

The Assessment and Evaluation of Conservation Value for Pidaung Wildlife Sanctuary

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Introduction

Wildlife conservation has been addressed with a modern approach in Myanmar since 1981, when the Nature and Wildlife Conservation Division was established and a Nature Conservation and National Park Project was initiated with the support of the United Nations Development Programme (UNDP) and the Food and Agriculture Organization (FAO). The Division ran its activities with a total staff of 2,250. Currently, there are 31 existing protected areas representing 2.26% of the total land area of Myanmar. Out of these, 19, including Pidaung Wildlife Sanctuary, are under the intensive management of the Nature and Wildlife Conservation Division. The rest are still not well staffed and remain under Forest Department administration.

Involvement of the Wildlife Conservation Society

The Wildlife Conservation Society (WCS) is a non-profit-making non-government organisation (NGO) that has been involved in the wildlife conservation activities of Myanmar since 1994. With the collaboration of the Forest Department, WCS has laid down some guidelines for its activities that are beneficial to the Nature and Wildlife Conservation Division of the Forest Department. One of the activities outlined is that all the existing protected areas of Myanmar will be evaluated to highlight those with the best potential for further development of conservation.

This activity has been carried out by U. Saw Tun Khaing, Country Programme Coordinator of the WCS Myanmar Programme, and has been completed in 21 areas, including Pidaung Wildlife Sanctuary, out of 31. Evaluation in Pidaung was completed in November 1996. A list of the existing protected areas of Myanmar is given in Table 28 of the paper 'NGO Collaboration for the Development of Hkakaborazi National Park in Northern Myanmar' (see Section 2).

Methodology used in the assessment

For the assessment, a uniform grading system for measuring conservation value was constructed in such a way that all areas could be judged by a standardised matrix. In the matrix, four main aspects for each area were first considered: natural resources, infrastructure development, management, and threats, where the former three aspects are positive and the last one negative attributes of the area. For each aspect, 10 possible measuring parameters were outlined. For example, area, flora, fauna, avifauna, aesthetic, cultural, research/education, climatic control, and tourism potential (local and foreign) are the measuring parameters for natural resources. Similarly, the other aspects have their own respective parameters (see Appendix 1).

For grading each parameter, the marking system is set with a range of 0-10. After grading each parameter, the sum total for each aspect can be obtained. The conservation value of the area

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can be calculated simply by subtracting the value for threats from the value derived from the sum of the values for natural resources, infrastructure development, and management. Then, the status of the assessed protected area can be defined qualitatively as critical, poor, fair, and so on, up to excellent, depending on the percentage value calculated. For instance, if the value falls between 0 and 10, the result would be ‘critical’ and if it falls between 81 and 100, it would be ‘excellent’. So, the final conservation value for each site is judged not only on the richness of natural flora and fauna and the inputs of infrastructure development and management of the respective site but also on the reduction in threats occurring in that area.

When the areas were visited for data collection, the Country Programme Coordinator brought along local guides or hunters who can provide information about wildlife, the situation of habitats, encroachment, and the collection of minor forest products from the park. In most cases, the park warden and his staff accompanied the team and, after the trip, the general situation of the park was discussed. With full participation of the warden and his staff, the data were recorded in the prescribed matrix. In this way, the conservation values for the areas have been quantified. The conservation values for the 21 protected areas completely evaluated are shown in Appendix 2.

The assessment of Pidaung Wildlife Sanctuary

As mentioned above, a trip took place in October-November 1996 to assess Pidaung Wildlife Sanctuary. The result came out at 13%, which can be interpreted as ‘poor’ in terms of conservation value. The detailed grading for Pidaung Wildlife Sanctuary is shown in Appendix 3.

The past and current status of Pidaung Wildlife Sanctuary

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Because of its unique status in terms of flora and fauna, Pidaung Wildlife Sanctuary was established in 1918 to protect key species such as tiger, elephant, leopard, guar, banteng, sambar, and bear. However the wildlife population declined, and habitats were lost, mainly due to serious human disturbances during the Second World War and aftermath. When Oliver Milton and Richard D. Estes surveyed the area in 1958-1959, they found the wildlife population was greatly decreased (see Table 28).

Further detrimental impacts on the wildlife and habitats of Pidaung Wildlife Sanctuary are given below.

- In 1962, due to the expansion of sugar cane plantations, 2,052 ha of Pidaung Reserved Forest and Pidaung Extension Reserved Forest in the south-western portion of the sanctuary were cut down.
- In 1972, 345 Gatshanyan households and 15 Laphan households were settled inside the sanctuary and along the side of the Ledo road, for security reasons.

- In 1980, forest vegetation extending for 1.6 km on both sides of the railway line for a total distance of 25 km was cut down for the same security reasons.
- For security reasons, Malikha Village (143 households) and Pidaung Village (95 households) were established on the side of the railway line inside the sanctuary.
- In 1993, 397 ha of Pidaung South Extension Reserve were deforested for 2 military settlements.

Table 28: Some past survey results of Pidaung Wildlife Sanctuary

Species	Year	
	1937	1958-59
Elephant (<i>Elephas maximus</i>)	200	49
Gaur or Bison (<i>Bos gaurus</i>)	300	61
Banteng or Saing (<i>Bos banteng</i>)	200	13
Hog deer (<i>Cervus porcinus</i>)	500	17
Sambhur (<i>Cervus unicolor</i>)	250	45
Barking deer (<i>Muntiacus muntjac</i>)	150	18
Wild boar (<i>Sus scrofa</i>)	-	18
Tiger (<i>Panthera tigris</i>)	12	2
Leopard (<i>Panthera pardus</i>)	10	2
Bear (<i>Selenarctos thibetanus</i>)	20	2
Wild dog (<i>Cuon alpinus</i>)	40	2

As a result of these human disturbances, when the country programme coordinator and Dr Alan Rabinowitz visited the sanctuary in March and November 1996, information on wildlife was very scanty and the area on the south of the railway line was found to be very much fragmented and degraded. Although the northern hilly area of the sanctuary seems to be intact, it was not possible to visit these areas for security reasons.

Issues

Due to population pressure and the expansion of agriculture, the present-day protected areas in Myanmar are bound to face problems and issues of one type or another. However, Pidaung Wildlife Sanctuary is said to be facing the most complex challenges for its conservation.

- *Taungya cutting.* This is driven by tradition, economic necessity, and lack of alternatives. It is a countrywide problem that needs to be solved with a long-term national economic plan.
- *Railway and road construction.* Although this is detrimental to some extent, if undertaken properly it can be positive for conservation. However, clearing vegetation for a stretch of 1.6 km on both flanks of the railway and expansion of 305m on both sides of the road have created great damage to the sanctuary.
- *Fuelwood collection and charcoal burning.* This problem is also associated with taungya cutting. Although Malikha and Pidaung Villages were established primarily for security reasons, nowadays these villages have become sources of fuelwood and charcoal to be sold for use in cities like Myitkyina and Mandalay.
- *Timber, bamboo, and rattan extraction.* These activities are common in the northern part of the sanctuary where there are still good habitats for wildlife. These products are mainly extracted for Myitkyina.
- *Grazing.* There are cattle breeding farms inside the sanctuary for milk production. Gurakha people run these farms; the free grazing of cattle causes a negative impact on wildlife and its habitats.
- *Settlement of military complexes and villages.* These settlements cause wildlife to abandon their habitats and possibly migrate to other undisturbed areas outside the sanctuary that are also linked to the Kumaon range, towards the Indian border.

Conclusion

As mentioned earlier, Pidaung is unique from a conservation perspective. With hilly regions in the north and lowland plain with grassland in the south, it has aptly been compared to the famous Kruger National Park of South Africa.

Nowadays, it is a pathetic scene to see such an area gradually losing its beauty. However, it is heartening to learn that ICIMOD is committed to stem the tide of degradation with an agroforestry approach. Saving this valuable area will be a very tough challenge for those involved, including the Forest Department and ICIMOD. It is hoped that with an integrated approach, good foresight, and the backup of strong political-will, the future survival of Pidaung Wildlife Sanctuary will be ensured.

“it is a pathetic scene to see such an area gradually losing its beauty”

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Appendix 1 : Grading System for measuring the parameters of conservation value in the Protected Area of Myanmar

Status	Measuring Parameters									
	Area	Flora	Fauna	Avifauna	Aesthetic	Cultural	Research/ Education	Climatic control	Tourism potential Local	Foreign
Natural resources	Accessibility	Staffing	Building	Office facilities	Social services	Visitor facilities	Communication (telephone)	Electricity	Transport facilities	Education/training facilities
Management	Legality	Boundary demarcation	Management plan	Law enforcement	Habitat improvement	Buffer zone development	Community development	Support	Training of staff	Funding
Threats	Human settlement	Shifting cultivation	Poaching wildlife for Food	Trade	Resource collection	Illegal timber extraction	Mining/Exploration for oil	Dam construction	Highway-construction	Tourism (impact of pollution)

Notes:

Grading for individual parameter: 0 to 10 in ascending order

Conservation value: (1) + (2) + (3) + (4)

Range of result: 0 - 10 critical, 11-20 poor, 21 - 40 fair, 41 - 60 good, 61 - 80 very satisfactory, 81 - 100 excellent

Appendix 2: Conservation values for the 21 protected areas completely evaluated

Protected Area	Status						Conservation value	
	Natural resources	Infrastructure	Management	Threats	Percentage	Grade		
Natmataung National Park	75	24	27	21	35	Fair		
Moyingyi Wetland Bird Sanctuary	55	25	29	13	32	Fair		
Pidaung Wildlife Sanctuary	43	8	19	32	13	Poor		
Lampi Marine National Park	49	3	15	21	15	Poor		
Hkakaborazi National Park	72	7	16	19	25	Fair		
Htamanthi Wildlife Sanctuary	51	15	23	17	24	Fair		
Shwe-U-Daung Wildlife Sanctuary	58	10	13	33	16	Poor		
Hlawga Wildlife Park	64	69	49	15	56	Good		
Alaungdawkhatha National Park	68	58	51	20	52	Good		
Meinmaha Kyun Wildlife Sanctuary	65	27	47	17	41	Good		
Taunggyi Bird Sanctuary	29	10	11	14	12	Poor		
Parsar Protected Area		8	15	13	14	Poor		
Loimwe Protected Area	22	5	15	24	6	Critical		
Inlay Wetland Bird Sanctuary	64	49	37	25	42	Good		
Weththikan Wetland Bird Sanctuary	40	17	24	26	18	Poor		
Shweseftaw Wildlife Sanctuary	77	74	59	28	61	Very Satisfactory		
Popa Mountain Park	76	75	61	13	66	Very Satisfactory		
Lawkananda Park	38	36	41	3	37	Fair		
Minzontaung Wildlife Sanctuary	55	17	41	5	36	Fair		
Minwuntaung Wildlife Sanctuary	36	15	8	16	14	Poor		
Pyin-Oo-Lwin Bird Sanctuary	24	12	8	22	7	Critical		

Appendix 3: Detailed grading for Pidaung Wildlife Sanctuary

Status	Measuring Parameters											Total
	Area	Flora	Fauna	Avifauna	Aesthetic	Cultural	Research/education	Climatic control	Tourism potential			
									Local	Foreign		
Natural resources	7	5	4	3	4	-	8	4	3	5	43	
Infrastructure development	Accessibility	Staffing	Building	Office facilities	Social services	Visitor facilities	Communication (telephone)	Electricity	Transport facilities	Education/training facilities		
Management	7	1	0	0	0	0	0	0	0	0	8	
	Legality	Boundary demarcation	Management plan	Law enforcement	Habitat improvement	Buffer zone development	Community development	Support	Training of staff	Funding		
Threats	4	3	0	2	3	0	0	3	0	4	19	
	Human settlement	Shifting cultivation	Poaching wildlife for Food	Trade	Resource collection	Illegal timber extraction	Mining/exploration for oil	Dam construction	Highway construction	Tourism/ (impact of pollution)		
	6	6	6	1	8	2	0	0	3	0	32	

Notes:

Grading for individual parameter: 0 to 10 in ascending order

Conservation value: (1) + (2) + (3) + (4) = 38

Range of result: 0 - 10 critical, 11-20 poor (13%), 21 - 40 fair, 41 - 60 good, 61 - 80 very satisfactory, 81 - 100 excellent

Period of assessment: 21 October 1996 to 27 October 1996