan

- Law on Protected Areas (2008);
- Law on Land (2001);
- Law on Environmental Protection and Natural Resource Management (1996);
- National Protected Area Strategic Management Plan 2017-2031;
- National Protected Area Management Strategy and Action Plan 2018-2022;
- Technical Guideline on Protected Area Management Plan (2018); and
- Technical Guideline on Protected Area Zoning (2017).

4.4 Management Plan Implementation Mechanisms

Some activities of the Management Plan are carried out by CSLEP while sub-national administrations, partnership organizations, private sector and other stakeholders are encouraged to be part of the implementation mechanisms after the sub-decree on PSWS Zoning is endorsed by the Royal Government of Cambodia. In addition, the PAWS 10-Year Management Plan is formally approved by the Ministry of Environment. Certain priority actions which are supported by Cambodia Sustainable Landscape and Ecotourism Project include but are not limited to boundary pole installation, state land registration, law enforcement training and ecotourism development.

Dissemination workshops on the Zoning Sub-Decree and approved 10-Year Management Plan will be held at the three relevant provinces. Over the longer term, management plan implementation will be overseen and advised by the Technical PAWS Management Group as part of annual operating plans. This technical group is established by GDPA and the PDoEs and supported by the sub-national authorities and local communities to ensure the effectiveness of leadership and management. Each zoning of each geographical province is determined as follows:

- 1. The core area covers a total area of 112,715 hectares, equivalent to 33.89% of the total land area. The key areas of this are in Pursat province such as Kbal Domrey, Stung Keav, Phnom 1500, Phnom Samkus, Phnom Khsouch (1,7717 meters), Toek Vei, Samot Phuk, Kbal Ou Khting, and Khchae Tong while the main areas in Battambang province include Phnom Chamchar, Stung Ta Sambath, Kbal Lan, Phnom Tonle Phain Veal Rolim, and Ou Taveay and in Koh Kong such as Stung Kheav.
- 2. Conservation area covers a total area of 112,240 hectares, equivalent to 33.75% of the total land area around the core area.
- 3. Sustainable use area covers a total area of 66,644 hectares, equivalent to 20.04%
- 4. Community area covers a total area of 35,798 hectares, equivalent to 10.76%
- 5. Request for border adjustment from the provincial administration with a total area of 5,168 hectares, equal to 1.55%

4.5 Programs, Subprograms, Objectives and Indicators

The strategies to address the above three challenges and threats for improving the management of the Phnom Samkus Wildlife Sanctuary have developed four strategic programs and 12 subprograms (Table 11).

Table 11. Program and Subprogram at Phnom Samkus Wildlife Sanctuary

Programs	Subprograms

1.	Natural Resource Protection and	1.1	Complete zoning, boundary demarcation, signpost installation, and state land registration;
	Conservation	1.2	Invest on law enforcement and threat reduction; and
		1.3	Promote biodiversity conservation, research and monitoring
2.	Expand Community/IP	2.1	Support local community, women and IP
	Participation and Benefits		participation in PA management
		2.2	Facilitate CPA development and cultural resources
			(local community, gender and IP)
		2.3	Expand environmentally sustainable livelihood
			opportunities
3.	Promote Ecotourism	3.1	Identify opportunities for ecotourism growth
		3.2	Promote and encourage community-led
			ecotourism services
4.	Strengthen Institutional	4.1	Ensure adequate staff with appropriate capacity
	Capacity and Cooperation		and resources
		4.2	Develop effective and inclusive PSWS structures for implementing MP

Program Area 1: Natural Resource Protection and Conservation

Objective and summary of Program Area 1

This program consists of 5 subprograms and 19 priority activities and is described as follows:

Subprogram 1.1. Develop zoning, management plan, boundary installation and state land registration

The subprogram consists of 5 key activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activity	Time (Year)	Responsible	Stakeholder
			MOE, PDOP, CSLEP,
Activity 1: Complete demarcation and pole installation in Core	1-2	PDOE/PA	Local Authority,
and Conservation Zones	1-2	director	Sociaty and other
			relevant stakeholders
			MOE, PDOP, CSLEP,
Activity 2: Complete State Land Registration for Core and Conservation Zones	1-3	PDOE/PA	Local Authority,
	1-5	director	Sociaty and other
			relevant stakeholders
			MOE, PDOP, CSLEP,
Activity 3: Complete dissemination workshops on Zoning Sub-	1	PDOE/PA	Local Authority,
decree		director	Sociaty and other
			relevant stakeholders
			MOE, PDOP, CSLEP,
Activity 4: Complete dissemination workshops on Management.	,	PDOE/PA	Lecal Authority,
Plan	1	director	Sociaty and other
			relevant stakeholders
			MOE, PDOP, CSLEP,
Activity 5. Manitorius susuas susual alan involuentation	1-5	PDOE/PA	Local Authority,
Activity 5: Monitoring management plan implementation	1-3	director	Sociaty and other
			relevant stakeholders

Subprogram 1.2. Investment on law enforcement and reduction of threats

The subprogram consists of 7 key activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activities	Timeframe	Responsible	Stakeholders
	(Year)	institution	
Activity 1: Carry out law enforcement based on Law on Protected Areas (2008) and relevant provisions	1-5	PDoE/Office in charge	- MoE/PDoE, CSLEP, local authorities, WA, WEA, CPA committee
Activity 2: Develop and carry out law enforcement monitoring framework	1-2	PDoE/Office in charge	- MoE/PDoE, CSLEP, local authorities, WA, WEA, CPA committee
Activity 3: Equip with sufficient facilities, equipment and human resources for patrolling (Lawyers, drones)	1-5	PDoE/Office in charge	- MoE/PDoE, CSLEP, local authorities, WA, WEA, CPA committee
Activity 4: Ensure sufficient capacity for patrolling team members	1-5	PDoE/Office in charge	- MoE/PDoE, CSLEP, local authorities, WA, WEA, CPA committee
Activity 5: Communicate with national, subnational and local authorities	1-5	PDoE/Office in charge	- MoE/PDoE, CSLEP, local authorities, WA, WEA, CPA committee
Activity b: Develop and install patrolling and monitoring system s using SMART	1-5	PDoE/Office in charge	- MoE/PDoE, CSLEP, local authorities, WA, WEA, CPA committee
Activity 7: Provide interventions against illegal natural resource activities (using drones)	1-5	PDoE/Office in charge	- MoE/PDoE, CSLEP, local authorities, WA, WEA, CPA committee

Subprogram 1.3. Promote biodiversity conservation, research and monitoring

The subprogram consists of 7 key activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activity	Time (Year)	Responsible	Stakeholder
Activity 1: Wildlife monitoring and evaluation through SMART	1-5	PDOE/PA director	MOE, PDOP. CSLEP, Local Authority. Society and other relevant stakeholders
Activity 2: Continue the use of camera traps	1-5	PDOE/PA director	MOE, PDOP, CSLEP, Local Authority, Society and other relevant stakeholders
Activity 3: Encourage researchers and students to carry out detailed biodiversity surveys in the Core and Conservation Zones	3-5	PDOL/PA director	MOE, PDOP, CSLEP, Local Authority, Sociaty and other relevant stakeholders
Activity 4: Site assessment for forest restoration through enrichment planting and assist natural regeneration	1-2	PDOE/PA director	MOE, PDOP, CSLEP, Local Authority, Sociaty and other relevant stakeholders
Activity 5: Forest restoration	3-5	PDOE/PA director	MOE, PDOP, CSLEP, Local Authority, Sociaty and other relevant stakeholders
Activity 6: Conducting workshop to identify for genetic conservation areas	2	PDOE/PA director	MOE, PDOP, CSLEP, Local Authority, Society and other relevant stakeholders
Activity 7: Develop Genetic conservation areas	3-4	PDOE/PA director	MOE, PDOP, CSLEP, Local Authority, Sociaty and other relevant stakeholders

Program Area 2: Expand local and indigenous community participation and benefits

Objective and Summery of Program 2

This program consists of the three subprograms and 18 priority activities as described below.

Subprogram 2.1. Expand participation opportunities and livelihoods of local and indigenous communities

The subprogram consists of 7 priority activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activities	Timeframe	Responsible	Stakeholders
	(Year)	institution	
Activity 1: Wildlife monitoring and evaluation through SMART	1-5	PDoE/PA director	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 2: Continue to deploy camera traps	1-5	PDoE/PA director	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 3: Encourage joint biodiversity researches from national and international universities	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee

Activity 4: Carry out site assessment for forest restoration through enrichment planning and assistance of natural regenerations	1-2	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 5: Carry out forest restoration (nurseries) Activity 6: Conduct workshops on plant species and their classifications for genetic resource conservation	3-5	PDoE/Office in charge PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee - MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 7: Designate the plant genetic sites	3-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee

Subprogram 2.2. Community Protected Area development and cultural and indigenous community conservation

The subprogram consists of 5 priority activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activity	Timeframe	Responsible	Stakeholder
	(Year)	institution	
Activity 1: Prepare publication and communication materials	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 2: Integrates into 3 years commune development	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 3: Provide ongoing support to CPA Management Committees	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee

			- MoE, PDoE,
Activity 4: Share knowledge and		PDoE/Office	CSLEP, Local
lesson learnt with CPA network	1-5	in charge	authority, WA,
lesson learnt with CFA hetwork		in charge	WEA, and CPA
			committee
			- MoE, PDoE,
Activity 5: Process and establish CPA	1-5	PDoE/Office	CSLEP, Local
		in ahanaa	authority, WA,
		in charge	WEA, and CPA
			committee

Subprogram 2.3. Expand livelihoods opportunities through sustainable uses

The subprogram consists of 6 priority activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activity	Timefram	Responsible	Stakeholder
	e (Year)	institution	
Activity 1: Develop Forest and NTF products maps and identify the cultural and heritage sites	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 2: Monitor and assess uses of Forest and NTF products, identify the cultural and heritage sites	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 3: Market NTFPs and entrepreneurships	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 4: Explore and promote livelihood opportunities for local and indigenous communities	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 5: Promote one village, one product campaigns	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee
Activity 6: Promote processing and packaging NTFPs	1-5	PDoE/Office in charge	- MoE, PDoE, CSLEP, Local authority, WA, WEA, and CPA committee

Program Area 3: Promote Ecotourism Development

Objective and Summary of Program 3

This program consists of 2 sub-programs and 7 priority activities as below.

Subprogram 3.1. Identify opportunities for ecotourism growth

The subprogram consists of 3 key activities based on the proposed priority activities, time and responsible institutions are summarized as follows:

Activity	Time (Year)	Responsible	Stakeholder
Activity 1: Register existing ecotourism concessions	1-5	PDOE/PA director	MOE, PDOP, CSLEP, Local Authority, Sociaty and other relevant stakeholders
Activity 2: Identify wildlife and landscape viewing	1-5	PDOE/PA director	MOE, PDOP, CSLEP, Local Authority, Sociaty and other relevant stakeholders
Activity 3: Identify adventure tourist destination	1-5	PDOE/PA director	MOE, PDOP, CSLEP, Local Authority. Sociaty and other relevant stakeholders

Subprogram 3.2. Promote locally operated ecotourism services

The subprogram consists of 4 key activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activities	Time	Responsibl	Stakeholders
	(Year)	e	
		Institution	
Activity 1: Conduct training sessions for	1-3		- MoE/PDoE
local and indigenous communities on		PDoE/Offic	- MoRD/PDRD
local and indigenous communities on		e in charge	- CSLEP
Ecotourism Management and Services			- Local authority
			- WA
			- WEA
Activity 2: Develop ecotourism information	1-2		- MoE/PDoE
centers		PDoE/Offic	- MoRD/PDRD
Centers		PD0E/OHC	- CSLEP
		e in charge	- Local authority
			- WA
			- WEA
Activity 3: Prepare and install signs on	1-5		- MoE/PDoE
ecotourism sites		PDoE/Offic	- CSLEP
ecotodiisiii sites		e in charge	- Local authority
		e in charge	- WA
			- WEA
Activity 4: Develop clean water and	1-5	PDRD,	- MoE/PDoE
sanitation system		PDoE, PA	- MoRD/PDRD
Santation system		I DOL, FA	- CSLEP
		director	- Local authority
			- WA

			- WEA
Activity 5: Assess community and guest	1-5	PdoT, PDoE	- MoT
house standards			- MoE
nouse standards			- Relevant
			stakeholders

Program Area 4: Strengthen Institutional Capacity and Cooperation

Objective and Summary of Program 4

This program consists of 4 sub-programs and 13 priority activities as below.

Subprogram 4.1 Build appropriate capacities and human resources

The subprogram consists of 3 key activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activity	Time (Year)	Responsible institution	Stakeholder
Activity 1: Increase number of rangers Activity 2: Provide technical and management trainings to rangers and PSWS	1-3	PDoE/Office in charge PDoE/Office in charge	- MoE/PDoE - CSLEP - Local authority - WA - WEA - MoE/PDoE - CSLEP - Local authority - WA - WEA
Activity 3: Strengthen effectiveness of rangers to reduce offenses and threats	1-5	PDoE/Office in charge	- MoE/PDoE - CSLEP - Local authority - WA - WEA

Subprogram 4.2: Develop systems for implementation of management plans

The subprogram consists of 3 key activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activity	Time	Responsibl	Stakeholder
	(Year)	e	
		institution	
Activity 1: Establish PSWS management	1		- MoE/PDoE
committee		PDoE/Offic	- CSLEP
Committee		FDOL/OHIC	- Local
		e in charge	authority
			- WA
			- WEA

Activity 2: Develop management structures in each geographic area (one director, two deputy directors, one in charge of law enforcement and one in charge of conservation and community development)	1	PDoE/Offic e in charge	- MoE/PDoE - CSLEP - Local authority - WA - WEA
Activity 3: Promote border conservation	1	PDoE/Offic e in charge	- MoE/PDoE - CSLEP - Local authority - WA - WEA

Subprogram 4.3: Management structure

The subprogram consists of 2 key activities and the proposed priority activities, time and responsible institutions are summarized as follows:

	Ac	ctivity		Time (Year)	Resonsible institution	Stakeholder
Activity manageme	1: nt team	Develop 1	PSWS	1-2	PDoE/Offic e in charge	- MoE/PDoE- CSLEP- Local authority- WA- WEA
Activity manageme	2: nt syste	Develop em	PSWS	1-3	PDoE/Offic e in charge	- MoE/PDoE- CSLEP- Local authority- WA- WEA

Subprogram 4.4: Monitoring of management plan implementation

The subprogram consists of 2 key activities and the proposed priority activities, time and responsible institutions are summarized as follows:

Activity	Time	Responsibl	Stakeholder
	(Year)	e	
		institution	
Activity 1: Carry out semesterly meeting	1-5	PDoE/Offic e in charge	- MoE/PDoE - CSLEP - Local authority - WA - WEA
Activity 1: Carry out annual meeting	1-5	PDoE/Offic e in charge	- MoE/PDoE - CSLEP - Local authority - WA - WEA

V. Financing Needs to Implement PSWS Management Plan

The PSWS Management Plan covers a 10-year time period (2022-2031) with a major review scheduled after 5 years (i.e. in 2026) to make any changes to program focus and implementation, as necessary. Financing needs have been identified for the first 5 years (2022-2031) with a focus on activity (programme) costs that need to be covered over and beyond existing core government budgets from the central and provincial MoE sources.

The indicative cost for implementing the program areas described above is USD 2,612,500 over the next 5-year period (Annex 4). Most of these program costs (>80%) will require external financing and it is proposed these costs be covered by existing CSLEP budgets. The government portion that covers salaries, travel, consultations, repairs and maintenance represents about 65% of this total estimated cost.

The Cambodia Sustainable Landscape and Ecotourism Project (CSLEP) offers a unique opportunity to "kick-start" the PSWS MP by providing financial support for priority activities such as boundary demarcation, state land registration, enhanced law enforcement, and the promotion of alternative livelihoods (including NTFP value chains and ecotourism development). Since CSLEP is a time-limited project that ends in 2025, it will be important to quickly receive approval for the building blocks of PSWS management (i.e. the PSWS Zoning Sub decree and Management Plan) in order to use the funding available.

Over the longer term, government budgets will continue to cover basic operational costs (including salaries, travel, patrolling and basic repair/maintenance of government property). Only limited government funds are available for program investments (such as targeted training of technical and enforcement staff; biodiversity monitoring; livelihood — development and CPA support). While development partners including donors and NGOs have been instrumental in providing funding support to PAs in Cambodia, this support cannot be counted on as sources of sustainable funding. As part of implementing CSLEP, a financing strategy will be developed to identify potential sources of sustainable funding for continued protection of the Cardamom Mountains — Tonle Sap Landscape that could include fees and charges for ecotourism and for the provision of ecosystem services (such as water supply, REDD+).

VI. Monitoring and Evaluation Mechanisms

6.1 Yearly Planning Development

After Phnom Aural WS 10 years management plan approved by MOE Minister, Phnom Aural WS director or management committee will conduct dissemination workshop and training with the participation from their staff, ranger, local authority, civil society, private sector, partners

and donors and then, they will develop the monthly, quarterly, six month and yearly implementation work plan based on indicators (Appendix 4). Priority key activities and indicators will be amended when are needed but explain — the reasons for changing required and based on indicators and expected outputs. In case, some activities cannot be implemented — then these will be proposed to the next year work plan.

6.2 Development of Monitoring and Evaluation Reports

SMART tools will be used to collect, analyze, monitor and evaluate law enforcement activities, and wildlife research on species present in the sanctuary. This will also help develop summary reports for decision makers for developing next strategic action plans for an effective management and on time implementation and this will be used as the road map for preparing and identifying priority activities and help monitor and evaluate the progress and planning during implementation. Head of each ranger station should have enough capacity to collect, analyze and do reporting using SMART—and has to report directly to the director—or deputy director of the wildlife sanctuary.

6.3 Monitoring and Evaluation Mechanism

Monitoring and evaluation of the implementation progress of the PSWS Management Plan will help to increase the effectiveness and efficiency of the management, especially using SMART. The director or deputy director of the wildlife sanctuary is in charge of preparing, collecting, analysing and preparing reports—based on the information from each ranger station for preparing reports—to PDOE or Provincial Department Director. To ensure effective management, the information system and at least one meeting with stakeholders per year is needed.

6.3.1 Mid-term Evaluation

A mid-term review will compile the information based on the yearly reports, focusing on potential reorientation and perspectives for the current management plan. The achievements or ongoing achievements of success indicators will be assessed for recommendations.

6.3.2 Yearly Evaluation

To ensure effective implementation of the management plan, regular reports and assessments are required. As a key component of the monitoring system, it is suggested that a yearly report be prepared by the management team, assessing progress against each objective and action on the basis of the success indicators (see Annex 4) identified in the management plan. The first draft of the report will be discussed in an annual workshop involving all the stakeholders/partners of the management plan from village level to province level. This annual workshop will allow participants to provide feedback on the past activities and offer an

opportunity to evaluate the need for reorientation of objectives or activities, revise schedule, report progress and achievements, and formulate the work plan for the years to come. A specific chapter of the annual review will reflect on lessons learned and recommendations to plan next phases of the management plan.

6.3.3 Final Monitoring

The final evaluation will provide a comprehensive assessment of the implementation of the five-year management plan, based on the results achieved by the indicators (see Annex 4) in each implementation year, including quarterly, and annually reports and provide an overview of vision, objectives and activities for continuous management planning.

6.3.4 Data Monitoring and Evaluation

This management program will collect, manage, and evaluate the information needed to determine trends in the status of biodiversity conservation within PAWS, and trends in the main threats to biodiversity. This program will maintain the ongoing program in biological monitoring based on field monitoring and research. The monitoring of illegal activities that threaten the PAWS values based on routine patrolling and monitoring is also included. For the course of this plan, data collected from field monitoring will be managed by donor technical staff, supervised by a DNCP counterpart in consultation with a donor technical advisor. In the future, the DNCP should make an effort to effectively manage the monitoring data.

6.3.5 Biodiversity Evaluation

The research team will maintain the current biological monitoring in PAWS, according to the following schedule.

- The research coordinator will train and use community representatives to assist in the monitoring, in order to build community participation and to keep enough rangers involved in effective routine patrolling; and
- Field monitoring data will be processed and entered into a GIS database within 2 weeks
 after collection. The GIS/Data manager will be responsible for maintaining the quality
 of stored data. All data will be shared freely with the GDPA.

6.3.6 Threat Evaluation

In combination with the biological monitoring program, illegal activities and other threats to biodiversity conservation will be monitored and evaluated based on data from routine patrolling and focused interventions. Data collection on threats will be collected according to a predetermined standard data format and will be processed and stored according to guidelines similar to those for management of biological data, under the supervision of the project Data/GIS manager.

6.3.7 Updating Management Plan

Monitoring data will be analyzed and evaluated at least once per year, preferably during an annual review workshop by PDOE and reported to MOE. A full monitoring and evaluation will be conducted after year 5 (2026) and this management plan will be updated when it is needed for the next 5 years of plan implementation.

6.4 Management Plan Risk Assessments

This is a 10 year management plan but the budget for this management plan is carried out only for the first 5 years. Approximately 70% of this budget is from Cambodian Sustainable Ecotourism and Landscape Project and government budget and the rest is based on other partners. Thus, the full successful implementation of this management plan is based on existing government and project budgets and in case, some activities cannot be financed by the project and government budgets, the implementation risks facing these activities are based on the ability of fundraising and mobilization from other partners and incomes collected.

VII. References

MoE (2018) Technical Guideline on Protected Area Management Plan (2018), Phnom Penh, Kingdom of Cambodia

Law on Protected Areas, dated 15 February 2008

Chay, K. K., Oul, Noty, Chea, M., Pan, R., & Chhouk, B. (2005). Fish diversity and fisheries in Phnom Samkus and Aural Wildlife Sanctuaries.

Coad, L., S. Lim and L. Nuon. (2019). Wildlife and Livelihoods in the Cardamom Mountains, Cambodia.

Front. Ecol. Evol. 7:296. doi: 10.3389/fevo.2019.00296

CDB. (2019). Commune Database 2019.

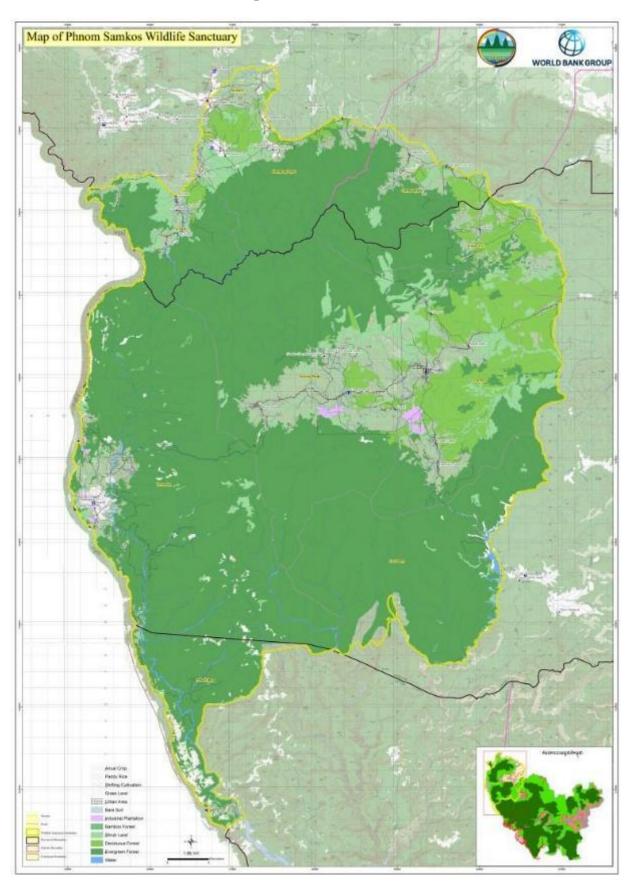
CDB. (2017). Commune Database 2017.

- Coudrat, C.N.Z., Rogers, L.D.,, and Nekaris, K.A.I. (2011). Abundance of primates reveals Samkus Wildlife Sanctuary, Cardamom Mountains, Cambodia as a priority area for conservation. *Oryx* 45(3): 427-434.
- Daltry, J.C. (ed.) (2002). Social and Ecological Surveys of the Veal Veng Wetland, Cardamom Mountains, Cambodia, With Special Reference to the Conservation of the Siamese Crocodile. Cambodia Programme, Fauna & Flora International, Phnom Penh.
- Daltry, J. C. & Momberg, E. (eds), (2000). Cardamom Mountains Biodiversity Survey 2000. Fauna & Flora International Cambridge, UK, 254 pages.
- FFI. (2005). Phnom Samkus Wildlife Sanctuary and Phnom Aural Wildlife Sanctuary Technical Summary. Prepared for the Cardamom Mountains Wildlife Sanctuaries Project (CMWSP). Phnom Penh, Cambodia. 25 pp.
- GDANCP (2018). Technical Management Plan Guidelines for the Protected Areas in Cambodia. Phnom Penh, Cambodia: General Directorate of Administration for Nature Conservation and Protection (GDANCP), the Ministry of Environment
- Gray, T.N.E. Billingsley, A., Crudge, B., Frechett e, J.L., Grosu, R., Herranz-Muñoz, V., Holden, J., Keo O., Kong K., Macdonald, D., Neang T., Ou R., Phan C. & Sim S.et al. (2017a). Status and conservation significance of ground-dwelling mammals in the Cardamom Rainforest Landscape, southwestern Cambodia. *Cambodian Journal of Natural History*, 2017, 38–48.
- Gray, T.N.E., Lynam A.J., Seng T., Laurance, W.F., Long, B., Scotson, L. & Ripple, W.J. (2017b). Wildlife-snaring crisis in Asian forests. *Science*, 355, 255–256.
- Grieg-Gran, M., et al., (2008). Sustainable financing of protected areas in Cambodia: Phnom Aural and Phnom Samkus Wildlife Sanctuaries, Environmental Economics Programme Discussion Paper 08-01, IIED, London.
- Grismer L.L., Neang T., Chav T., Wood Jr, P.L., Oaks J.R., Holden, J., Grismer, J.L., Szuĵ, T.R. & Youmans, T.M. (2008a). Additional amphibians and reptiles from the Phnom Samkus

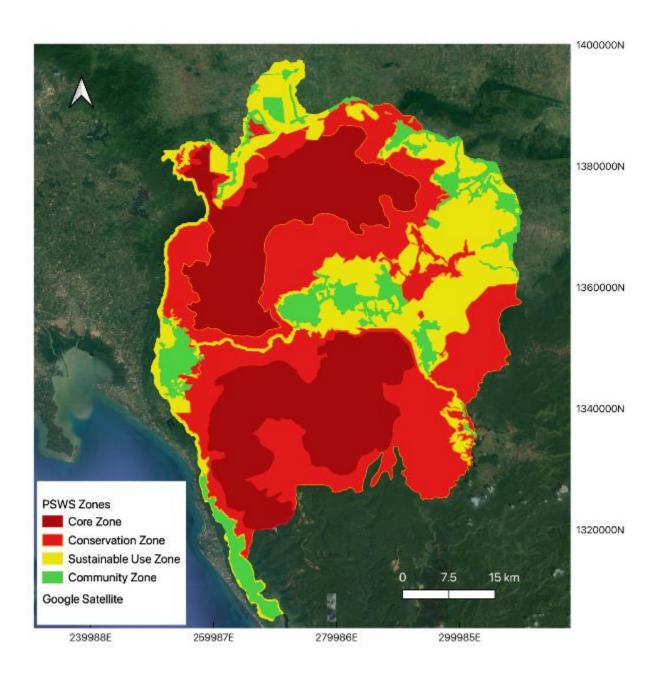
- Wildlife Sanctuary in the northwestern Cardamom Mountains, Cambodia, with comments on their taxonomy and the discovery of three new species. The Raffles Bulletin of Zoology, 56, 161–175.
- Grismer, L.L., Neang T., Chav T. & Grismer, J.L. (2008b). Checklist of the amphibians and reptiles of the Cardamom Region of Southwestern Cambodia. *Cambodian Journal of Natural History*, 2008, 12–28
- Holden, J. Neang, T. (2009) Small carnivore records from the Cardamom Mountain s, southwestern Cambodia. *Small Carnivore Conservation Vol.* 40, 16-21.
- Moilanen, A. et al. (2014). Zonation Version 4 User Manual. C-BIG Conservation Biology Informatics Group. University of Helsinki, Finland. 290 pp.
- Neang T, Holden J. (2008). A field guide to the amphibians of Cambodia. Phnom Penh (Cambodia): Fauna & Flora International; p. 127.

VIII. Annexes

Annex 1. PSWS Administration Map



Annex 2. PSWS Zoning Map



Annex 3. Summary of Allowable Activities and Facilities for Each Zoning

Activities and Facilities	Core	Conservation	Sustainable	Communit
Activities and Facilities	Zone	Zone	Use Zone	y Zone
1. Ranger Patrolling	$\sqrt{}$	√	V	√
2. Access by Security and Defense Forces	$\sqrt{1}$	$\sqrt{1}$	V	√
3. Trails	$\sqrt{}$	V	V	V
4. Research and Monitoring	\checkmark	V	V	√
5. Low impact, guided ecotourism by foot	√	√		
(accompanied by Rangers)				
6. Permanent camp sites		V	V	√
7. Garbage Disposal Sites			V	√
8. Maintained Roads		V	√	V
9. Ecotourism investments		V	V	√
10. Spirits and soul forests		V	V	V
11. NTFP collection		V	V	√
12. Ecosystem restoration (supervised by		√	V	
PA management authority)				
13. Economic land concession			√	√
14. Community Protected Areas (CPAs)			V	√
15. Mining			V	V
16. Paddy field			V	V
17. Agricultural lands			V	√
18. Houses and settlements			V	√

Annex 4. Summary of 5 Year (2022-2026) Operation Costs

Duo ang ma /S. wh. mang ang ma /Oh i a atinya / A atinyisi a a	Indicator			Budgets			
Program/Subprogram/Objective/Activities	Indicator	2022	2023	2024	2025	2026	
Program 1: Natural Resource Protection and Conservation							\$ 1,609,500
Objective and Summary of Subprogram							
1.1 Secure PSWS boundaries and management zones							\$ 686,000
Activity 1: Complete demarcation and pole installation in conservation and core zones	Number of poles and signs						\$ 180,000
Activity 2: Complete State land registration of conservation and core zones	Number of deeds						\$ 440,000
Activity 3: Complete dissemination workshops on Zoning Sub-decree	Reports and participants						\$ 15,000
Activity 4: Complete dissemination workshops on Management Plan	Reports and participants						\$ 15,000
Activity 5: Monitoring management plan implementation	Reports						\$ 36,000
1.2. Invest on law enforcement and threat reduction							\$ 324,000
Activity 1: Law enforcement based on PA law 2008 and other regulations via patrolling activities	Number of illegal activities and dissemination meetings						\$ 48,000
Activity 2: Develop and implement law enforcement framework	Develop and implement SMART						\$ 30,000
Activity 3: Provide enough facility, equipment and human resources	One ranger station and increased number of rangers						\$ 150,000

Activity 5: Coordinate with national, provincial and authorities	Number of training sessions			\$	42,000
Activity 6: Develop patrolling system and community patrolling	Number of meetings with stakeholders			\$	12,000
Activity 7: Develop patrolling system and community patrolling with SMART	Number of community members attending the training sessions and patrolling			\$	24,000
Activity 8: Provide interventions to address illegal natural resource activities (using drone)	Number of illegal activities			\$	18,000
1.3. Subprogram 1.3 Promote biodiversity conservation, research and monitoring				\$	135,000
Activity 1: Carry out wildlife monitoring and evaluation through SMART	Biodiversity reports based on SMART			\$	36,000
Activity 2: Continue the use of camera traps	Number of camera traps and species recorded			\$	20,000
Activity 3: Encourage researchers and students to carry out detailed biodiversity surveys in the conservation and core zones	Number of involved students involved in researches			\$	5,000
Activity 4: Conduct site assessment for forest restoration through enrichment planting and assist natural regeneration				\$	6,000
Activity 5: Carry out forest restoration (nurseries)	Plant species and number of seedlings planted			\$	40,000
Activity 6: Conduct workshops on plant species and their classifications for genetic resource conservation	Reports			\$	8,000
Activity 7: Designate the plant genetic sites	Number and genetic sites			\$	20,000

Duo ano ma/Cultura ano ma/Ohio ativo / A ativitios	Indicator	Annual Plans						Budgets
Program/Subprogram/Objective/Activities	indicator	2022	2023	2024	2025	2026		
Program Area 2: Expand local and indigenous community participation and benefits							\$	464,500
Objective and Summary of Subprogram								
2.1 Subprogram 1: Expand the participation opportunities and improve livelihoods of local and indigenous communities							\$	302,000
Activity 1: Establish patrolling team, conduct research and ecotourism sites with participation from the local and indigenous communities	Number of patrolling teams and participants						\$	5,000
Activity 2: Carry out outreaches on natural resource values to local and indigenous communities and schools	Reports on outreach activities						\$	12,000
Activity 3: Promote animal husbandry	Number of participants						\$	6,000
Activity 4: Apply diversified farming system and market farming products	Number of model farmers						\$	7,000
Activity 5: Promote training sessions on seminal propagations	Number of participants and training sessions		-	-	-	-	\$	12,000
Activity 6: Develop rural credits	Number of credit beneficiaries						\$	10,000
Activity 7: Develop rural infrastructure	Number of small scale infrastructures						\$	250,000
2.2. Subprogram 2: Facilitate CPA and cultural resource development	-	_	-	_	-	-	\$	66,000

Activity 1: Prepare publication and communication materials	Action plans and reports						\$ 12,000
Activity 2: Integrate into 3 years commune development	Action plans						\$ 15,000
Activity 3: Provide ongoing support to CPA Management Committees	Plan implementation reports						\$ 12,000
Activity 4: Share knowledge and lesson learnt with CPA network	Reports						\$ 15,000
Activity 5: Process and establish CPA	Number of PAs						\$ 12,000
2.3 Subprogram 3: Expand participation opportunities and improve livelihoods of local and indigenous communities	-	-	-	-	-	-	\$ 96,500
Activity 1: Develop forest and NTF products maps and identify the cultural and heritage sites	Road map						\$ 5,000
Activity 2: Monitor and assess uses of Forest and NTF products, identify the cultural and heritage sites	Assessment reports						\$ 12,000
Activity 3: Market NTFPs and entrepreneurships	Market NTFPs						\$ 4,000
Activity 4: Explore and promote livelihood opportunities for local and indigenous communities	Number of role model farmers						\$ 8,500
Activity 5: Promote one village, one product campaigns	Number of selected produced						\$ 15,000
Activity 6: Promote processing and packaging NTFPs	Number of processing places and packages						\$ 52,000

Program/Subayagram/Objective/Activities	Indicator		Aı	nnual Pla	ns		Budgets
Program/Subprogram/Objective/Activities	Indicator	2022	2023	2024	2025	2026	
Program 3: Promote Ecotourism Development							\$ 133,000
Objective and Summary of Subprogram 3							

3.1. Subprogram 1: Identify opportunities for ecotourism growth				\$	42,000
Activity 1: Register existing ecotourism concessions	Number of tourism sites			\$	25,000
Activity 2: Identify wildlife and landscape viewing	Number of sites			\$	9,000
Activity 3: Identify adventure tourist destination	Number of sites			\$	8,000
3.2. Subprogram 2: Promote locally operated ecotourism services				\$	91,000
Activity 1: Train local community on ecotourism management and services	Report			\$	36,000
Activity 2: Establish CBET information center	Number of Information centers			\$	8,000
Activity 3: Install ecotourism signs	Number of signs			\$	8,000
Activity 4: Promote pure drinking water system and sanitation	Length of water supply system and number of toilets			\$	24,000
Activity 5: Assess community and community-based guest house standards	Number of community and community-based guesthouses			\$	15,000
Program 4: Strengthen Institutional Capacity and Collaboration				\$	141,500
Objective and Summary of Subprogram 4					
4.1. Subprogram 1: Ensure adequate staff with appropriate capacity and resources				\$	43,500
Activity 1: Provide technical and management trainings to rangers and PSWS staff	Number of rangers			\$	1,500
Activity 2: Capacity assessment and training rangers for Phnom Samkus WS management plan implementation	Reports			\$	18,000

Activity 2: Facility, Equipment and enough staff	Reports						\$	24,000
4.2. Organizational structure for management plan implementation	-	-	-	-	-	-	\$	51,000
Activity 1: Develop ToRs and organizational structure for PAWS staffing	Management committee						\$	18,000
Activity 2: Establish the PAWS Management Committee	Management structure						\$	15,000
Activity 3: Promote border natural resource conservation	Reports						\$	18,000
4.3 Subgram 3: Management structure	_	-	_	_	_	_	\$	15,000
Activity 1: Establish PSWS management team	Working team						\$	10,000
Activity 2: Establish PSWS management structure	Structure						\$	5,000
4.4 Subprogram 4: Monitoring of Management Plan Implementation	-	-	-	-	-	-	\$	32,000
Activity 1: Carry out semesterly meetings	Reports						\$	12,000
Activity 1: Carry out annual meetings	Reports						\$	20,000
Total							\$ 2,	348,500

Annex 5. Summary of Allowable Activities and Facilities for Each Zoning

Permitted activities	Core Zone	Conservation Zone	Sustainable Use Zone	Community Zone
1. Ranger Patrolling	\checkmark	\checkmark	\checkmark	$\sqrt{}$
2. Access by Security and Defence	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$
Forces				
3. Trails	$\sqrt{}$	$\sqrt{}$	$\sqrt{}$	\checkmark
4. Research and Monitoring	\checkmark	\checkmark	$\sqrt{}$	\checkmark
៥. Road maintenance		\checkmark	$\sqrt{}$	\checkmark
6. Ecotourism investments		\checkmark	$\sqrt{}$	\checkmark
7. NTFP collection		\checkmark	$\sqrt{}$	\checkmark
8. CPA			$\sqrt{}$	$\sqrt{}$
9. Hydro dams			$\sqrt{}$	\checkmark
10. Rice fields				$\sqrt{}$
11. Agricultural farming and animal husbandry				V
12. Settlements				V









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