

Kingdom of Cambodia
Nation Religion King



ZONING REPORT PHNOM AURAL WILDLIFE SANCTUARY



2024

Acknowledgement

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 PAWS 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 SAMKOS 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 Organisation 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 Organisation and Functioning of the Ministry of Agriculture, Forestry and 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 Organisation and Functioning of the Ministry of Environment;
- The Sub-Decree No. 17 OrNkr/BK, dated 07 April 2000 on the Organisation 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 Ministry of Environment

Decide

Article 1

A Working Group on “Alienation, Zoning and Management Plan Development” for Phnom Aural Wildlife Sanctuary within the geographic provinces of Kampong Speu, Kampong Chhnang and Pursat with the following composition:

1.	H.E. KIM Nong	Director General of General Directorate of Natural Protected Areas (GDNPA)	Chair
2	H.E. SOKH Phea	Deputy Governor of Kampong Speu	Deputy chair
3	H.E. BUN Sophy	Deputy Governor of Kampong Chhnang Province	Deputy chair
4	Mr. KHOV Rida	Deputy Governor of Pursat Province	Deputy chair
5	Mr. LOEUN Kesaro	Deputy DG of GDNPA	Deputy chair
6	Mr. HONG Daravuth	Department Director of Terrestrial Protected Areas Conservation of Southern Tonlesap/GDNPA	Permanent deputy chair
7	Mr. KONG Kimsreng	Department Director of Terrestrial Protected Areas Conservation of Northern Tonlesap/GDNPA	Chief of component 1.2
8	Mr. EAR Sokha	Department Director of Inspection and Law Enforcement	Member
9	Mr. LENG Chivin	Department Director of Geographic Information Services/GDEKI	Member
10	Mr. CHHIN Nith	Acting Director of Biodiversity Department of GSSD	Member
11	Mr. ROS Chor	Department Director of Local Livelihoods/GDLC	Member
12	Mr. KHUT Osaphea	Chief of Provincial Administration Hall of Pursat	Member
13	Mr. KEO Kuchsey	Chief of Provincial Administration Hall of Kampong Speu	Member
14	Mr. BUN Sambath	Chief of Intersectoral Office of Provincial Hall of Kampong Speu	Member
15	Mr. VANN Bunthat	Chief of Intersectoral Office of Provincial Hall of Kampong Chhnang	Member
16	Mr. OM Maktheary	Director of PDoE of Kampong Speu	Member
17	Mr. KONG Puthira	Director of PDoE of Pursat	Member
18.	Mr. Man Phalla	Director of PDoE of Kampong Chhnang	Member
19.	Mr. CHHIENG Tola	Director of PDAFF of Kampong Speu	Member
20	Mr. SAM Khim	Director of PDoT of Pursat	Member
21	Mr. TAP Malay	Provincial Department of Land Management, Urbanization, Construction and Cadastre of Kampong Speu	Member
22	Mr. ON Sathea	Provincial Department of Land Management, Urbanization, Construction and Cadastre of Pursat	Member
23.	Mr. LY Sophea	Provincial Department of Land Management, Urbanization, Construction and Cadastre of Kampong Chhnang	Member
24	Mr. EAR Dam	Provincial Department of Rural Development of Kampong Speu	Member
25	Mr. THIM Sotheara	Provincial Department of Rural Development of Pursat	Member

26.	Mr. CHIN Ratha	Provincial Department of Rural Development of Kampong Chhnang	Member
27.	Mr. SENG Ratanak	Deputy Department Director of Terrestrial Protected Areas Conservation of Southern Tonlesap/GDPA	Member
28.	Mrs HOUR Chakriya	Office chief of Department of Terrestrial Protected Areas Conservation of Southern Tonlesap/GDPA	Member
29.	Miss MOM Sary	Deputy chief of Deputy Chief of Department of Local Livelihood and Social Safeguard Focal Point	Member
30.	Mr. SOPHA Sokhunarung	Official of Department of Natural Heritage and Focal Point in charge of Indegenous People	Member
31.	Mr. NOV Nak	Deputy Director of PDoE of Kampong Speu	Member
32.	Mr. ENG Raksmeay	Deputy Director of PDoE of Pursat	Member
33.	Mr. LAENG Samath	Deputy Director of PDoE of Kampong Chhnang	Member
34.	Mr. MUONG Thy	Governor of Aural District, Kampong Speu	Member
35.	Mr. KEAV Leangka	Governor of Thpong District, Kampong Speu	Member
36.	Mr. SOU Sahong	Governor of Kravanh District, Pursat	Member
37.	Mr. LIV Senghoem	Governor of Krakor District, Pursat	Member
38.	Mr. SOKH Sothy	Acting Governor of Toek Pos District, Kampong Chhnang	Member
39.	Mr. KHIM Sokhpich	Chief of Phnom Aural WS Office, PDoE of Pursat	Member
40.	Mr. CHUON Samol	Chief of Phnom Aural WS Office, PDoE of Kampong Chhnang	Member
41.	Mr. HUL Mara	Chief of Phnom Aural WS Office, PDoE of Kampong Speu	Member
42.	Mr. POV Ra	Office Chief of Land Management, Urbanization, Construction and Cadastre, Thpong District, Kampong Speu	Member
43.	Mr. VANN Chheng Orn	Office Chief of Land Management, Urbanization, Construction and Cadastre, Aural District, Kampong Speu	Member
44.	Mr. TEP Naem	Chief of Tropeang Chor Commune, Kampong Speu	Member
45.	Mr. TUON Phav	Chief of Ormleang Commune, Kampong Speu	Member
46.	Mr. NAN Sarun	Chief of Sangkae Satorp Commune, Kampong Speu	Member
47.	Mr. DUL Sokhom	Chief of Tasal Commune, Kampong Speu	Member
48.	Mr. PICH Iluon	Chief of Rotak Commune, Pursat	Member
49.	Mr. UM Sami	Chief of Santrea Commune, Pursat	Member
50.	Mr. OUK Thim	Chief of Propil Commune, Pursat	Member
51.	Mr. PAK Phorn	Chief of Chheu Tom Commune, Pursat	Member
52.	Mr. MOENG Visalsokh	Chief of Kdol Senchey Commune, Pursat	Member
53.	Mrs. HAEM Kien	Chief of Chiep Commune, Pursat	Member
54.	Mr. SAEM Saroeun	Chief of Tuok Kpus Commune, Kampong Chhnang	Member
55.	Mrs. SOME Ron	Chief of Kbal Toek Commune, Kampong Chhnang	Member
56.	Mr. VANNAK Thoeun	Chief of Sraekoen Sub-station, Kampong Speu	Member
57.	Mr. THON Chan	Chief of Tetoek Sub-station, Kampong Speu	Member
58.	Mr. OUN Bunsoem	Chief of Ksal Sub-station, Kampong Speu	Member
59.	Mr. KONG Nhim	Chief of Chorm Sub-station, Kampong Speu	Member

60.	Mr. SUN Khimhean	Chief of Tayak Station, Kampong Speu	Member
61.	Mr. NOB Pheakdey	Chief of Kbal Toek Station, Kampong Chhnang	Member
62.	Mr. MOENG Him	Chief of Tachieb Station, Kampong Chhnang	Member
63.	Mr. CHHUN Phy	Chief of Kdol Senchey Station, Kampong Chhnang	Member
64.	Mr. NORN Naen	Chief of Toek Thlak Chrok La'eang CPA, Pursat	Member
65.	Mr. BEB Din	Chief of Raing Kvav CPA, Pursat	Member
66.	Mr. MOM Samath	Chief of Natural Resouce Conservation Federation, PAWS, Kampong Speu	Member
67.	Mr. PHAL Noeun	Chief of 'Suoy' Indigenous Te Toekpus Community, PAWS, Kampong Speu	Member
68.	Mr. NUT Heng	Chief of Natural Resouce Conservation Federation, PAWS, Kampong Chhnang	Member

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 serveys 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 Aural Wildlife Sanctuary to be submitted to the Ministry of Environment for review and approval from the Royal Government of Cambodia;
- Develop Phnom Aural 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 Geneal secretariate 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

GDANCP	General Directorate of Natural Protected Areas
GDLC	General Directorate of Local Community
ha	Hectare
MEF	Ministry of Economy and Finance
MoE	Ministry of Environment
MoU	Memorandum of Understanding
NCSD	National Council for Sustainable Development
NGO	Non-Governmental Organization
NPASMP	National Protected Area Strategic Management Plan
NTFPs	Non-Timber Forest Products
PA	Protected Area
PAWS	Phnom Aural Wildlife Sanctuary
PDoE	Provincial Department of Environment
RGC	Royal Government of Cambodia
SMART	Spatial Monitoring and Reporting Tool
STTPACD	Southern Tonle Sap Terrestrial Protected Area Conservation Department
USD	US Dollars

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1. Introduction

The Phnom Aural Wildlife Sanctuary (PAWS) was originally designated by the Royal Decree; dated 01 November 1993 and is located across the 3 provinces of Kampong Speu, Kampong Chhnang, and Pursat and the total of the sanctuary expanded from 255,036 ha to 258,172ha by Sub-Decree; dated 17 July 2023. This wildlife sanctuary consists of the highest mountain in Cambodia namely Phnom Aural with a height of 1,813m the forest types in this WS are evergreen forests, semi-evergreen forests, deciduous forests, bamboos, grasslands and water sources and bodies which are of good quality for wildlife habitats and present of rare and Endangered species of flora and fauna; as a result, it is urgently needed for PAWS to be effectively and efficiently managed and conserved.

The zoning is developed and processed based on the Law on Protected Areas, dated 15 February 2008, and the Environment and Natural Resource Code, dated 29 June 2024. The Working Group for Zoning and Management Plan for Phnom Aural WS was officially established on 30 September 2020, under the chairmanship of chaired by Director General of the General Directorate of Natural Protected Area (GDNPA) and with 66 members in total from national and sub-national levels, national and international NGOs, local authorities and IP representatives. The main objective of the Working Group for Zoning and Management Plan for Phnom Aural WS is to mainly do the zoning and develop the management plan for natural resource management and biodiversity conservation while enhancing the livelihoods of the local and indigenous communities within this PA.

After the working group was formed and approved, the first dissemination workshop was conducted from 20 to 21 October 2020 and the initial zoning and management plan map was drafted for the PA, and criteria for core, conservation, sustainable use, and community zones approved, the working group worked with the relevant provinces bordering the PA to introduce the information and conduct the consultation meetings to collect inputs and information on biological diversity, and socio-economic with district, commune and village authorities which was carried out from February 17, 2021 to March 20, 2021. In addition, 84 camera traps have been deployed in this wildlife sanctuary and at least 10 rare, endangered, near threatened, and threatened species have been discovered; including Asian elephants, Clouded Leopards, Mainland Serows, Asiatic Bleak Bears, Sun Bears, Black Giant Squirrels, Dholes, Gaurs, Leopard Cats, and Green Peafowls. Other key species are also found in this wildlife sanctuary such as Sambar Deers, Wild Boars, Red Manjecs, Siamese Peasants, Asian Pucupines, and other bird species.

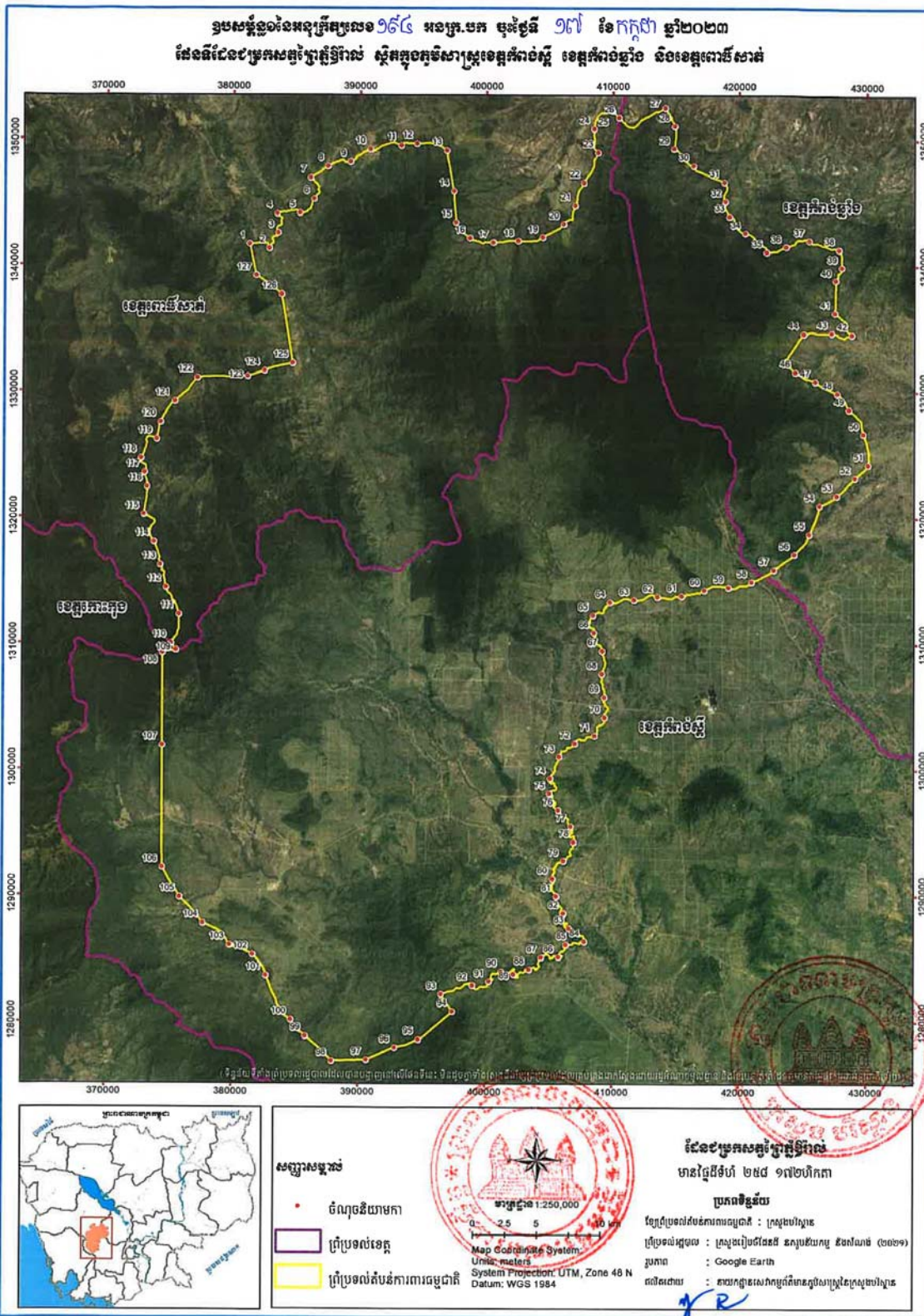
After the results of biodiversity and social-economic data from field data collection were analyzed and approved, the first provincial consultation meeting was held to review and comment on the initial zoning map and outline management plan development for Phnom Aural Wildlife Sanctuary on July 26, 2021. The second provincial consultation/inter-ministerial consultation meeting was held on July 26, 2021, to review and comment on the second draft zoning map. The total size of the sanctuary was expanded on 17 July 2023 then the final national consultation meeting was carried out and chaired by H.E **Chea Samang**, Secretary of State of the Ministry of Environment on 9 April 2024.

2. Description of Phnom Aural Wildlife Sanctuary (PAWS)

2.1 Geographic areas

PAWS was established by Sub-Decree on 17 July 2023 covering an area of 258,172 ha in Kampong Speu, Kampong Chhnang, and Pursat Provinces (Figure 1). The north of the sanctuary is next to Krakor district, Pursat province, the East is next to Teuk Pos district, Kampong Chhnang province, and the South and the west are next to Phnom Kravanh National Park.

Figure 1: Map of Phnom Aural Wildlife Sanctuary in Kampong Speu, Kamong Chhnang and Pursat Provinces



2.2 Population and Socio-economic conditions

2.2.1. Population Distribution

As indicated in the population data (CDB, 2019), there were 37,988 people in total, of which 8,436 families lived in 47 villages across 14 Communes, 5 Districts, and 3 Provinces in PAWS. Among them, there are 11 villages within in 4 communes of Cheab, Kbal Teuk, Toul Kbous, Kdol Sen Chey of Teuk Pos district, Kampong Chhnang province; 30 villages in 3 out of 4 communes of Trapeang Chor, Sangke Sratob, Tasal in Aural district and the remained commune of Amleang in Tborng district, Kampong Speu province and 6 villages in 4 communes of Krakor and Phnom Kravanh districts, Pursat province (Table 1).

2.2 Population distribution and socio-economics

2.2.1 Population distribution

Based on the commune data for 2019, the people have been living in 47 villages with PAWS; of which 11 villages are in 4 communes of Chrieb, Kbal Toek, Tuol Khpus, and Kdol Senchey in Teuk Pos district in Kampong Chhnang and 30 villages in 4 communes in Kampong Speu; of which 3 communes of Tropeang Chor, Sangkae Satorb and Tasal in Aural district, and one commune of Ormleang in Thpong district. In Pursat province, there are 6 villages in 4 communes; of which the commune of Chheu Tom is in the Krakor district and 3 communes in the Kravanh district. Currently, 8,436 households, or 37,988 people are living within and nearby this PAWS (Table 1).

Table 1. Population Statistics nearby and within PAWS

Province/District/Commune	Phnom Aural WS			Whole Commune		
	# Total Families	#Total Population	#Females	# Total Families	#Total Population	#Females
Kampong Chhnang Province	1,896	8,509	4,327	6,273	26,783	13,478
Tek Phos District	1,896	8,509	4,327	6,273	26,783	13,478
Chiep	306	1,506	758	1,556	6,514	3,253
Kbal Tek	425	1,667	864	1,937	8,498	4,198
Tuol Khpus	135	696	342	1,305	5,246	2,713
Kdolsenchey	1,030	4,640	2,363	1,475	6,525	3,314
Kampong Speu Province	2,896	12,974	6,593	9,298	41,064	20,889
Aural District	2,542	11,533	5,829	6,597	29,415	15,018
Trapeang Chour	1,111	5,626	2,827	3,134	14,330	7,363
Sangke Satob	547	2,290	1,187	1,634	7,435	3,814
Tasal	884	3,617	1,815	1,829	7,650	3,841
Thpong District	354	1,441	764	2,701	11,649	5,871
Amleang	354	1,441	764	2,701	11,649	5,871
Pursat Province	3,141	14,034	6,837	10,346	43,065	21,662
Krakor District	1,175	4,436	2,263	4,553	17,316	8,791
Chheu Tom	1,175	4,436	2,263	4,553	17,316	8,791
Phnom Kravahn District	1,966	9,598	4,574	5,793	25,749	12,871
Prognil	706	2,325	1,394	2,782	12,247	6,244
Rokat	439	2,892	1,156	1,432	5,779	2,899
Santrea	821	4,381	2,024	1,579	7,723	3,728
Total	7,933	35,517	17,757	25,917	110,912	56,029

Source: 2019 Commune/Sangkat Data

In reference to the population data (CDB, 2017), the only Suoy indigenous people have lived nearby and in Phnom Aural WS with 431 families, 2,476 people in total (818 female population). They inhabit in 8 villages of 2 communes (Kor Daun Tey, Trang, Putrear, and Tanil villages) of Trapeang Chor commune and Chumtab, Kontuot, Dambang Venh and Kraing Pongro villages of Sangkae Satob commune) Aural district, Kampong Speu province (Table 2).

Table 2. Indigenous People in and near PAWS

Province	District	Commune	Village	Suoy Families	# of Suoy Males	# of Suoy Females	Total
Kampong Speu	Aural	Trapeang Chor	Kor Dantei	60	261	128	389
			Trang	34	105	40	145
			Putrea	81	322	139	461
			Tanil	40	192	97	289
		Sangkae Satob	Chumnoab	40	123	97	220
			Kantuot	79	326	167	493
			Ta Daes	0	0	0	0
			Dambang Venh	45	140	67	207
			Krang Pongro	52	189	83	272
		Total				431	1658

Source: 2017 Commune/Sangkat Data

2.2.2 Socio-economic status

Some people have been living in Phnom Aural WS for a long period of time and they strongly depend on natural resources and other traditional subsistence including but not limited to rice cultivating, local trading, livestock raising, and collecting of construction timbers; especially 4 forest species of Khlong (*Dipterocarpus tuberculatus* Roxb), Tbeng (*Dipterocarpus abtusifolius*), So Kram (*Xylia dolabriformis* Benth), and Chheuteal Teuk (*Dipterocarpus alatus* Roxb) and other 11 NTFP species collection; such as resins, bamboo shoots, honey, 'Pok' mushrooms, medicinal plants and other mushroom species (Table 3).

Table 3. Forest and Non-Timber Forest Products of PAWS

No.	Names of forest/non-timber forest products	Collection Zone	
		Sustainable Use Zone	Conservation Zone
Collection of forest product for constructions			
1	Khlong (<i>Dipterocarpus tuberculatus</i> Roxb)	√	
2	Tbeng (<i>Dipterocarpus abtusifolius</i>)	√	
3	Sokram (<i>Xylia dolabriformis</i> Benth)	√	
4	Chheuteal Teuk (<i>Dipterocarpus alatus</i> Roxb)	√	
Collection of forest product for constructions			
1	Firewood	√	√
2	Resin	√	√
3	Bamboo shoot	√	√
4	Medicinal plant	√	√
5	Bamboo	√	√
6	Potato	√	√
7	Honey	√	√
8	Khork mushroom	√	√
9	Linchi mushroom	√	√
10	Pok mushroom	√	√
11	Orchid	√	√
12	Phnhiev (<i>Baccaurea ramiflora</i> Lour)	√	√
13	Pong-ro (<i>Schleicheria oleosa</i>)	√	√
14	Se mornn (<i>Nephelium hypoleucum</i> Kurz)	√	√
15	Rattan	√	√
16	Vine	√	√

Source: Surveyed data 2021

The people have tendency to migrate and settle permanently or temporarily in this PA, depending on their land ownership, occupations and long or short term economic cropping and plantations and other supplementary occupations. The key activities to enhance livelihoods of the local and indigenous communities consist of rice cultivating, crops and vegetable growing and livestock farming. The annual incomes of these people from rice cultivating, cropping and livestock farming are not much different across the three provinces. These agricultural activities are the key and highest income generation occupations with an average income per household is approximately 1 million Riels (USD 250), while the average secondary annual income from the collections of the NTFP is about 600,000 Riels (USD 150) (Table 4).

Table 4. Main Occupations and Annual Incomes Per Household of PAWS

Province	District	Commune	Paddy rice sale	Crop sale	Livestock sale	NTFP Sale
Kampong Chhnang	Tek Phos	Chiep	2,450,000	0	98,750	0
		Kbal Tek	675,517	0	0	31,034
		Tuol Khpus	1,264,286	0	71,429	114,286
		Kdolsenchey	2,233,350	2,166,250	2,941,500	1,475,813
		Trapaing Chour	721,552	707,845	1,070,603	587,328
Kampong Speu	Aural	Sangke Satob	217,500	735,000	776,500	255,000
		Tasal	1,124,884	105,814	843,023	316,860
		Thpong	812,000	848,000	1,096,800	70,800
		Krakor	2,114,286	225,714	1,251,714	1,220,629
Pursat	Phnom Kravanh	Prognil	941,176	4,776,471	52,941	0
		Rokat	1,183,333	5,125,000	255,000	1,750,000
		Santrea	0	1,042,857	0	771,429
Average revenues per HH			1,062,385	1,007,414	1,017,520	589,920

Source: 2021 Surveyed Data

According to Table 5, the Suoy indigenous people are living in Phnom Aural Wildlife Sanctuary, depending on forest and non-timber forest products. With this table, Suoy indigenous people for their livelihood betterment have got mainly involved in livestock raising (chickens and cattle) of approximately 67%, while about 44% of this indigenous population practice rainy-season rice farming and other secondary jobs such as upland cropping, laboring, and collecting of forest and non-timber forest products. Based on the survey findings, about 11% of Suoy indigenous people are active in collecting and harvesting forest and non-timber forest products in the wildlife sanctuary.

Table 5. Main Occupations of Suoy IP in PAWS

No	Occupation)% (
1	Livestock raising	67%
2	Rice cultivating	44%
3	Laboring	22%
4	Upland cropping (Chamkar)	11%
5	NTFP collections	11%

Source: 2021 data collection

2.3 Land Use

Land uses are mainly identified in 47 villages across 12 communes, 5 districts of Kampong Chhnang, Kampong Speu and Pursat provinces within the geographical areas of Phnom Aural WS by the total population of 8,436 households (37,989 individuals). In addition, the land use in this PA as well as natural resource collection have been practiced by villagers from other 14 villages nearby and outside this wildlife sanctuary

Based on the latest population data (CDB, 2019), 306,014 hectares of land (8,341 hectares of land are used for settlement, 49,683 hectares for rice fields and agriculture land 12,486 hectares for upland cropping (Chamkar) (Table 6).

Table 6. Commune Land Use Data near and in Phnom Aural WS

Province	District	Commune	Commune size (ha)	Settlement (ha)	Rice (ha)	Dry Season (ha)	Rainy Season (ha)	Chamkar (ha)	Other (ha)
Kampong Chhnang	Teuk Pos	Cheb	36,470	2,111	4,250	30	4,220	580	29,529
		Kbal Teuk	26,100	112	3,300	0	3,300	2,353	20,335
		Touk Kpous	12,670	724	1,980	0	1,980	1,227	8,739
		Kdol Sen Chey	28,672	229	20,321	0	20,321	0	8,123
Kampong Speu	Aural	Trapeang Chou	36,705	1,050	2,784	0	2,784	1,005	31,866
		Sangke Sratob	18,352	423	2,029	0	2,029	571	15,329
		Tasal	6,047	872	4,300	0	4,300	875	0
	Thbong	Amlang	2,384	250	1,730	0	1,730	282	122
Pursat	Krakor	Cheu Tom	19,082	337	3,500	622	2,878	273	14,972
	Phnom Kravang	Prognil	50,350	1,310	3,215	300	2,915	4,110	41,715
		Rokat	2,450	825	419	25	394	85	1,121
		Santher	66,732	188	1,855	0	1,855	1,125	63,564
Total			306,014	8,431	49,683	977	48,706	12,486	235,415

Source: 2019 Commune/Sangkat Data

The proposed zoning in Phnom Aural WS is as follows:

- Core zone: 70,505 ha 27.31%
- Conservation zone: 74,540 ha 28.87%
- Sustainable use zone: 76,315 ha 29.56%
 - o 17 CPAs are established with the 15,515 hectares in size (6 CPAs in Kampong Speu province, 9 CPAs in Kampong Chhnang province and 2 CPAs in Pursat province); and
 - o 17 land concessions (10 small-scale ecotourism concessions, 5 agro- industrial land concessions and 1 marble mining concession)
- Community zone: 36,812 ha 14.26%
 - o Infrastructure: the key roads within this PA is classified into 3 types: type 1 with width of more than 8 meters; type 2 with width of 5 – 8 meters and type 3 with width of less than 8 meters. The forest trails for wildlife watching should be smaller than 5 meters; especially in conservation zone.
 - o The harvesting of forest and non-timber forest products and wildlife hunting are done in various form:
 - o Forest extractions for commercialization and home construction; especially luxury wood have been done widespread and within evergreen and semi-evergreen forests;
 - o Collections of bamboos, resins, medicinal plants/herbs and other NTFPs have been carried out in the sustainable and conservation zones;
 - o The extractions of forest and non-timber forest products in the conservation zone should be closely monitored and if possible, forest and non-timber forest collectors in this zone are included to become local community and indigenous community patrolling team members.

2.4 Values of Natural Resources

2.4.1. Wildlife Inventory

PAWS is home to variety of wildlife and the high diversity of habitats of over 960 wildlife species. Among these species, approximately 158 bird species and 30 mammal species have been recorded in this wildlife sanctuary (Daltry et, al. 2002, Chay et, al. 2005). Currently, 37 wildlife

species have been recorded by camera traps which were deployed from April to June, 2021 and 23 of which are near threatened and rare (Table 7, Table 8).

Table 7. Plant and Wildlife Species Record in Phnom Aural Wildlife Sanctuary

Animal/Plant	No. recorded	Threatened/rare species
Mammal	30	12
Bird	158	4
Reptile	38	2
Amphibian	24	2
Fish	42	0
Plant	269	9
Total	561	29

Source: Daltry, J.C. (ed.) (2002) and Chay K.K., Oul N., Chea M., Pan R., & Chhouk B. (2005)

Table 8. Wildlife Species Recorded by Camera Traps in PAWS Core Zone

No.	Wildlife Species Name	Scientific Name	Cambodian Status	IUCN Status
1	Asian Elephant	<i>Elephas maximus</i>	EN	EN
2	Gaur	<i>Bos gaurus</i>	Rare	VU
3	Southern Serow	<i>Capricornis sumatraensis</i>	Rare	VU
5	Sambar	<i>Rusa unicolor</i>	Rare	VU
6	Malayan sun bear	<i>Helarctos malayanus</i>	Rare	VU
7	Asiatic black bear	<i>Ursus thibetanus</i>	EN	VU
8	Clouded leopard	<i>Neofelis nebulosa</i>	EN	VU
9	Marble cat	<i>Pardofelis marmorata</i>	Rare	NT
10	Hog badger	<i>Arctonyx collaris</i>	Rare	VU
11	Dhole	<i>Cuon alpinus</i>	Rare	EN
12	Long tailed macaque	<i>Macaca fascicularis</i>	Rare	VU
13	Bintourong	<i>Arctictis binturong</i>	Rare	VU
14	Leopard cat	<i>Prionailurus bengalensis</i>	Rare	LC

Table 9. Wildlife Species Recorded by Camera Traps in PAWS Conservation Zone

No.	Wildlife Species Name	Scientific Name	Camera Trap	IUCN
1	Asian Elephant	<i>Elephas maximus</i>	Y	EN
2	Gaur	<i>Bos gaurus</i>	Y	VU
3	Sambar	<i>Rusa unicolor</i>	Y	VU
4	Hog badger	<i>Arctonyx collaris</i>	Y	VU
5	Malayan sun bear	<i>Helarctos malayanus</i>	Y	VU
6	Asiatic black bear	<i>Ursus thibetanus</i>	Y	VU
7	Clouded leopard	<i>Neofelis nebulosa</i>	Y	VU
8	Leopard cat	<i>Prionailurus bengalensis</i>	Y	LC

A number of mammal and bird species at risk (based on the IUCN Red List Criteria) are known to be present in PAWS, including at least five endangered species: Asian Elephant, Banteng,

Silver Langur, Pileated Gibbon, and Green Peafowl. A total of 15 mammal and bird species were selected for comprehensive monitoring in PAWS during the implementation of this Project.

Key wildlife species selected for comprehensive monitoring in PAWS

Common name	Scientific name	IUCN global status (2021) ¹	Cambodia status
Asian Elephant	<i>Elephas maximus</i>	EN	Endangered
Banteng	<i>Bos javanicus</i>	EN	Rare
Gaur	<i>Bos gaurus</i>	VU	Rare
Mainland Serow	<i>Capricornus sumatraensis</i>	VU	Rare
Silvered Langur	<i>Trachypithecus germaini</i>	EN	Common
Pileated Gibbon	<i>Hylobates pileatus</i>	EN	Rare
Asiatic Black Bear	<i>Ursus thibetanus</i>	VU	Endangered
Sun Bear	<i>Helarctos malayanus</i>	VU	Rare
Clouded Leopard	<i>Neofelis nebulosa</i>	VU	Rare
Asiatic Golden Cat	<i>Catopuma temminckii</i>	NT	Rare
Black Giant Squirrel	<i>Ratufa bicolor</i>	NT	Rare
Hog Badger	<i>Arctonyx collaris</i>	VU	Rare
Alexandrine Parakeet	<i>Palaeornis eupatria</i>	NT	Rare
Wreathed Hornbill	<i>Rhyticeros undulatus</i>	VU	Rare
Green Peafowl	<i>Pavo muticus</i>	EN	Rare

¹ EN: Endangered; VU: Vulnerable; NT: Near Threatened

There are three primate species recorded in this wildlife sanctuary; including Yellow-cheeked Crested Gibbon, Northern Pig-tailed Macaque and Crab-eating Macaque. Key Species recorded by camera traps are Asian Elephant, Sun Bear, Asiatic Black Bear, Binturong, and Hog Badger while the bird species recorded are Green Peafowl, Siamese Fireback and Red junglefowl.



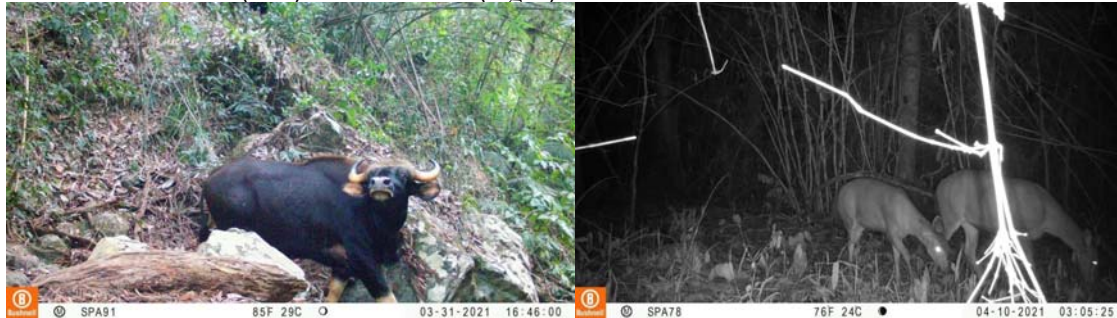
Crab Eating Macaque (left) and Pig Tailed Macaque (right)



Hog Bager (left) and Asian Elephant (right)



Asiatic Black Bear (left) and Sun Bear (right)



Gaur (left) and Sambar Deer (right)



Asian Serow (left) and Clouded Leopard (right)



Dhole (left) and Binturong (right)

Wildlife Species Recorded by Camera Traps, General Directorate of Natural Protected Area, Ministry of Environment, 2021

2.4.2. Plant Inventory

Ecosystems of Phnom Aural Wildlife Sanctuary are considered to be home to many plant species and be habitats with good quality. The PAWS is mainly covered by evergreen and semi-evergreen forests (40.19%), deciduous forests (31.18%) and shrubs (8.16%) (Table 10).

The comprehensive plant survey in PAWS has not been done as there are globally important plant species with high economic values and scenic landscapes for tourists. More plant surveys, in

this regard, are required to evaluate the plant values for their conservations. 269 plant species have been recorded in PAWS since 2002 (Daltry et, al. 2002).

Table 10. Land Use Changes in 2010 and 2015 in PAWS

No	Type	2010 (ha)	2015 (ha)	Land Cover Change
1	Annual Crop	6,591.30	39,838.00	33,246.70
2	Paddy Rice	5,804.17	6,478.00	673.83
3	Shifting Cultivation	917.19	319.00	598.19
4	Grass Land	202.19	1,033.00	830.81
5	Shrub Land	26,100.60	21,573.00	4,527.60
6	Urban Area	260.01	953.00	692.99
7	Bare Soil	0.35	1.00	0.65
8	Industrial Plantation	9,404.59	8.00	9,396.59
9	Deciduous Forest	86,525.60	79,523.00	7,002.60
10	Evergreen Forest	117,411.27	102,500.00	14,911.27
11	Bamboo Forest	1,639.62	1,572.00	67.62
12	Water Body	179.23	1,239.00	1,059.77

2.5. Values of Cultural Resources

There are 47 villages with PAWS within 12 communes and 5 districts of Kampong Chhnang, Kampong Speu and Pursat provinces. The 8,436 households in total (37,988 people) which are located within and nearby PAWS depend on land uses and natural resources. Based on CBD 2017, about 431 Suoy indigenous families (2,476 people, 818 females) are living near and inside PAWS in 8 villages, 2 communes (Kor Dauntey, Trang, Putrea, and Tanil villages of Trapeang Chor commune; while Chum Nob, Kantout, Dambang Ving and Krang Ponror villages of Sagne Santoub commune) of Aural district, Kampong Speu province. Based on the consultation meetings and interviews with local communities, the villagers in Kampong Chhnang province; especially Cambodian people still believe in forest and mountainous spirits and souls in various location such as Phnom Tapek Meun Lam, Kmosh Ngi, Tachek and Phnom Ou Plov. The same case is also applied for the Kuoy indigenous people in Kampong Speu province in a number of places: Neak Ta Trapeang Chor, Kor Dauntey, Phnom Tauch, Angkoul, Beong Klor, Tor Ror, Chouk, Teung Meung, Neak Ta Kvean, Neak Ta Loung, Neak Ta Knor, Neak Ta Srouk, Neak Ta Tasal and Neak Ta Kovrov. In Pursat province, the community and indigenous people also believe in forest and mountainous spirits and souls; especially Ror Kat village, Phnom Pek Tasrok, Ta Kra Horm Kor, Neak Ta Chas Srok, Neak Ta Thmor Damrey, Yey Daun Mear and Neak Ta Reang Kvav. The majority of these forest and mountainous spirits and souls are located in the community and sustainable use zones; except that Neak Ta Thmor Damrey, Yeav Daun Mear and Neak Ta Rang Kvav are in the conservation zones.

Thus, it is required that Ministry of Environment need to cooperate with stakeholders especially IP group to demarcate natural heritages and strengthen conservation values in each community for the benefit of enhancing natural cultural resources and to promote ecotourism.

2.6 Ecosystem Services

2.6.1 Ecotourism and Recreation

There are currently 19 below-10 hectare ecotourism concessions with the total of 168,2799 hectares licensed by MoE in PAWS within Kampong Speu Province. However, only one contract is made with one company for implementation. The ecotourism areas which are attractive and tourist destinations include but are not limited to the highest spectacular mountain view of 8,813 meters, Te Teuk Pous, waterfalls, rivers, mountainous forests and natural, mountainous landscapes in PAWS.

Besides small-scale ecotourism concessions with lesser than 10 hectares in PAWS, there are many attractive ecotourism sites; especially in Kampong Chhnang province such as Anlong Svay, Anlong Thmor, Thmor Kral Waterfall and Sre Ampel Waterfalls. Other high potential sites for ecotourism development in Kampong Speu province include Knorng Phnom Aural, Thmor Da, Peam Lvar, Damnak Barang, Damnak Resey and Anlounng Resey, while the attraction sites in Pursat province are Phnom Lor Ta Krahorm Kor, Lor Ta Thmor Damrei, Chay Seinatar and Chay Santor.

2.7 PAWS Management Structure and Facilities

Currently, there are 65 permanent rangers working in PAWS; with one man based on its size in charge of about 3,940 hectares; especially the largest proportion in Pursat province with only 16 rangers. There are a total of 4 main stations and 13 sub-stations used by the rangers; most of them are old and in need of significant repair and renovations. Each ranger is equipped with a rifle and a motor bike for personal protection and enforcement purposes (Table 11).

Table 11. Staffing, facilities and equipment in PAWS

	Province (PAWS area)			Total
	KC (35,772 ha)	Pursat (79,136 ha)	KS (141,200 ha)	
Management structure	1 Director 2 Deputy Directors	1 Director 2 Deputy Directors	1 Director 2 Deputy Directors	9
# of Rangers	13	16	36	65
# of Rangers/100km ²	4	2	3	3
Annual budget (USD) ¹	43,680	53,760	120,960	218,400
# of main stations	2	1	1	4
# of sub-stations	3	3	7	13
# of CPAs	6	2	9	17
Motorbikes	10	8	11	29
GPS	0	1	1	2
Nursery	0	1	0	1
AK-47 rifles	13	17	38	68

3. Main Challenges for Management

In PAWS, both outsiders and local people are involved in illegally converting natural forests, land encroachment for sale, hunting, trapping, illegal or clearing forest areas and illegal charcoal production. The trapping offenders have applied high techniques and caused extreme dangers to rangers and local community members when patrolling. Some local community members are involved in illegal logging for outsider traders who offered money and heavy machinery to them in advance. In addition, some outsiders have carried out land encroachment and conducted other illegal activities. Other problems facing wildlife sanctuary management are include limited numbers of rangers, malaria suffered by the rangers, and limited knowledge and awareness of CPA committee on their roles and responsibilities. Moreover, there are limited and partial involvements of the CPA committee in implementation of the community statute and internal provisions. Findings of the consultation meetings in 47 villages across three provinces revealed that the key threats and pressures for the management of this wildlife sanctuary are as follows:

3.1 Land Encroachment

Land encroachment is a common challenge facing many PAs in Cambodia. In PAWS, both outsiders and the local people have been involved in illegally converting natural forests and other habitats to agricultural lands or settlements for further development. Land encroachment is mostly carried out by the outsiders from other provinces throughout the country. This act in PAWS is regarded as the most serious threats compared with others and is done by means of forest burning, logging and clearing forested areas with machinery saws. The main purpose of land encroachment is to expand agricultural land and new settlements. The key measures to prevent these illegal activities are establishment of community protected areas, state land registration, contract agreements to monitor chain saws, sawmills, equipment for land encroachment and illegal transportation, law enforcement at community level and filing the cases of illegal activities for the court with the support by the lawyers. Law enforcement is poorly carried out due to no or limited demarcations and boundary poles of the PA zones.

3.2 Forest Degradation and Loss

Small-scale illegal logging is still practiced within PAWS with chain saws being illegally used, especially motorbikes and two-wheel tractors being illegally used to transport the logs and char charcoals and these activities are carried out by the outsiders. Forest fires are caused by land clearing activities and charcoal productions and most of the forest degradation by road accessibility; in particular in the more accessible parts of PAWS in the south and east. A comparison of land cover maps from 2010 with 2015 shows that total forest cover (deciduous and evergreen forests) was declined from 80% to 71% while the agricultural land rate was increased from 3% in 2010 to 16% by 2015 in PAWS.

Rangers and local authorities need to monitor and develop data base for management measures against chain saw and transportation means or illegal log processing sites; including the case files to the courts.

In-migrations and new settlements have been increased within the last 5 years due to land offering to the outsiders. The measures to prevent these activities are to clearly defined the zone boundaries, state land registration throughout PAWS and closely monitor the land uses by the outsiders and enforce the laws.

3.3 Illegal Hunting/Trapping/Snaring

Illegal commercial hunting (especially snaring) remains the major threat to ground-dwelling mammals and snaring continues to be a conservation concern in PAWS. The findings from interviews and group discussions with commune chiefs, village chiefs, committee members of the local and indigenous communities show that hunting and trappings/snaring are rated as the second threats after land encroachment. These threats are caused by the outsiders, land economic concession workers and local communities. To prevent these threats, some action should be taken; including to increase patrolling and remove snares and traps with participation from local and indigenous community people; public awareness raising on the values of natural resources, especially wildlife and protected area law as well as law enforcements. In addition, court cases with support from the lawyers should be filed and ruled as widely as possible.

4. Management Zone

4.1 Objective and Criteria for Management Zone Development

The main objective of the zoning is to ensure the effectiveness and efficiency conservation and protection of the wildlife sanctuary, where high environment, culture and social-economic conservation values particularly the exclusion rights for local communities for the natural resource uses accordingly to the current laws and legislations. The zoning development in the Phnom Aural Wildlife Sanctuary is based on article 11 of Protected Area Law, 2008 and article 364 of Environmental and Natural Resource Code, 2023, and the urgent need for biodiversity conservation

in PAWS. Based on PA law, 2008 and Environmental and Natural Resource Code, 2023, the criteria for the development of Phnom Penh management zones are the following:

- Objective of the management zones;
- Values and potential of natural resource and biodiversity each zone;
- Social-economic and culture impacts in each zone;
- Potential of natural resource support for each zone;
- The geographical in each zone; and
- Social-economic and local community livelihood factor aspects.

4.2. Methodology

The main priority activities for the management zoning development of the sanctuary focus on the conservation of tree seed, wildlife, and their habitats. Participation approaches have been used in the processes of the zoning development by collecting and evaluating of the primary data on the potential sites for social-economic, cultural and biodiversity resources through focal group discussion, camera-trap, and interview survey to ensure accurated data, and encourage community participation in natural resource uses and biodiversity distribution mapping in Phnom Aural WS. The key activities for zoning development in Phnom Aural WS are the following:

- Establish working group for biodiversity and social-economic data collection;
- Identify and select target villages for biodiversity and social-economic data collection;
- Prepare questionnaires for biodiversity and social-economic data collection and participation resource mapping with relevant stakeholders;
- Decide the key maps for using during data collection such as saterlize image, and topographical maps;
- Develop roles and responsibilities for group members for data collection;
- During the research and interview survey for biodiversity and social-economic data collection in 47 target villages (habitat, biodiversity species, ecosystem services and social-economic status);
- Conduct village consultation meetings, interview and parcipation resource mapping with the participation from village chief, deputy village chief, former hunters or NTFP collectors, women, head of CPA, IP representative, and local communities who are living nearby;
- Conduct commune and district consultation meetings to review and comment on the zoning results
- Conduct zoning results in dissemination meetings to other stakeholders
- Conduct technical consultation meetings to review and comment on the results of management zones;
- Carry out provincial consultation meetings to review and comment on the first draft management zone maps, wildlife distribution maps forest and non-timber forest product maps, and
- Conduct a national consultation meeting to review the second draft management zone maps, wildlife distribution maps forest and non-timber forest product maps, and
- Develop the final draft management zone, report, and sub-decree.

4.3. Management Zone Development

The field survey and evaluation were conducted in the local community to identify important biodiversity conservation areas and learn more about the level of natural resource uses and their needs in the wildlife sanctuary. The processes of the field survey also evaluated the status of biodiversity, natural resource uses, ecosystem services, social economics, and cultural and traditional practices through participatory resource mapping. The results of biodiversity and social-economic data were used to develop core and conservation management zones for biodiversity conservation

while sustainable and community zones to enhance local people's livelihood and participation in conservation. The key activities for development management zones are the following:

4.3.1. Secondary Data

The relevant literature, media, books, journals, documents and other related publications will be used for the development of zoning and management plan of PA.

4.3.2. Data Analysis

Each management zone will need to first be separated into an individual feature layer by entering as a presence/absence (1/0) layer into Zonation. In this case, a separate condition layer is usually developed and linked to probably several presence-absence layers to model the fact that have been influenced by human impacts. This approach is that condition layers are easily modified to account for expected changes in land use: modifying a single layer is much easier than developing an entire new data set for each scenario.

The individual feature layers are based on PA Law, 2008 and Environment and Natural Resource Code, 2023 of each management zone namely: Core zone: management of high conservation values containing (rare, critically endangered, endangered and near threaten species) and fragile ecosystems (mountains, ponds, saltlicks) ; Conservation zone: management area of high conservation values containing natural resources (rare, critically endangered, endangered and near threaten species), ecosystems (mountains, ponds, saltlicks), watershed areas (mountains) and natural landscape (grasslands, mountains) located adjacent to the core zone; Sustainable use zone: management areas of high economic values for national development and management, and conservation of the protected area (ELCs, SELCs, CPAs, <10ha Ecotourism, restorations, recreation, botanical garden, irrigations, water storage, electricity station); and Community zone: management areas for sustainable development of the local communities and indigenous ethnic minorities and may contain existing (residential lands, paddy field, and other agricultural land).

GIS layers need to be collect or created to use for developing model inputs, such as social and biodiversity data, forest cover 2020, land cover map 2015, satellite imagery high resolution, roads, hydrology, topography, land title (001), economic land concessions, social economic land concession, land tenure and administrative data. If needed, then camera traps and drones will be used for final verification.

Camera-traps were set at a density of one station per 4 km² depending on the number of cameras available of which is one station is at every 2 squares. However, the sample or survey site were adjusted depend on the number of camera available as well as the interested site resulted from previous study area, hotspot area including saltlick sites, wallows and known hotspots to capture most animals in short period of time if present. It is suggested that the camera is at least kept from 2-3 cameras for replacement.

4.3.3. Consultations with local authorities

Provincial, district, and commune consultation meetings and discussions were held with experts and all levels of local authorities such as working group members, the provincial governor, director of the provincial department of environment, district governor, director of PAWS, commune leader, village chief, rangers, local community and Indigenous People (IP) in order to provide them with the concept and goal of participatory zoning in the sanctuary. In order to manage these PAs in the sustainable way, PAWS were divided in four zones and developed each zone management according to the Protected Areas Law, 2008 and Environmental and Natural Resource Code, 2023.

4.3.4. Group Discussion

Group discussions were conducted in each target village. These discussions principally focused on key informants: commune chief, village chief, village team leaders, Indigenous Group leaders or representative, and Community Protected Areas (CPA) committee and members, women, teachers, elder villagers, and farmers, and other stakeholders. This focus group was believed to be more aware of the village situation than others. The topic of the discussion aimed at recording existence of key wildlife species and forest/habitat types known by participants and identifying

significant areas for globally endangered species of wild animals and different habitat types within the sanctuary. Initially, survey teams explained to participants about participatory zoning and management plan development in PAs and how it is critically important for sustainable conservation of biodiversity such as protecting key wildlife species and habitats, minimizing conflict between PA authorities and local communities, and improving local livelihoods.

All participants were asked to provide the names of any wildlife species and special habitats that they know exist in the sanctuary. Every species is written down on flip chart paper. The teams did not classically divide species into mammals, birds, amphibians and reptiles during the dialogue. In doing so, it would allow audiences to come up with other species more promptly. A guide to the mammals of Cambodia, a field guide to the birds of Cambodia, and a field guide to the reptiles of Cambodia. A 1:50 000 scale topographic and satellite maps were used to allow participants and other stakeholders to point out the specific location of all the species they listed, and principally the critically endangered, endangered and near threaten species.

Historical trends, local status of each species, and reasons for changes also discussed by all attendants of the group discussion. The survey teams also identified timelines including particular periods of memorable change of wildlife habitats through discussion with all participants. Participants were also asked to rank the relative abundance of each species on a scale from 5 to 1 (very abundant, abundant, common, rare, and very rare). The reasons of population decline of each species were also written down in detail on the flip charts.

Free listing of forest habitat and historical trends: This activity was conducted in the same way as for wildlife species and trends, i.e. the team allowed participants to list all existing habitat types of the sanctuary. The periods of historical change of habitat were identified from the knowledge of all participants. However, these particular periods were always alike between species and habitat in each studied village. The causes of habitat change over decades were further discussed to clarify from participants' experience in PAWS. A member of the survey team always recorded all of the reasons for each habitat trend provided by villagers in the group discussion.

Identifying zones and their management: The topographic and satellite maps with the areas of the existence of are, critically endangered, endangered and near threaten species and key habitats identified by communities marked on the maps. The survey team asked them to give comments on classifying which areas should be kept for core and conservation zones, which areas should be reserved for sustainable use, and which areas should constitute the community zone. The discussion also focused on overlapping areas in order to find the consensus to divide the area into both biological conservation zones and sustainable use zones for the future local communities use these zones.

4.3.5. Semi-structured interviews

A total of 69 representatives (including 39 females) participated in these initial workshops. Between 06-16 January 2021, a total of 3 District and 46 Village consultation meetings were held involving 647 participants (238 females). During this period, a total of 396 household questionnaires were distributed and collected from 42 villages in PAWS. Results from the field data collections were shared with the PAWS Working Group and used to develop draft zoning maps. The first Provincial consultation meeting to review the draft zoning maps and outlines of the zoning report for PAWS was held on 26 July 2021.

Questionnaire interview: The activity is mainly conducted at each household of selected informants. The target group includes the commune chief, village chief, village team leaders, and Community Protected Areas (CPA) committee and members, teachers, elder villagers, active fishermen and farmers, and other stakeholders who have known the village situation.

4.3.6. Participatory mapping

We selected outstanding residents from the group discussion part, in particular the experienced individuals who have a good knowledge of the villages, daily activities, and the areas throughout the sanctuary. The teams allowed them to draw the village map and use topography and

satirize maps to identify, the areas where the top 10 endangered species are, local people go for fishing, farming, and NTFP collection. Their access routes to travel in the sanctuary and additionally the forest around their village areas will also be put on the map.

4.3.6. Seasonal calendar

This mainly focused on the activities of the local community: agricultural activities, FPs and NTFPs collection, and others. The team write down all the local activities pointed out by participants and listed all calendar months from January to December on flip charts.

4.3.7. Consultation workshop

Formal and unofficial consultation meetings will be conducted through the working group to revise the draft and finalize the zoning maps and management plan. Some provincial consultation workshops will also carry out to review and revised the zoning maps and management plan.

4.4. Description of Management Zones

Annex 2 provides an overview map of the four management zones for PAWS. Below is a detailed description of the location and extent of each zone:

4.4.1 Core Zone

As can be seen in Annex 2, there are four distinct Core Zones for PAWS totalling 70,505 ha (or 27.31% of the PAWS). These are located in higher elevation areas with intact forests in the western (bordering on Cardamom NP), central, and northern parts of PAWS. A small Core Zone is also located in the southern part of PAWS. These areas are considered particularly important to safeguard biodiversity, allow for the free movement of large wildlife species, and protect essential ecosystem services (such as clean water and carbon storage). The Core Zone includes vital parts of the International Bird Area (IBA) identified by Birdlife International.

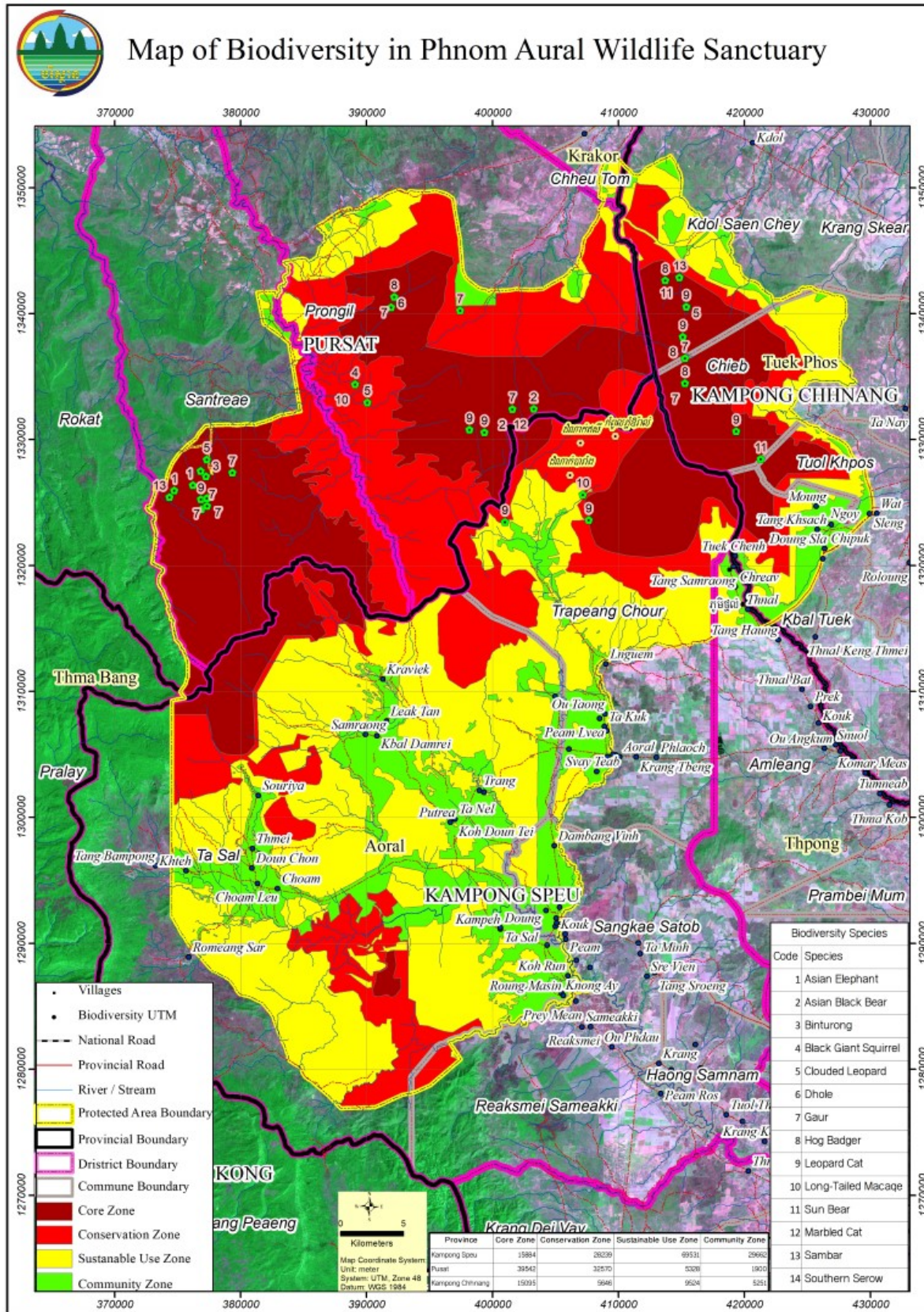
Analysis of camera trap results confirmed the presence in the proposed Core Zones of several of the key wildlife species, including Asian Elephant, Gaur, Mainland Serow, Asiatic Black Bear, Sun Bear, Clouded Leopard, Black Giant Squirrel, Hog Badger and Green Peafowl (Map 2). In addition, the following mammal species at risk were documented in the camera traps placed in the Core Zones:

- Dhole (*Cuon alpinus*) - Endangered
- Sambar (*Rusa unicolor*) - Vulnerable
- Binturong (*Arctictis binturong*) - Vulnerable
- Long-tailed macaque (*Macaca fascicularis*) - Vulnerable

Most human activities are prohibited in the Core Zone (Annex 3). Only regular patrolling by Rangers, research (under MoE permit), and low-impact ecotourism by foot (guided by Rangers) are normally allowed in the Core Zone. In addition, access by Security and Defence Forces is allowed provided MoE has received prior notice and natural resources are not impacted.

For PAWS, special provisions will need to be made to enable visitors (hikers/trekkers) to access the trail leading up to the PAWS as this remains one of the main ecotourism attractions of PAWS.

Figure 2. Map of Biodiversity distribution in PAWS



4.4.2. Conservation Zone

The Conservation Zone acts as a "buffer" around the Core Zone to provide additional protection for important natural values in PAWS. In total, the Conservation Zone covers 74,540 ha, or 28.87%, of the Wildlife Sanctuary. This zone is the home of rare, endangered, and threatened species feeding and breeding. The results confirmed the presence in the proposed Conservation Zones of several of the key rare, endangered, and threatened wildlife species, including Asian Elephant, Gaur, Asiatic Black Bear, Sun Bear, Pileated Gibbon, Long-tailed macaque, Green Peafowl, and Siamese fireback (Picture 3). Some grade 1, and grade 2 species in the national list were also found, including *Pterocarpus pedatus*, *Pierre*, *Dalbergia oliveri* Gamble and Prain, *Shorea obtusa*, *Woll*, *Dipterocarpus obtusifolius*, *Teysm*, *Shorea obtusa*, *Woll*, and *Dipterocarpus tuberculatus*, Roxb (MAFF, 2005). In Pursat province, the key sites in the conservation zone are Chrab Damnak Khtom, Brambot Srourng, Neakta Salang, Toneab O-Lhong, Veal Smach, Prey Lbos Chang Eur Khting, and Kbal Stung Pursat, in Kampong Chhnang province were found in Chrak Toul Kdey and O-Bak Kagn Cheur, Russey Pbey Khum, and Bos Kagn Cheur are in Kampong Speu.

In addition to the restricted activities allowed in the Core Zone, ecotourism investments (including permanent campsites), NTFP collections, and ecosystem restoration activities (such as forest restoration) are permitted in the Conservation Zone (Annex 3).

4.4.3 Sustainable Use Zone

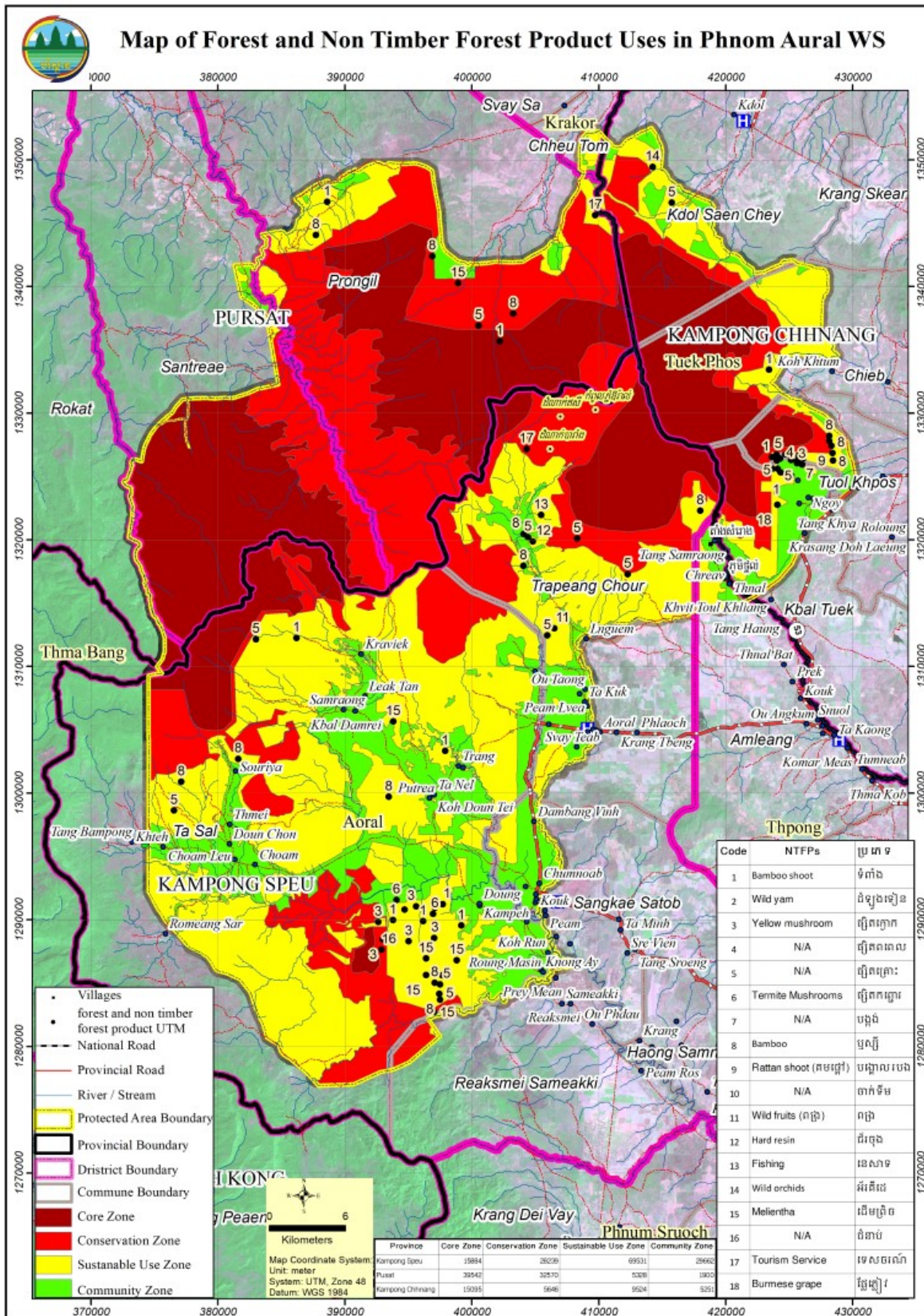
The Sustainable Use Zone includes areas of high economic value where activities such as CPAs, and ecotourism concessions can be developed. This zone also includes agricultural lands, existing ELCs, recreation, a botanical garden, irrigation, water storage, an electricity station, maintained roads, and other service facilities. In PAWS, the Sustainable Use Zone covers 76,315 ha (or, 29.56%).

The key sites found in the sustainable use zone are the following:

- 17 community protected areas with a total of 15,515 ha (6 in Kampong Speu, 9 in Kampong Chhnang, and 2 in Pursat province.
- 16 land concessionnaires (10 for ecotourism <10 ha, 5 for land concession, 1 for mable mining).

In addition to the restricted activities allowed in the Sustainable Use Zone, ecotourism investments, NTFP collections, infrastructure development, and other service facilities are permitted in the Sustainable Use Zone (Annex 3). Currently, the local community collects forest products and non-timber forest products such as bamboo, mushroom, wild fruit, resin, and meditationale plants (Picture 3) for their livelihood improvement.

Figure 3. Map of Forest and NTFP Uses in Phnom Aural WS



4.4.4 Community Zone

The Community Zone includes residential lands, paddy fields, and other agricultural lands, usually concentrated along the existing transportation network. In PAWS, the Community Zone covers a total of 36,812 ha (or, 14.26% of the total area). The management areas for the socio-economic development of the local communities and indigenous ethnic minorities may contain existing residential lands, paddy fields, and other agricultural land.

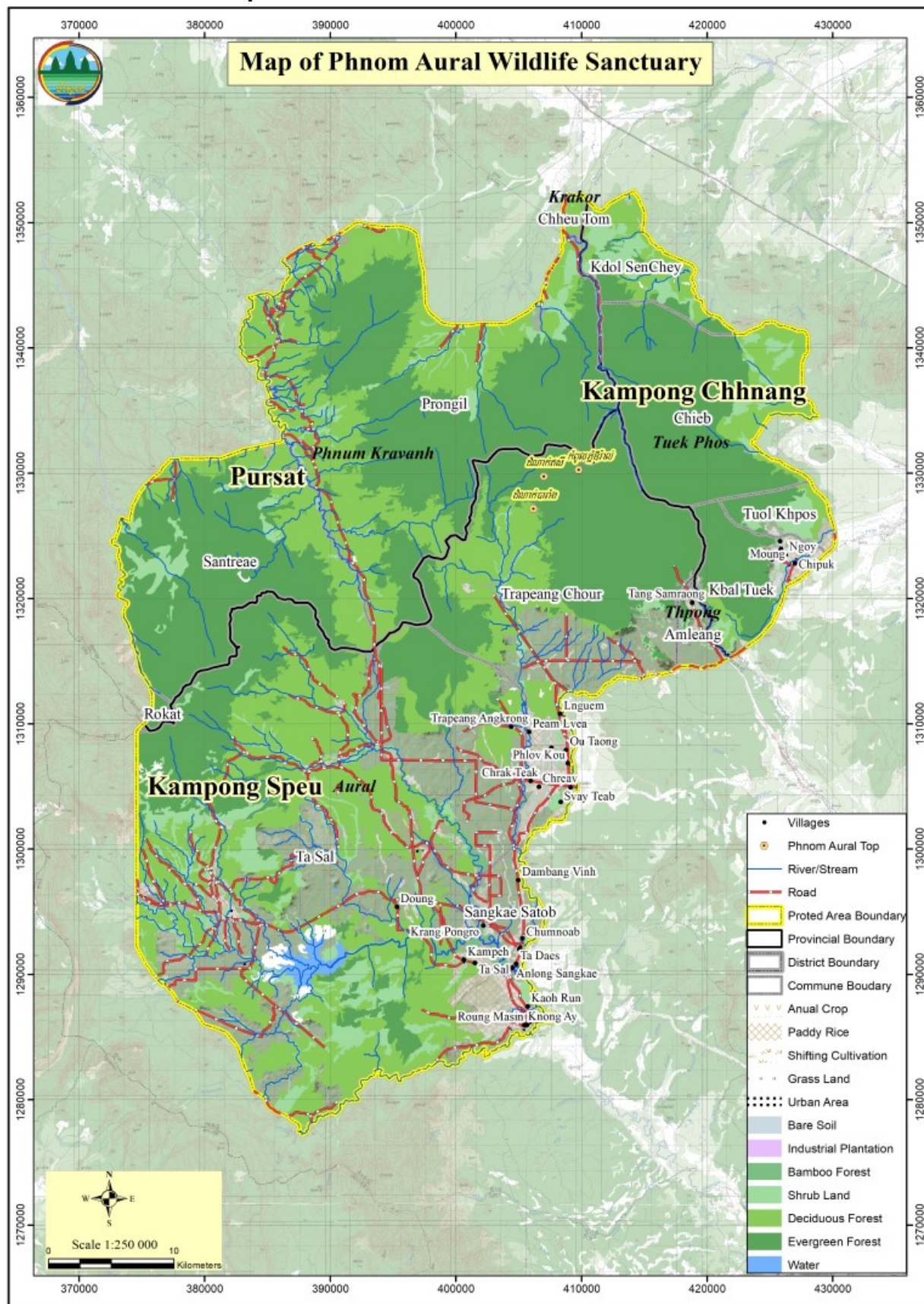
According to the Land Law 2001, and Sub-Decree No. 83 on the Procedures for Land Registration of Indigenous Communities, there are five types of land registration, namely: residential land, traditional agricultural land, forest land, forest land, burial land, and the land of spirit forest and reserve land necessary for the cultivation of crops (public land of the state). A total of 47 villages are located in the PAWS, of which 11 villages are located in 4 communes (Chiep, Toul Kbous, Kbal Teuk, Kdol Sen Meanchey), Teuk Pos district, Kampong Chhnang province, 30 villages, 4 communes, 3 communes of them (Trapeang Chor, Sangke Sathob, Tasal) are in Oral District, and 1 commune (Am Leang) located in Thborng District, Kampong Speu Province and 6 villages and 4 communes located in Phnom Kravanh district, Pursat Province. Currently, there are 8,436 families with 37,988 people living inside and near the wildlife sanctuary.

Since the Land Law of 2001 provides special protection measures for Indigenous community collective lands (public lands of the state of the Sustainable Use Zone), any disputes over these types of plots must be reported by the concerned community and supported by rangers or by filing a complaint to the court.

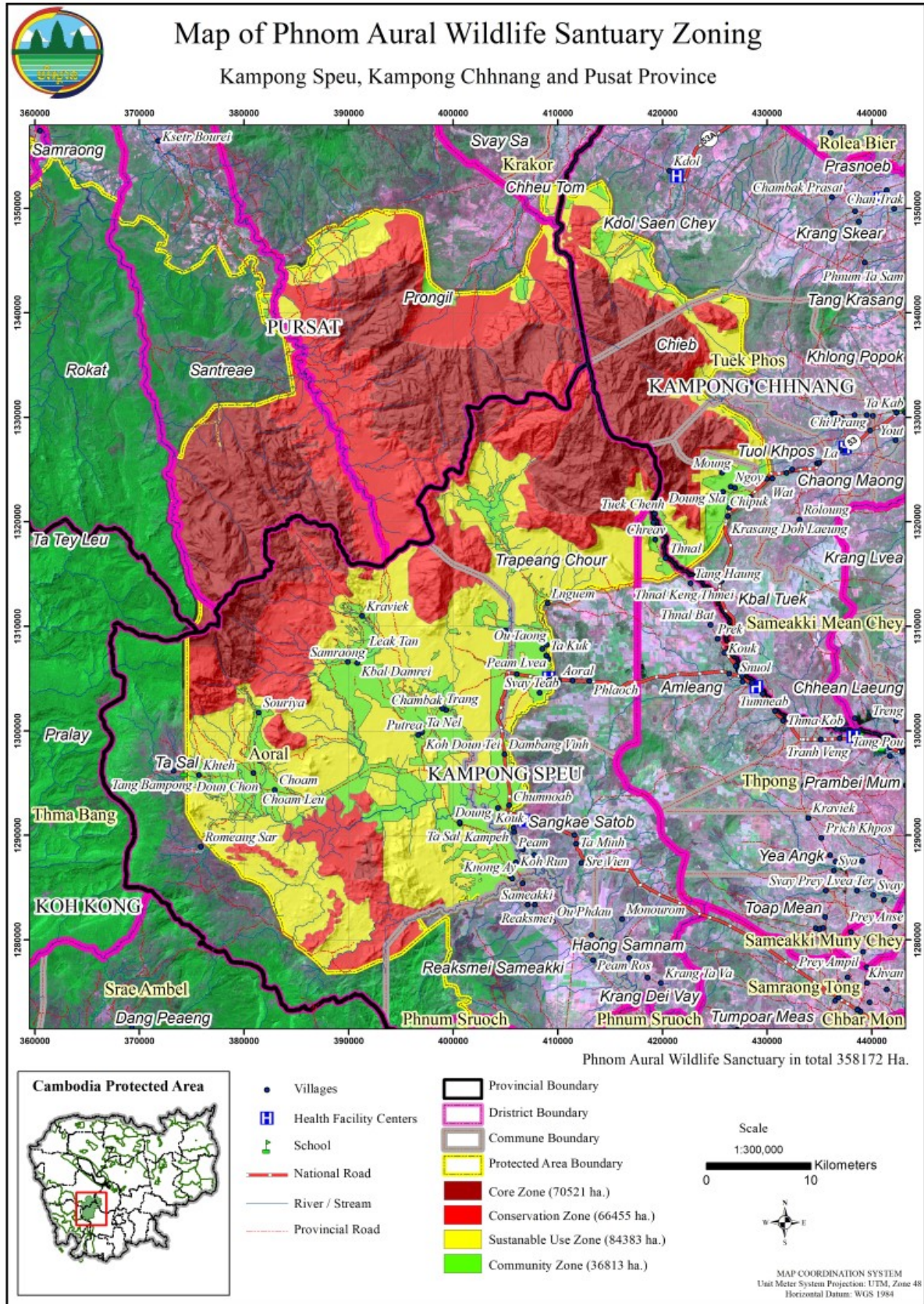
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Annex 1. PAWS base map



Annex 2. PAWS zoning map



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

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

Annex 4. Brief provincial and national consultation meeting reports

Annex 4.1. Dissemination workshop report

KINGDOM OF CAMBODIA
NATION-RELIGION-KING



GENERAL DIRECTORATE OF
NATURAL PROTECTED AREAS

No:073... GDNPA/MoE

To
MOE Minister

- Through:** - H.E **Kim Nong** General Directorate of GDNPA and the chair of working group
- H.E **Sao Sopheap** Secretary of State and EA of CSLEP.
- Subject:** Dissemination workshop report on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces.
- Reference:** Working group decision, dated 03 September 2020 on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces

According to aboved subject and reference, I would like to inform His Excellency that from October 21 to 22, 2020, Department of Southern Tonle Sap Terrestrial Protected Area Conservation under CSLEP-WB conducted a dissemination workshop on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces led by **H.E Hem Sochet**, Deputy Director of GDNPA and **H.E Born Sophy**, Deputy Provincial Governor of Kampong Chhnang province, **H.E Cheng Lai**, Deputy Provincial Governor of Pursat province and **Mr. Horn Pheakdey**, representative from Kampong Speu province with the participation from representative of Kampong Chhnang, Pursat, and Kampong Speu province, local authorities (village, commune, district), CPA committee and IP representative.

1. Objective of the workshop

- Introduce working group member;
- Review and comment on the process and key activities of zoning and management plan development;
- Comments and recommendation on the criteria for core, conservation, sustainable use and community zones development;
- Approve on the initial of core, conservation, sustainable use and community zones;
- Discuss on the strenght, weakness, opportunity, and threats to PAWS management.

2. Objective of the workshop

At first, **H.E Born Sophy**, Deputy provincial governor of Kampong Chhnang province and deputy of the zoning and management plan working group gave a welcome remarks and mentioned that she is happy to be part of this working group and encourage all

participants actively participated in discussion and comment on this zoning and management plan development.

Then, **H.E Hem Sochet**, Deputy Director of GDNPA and the representative of DG of GDNPA gave a welcome remarks and opening the dissemination workshop.

After that, Mrs. Kim Sabun, Deputy Director of Southern Tonle Sap Terrestrial Protected Area Conservation Department (STTPACD) declared and read the working group decision, dated 03 September 2020 on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces.

Next, **Mr. Yornng Phearom**, Director of PDoE, gave a first presentation on the situation of Phnom Aural WS management. After that, Mr. Kong Kim Sreng, Director of STTPACD presented the process of zoning and management plan development in Phnom Aural WS and the third presentation by Dr. Ou Ratanak on biodiversity situation in Phnom Aural WS.

After presentation, the next program are the group discussion, divided into three group by each province on 1) SWOT of PAWS, 2) criteria for core, conservation, sustainable use and community zone development, 3) Identify locations and the names of the proposed core and conservation zones.

Dr. Ou Ratanak presented the status of social-economic in Phnom Aural WS for sustainable use and community zone development and then 3 groups divided to discuss on 1) criteria for sustainable use and community zone development; and 2) Identify locations and the names of the proposed sustainable use and community zones.

Before ending, **H.E Cheng Lai**, Deputy Provincial Governor of Pursat province gave a welcome remarks, and **H.E Born Sophy**, Deputy Provincial Governor of Kampong Chhnang province gave a closing remarks and agreed on 4 key points: 1) this work should focus on laws and legislations thus all relevant line ministries should implement and responsible together; 2) use technology to minimize the error and to ensure effectiveness of implementation; 3) follow government land legislations during zoning development, and 4) coordinate this work based on real situation. In addition, for effective implementation His Excellency gave the following requests:

- To be on time and success, speed up project implementation;
- Local authorities must support these activities for ensuring the outstanding of this work for benefit of our nation and people;
- Authority enforces the law and prevent illegal activities;
- Willingness to work and allocated enough budget to support these activities;
- Conservation and development must responsible based on their roles and responsibilities.

3. Results of the workshop

The results of the workshop, participants agreed on the following:

1) 15 species of Rare, Endangered, Near-Threatened and Threatened wildlife species are the criteria for core and conservation zone development: Asian Elephants, Banteng, Gaur, Silver Langure, Pileated Gibbon, Asian Golden Cat, Leopard, Mainland Serows, Asiatic Bleak Bears, Sun Bears, Black Giant Squirrels, Hog Badger, Green Peafowls, Oriental Pied Hornbill, and Alexandrine Parakeet.

2) The proposed core zone should be focused on Stung Teuk Krahom, Khnorng Mao, Khnorng Breus, Khnorng Chouk, Phnom O-Khear, Khnorng Akourn, Stung Krout, Kharl and Samroung Blue House areas because these sites confirmed the present of rare and threatened species such Asian Elephants, Banteng, Gaur, Silver Langure, Pileated Gibbon, Asian Golden Cat, Leopard, Mainland Serows, Asiatic Bleak Bears, and Sun Bears. In addition, these areas are the main sources of water and present of saltlics.

3) The proposed conservation zone should be focused on Khal ranger station, Khnorng Phnom Dangkeap, Kbal Chrem, Bampong Krauch, Danak Montrei, Chres, Batchhnang,

Sra Ngam Croum, Stung Senatykar, and Veal Sre Prampi because these sites confirmed the present of rare and threatened species such Oriental Pied Hornbill, Alexandrine Parakeet, and present of semi evergreen forest and high slope.

4) The proposed sustainable use zone will be in land economic concession (HLH, Yellow Field, Great Field, Kampong Speu Blentesen), community protected areas, ecotourism sites, Anlong Chreav waterfall, Stung Seina in Chrak Leang waterfall, O-Som water reservoir, natural heritage, IP sperite forest (Te Teuk Pus, Kor Donte, Chay Hor, Old pagoda, Neakta Krahormkor).

5) The proposed community zone should be including settlement areas, pagoda, school, rice field, agriculture land which are receiving land titling and not especially in Rang Kvav, Khet Borey village, Santer commune, Phnom Kravanh district.

6) The key main threats to Phnom Aural WS management are including 1) land encroachment for their property rights (land clearing, fencing, cropping, settlement), 2) some local community didn't aware the value of natural resources, 3) Chacoal production, 4) wildlife hunting, 5) lost of IP identity, culture, and tradition, 6) illegal logging, 7) forest fire, 8) violate the law, 9) some rangers get malarly in Pursat province.

4. Conclusions and Wayforward

The PAWS zoning and management plan dissemination workshop were conducted for 2 days smoothly with expected results and next plan in the following:

- 1) Conduct training to group members on wildlife, and social-economic data collection;
- 2) Conduct natural resource mapping, wildlife distribution, and zoning management through village and commune consultation meetings;
- 3) Conduct interview to collect wildlife and social-economic data in each province;
- 4) Conduct provincial consultation meeting to review management zones and plan.

As said above I am pleased to ask His Excellency Minister to consider for reviewing and comment.

Please accept, Excellencies, the expression of my highest consideration.

Phnom Penh date: 13 November 2020

Head of Component 1

Kong Kim Sreng

Have seen and submitted to H.E Sao Sopheap,
Secretary of State and Head of MOE CSLEP EA

Please kindly review

Phnom Penh date: 18 November 2020

DG of GDNPA

Kim Nong

Have seen and submitted to H.E Minister Ministry
of Environment

Please kindly review for approval

Phnom Penh date: 20 November 2020

Secretary of State and Head of MOE CSLEP EA

Sao Sopheap

Agreed

MOE Minister
21 November 2020

Annex 4.2. 1st provincial consultation meeting reports

KINGDOM OF CAMBODIA
NATION-RELIGION-KING
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GENERAL DIRECTORATE OF
NATURAL PROTECTED AREAS

No:160... GDNPA/MoE

To
MOE Minister

- Through:** - H.E **Kim Nong** General Directorate of GDNPA and the chair of the working group
- H.E **Srun Darith**, MOE Secretary of State
- H.E **Sao Sopheap** Secretary of State and EA of CSLEP.
- Subject:** 1st provincial consultation report on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces.
- Reference:** Working group decision, dated 03 September 2020 on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces

According to the above subject and reference, I would like to inform His Excellency that from July 26, 2021, the Department of Southern Tonle Sap Terrestrial Protected Area Conservation under CSLEP-WB conducted the first provincial consultation meeting through zoom on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces led by **Dr. Leung Kesoror**, Deputy Director of GDNPA and representative of **H.E Kim Nong**, DG of GDNPA, **H.E Khov Rida**, Deputy Provincial Governor of Pursat province, **H.E Born Sophy**, Deputy Provincial Governor of Kampong Chhnang province, and **H.E Sok Phear**, Deputy Provincial Governor of Kampong Speu province with the participation from representative of Kampong Chhnang, Pursat, and Kampong Speu province, local authorities (village, commune, district), CPA committee and IP representative.

1. Objective of the consultation meeting

- Review and comments on the first draft of the PAWS zoning map;
- Discuss the outline of zoning and 10 years management plan reports;
- Revise the proposed vision, mission, objective, program, sub-program, and main activities of PAWS 10-year management plan;
- Provide recommendations on the proposed zoning and management plan development.

2. Process of the consultation meeting

At first, Dr. Leung Kesoror, Deputy Director of GDNPA and representative of H.E. Kim Nong, gave welcome and opening remarks. He mentioned that the priority and urgent activities for the effectiveness of PA management include zoning and management plan development, as well as state land registration in the protected areas.

Then, **H.E. Khov Rida**, Deputy Provincial Governor of Pursat province and deputy of the working group, gave welcome remarks. He mentioned that Pursat province strongly supports the zoning development in Phnom Aural WS and hoped that other provinces, Kampong Speu and Kampong Chhnang, also support this priority activity for the long-term conservation of valuable natural resources. He added that we should enforce the law together with the participation of other stakeholders because of increasing illegal activities.

Next, **H.E. Born Sophy**, Deputy Provincial Governor of Kampong Chhnang province, and the deputy of the working group welcome this consultation meeting, and this zoning development is reflected in accountability and effectiveness of conservation, and management of protected areas with participation from 3 authorities from three provinces, line ministries, and civil societies.

After that, **H.E. Kim Phea**, Deputy Provincial Governor of Kampong Speu province, and deputy of the working group gave welcome remarks by raising that this sanctuary has been established since 1993 thus up to now, on the ground has something changed especially land allocation for local communities under Bor Bor 001, which are urgently needed for management zones development to ensure more effectiveness management, and achieve our objective. In addition, he raised that zoning development is the proper mechanism for participation in the protection and conservation of biodiversity and enhancing local livelihood.

Mr. Hong Daravuth, Director of Southern Tonle Sap Terrestrial Protected Area Conservation Department presented the update of 1) the process of zoning, and management plan development, 2) the first draft of zoning maps, 3) the zoning and management plan report outlines, and 4) the activity plan for pole installation for state land registration in Protected Areas.

After the presentation, 4 groups were divided by each province and national team to discuss 1) the first draft of zoning maps, 2) the zoning and management plan report outlines, 3) the vision, mission, and objective of the management plan, and 4) program, sub-program and priority activities of the management plan.

Before ending, **H.E. Born Sophy**, Deputy Provincial Governor of Kampong Chhnang province gave welcome remarks, and **Dr. Leung Kesoror**, Deputy Director of DGNPA delivered wrap-up and closing remarks by raising recommendations for the effectiveness of the implementation:

- Speed up the on-time, and successful implementation of the providing inputs on the draft zoning maps;
- This is the historical work for our nation thus all relevant stakeholders should actively participate with their wills.

3. Results of the consultation meeting

The results of the consultation meeting, the participants agreed on the following:

- 1) Revised the draft zoning maps of Phnom Aural Wildlife Sanctuary:
 - a. Kampong Speu Province
 - i. Need 4 more weeks to review, and revise the shapefile of the zoning map, since the key staff can not get together because of COVID-19.
 - b. Kampong Chhnang Province
 - i. Agreed on the proposed core and conservation zones.
 - ii. For the proposed sustainable use and community zones will be reviewed, and sent to MOE after, a consultation meeting led by the Provincial Governor on July 29, 2021.
 - c. Pursat Province
 - i. Agreed on the proposed core and conservation zones just change the status of mable mining areas in Thmar Yorn with

the total of 9.98 ha from core zone to sustainable use zone and conservation for the access road to the mining area.

- ii. For sustainable use and community zones, the Pursat administration will continue working with the provincial Department of Environment and the working group.

2) Demarcation and pole installation in core and conservation for subject to state land registration after each respected province has reviewed this zoning map;

3) The outline of PAWS zoning and management plan reports should add the description of laws relevant legislations, and mechanisms for effective implementation of the management plan.

4) The vision, mission, objective, program, sub-program, and priority activities, the working group members just asked to add, and the wording of the management plan objective.

5) Additional comments, and recommendations for reviewing zoning and management plan reports and maps.

6) Revised working group members because some members have changed their roles and responsibilities.

4. Conclusions and Wayforward

The PAWS zoning and management plan consultation meeting was conducted smoothly with expected results and the next plan in the following:

- 1) Conduct ground-truthing in the areas that each respected province requested to change the zoning status;
- 2) Conduct the second consultation meeting to review and revise zoning maps, zoning, and 10-year management plan reports;
- 3) Conduct the final consultation meeting to review and revise the 10-year management plan report;
- 4) Conduct pole demarcation and installation subject to state land registration in Protected Areas.

5. Requests

For the effectiveness and success of the PAWS zoning, management plan, and state land registration, the working group requested the following:

1. Conduct pole demarcation and installation in the core, and conservation zones subject to state land registration in each province using the approved pole designed by the Ministry of Environment on June 27, 2019 with 1.5m height;
2. Prepare relevant documents to the Ministry of Land Management Urban, and Planning for state land registration in core and conservation zones in Kampong Speu, Pursat, and Kampong Chhnang provinces;
3. Revise the working group on zoning and management plan development in Kampong Speu, Pursat, and Kampong Chhnang provinces.

As said above I am pleased to ask His Excellency Minister to consider for reviewing and comment.

Please accept, Excellencies, the expression of my highest consideration.

Phnom Penh date: 11 August 2021

Head of Component 1

Kong Kim Sreng

Have seen and submitted to the Secretary of

State,

Please kindly review

Phnom Penh date: 11 August 2021

DG of GDNPA

Kim Nong

Have seen and submitted to H.E Minister
Ministry of Environment
Please kindly review for approval
Phnom Penh date: 16 August 2021
Secretary of State and Head of MOE CSLEP
EA

Sao Sopheap

Have seen and submitted to H.E Minister
Ministry of Environment
Please kindly review for approval
Phnom Penh date: 13 August 2021
Secretary of State

Srun Darith

Agreed

MOE Minister
21 August 2021

Annex 4.3. 2nd provincial and national consultation meeting report

KINGDOM OF CAMBODIA
NATION-RELIGION-KING
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GENERAL DIRECTORATE OF
NATURAL PROTECTED AREAS

No:058... GDNPA/MoE

To
MOE Minister

- Through:** - H.E **Kim Nong** General Directorate of GDNPA and the chair of the working group
- H.E **Srun Darith**, MOE Secretary of State
- H.E **Sao Sopheap** Secretary of State and Head of CSLEP EA
- Subject:** 2nd provincial consultation report on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces.
- Reference:** Working group decision, dated 03 September 2020 on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces

According to the above subject and reference, I would like to inform **His Excellency** that from November 25, 2021, the Department of Southern Tonle Sap Terrestrial Protected Area Conservation under CSLEP-WB conducted the second provincial consultation meeting (Inter-ministry consultation meeting) through Zoom on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces led by **Dr. Leung Kesoror**, Deputy Director of GDNPA and representative of **H.E Kim Nong**, DG of GDNPA, **H.E Khoy Rida**, Deputy Provincial Governor of Pursat province, **H.E Ney Charei**, Deputy Provincial Governor of Kampong Chhnang province, and **H.E Sok Phea**, Deputy Provincial Governor of Kampong Speu province with the participation from representative of Kampong Chhnang, Pursat, and Kampong Speu province, local authorities (village, commune, district), CPA committee and IP representative.

1. Objective of the consultation meeting

- Review and comments on the second draft of the PAWS zoning map;
- Discuss the outline of zoning and 10 years management plan reports;
- Review the draft of the PAWS zoning report;
- Review the draft of the PAWS 10-year management plan report.

2. Process of the consultation meeting

At first, **Dr. Leung Kesoror**, Deputy Director of GDNPA and representative of H.E. Kim Nong, gave welcome and opening remarks. He mentioned that the priority and urgent activities for the effectiveness of PA management include zoning and management plan development, as well as state land registration in the protected areas.

Then, **H.E. Khoy Rida**, Deputy Provincial Governor of Pursat province and deputy of the working group, gave welcome remarks. He mentioned that when the zoning and management are clear then it will be easy for us to identify areas for conservation, particularly core and conservation zones, and then areas for development especially in the sustainable, and community zones for the benefit of the local community, and national economics.

Next, **H.E Ney Charei**, Deputy Provincial Governor of Kampong Chhnang province, and the deputy of the working group gave welcome remarks at this consultation meeting, and he raised that this zoning is very important for natural conservation management for the value of national society and young generation. Thus, the Kampong Chhnang administration strongly supports the initiative of the working group especially the Ministry of Environment for leading in the development of a zoning and management plan development.

After that, **H.E Kim Phea**, Deputy Provincial Governor of Kampong Speu province, and deputy of the working group gave welcome remarks by raising that this consultation meeting is very urgent and very important for Phnom Aural WS management for our national society, and young generation.

Mr. Hong Daravuth, Director of Southern Tonle Sap Terrestrial Protected Area Conservation Department presented the update of 1) the process of zoning, and management plan development, 2) the second draft of zoning maps, 3) the draft zoning report, and 4) the draft 10-year management plan report.

After the presentation, 3 groups were divided by each province to discuss 1) the second draft of zoning maps, 2) the draft zoning report, and 3) the draft 10-year management plan report.

Before ending, **H.E Ney Charei**, Deputy Provincial Governor of Kampong Chhnang province gave welcome remarks, and **Dr. Leung Kesoror**, Deputy Director of DGNPA delivered wrap-up and closing remarks by raising recommendations for the effectiveness of the implementation:

- Provide inputs on the draft zoning maps;
- Comments on the draft zoning, and management plan reports for speeding up state land registration in core and conservation zones.

3. Results of the consultation meeting

The results of the consultation meeting, the participants agreed on the following:

1) Revised the second draft zoning maps of Phnom Aural Wildlife Sanctuary:

a. Kampong Speu Province

- i. Need 2 more weeks to review, and revise the shapefile of the zoning maps, and it will be sent to MOE by December 9, 2021.

b. Kampong Chhnang Province

- i. Propose two more CPAs in the sustainable zone including Anlong Thmor CPA, and Chay Louk CPA.
- ii. Need 2 more weeks to review, and revise the shapefile of the zoning maps, and it will be sent to MOE by December 9, 2021.

c. Pursat Province

- i. Propose to include social economic land concession, new land allocation to local communities, and Bor Bor 001 in mable mining (Thmor Yorn) in community zone;
- ii. Need 2 more weeks to review, and revise the shapefile of the zoning maps, and it will be sent to MOE by December 9, 2021.

2) The social, and Environmental safeguard team will cooperate with the zoning, and management working group to disseminate the approval of zoning and management;

3) All comments, and inputs on the zoning, and the 10-year management plan will be sent by each province on December 9, 2021;

4) Develop a PAWS zoning sub-decree focusing on core, and conservation for conserving biodiversity, and speeding up state land registration;

5) All provincial administration requested to speed up pole demarcation, and installation in management zones, especially core zones.

4. Conclusions and Wayforward

The PAWS zoning and management plan consultation meeting was conducted smoothly with expected results and the next plan in the following:

- 1) Conduct boundary verification of the areas, where they proposed to change;
- 2) Develop zoning sub-decree focusing on core and conservation zones;
- 3) Conduct the final consultation meeting to review 10-year management plan report;
- 4) Conduct pole demarcation and installation subject to state land registration in Protected Areas.

5. Requests

For the effectiveness and success of the PAWS zoning, management plan, and state land registration, the working group requested the following:

- 1) Develop zoning sub-decree focusing on core and conservation zones;
- 2) Prepare a requested letter to the three provincial governors to amend the zoning, and management plan working group;
- 3) Request shapefile data from the EIA department on exploring, potential mining areas and other development areas to avoid overlapping with core, and conservation zones..

As said above I am pleased to ask His Excellency Minister to consider for reviewing and comment.

Please accept, Excellencies, the expression of my highest consideration.

Phnom Penh date: 16 December 2021
Head of Component 1

Kong Kim Sreng

Have seen and submitted to the Secretary of State,
Please kindly review
Phnom Penh date: 20 December 2021
DG of GDNPA

Kim Nong

Have seen and submitted to H.E Minister
Ministry of Environment
Please kindly review for approval
Phnom Penh date: 22 December 2021
Secretary of State

Srun Darith

Have seen and submitted to H.E Minister Ministry of
Environment
Please kindly review for approval
Phnom Penh date: 31 December 2021
Secretary of State and Head of MOE CSLEP EA

Sao Sopheap

Agreed

MOE Minister
11 January 2022

Annex 4.4. Final consultation (national) consultation meeting report

KINGDOM OF CAMBODIA
NATION-RELIGION-KING
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GENERAL DIRECTORATE OF
NATURAL PROTECTED AREAS

No:041... GDNPA/MoE

To
MOE Minister

Through: - H.E **Kim Nong** General Directorate of GDNPA and the chair of the working group
- H.E **Srun Darith**, MOE Secretary of State
- H.E **Sao Sopheap** Secretary of State and Head of CSLEP EA

Subject: Final (national) consultation report on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces.

Reference: Working group decision, dated 03 September 2020 on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces

According to the above subject and reference, I would like to inform **His Excellency** that on March 31, 2022, the Department of Southern Tonle Sap Terrestrial Protected Area Conservation under CSLEP-WB conducted the final (national) consultation meeting at Kampong Speu Provincial Meeting Hall on zoning and management plan development of Phnom Aural WS, Kampong Speu, Pursat, and Kampong Chhnang Provinces led by **Mr. Hem Sochet**, Deputy Director of GDNPA and representative of **H.E Kim Nong**, DG of GDNPA, **Mr. Hong Daravuth**, Director Department of Southern Tonle Sap Terrestrial Protected Area Conservation, **Mr. Om Makteary**, Director of Kampong Speu PDoE, **Mr. Mom Phalla**, Director of Kampong Chhnang PDoE, and **Mr. Kong Putheara**, Director of Pursat PDoE Kampong Speu province with the participation from representative of Kampong Chhnang, Pursat, and Kampong Speu province, national staff, and international NGOs with the total of 45 people (6 females).

1. Objective of the consultation meeting

- Review, and revise the zoning and the PAWS 10-year management plan report.

2. Process of the consultation meeting

At first, **Mr. Hem Sochet**, Deputy Director of GDNPA and representative of **H.E. Kim Nong**, gave welcome and opening remarks. He mentioned the process of the zoning and management plan development reports, the current new Protected Areas established, the number of PA management plans approved, and the plan by MOE for long-term effective management of protected areas.

Then, **Mr. Hong Daravuth**, Director Department of Southern Tonle Sap Terrestrial Protected Area Conservation gave a presentation on 1) the process of zoning and management plan development, 2) problems, and pressures faced by PAWS management, and program, sub-program, and priority activities for 5-year annual work plan with budget. After the presentation, the final draft zoning, and management plan reports were discussed.

Before ending, **Mr. Hong Daravuth**, Director Department of Southern Tonle Sap Terrestrial Protected Area Conservation delivered wrap-up and closing remarks by raising recommendations for the effectiveness of the implementation:

- Provide inputs on the zoning and management plan reports on time;
- After the MOE Minister approves the management plan the PDoE in each province will easily, and effectively manage this protected area.

3. Results of the consultation meeting

The results of the consultation meeting, the participants agreed on the following:

- 1) Add the values, and roles of the wildlife sanctuary especially the roles of the water reservoir;
- 2) Add more main activities under Program 1 related to climate change, and social safeguards;
- 3) Allow 2 more weeks for participants to provide more comments and inputs then send it to the focal point under each province for consolidation;
- 4) Submit the final draft report to the MOE Minister for approval.

4. Conclusions and Wayforward

The PAWS zoning and management plan final consultation meeting was conducted smoothly with expected results.

5. Requests

For the effectiveness of the 10-management plan (2022-2031) report for PAWS, the working group requested the following:

- 1) Submit the 10-year management plan (2022-2031) of PAWS to the MOE Minister for approval after all comments from each province are consolidated;
- 2) Request the MOE Minister to sign on the 10-year management plan (2022-2031)

As said above I am pleased to ask His Excellency Minister to consider for reviewing and comment.

Please accept, Excellencies, the expression of my highest consideration.

Phnom Penh date: 18 May 2022

Head of Component 1

Have seen and submitted to the Secretary of State,

Please kindly review

Phnom Penh date: 23 May 2022

For DG of GDNPA

Leung Kesoror

Have seen and submitted to H.E Minister Ministry of Environment

Please kindly review for approval

Phnom Penh date: 26 May 2022

Secretary of State and Head of MOE CSLEP EA

Kong Kim Sreng

Have seen and submitted to H.E Minister Ministry of Environment

Please kindly review for approval

Phnom Penh date: 23 May 2022

Secretary of State

Srun Darith

Agreed

Sao Sopheap

MOE Minister
02 June 2022

Annex 4.5. Technical consultation meeting zoning report

KINGDOM OF CAMBODIA
NATION-RELIGION-KING
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MINISTRY OF ENVIRONMENT
IMPLEMENTATION AGENCY
CAMBODIA SUSTAINABLE LANDSCAPE AND ECOTOURISM PROJECT

No:024... Nor Tor Tor Kor

To
H.E Srey Sunleang
DG of GDNPA and CSLEP Project Director

Subject: Report on zoning and management plan development of Phnom Aural WS, Phnom Samkus WS, and Tatai WS.

According to the above subject and reference, I would like to inform **His Excellency** that on April 9, 2024, the Department of Southern Tonle Sap Terrestrial Protected Area Conservation under CSLEP-WB conducted the final consultation meeting at Prach Sun Meeting Hall on zoning development of Phnom Aural WS, Phnom Samkus WS, and Tatai WS led by **H.E Chea Samang**, Secretary of State with the participation from undersecretary of state, representative of DG of Natural Protected Areas, Administration and Finance, Environmental Agency, Local Community, Policy and Strategy, Knowledge and Environmental Information, EIA department, and other relevant departments with the total of 34 people (5 female).

1. Objective of the consultation meeting

- Review the zoning maps of PAWS, PSWS, and TTWS;
- Provide inputs on PAWS, PSWS, and TTWS reports.

2. Process of the consultation meeting

At first, H.E Chea Samang, Secretary of State, gave welcome and opening remarks by encouraging all participants to provide more comments and inputs on the final draft zoning maps in PAWS, PSWS, and TTWS. He also mentioned that the zoning development should be based on the roles of each management zone.

Then, **Mr. Hong Daravuth**, Director Department of Southern Tonle Sap Terrestrial Protected Area Conservation gave a presentation on 1) the process of zoning development, and 2) the methodologies for zoning development for three protected areas.

Next, other participants provided their views, and inputs on the final draft zoning map, and reports for three protected areas.

3. Results of the consultation meeting

The results of the consultation meeting, the participants agreed on the following:

- 1) Review and revise the draft zoning maps and reports for three PAs;

- 2) Add more roles of core, and conservation zones in each PA;
- 3) Update the zoning data in each PA;
- 4) Some roads, and power lines still keep in core and conservation zones.

As said above I am pleased to ask His Excellency to consider for reviewing and comment.

Please accept, Excellencies, the expression of my highest consideration.

Phnom Penh date: 05 June 2024

Technical Officer

Hour Charya

Have seen and submitted to the Project Manager,

Please kindly review

Phnom Penh date: 05 June 2024

Head of Component 1

Kong Kim Sreng

Have seen and submitted to the Project Director

Please kindly review for approval

Phnom Penh date: 05 June 2024

Project Manager

Khin Meng Kheang

Agreed

Project Director

05 June 2024



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