CAPACITY- AND FINANCIAL NEED ASSESSMENT OF PROTECTED AREAS LOCATED IN THE ALTAI SAYAN ECOREGION OF MONGOLIA

Protection Categories covered:
Strictly Protected Areas
National Parks

WWF-Mongolia
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Mongolian Language Terms

Aimag	Second level of Government; largest political territorial division in Mongolia (English equivalent: “Province”)
Sum	Third level of Government; second largest political territorial division in Mongolia (English equivalent: “District”)
Bag	Fourth level of Government; smallest political territorial division in Mongolia

Acronyms used

CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resource Management
CC	Carrying Capacity (livestock)
GoM	Government of Mongolia
GTZ	*Gesellschaft fьr Technische Zusammenarbeit*
HQ	(PA) Headquarters
MNE	Ministry of Nature and Environment
NP	National Park
PA	Protected Area
SPA	Strictly Protected Area
WWF	World Wide Fund for Nature

Section 1. INTRODUCTION

1.1. Background

This Capacity and Financial Needs Assessment covers the sixteen Strictly Protected Areas and National Parks of the Altai Sayan Ecoregion under the jurisdiction of Mongolia's Ministry of Nature and Environment.

The assessment should be seen as a first attempt to systemically quantify and qualify problems related to the current governance and financial sustainability of Mongolia's protected areas under the jurisdiction of the Ministry of Nature and Environment, using the protected areas located in the Altai Sayan Region as a representative and statistically viable sample of Mongolia's PA system.

The assessment addresses primarily two of the four key pillars of protected areas and biodiversity conservation:

(a) "**Governance**" (the capacity assessment of the protected areas mirrors the capability of the institution entrusted with the management of the national PA System), and
(b) "**Financial Sustainability**" (the financial need assessment critically analyses:
- the actual annual budget and current personnel composition for each area; and
- the investment needs related to infrastructure development, equipment and personnel needs (administrative and technical personnel) by area required for the minimum (and optimum) sustainable protection of an area.

Schuerholz (2006) [1] provides following definitions of the four key pillars of conservation:

Ecological Integrity: defined as safeguarding sustainable ecosystem functioning and enabling natural evolutionary processes to take place without interference; establishing and protecting ecologically and genetically viable populations of plant and animal species and their habitat within a PA.

Governance: defined as the administrative form, authority, legal and policy framework, manpower and budget allocations related to any single protected area and the national PA System.

Social Participation/Local Empowerment: defined as to actively involve PA neighbours and PA users in PA planning and management; to empower local communities to co-manage protected areas and to share revenues generated through tourism and sustainable resource use to be compatible with the overall

[1] Schuerholz, Goetz. 2006. Situation analysis and conceptualization of future support to the ranger issue of the Khangai Nuruu Protected Areas. Final Report.. GTZ archives.

conservation objective; sound and regular communication between PA staff and PA stakeholders.

***Financial Sustainability**:* defined as to receive/generate adequate funds for the sustainable protection of a PA and the national PA system.

Time and budget constraints related to this assessment did not permit any in-depth analysis of all problems identified by area. It is apparent that not all challenges emerging from this assessment can be addressed at the same time and not all barriers to a sustainable protection removed at once. The biggest challenge therefore is to address the right issues at the right time in order to maximize the positive impacts of future interventions and to create synergies through coordinated donor programs in order to improve the efficiency and effectiveness of on-going protection efforts. It is hoped that the results of this diagnostic report will serve decision makers to form a more educated opinion on the status of Mongolia's protected areas.

1.2. Methods and Approach

The Capacity and Financial Needs Assessment took place between the 25th of September and 15th of October 2007 including a 14 days field trip. All six Administrative Offices responsible for the sixteen Strictly Protected Areas (SPA) and National Parks (NP) of the Altai Syan Ecoregion were visited. At each location a one to two-days workshop was conducted involving all of the SPA and NP personnel of the respective protected areas (PA). The workshops commenced with a participatory assessment of problems that threaten the effective and sustainable protection of area-specific ecosystems. In a second step problems were rated according to their severity and overall importance, based on a majority vote by workshop participants that included rangers, administrative staff and specialists from each target area. The problem rating served as basis for the participatory decision on measures to be taken and strategies to be adopted for the mitigation of identified threats, ranked by priority.

The problem analysis was followed by a compilation of key statistical information on each area using the same templates for all areas assessed. The first template focused on area-specific investment needs (i.e., infrastructure and equipment), guided by the corresponding problem analysis. The second and third templates covered the actual annual operational budget and revenues generated by the target area. The fourth template provides a comprehensive overview of the actual personnel structure of the target area broken down by position. The fifth template specifies the actual personnel needs for the minimum protection of the target area with due consideration given to the corresponding problem analysis. The sixth template specifies area-specific operational costs needed for the optimum protection of the target area. All templates are organized by budget line in correspondence with the six key management programs characterizing protected area management (i.e., Administration, Protection, Resource Use, Public Relations and Environmental Awareness, Visitors and Research and Monitoring).

Key information gathered on threats to the ecological integrity of an area, the location and size of core zones, existing infrastructure, ranger posts and priority infrastructure

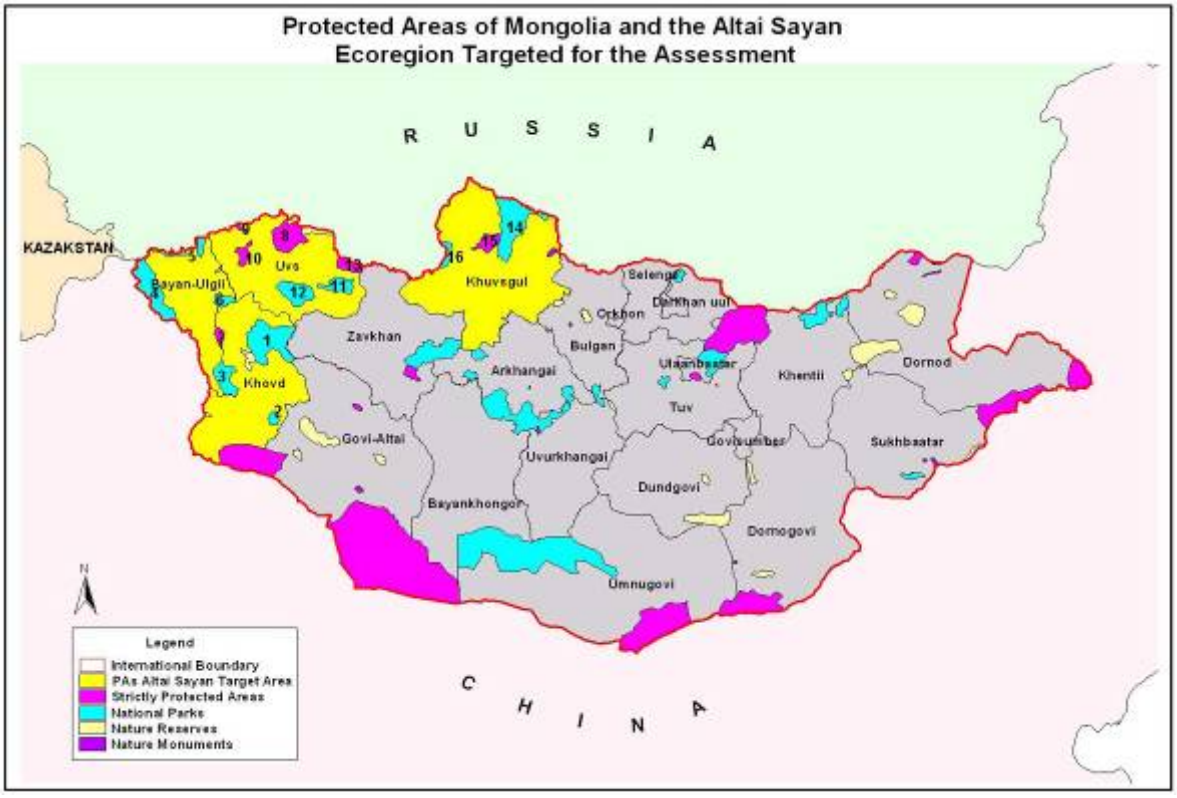
needs identified by the workshop participants were processed at each workshop in GIS format using a topographic base map displayed via LCD projector for proper visualization. The rangers participating in the workshops used the projected maps as a tool for illustrating their concerns, problems and proposed solutions to the problems.

The following document is composed of 5 sections: Section 1 provides background information on the assessment, section 2 area-specific profiles section 3 deals with generic issues related to the PAs, and sections 4 and 5 with the capacity assessment and financial needs issue.

1.3. Target Areas and Sample Size

The five SPAs and eleven NPs selected for this Capacity and Financial Need Assessment are located in the Altai Sayan Ecoregion of north western Mongolia, shared by neighbouring China and Russia (Map 1.3). This ecologically highly diversified region is composed of extensive lowland steppe, high mountain tundra ecosystems, mountain forests, and extensive wetlands and lakes of global significance (Ramsar sites).

Map 1.3: The Altai Sayan target area (yellow) is bordered by high snow-capped mountains shared by Russia and China. The numbers of the sixteen protected areas shown on the map correspond to the numbers of the protected areas listed in Table 1.3, subject of this assessment.



The sixteen areas of the Altai Sayan Region (Table 1.3) managed by six administrative centers represent one third of Mongolia's 48 SPAs and NPs under the jurisdiction of the Ministry of Nature and Environment.

Table 1.3: Dominant ecosystems protected by the sixteen SPAs and NPs of the Altai Sayan Ecoregion.

Administration Office	No	Name of PA	% Dominant Ecosystem	Sub-dominant Ecosystem	Shares International Boundary
Khar Us Nuur	1	Khar Us Nuur NP	wetlands/lakes	High mountain tundra	no
	2	Myangan-Ugalzat NP	High mountain tundra		no
Munkh-khairkhan	3	Munkh-khairkhan NP	High mountain tundra		
Altai-Tavan Bogd	4	Altai-Tavan Bogd NP	High mountain tundra		China
	5	Siilkhem NP	High mountain tundra		Russia
	6	Tsambagarav NP	High mountain tundra		
Khukh-serkh	7	Khukh-serkh SPA	High mountain tundra		
Uvs Nuur Basin	8	Uvs Nuur SPA	Salt lake	steppe; wetlands	Russia
	9	Tsagaan-shuvuut SPA	High mountain tundra		Russia
	10	Turgen SPA	High mountain tundra		
	11	Khankhukhii NP	Mountain forest	low mountain steppe	
	12	Khyargas NP	Salt lake	lake; lowland steppe	
	13	Altan-els SPA	Sand dunes		Russia
Khuvsgul	14	Khuvsgul Nuur NP	lake; High mountain tundra	mountain steppe	Russia
	15	Khoridol-saridag SPA	High mountain tundra	mountain forest	no
	16	Ulaan-taiga NP	High mountain tundra		Russia

High mountain tundra is the dominant ecosystem of twelve of the sixteen protected areas assessed. The twelve areas allegedly had been created primarily for the protection of argali sheep, ibex and snow leopard. Four of the sixteen areas protect wetlands associated with freshwater- and salt lakes.

The predominantly rural population of the Altai Sayan Region derives its livelihood primarily from animal husbandry with a large dependency on renewable resources.

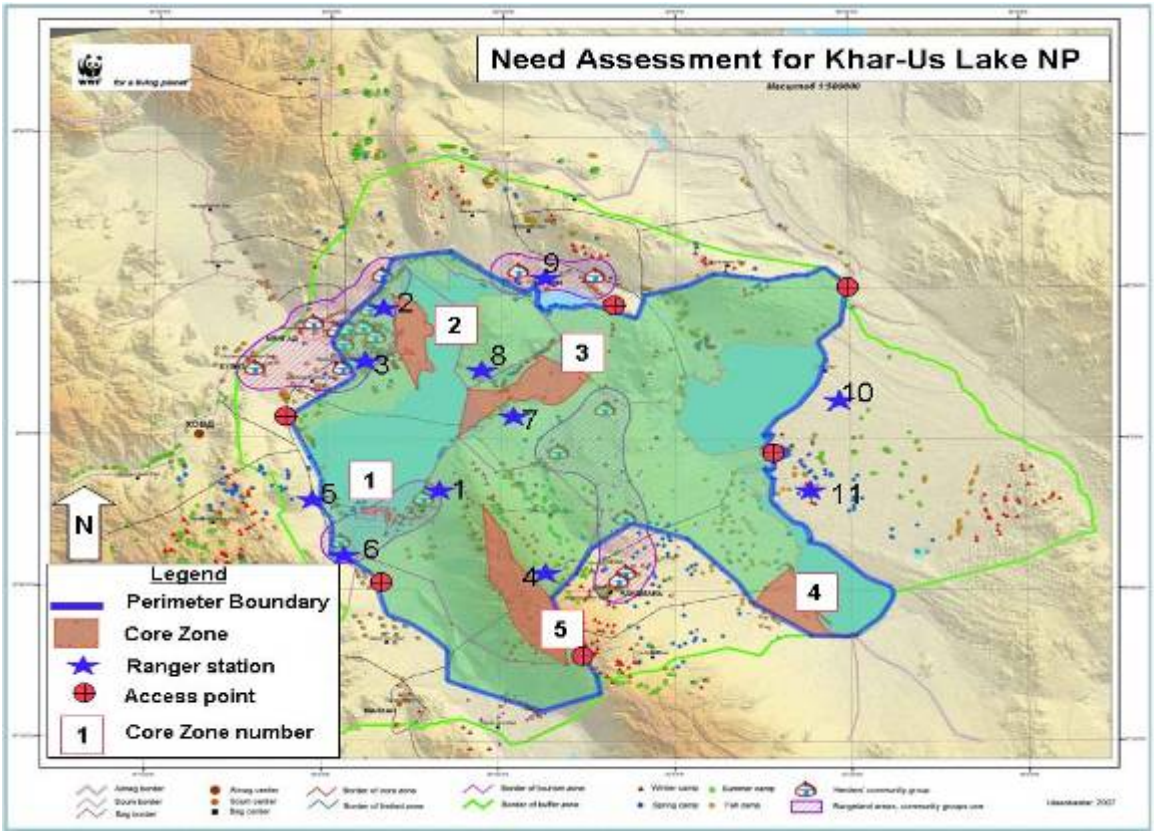
With steadily growing livestock numbers, changing climatic conditions (decreasing precipitation), and encouraged by Mongolia's open range access policy, herder families increasingly penetrate into remote mountain valleys, encroaching on the sixteen SPAs and NPs representing the diverse ecosystems of this ecoregion.

Section 2. PROFILES OF THE SIXTEEN PROTECTED AREAS SAMPLED

2.1 Profile of Khar Us Nuur NP

The National Park includes five interlinked lakes and extensive reed covered wetlands exposed to pressure from livestock winter grazing and extensive reed cutting. The lakes sustain significant fish populations (four endemic species) that are subject to controlled commercial and subsistence use (i.e., harvest quota of 310 tons/a). The wetlands and lakes are considered critical waterfowl and shorebird breeding habitat. The center part of the NP is dominated by a high mountain ridge (core zone) supporting unknown populations of Argali, Ibex and snow leopard as key flagship species (Map 2.1)

Map 2.1 Khar Us Nuur NP



The Khar Us Nuur NP continues to be financially and technically supported by WWF Mongolia which also assisted in the participatory elaboration of its management plan. Thanks to WWF the ranger corps is relatively well equipped. The Park Headquarters,

located in the city of Khovd is financed by WWF. Key perimeter boundary sections have been demarcated and basic infrastructure has been provided by WWF. Basic statistical information on the NP is provided by Table 2.1.1.

Table 2.1.1 Summary data on Khar Us Nuur NP

Established when	1997
Size of PA in ha	850,000
Size of Core Zone in ha	37,000
Dominant ecosystems	(1) Wetlands and lakes; (2) Mountain tundra
Total number of rangers	11
Number of rangers living inside PA with livestock	9
Total number of administrative and professional staff	5 (also responsible for Myangan-Ugalzat NP)
Number of key access points to the PA	7
Number of herder families inside PA	1355
Number of summer camps	
Number of winter camps	603
Number of livestock	325,026
Grazing pressure rating*	extreme
*extreme = exceeding recommended carrying capacity more than twice very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

The participatory problem analysis (Table 2.1.2.) that was conducted jointly with the NP rangers and staff indicates that the NP is exposed to excessive grazing pressure and other human activities causing adverse impacts on the area's ecosystem. There is a perceived need for: (a) fencing key wetland areas as protection against livestock, (b) adding fire-watch towers, (b) increasing the number of rangers and staff, and (c) upgrading equipment and means of transport. For further details it is referred to Annex 1.

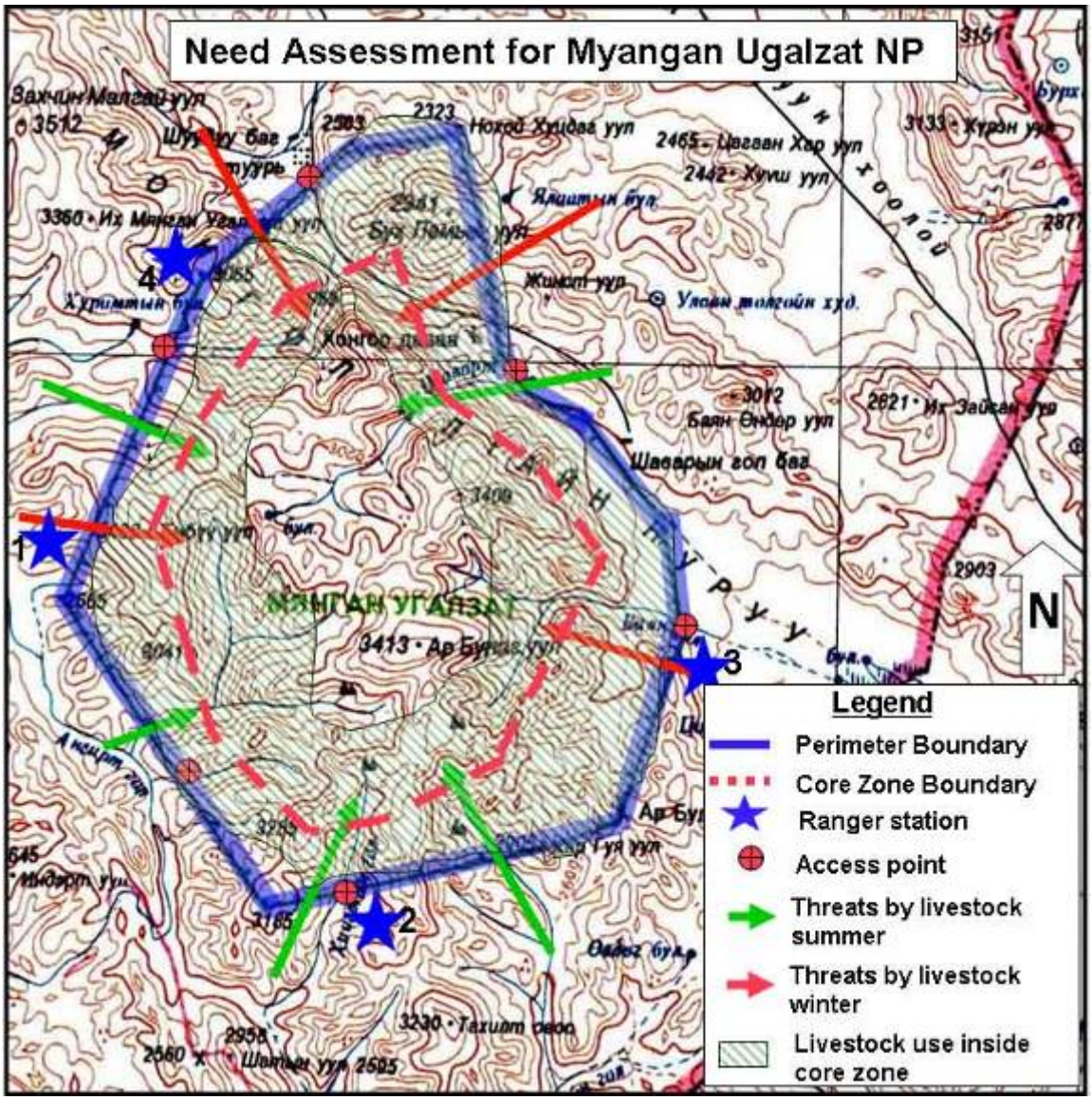
Table 2.1.2: Problem Analysis for Khar Us Nuur NP

Problem	**Threat ranking***	**Mitigation Strategy**
Overgrazing	1	Hire resource use specialist (1)
Core Zone too small in size	1	Expand core zone
Poorly trained and qualified rangers	2	Training needs in communication conservation
Rangers without inspector status	2	Parliament decision
Poor communication with herder families	2	Hire environmental educator (1)
Control areas of rangers too large	1	Reduce area/add rangers hire additional rangers (3)
Rangers under-equipped	2	Purchase additional equipment
Poor ecological knowledge by rangers and herders	2	Hire ecologist (1)
*Ranking: 1 = highest threat (descending)		

2.2 Myangan Ugalzat NP

The National Park covers high mountain ecosystems protected mostly for the benefit of argali, ibex and snow leopard. The core zone has not been defined yet. As may be learnt from Map 2.2 the pressure on the NP by livestock in winter and summer is extreme, leaving little undisturbed space for argali which are competing with livestock for the same habitat.

Map 2.2: Myangan Ugalzat NP



The Myangan Ugalzat NP is financially supported by a current UNDP-GEF project which also financed the establishment of a sub-administrative center for the park in Tsetsig Soum. The four rangers of the NP have no means of transport except for personal horses. Although there appears to be no need for additional rangers, there is a need for an environmental educator and a resource use specialist to deal with range problems. There is a need for the elaboration of a management plan, upgrading of equipment and providing proper means of transport for the four rangers. Basic statistical information on the NP is provided by Table 2.2.1.

Table 2.2.1: Summary data on Myangan Ugalzat NP

Established when	2002
Size of PA in ha	60,000
Size of Core Zone in ha	undefined
Dominant ecosystems	High mountain tundra
Total number of rangers	4
Number of rangers living inside PA with livestock	4 at perimeter boundary with livestock using park area
Total number of administrative and professional staff	1 (NP managed by Khovd HQ)
Number of key access points to the PA	6
Number of herder families inside PA	65
Number of summer camps	65
Number of winter camps	21
Number of livestock	6,000
Grazing pressure rating*	extreme
*extreme = exceeding recommended carrying capacity more than twice very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

The participatory problem analysis (Table 2.2.2) was conducted jointly with the NP rangers and staff. Further details on the park are provided in Annex 2.

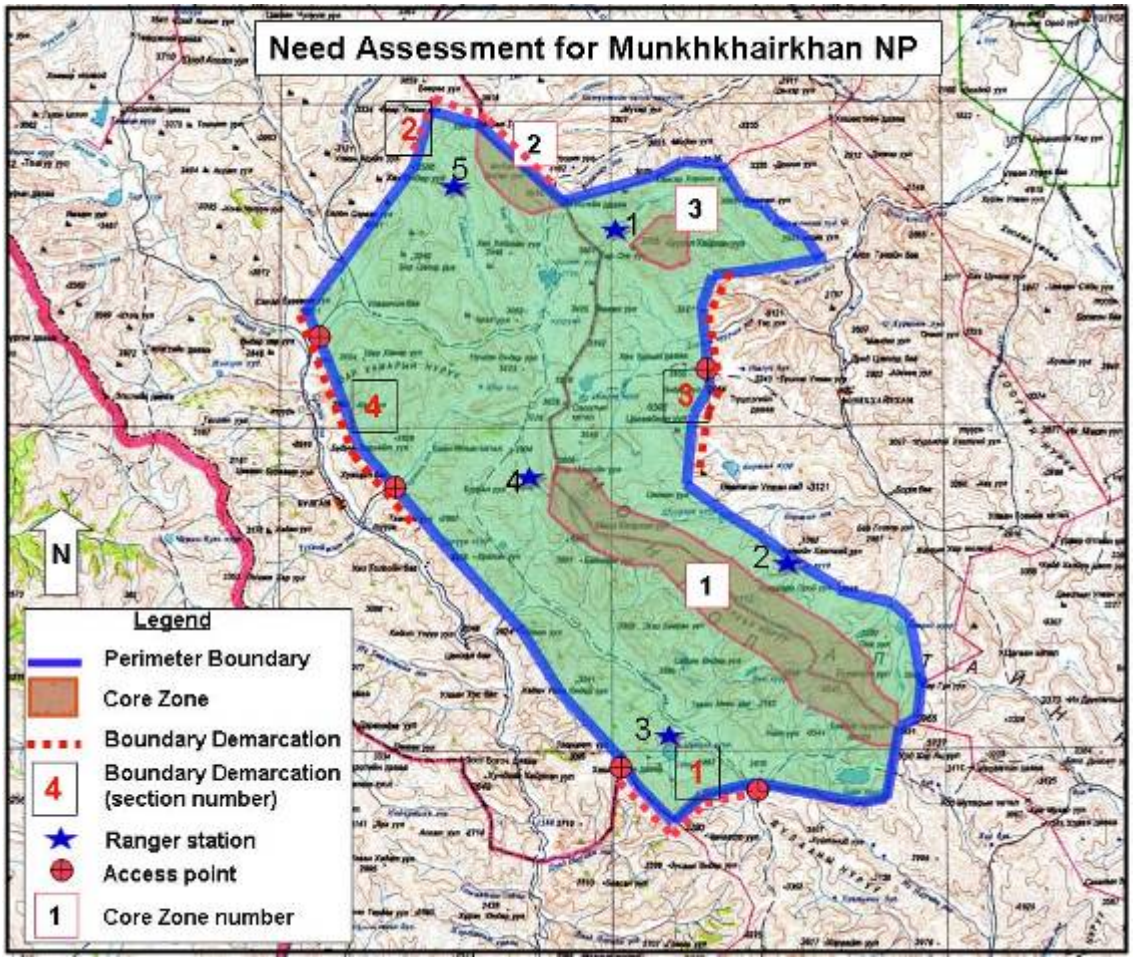
Table 2.2.2: Problem Analysis for Myangan Ugalzat NP

Problem	**Threat ranking***	**Mitigation Strategy**
Overgrazing	1	Hire resource use specialist (1)
No management plan	1	Elaborate management plan
Undefined Core zone	1	management planning process
Poorly trained and qualified rangers	2	Training in communication and conservation
Rangers without inspector status	2	Parliament decision
Poor communication with herder families	2	Hire environmental educator (1)
Rangers under-equipped	2	Purchase additional equipment
Poor ecological knowledge by rangers and herders	2	Hire ecologist (1) for three areas administered by Khovd HQ
*Ranking: 1 = highest threat (descending)		

2.3 Munkhkhairkhan NP

The National Park covers primarily mountain ecosystems protected mostly for the benefit of argali, ibex and snow leopard. Also protected by the park are lower elevation forests. The three designated core zones of the park are fragments and very small in size (Map 2.3). As shown by Map 2.3, strategic boundary sections are in need of demarcation. The five ranger stations of the park are located inside the NP boundaries (see map). The five rangers own livestock using the park's grasslands.

Map 2.3: Munkhkhairkhan NP



The NP headquarters (HQ) is located in Munkhkairkhan Soum. It is composed of two rented rooms occupied by the five administrative officers and professional staff of the park. The rooms are unfurnished (basic staff owned furnishings only). There is no office equipment and/or field equipment and no telephone/radio-communication. Basic statistical information on the NP is provided by Table 2.3.1.

Table 2.3.1: Summary data on Munkhkhairkhan NP

Established when	2006
Size of PA in ha	325,000
Size of Core Zone in ha	Estimated 70,000 (3 core areas)
Dominant ecosystems	High mountain tundra
Total number of rangers	5
Number of rangers living inside PA with livestock	5
Total number of administrative and professional staff	5
Number of key access points to the PA	5
Number of herder families inside PA	300 summer, 150 spring
Number of summer camps	300
Number of winter camps	20
Number of livestock	100,000
Grazing pressure rating*	extreme
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

As shown by the participatory problem analysis (Table 2.3.2) the park needs a new park-owned HQ building to be adequately furnished and equipped. An additional administrative sub-center is needed on the eastern side of the park which is highly isolated in winter and can only be reached from HQ with greatest difficulty. The NP needs a management plan. The control areas of the rangers are too large. Four additional rangers are needed which would reduce the size of the control areas to 25,000 ha per ranger. Further details on the park are provided in Annex 3.

Table 2.3.2: Problem Analysis for Munkhkhairkhan NP

Problem	**Threat ranking***	**Mitigation Strategy**
Overgrazing	1	Hire resource use specialist (1)
Core zone too small in size	1	Expand core zone
No management plan	1	Elaborate management plan
Poorly trained and qualified rangers	2	Training needs in communication conservation
Rangers without inspector status	2	Parliament decision
Poor communication with herder families	2	Training needs of rangers
Control areas of rangers too large	1	Hire additional rangers (4)
Rangers under-equipped	2	Purchase additional equipment
Illegal logging	2	Increase enforcement
*Ranking: 1 = highest threat (descending)		

2.4 Altai Tavan Bogd NP

This National Park covers high mountain tundra ecosystems protected mostly for the benefit of argali, ibex and snow leopard. It also covers some low elevation forest ecosystems interspersed with mountain steppe. Three lakes are located inside the park. The core area is confined to the very high mountain ridge bordering China to the west and Russia to the north (Map 2.4). Also indicated on the map are strategic boundary sections in need of demarcation. Seven of the nine rangers with their families and livestock live inside the park throughout the year. The entire park area east of the core zone is subject to heavy grazing pressure by livestock encroaching on the core zone. Illegal logging takes place mostly in the areas highlighted on the map. There is one international border crossing located inside the core area. Basic statistical information on the NP is provided by Table 2.4.1.

Map 2.4: Altai Tavan Bogd NP

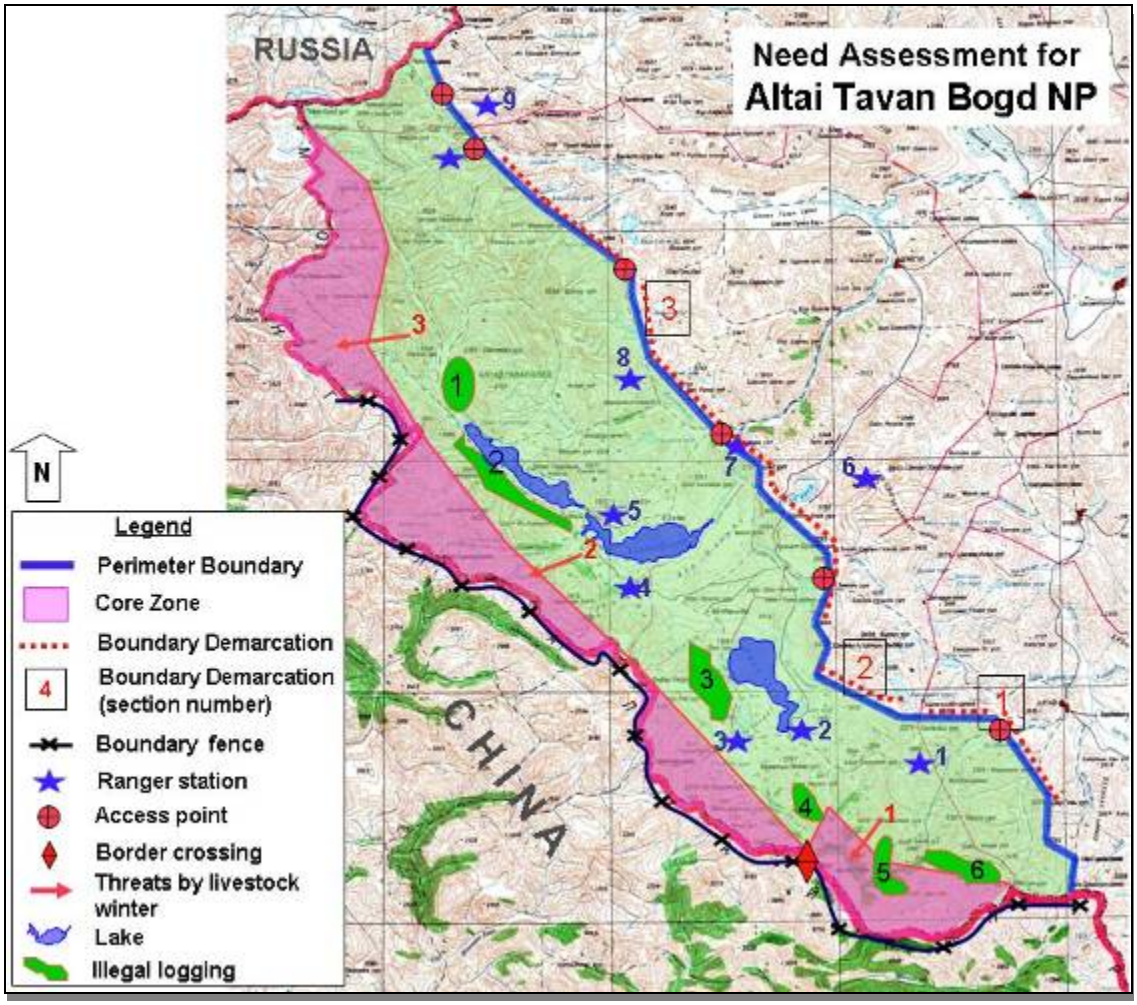


Table 2.4.1: Summary data on Altai Tavan Bogd NP

Established when	1996
Size of PA in ha	636,161
Size of Core Zone in ha	122,000
Dominant ecosystems	High mountain tundra; mountain forest and steppe
Total number of rangers	9
Number of rangers living inside PA with livestock	7 (plus 2 rangers outside NP boundaries)
Total number of administrative and professional staff	6
Number of key access points to the PA	6
Number of herder families inside PA	2040 in summer
Number of summer camps	2040
Number of winter camps	120
Number of livestock	167,000 in summer; 9,720 in winter
Grazing pressure rating*	Extreme (3 times higher than carrying capacity)
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

The NP headquarters (HQ) is located in Bayan Ulgii. As indicated by the participatory problem analysis (Table 2.4.2) poaching takes place mostly along the border with China. Allegedly China opens the border fence during spring migration closing it in fall to prevent mature rams from returning to their winter range in Mongolia. A dialogue on this issue has been started between the two countries on the ministerial level. Due to the extremely difficult access of the core zone and currently large control areas per ranger, ideally ten additional rangers are needed to provide optimum protection. Further details on the park are provided in Annex 4.

Table 2.4.2: Problem Analysis for Altai Tavan Bogd NP

Problem	**Threat ranking***	**Mitigation Strategy**
No management plan	1	Elaborate management plan
Overgrazing	1	Hire resource use specialist (1)
International Boundary fence China/Mongolia	1	Diplomacy, MNE
Poorly trained rangers	2	Training needs in communication conservation
Rangers without inspector status	2	Parliament
Poor communication with herder families	3	Bilingual (Kazakh/Mongolian) information needed on conservation and legal issues
Poaching from China	2	Improve cooperation with border guards
Border fence	2	Abused by China for poaching
Control areas of rangers too large	1	8 additional rangers needed
Illegal logging	2	Increase awareness program; step up enforcement
No radio communication	1	Improve existing system
Rangers under-equipped	2	Purchase additional equipment
Poor fire management	2	MoUs; awareness building
*Ranking 1-3 (1 highest threat)		

2.5 Siilkhem NP

This National Park is divided into sections A and B sharing a common northern boundary with Russia. Both sections cover high mountain tundra ecosystems protected mostly for the benefit of argali, ibex and snow leopard. No core area has been designated yet for either section (Map 2.5). The park also protects historical cultural sites.

The three ranger stations of the park are located outside the park boundaries (2 associated with the western, 1 with the eastern section). The map indicates strategic boundary sections in need of demarcation. The establishment of a Zakaznik (IUCN protection category II) adjacent to section A on the Russian side of the border is currently under discussion. A Zapovednik (IUCN protection category I) exists adjacent to Section B on the Russian side. Basic statistical information on the NP is provided by Table 2.5.1.

Map 2.5: Siilkhem NP

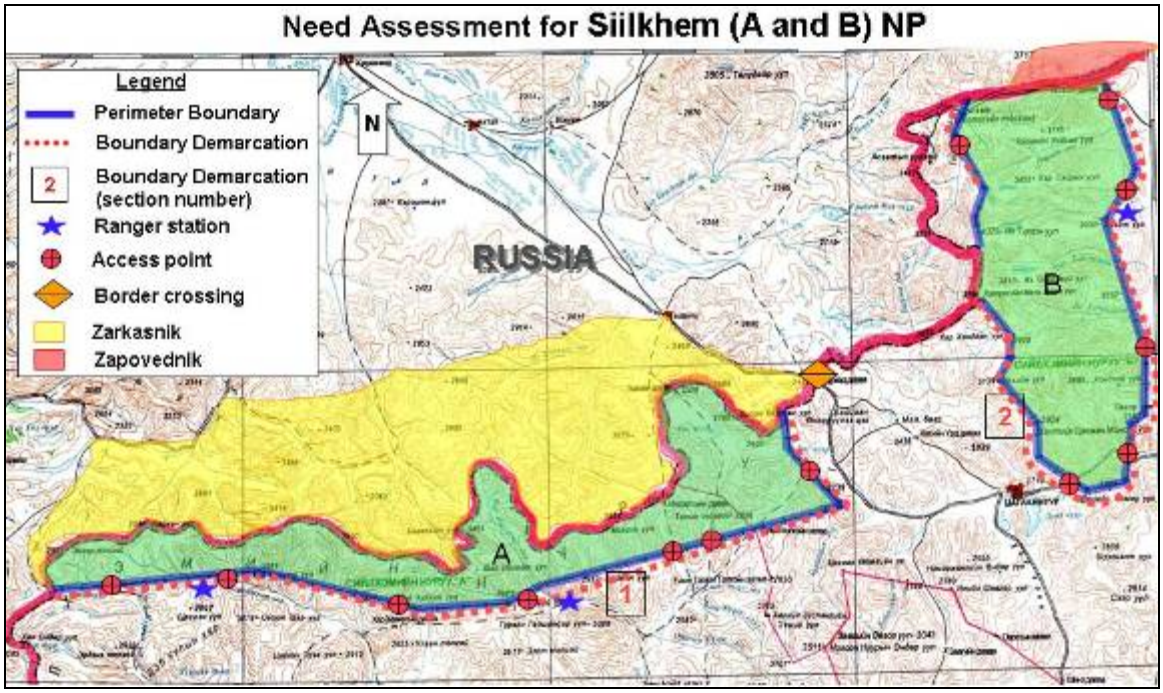


Table 2.5.1: Summary data on Siilkhem NP

Established when	2000
Size of PA in ha	67,000 western section; 75,000 eastern section
Size of Core Zone in ha	No core area defined for either section
Dominant ecosystems	High mountain tundra
Total number of rangers	3
Number of rangers living inside PA with livestock	2 rangers outside west; 1 ranger outside east
Total number of administrative and professional staff	Covered by HQ personnel of Altai Tavan Bogd NP
Number of key access points to the PA	7 western section; 6 eastern section
Number of herder families inside western section	140 (summer)
Number of summer camps	140
Number of winter camps	70
Number of livestock	20,000 (summer)
Number of herder families inside eastern section	91 (summer)
Number of summer camps	91
Number of winter camps	30
Number of livestock	12,000
Grazing pressure rating*	extreme
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

The NP needs a management plan. Overgrazing is a recognized key problem to be addressed by a range management specialist to be hired for the central administration office. There is no tourism in either park section. Due to the extremely difficult access two additional rangers are needed for a more effective control and law enforcement. Further details on the park and its needs are provided in Annex 5.

Table 2.5.2: Problem Analysis for Siilkhem NP

Problem	**Threat ranking***	**Mitigation Strategy**
Overgrazing	1	Hire resource use specialist (1)
No management plan	1	Elaborate management plan
Poorly trained rangers	2	Training needs in communication and conservation
Rangers without inspector status	2	Parliament
Control areas of rangers too large	1	Add 2 rangers
Destruction of cultural sites	2	Awareness building; tourism program; better enforcement
No radio communication	1	Improve existing system
Rangers under-equipped	2	Purchase additional equipment
Unprotected on Russian side	2	Currently bilateral negotiations
*Ranking 1-3 (1 highest threat)		

2.6 Tsambagarav NP

This National Park is dominated by high mountain tundra ecosystems protected mostly for the benefit of argali, ibex and snow leopard. Significant core zone encroachment by livestock threatens the ecological integrity of the mountain ecosystems (Map 2.6) and extreme overgrazing all other park areas.

The two park rangers live inside the NP with their families and livestock. The map indicates strategic boundary sections in need of demarcation. Uncontrolled tourism and fishing (see map) are recognized problems to be addressed. Basic statistical information on the NP is provided by Table 2.6.1.

Map 2.6: Tsambagarav NP

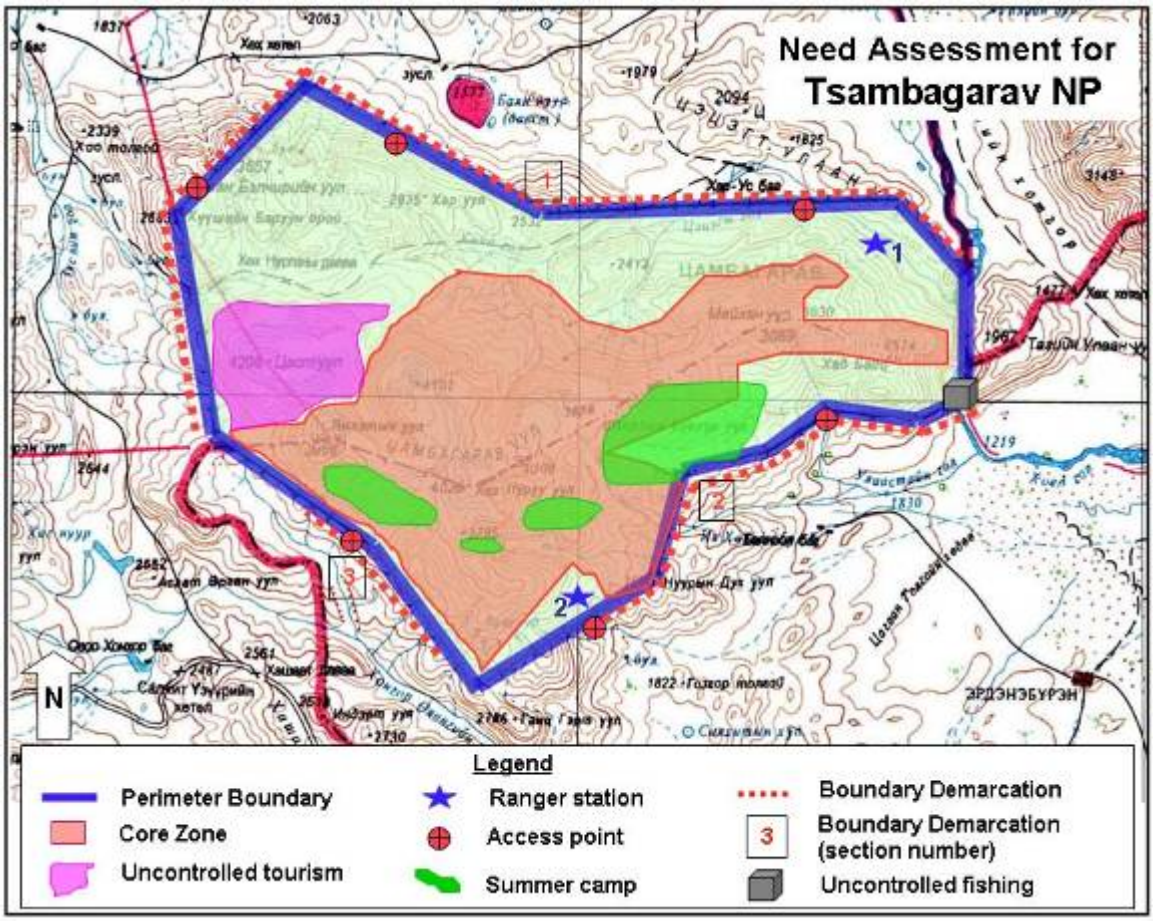


Table 2.6.1: Summary Data on Tsambagarav NP

Established when	2000
Size of PA in ha	110,960
Size of Core Zone in ha	44,000
Dominant ecosystems	High mountain tundra
Total number of rangers	2
Number of rangers living inside PA with livestock	2
Total number of administrative and professional staff	Covered by HQ personnel of Altai Tavan Bogd NP
Number of key access points to the PA	6
Number of herder families inside the park	550
Number of summer camps	550 (120 families with their livestock in core zone)
Number of winter camps	550
Number of livestock	84,000
Grazing pressure rating*	extreme
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

The Tsambagarav NP is administered by Altai Tavan Bogd HQ which also is responsible for the administration of Siilkhem NP. The NP needs a management plan. Overgrazing is a recognized key problem to be addressed by a range management specialist to be hired for the central administration office at Altai Tavan Bogd NP. Two additional rangers are needed for a more effective control and law enforcement. Further details on the park and its needs are provided in Annex 6.

Table 2.6.2: Problem Analysis for Tsambagarav NP

Problem	**Threat ranking***	**Mitigation Strategy**
Overgrazing	1	Range Management Plan
No management plan	1	Elaborate management
Poorly trained rangers	2	Training needs in communication and conservation
Rangers without inspector status	2	Parliament
Poor communication with herder families	3	Ranger training
Control areas of rangers too large	1	add rangers (2)
No radio communication	1	Upgrade existing system
Rangers under-equipped	2	Purchase additional equipment
*Ranking 1-3 (1 highest threat)		

2.7 Khukh-serkh SPA

This Strictly Protected Area is dominated by high mountain tundra ecosystems protected mostly for the benefit of argali, ibex and snow leopard (see core zone on Map 2.7). Significant core zone encroachment by livestock threatens the ecological integrity of the mountain ecosystems (Map 2.7) and extreme overgrazing all other park areas.

Four park rangers live inside the NP with their families and livestock and one ranger at the SPA headquarters. The map indicates strategic boundary sections in need of demarcation. Basic statistical information on the SPA is provided by Table 2.7.1.

Map 2.7: Khukh-serkh SPA

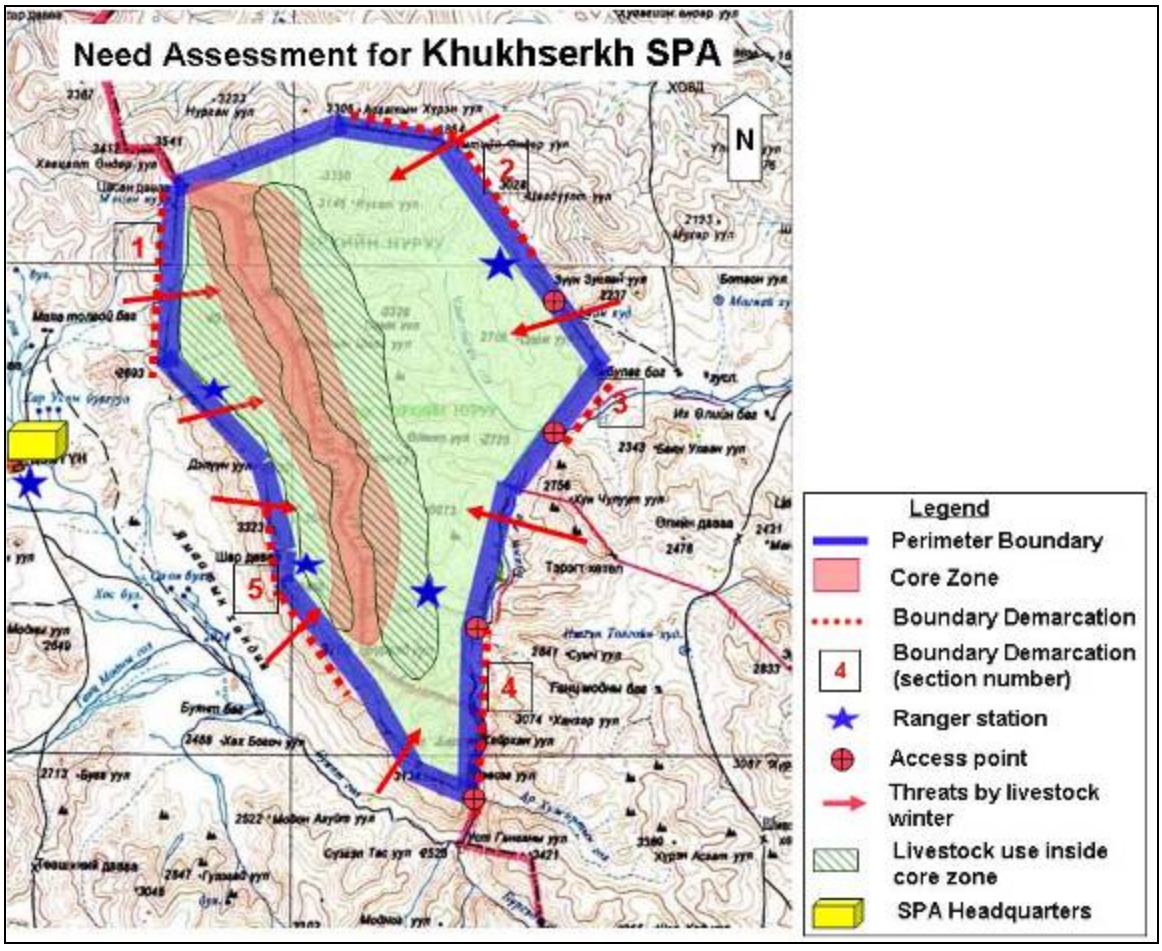


Table 2.7.1: Summary Data on Khukh-serkh SPA

Established when	1997
Size of PA in ha	65,920
Size of Core Zone in ha	24,800
Dominant ecosystems	High mountain tundra
Total number of rangers	5
Number of rangers living inside PA with livestock	4
Total number of administrative and professional staff	4
Number of key access points to the PA	4
Number of herder families inside the park	130
Number of summer camps	130
Number of winter camps	130
Number of livestock	150,000 in summer and winter
Grazing pressure rating*	extreme
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

The Khukh-serkh SPA needs a new headquarter building to be constructed at Deluun Soum. The building has to be furnished and properly equipped in order to accommodate the additional personnel to be hired for the minimum protection of the SPA. Further details on the SPA and its needs are provided in Annex 7.

Table 2.7.2: Problem Analysis for Khukh-serkh SPA

Problem	**Threat ranking***	**Mitigation Strategy**
No management plan	1	Elaborate management plan
Overgrazing	1	Hire resource use specialist (1)
Poorly trained rangers	2	Training needs in communication and conservation
Rangers without inspector status	2	Parliament
Poor communication with herder families	3	Training of rangers
Poor communication between SPA staff and Soums/Bags	1	HQ personnel to interact with Bags (monthly meetings) and Soums
Poaching	2	Step up enforcement
No radio communication	1	Purchase equipment
Rangers under-equipped	2	Purchase additional equipment
*Ranking 1-3 (1 highest threat)		

2.8 Uvs Nuur SPA

Uvs Nuur SPA is a registered World Heritage Site, a registered Ramsar site and a registered Biosphere Reserve. This Strictly Protected Area has been created for the protection of the unique Uvs Saltwater Lake and adjacent reed dominated wetlands (Map 2.8). The saltwater lake and adjacent wetlands provide important waterfowl and shorebird summer habitat. As indicated by Map 2.8 and specified by Table 2.8.1 recognized threats to the SPA's ecological integrity are linked to the salt mine located northwest of the SPA bordering Russia. Illegal vehicle traffic from the salt mine traverses the northern section of the SPA. The international border crossing with Russia located at the SPA north-eastern boundary results in uncontrolled tourism originating from Russia. Uncontrolled domestic tourism threatens the south-western lakeshore. Uncontrolled reed cutting along the western lakeshore adversely affects the ecosystem's avifauna. Uncontrolled reed fires entering the SPA from Russia is another recognized problem. The north eastern most corner of the SPA borders a Zapovednik in neighbouring Russia. Map 2.8 indicates strategic boundary sections in need of demarcation. Basic statistical information on the SPA is provided by Table 2.8.2.

Map 2.8: Uvs Nuur SPA

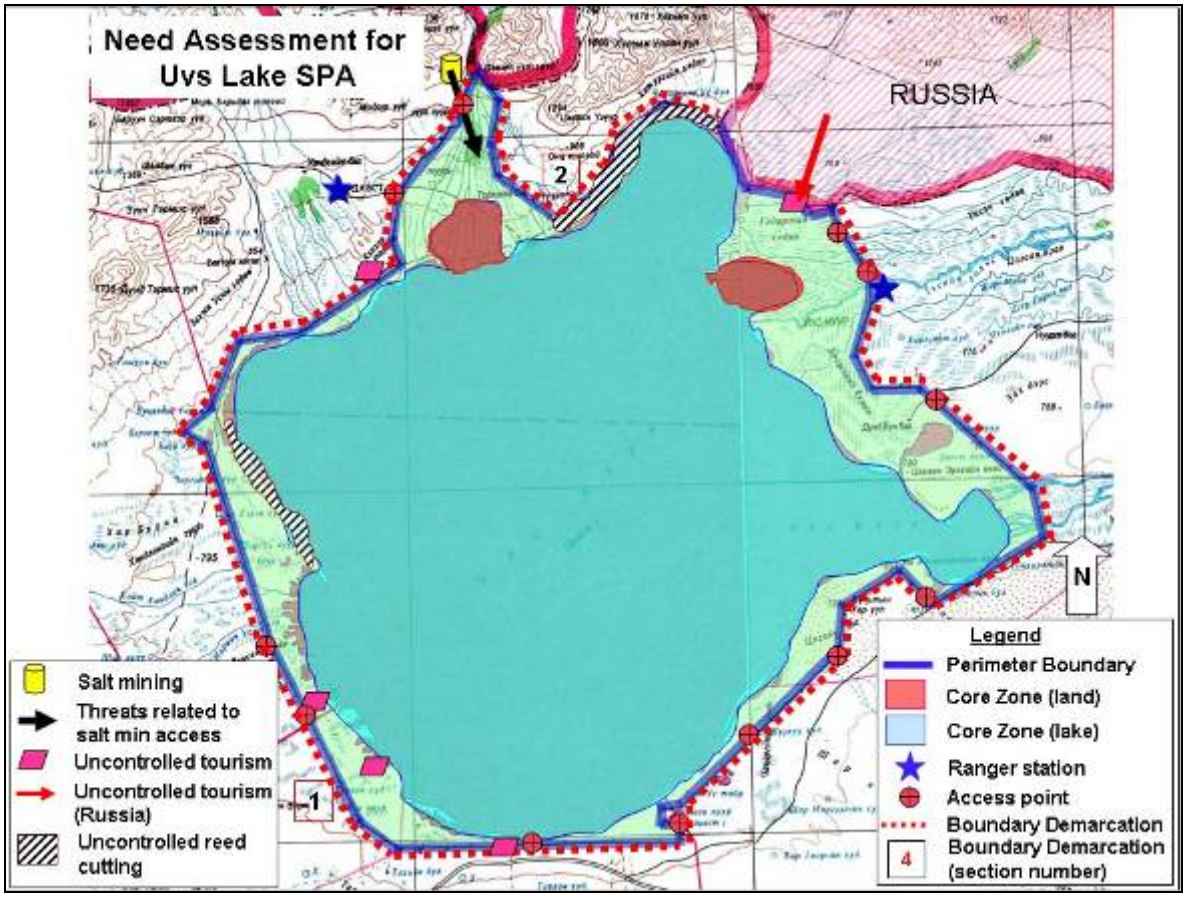


Table 2.8.1: Problem Analysis for Uvs Nuur SPA

Problem	**Threat ranking***	**Mitigation Strategy**
Overgrazing (affecting wetlands)	1	Hire resource use specialist (included in HQ personnel)
Uncontrolled tourism	2	Awareness building
Over-harvesting reed	1	Step up enforcement
Fire entering from Russia	2	Agreements with Russia; build firebreak
Salt mine impacts	2	Demarcate boundary
Poorly trained and qualified rangers	2	Training needs in communication/ conservation
Poor control of lake area	1	Add one ranger trained in boat handling (1)
Poor educational level of rangers		Upgrade education (modules)
Rangers without inspector status	1	Parliament decision
Control areas of rangers too large	3	hire (1) additional ranger
No radio communication	1	Establish radio system
Large distance between HQ and SPA	1	Establish administrative sub-center (1 sub-director)
*Ranking 1-3 (1 = highest threat)		

Table 2.8.2: Summary Data on Uvs Nuur SPA

Established when	1993
Size of PA in ha	712,545
Size of Core Zone in ha	24,800
Dominant ecosystems	Salt lake, freshwater lake and transitional wetlands
Total number of rangers	3
Number of rangers living inside PA with livestock	none
Total number of administrative and professional staff	5 (Uvs Aimag administrative center currently is responsible for four SPAs and 2 NPs)
Number of key access points to the PA	13
Number of herder families inside the park	unknown
Number of summer camps	unknown
Number of winter camps	unknown
Number of livestock	unknown
Grazing pressure rating*	Very high
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

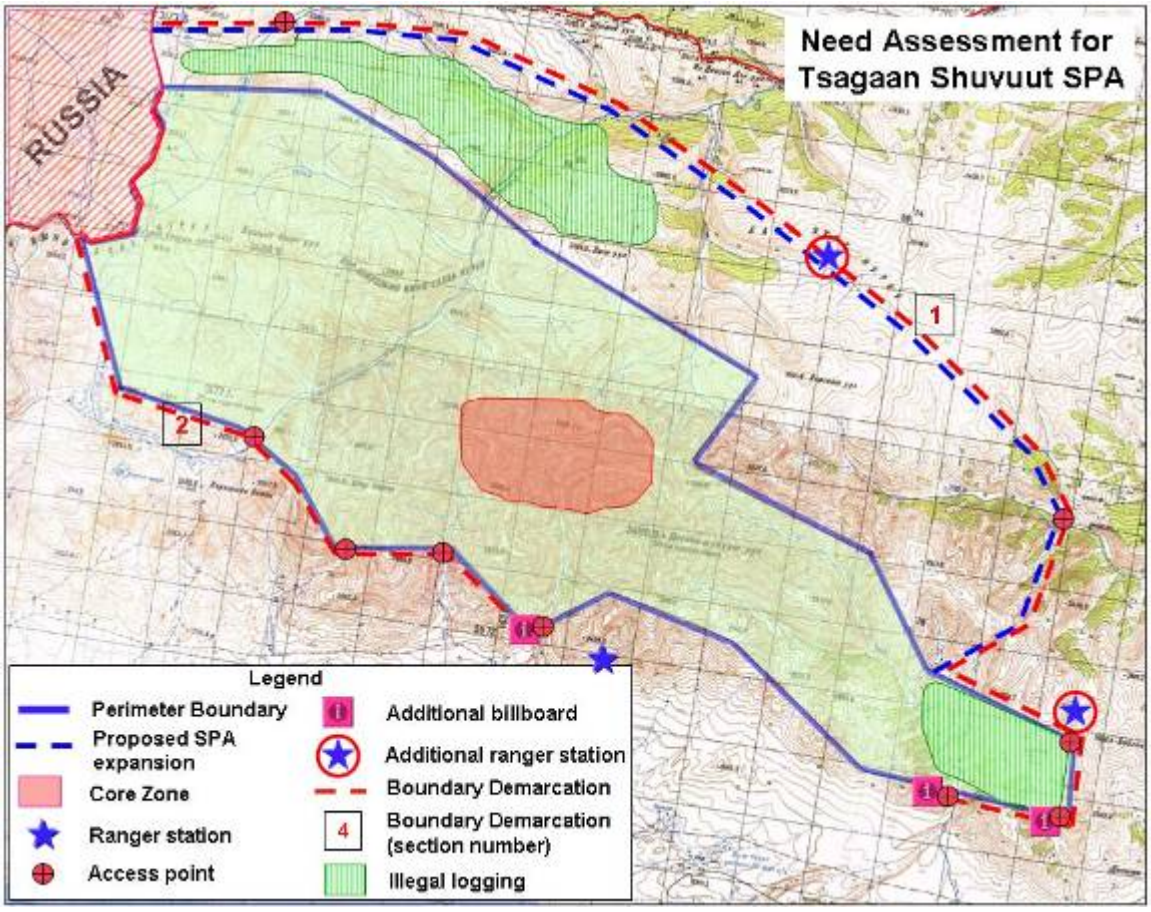
The current control of the Uvs Nuur SPA focuses primarily on the lake shorelines and the SPA's land surface area. In order to properly control the lake against illegal fishing and other activities with adverse impacts on the lake's ecosystem a mobile ranger unit should be established to be composed of two well-trained and equipped rangers with access to a high speed power boat. A wireless radio system has to be

installed to provide a more effective control. Further details on the SPA and its needs are provided in Annex 8.

2.9 Tsagaan-shuvuut SPA

Tsagaan-shuvuut SPA was created mostly for the protection of high mountain ecosystems and the benefit of argali, ibex and snow leopard (Map 2.9). Of equal importance appear to be the protection of mountain forest ecosystems concentrated in the southern section of the SPA. To the north-west the SPA borders a Zapovednik on the Russian side of the shared international boundary. A proposal for an SPA expansion (total of 12000 ha) has been submitted to the Government for approval. The expansion area would add extensive forest ecosystems to the north east of the SPA which are currently threatened by uncontrolled logging. Map 2.9 indicates strategic boundary sections in need of demarcation.

Map 2.9: Tsagaan-shuvuut SPA



The problem analysis for the Tsagaan-shuvuut SPA (Table 2.9.1) indicates a need for the establishment of an administrative sub-center, due to the large distance of the SPA to the administrative headquarters at Uvs Aimag. The difficult access of the SPA and the currently too large control areas per ranger require three additional rangers.

Table 2.9.1: Problem Analysis for Tsagaan-shuvuut SPA

Problem	**Threat ranking***	**Mitigation Strategy**
Poaching	2	Add ranger (1)
Large distance from HQ	1	Establish sub administration (1 sub-director)
Illegal logging	1	Add ranger (1)
Control area too large	1	Add 2 more rangers (see above)
Harvesting wild onions (adverse impacts on other flora; pollution etc.)	1	Step up control
Poorly trained and qualified rangers	2	Training needs in communication/ conservation
Poor educational level of rangers		Upgrade education (modules)
Rangers without inspector status	1	Parliament decision
No radio communication	1	Establish radio system
Low ranger wages	1	Parliament
*Ranking 1-3 (1 = highest threat)		

Basic information on the SPA is provided by Table 2.9.2 and further details on the SPA and its needs by Annex 9.

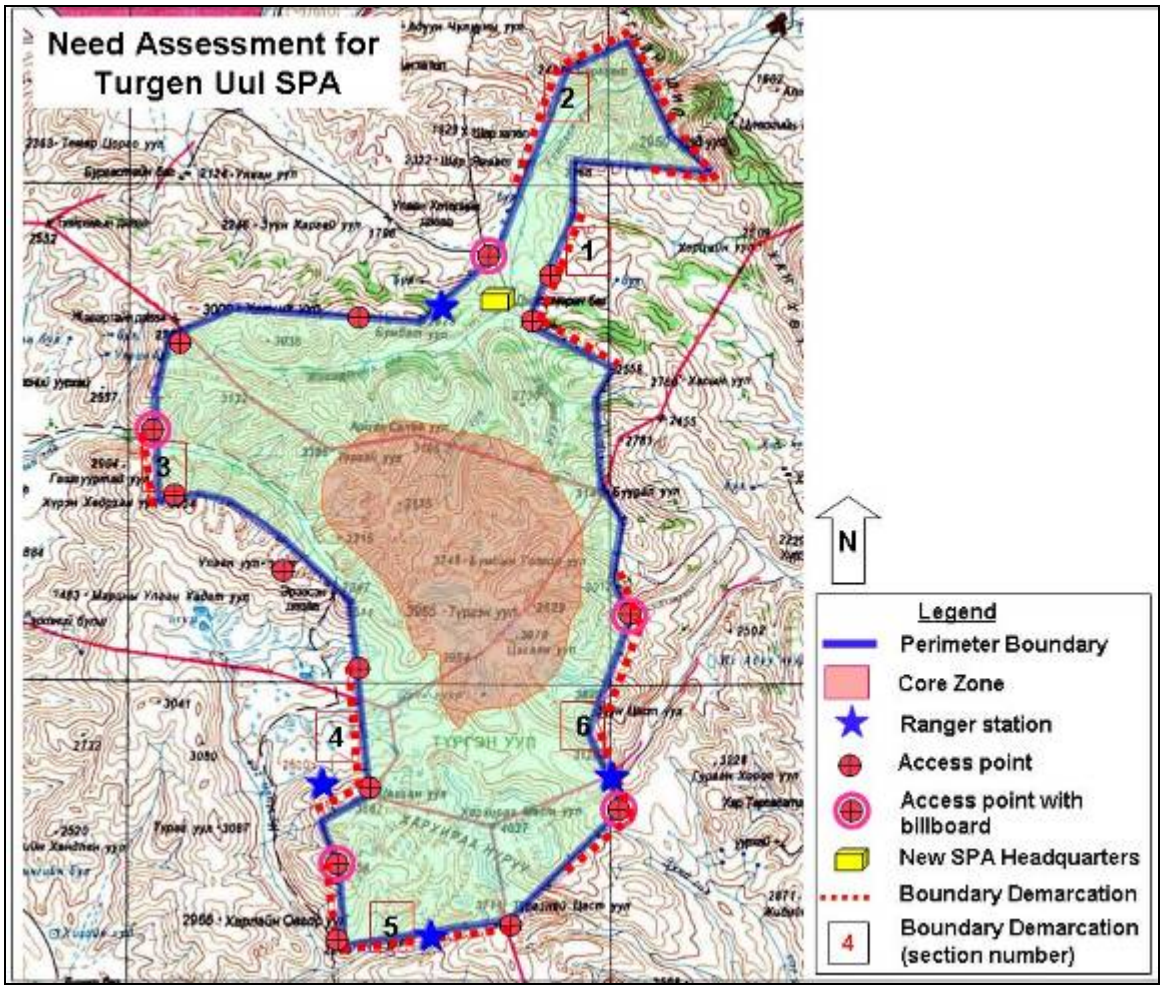
Table 2.9.2: Summary Data on Tsagaan-shuvuut SPA

Established when	1993
Size of PA in ha	23,100
Size of Core Zone in ha	2,800
Dominant ecosystems	High mountain tundra
Total number of rangers	1
Number of rangers living inside PA with livestock	0
Total number of administrative and professional staff	Managed by Uvs Aimag administrative center
Number of key access points to the PA	7
Number of herder families inside the park	0
Number of summer camps	0
Number of winter camps	0
Number of livestock	0
Grazing pressure rating*	0
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

2.10 Turgen SPA

Turgen SPA was created mostly for the protection of high mountain ecosystems and the benefit of argali, ibex and snow leopard (Map 2.10). This SPA receives financial support by the current UNDP-GEF project ("Community Based Biodiversty Conservation in the Mongolian Alatai Sayan Ecoregion"). The four SPA rangers are sufficiently equipped. Due to its isolation and long distance from the Uvs central HQ however it appears prudent to establish an administrative sub-centre as indicated on the map, to be staffed by one senior ranger. The sub-center has to be properly furnished and equipped and radio-communication be installed for the entire SPA. Map 2.10 indicates strategic boundary sections in need of demarcation.

Map 2.10: Turgen SPA



The problem analysis for the Turgen SPA (Table 2.10.1) indicates the need for the services of a range management specialist to deal with the notorious over-grazing problem inside the SPA. This new position should be added to the Uvs Aimag administrative center with future responsibility for Uvs Nuur SPA. Tsagaan-shuvuut SPA and Turgen SPA.

Table 2.10.1: Problem Analysis for Turgen SPA

Problem	**Threat ranking***	**Mitigation Strategy**
Overgrazing	1	Hire range management specialist (included in HQ staff)
Core Zone too small in size	1	Expand core zone
Poorly trained and qualified rangers	2	Training needs in communication/ conservation
Rangers without inspector status	1	Parliament decision
Control areas of rangers too large	3	Hire (1) additional ranger
No radio communication	1	Establish radio system
Large distance between HQ and SPA	1	Establish administrative sub-center (1 sub-director)
*Ranking 1-3 (1 = highest threat)		

Basic information on the SPA is provided by Table 2.10.2 and further details on the SPA and its needs by Annex 10.

Table 2.10.2: Summary Data on Turgen SPA

Established when	1993
Size of PA in ha	116,000
Size of Core Zone in ha	10,800
Dominant ecosystems	High mountain tundra
Total number of rangers	4
Number of rangers living inside PA with livestock	none
Total number of administrative and professional staff	Managed by Uvs Aimag administrative center
Number of key access points to the PA	5 (15 total)
Number of herder families inside the park	Average 37
Number of summer camps	31
Number of winter camps	44
Number of livestock	16,000
Grazing pressure rating*	Very high
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

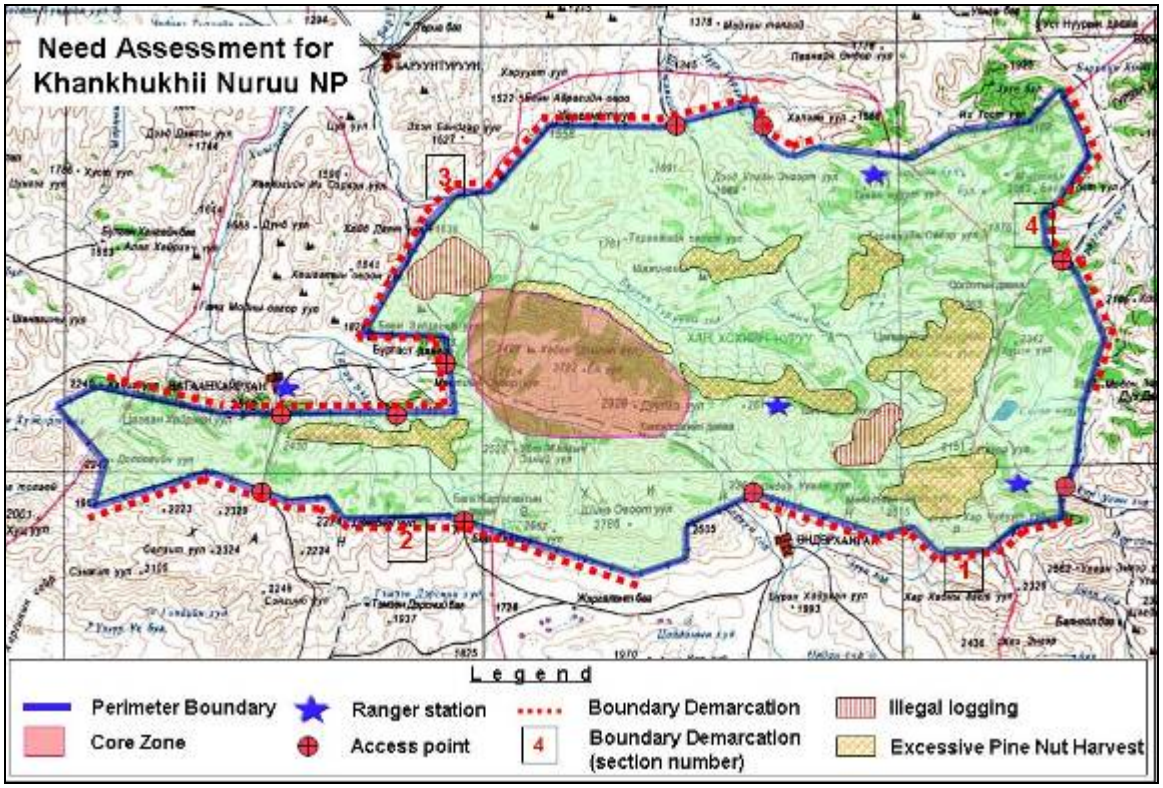
2.11 Khankhukii NP

Khankhukii NP was created for the protection of mountain forest ecosystems interspersed with mountain steppe (Map 2.11). The core zone of this NP is extremely small in size. Its ecological integrity is compromised by excessive and destructive pine nut harvest along its northern boundary and by its small size.

Due to this park's isolation and long distance from the Uvs central HQ it has been proposed to establish a new administrative centre in Under-Khangai with future responsibility for Khyargas NP, Khankhukii NP and Altan els SPA. The three areas are located to the east of the Uvs Aimag, all three areas are currently facing the same logistical and other problems related to their isolation and distance from HQ.

Map 2.11 indicates strategic boundary sections in need of demarcation.

Map 2.11: Khankhukii NP



The problem analysis for the Khankhukii NP (Table 2.11.1) indicates the need for the services of a range management specialist to deal with the NP's livestock issue and a forestry specialist to address the problems related to illegal logging, uncontrolled pine nut harvest and man-caused fires. The two positions would be created for the proposed new HQ in Under-Khangai with responsibility for the three areas of Khyargas NP, Khankhukii NP and Altan els SPA. Three additional rangers are needed to more effectively control this NP.

Table 2.11.1: Problem Analysis for Khankhukii NP

Problem	**Threat ranking***	**Mitigation Strategy**
Overgrazing	2	Hire range specialist (s. new HQ staff)
Large distance of NP from HQ	1	Establish administrative center: Director, accountant, range specialist/forester, educator, ecologist, 3 support staff
Small sized core area	1	Increase core area?
Control area/ranger too large	1	Employ more rangers (3)
Poaching (maral, roe deer)	3	Increase control/enforcement
Illegal pine nut harvest	1	New legislation in effect against pine nut harvest for 2007; hire forester
Illegal logging	2	Step up control/enforcement
Man-caused fires	1	Awareness building; step up enforcement; hire forester (see above)
Low ranger wages		Parliament
Poorly trained and qualified rangers	2	Training needs in communication/ conservation
Poor educational level of rangers	2	Upgrade education (modules)
Rangers without inspector status	1	Parliament decision
No radio communication	1	Establish radio system
*Ranking 1-3 (1 = highest threat)		

Basic information on the SPA is provided by Table 2.11.2 and further details on the SPA and its needs by Annex 11.

Table 2.11.2: Summary Data on Khankhukii NP

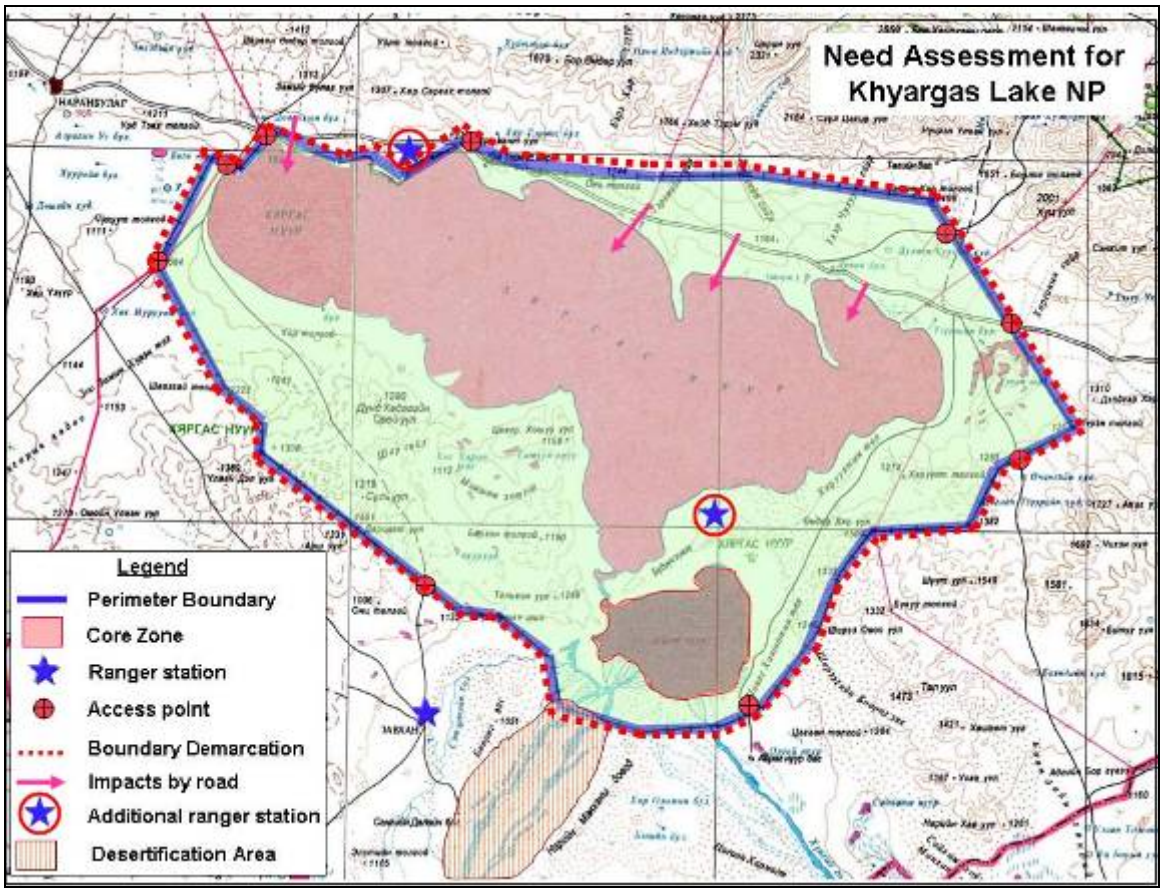
Established when	2000
Size of PA in ha	220,000
Size of Core Zone in ha	30,000
Dominant ecosystems	Mountain forest ecosystems and mountain steppe
Total number of rangers	4
Number of rangers living inside PA with livestock	3
Total number of administrative and professional staff	Managed by Uvs Aimag administrative center
Number of key access points to the PA	10
Number of herder families inside the park	500
Number of summer camps	500
Number of winter camps	none
Number of livestock	136,000
Grazing pressure rating*	Very high
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

2.12 Khyargas NP

Khyargas NP was created for the protection of a saltwater lake and a smaller sized freshwater lake Airag. The freshwater lake represents the core zone of the NP (Map 2.12), a designated Ramsar site of international importance. Since only the small-sized freshwater lake is under protection by a core zone, the ecologically very important shorelines of both lakes continue to be threatened by livestock and human activities.

Khyargas NP will be part of the proposed new administrative centre in Under-Khangai.
Map 2.12 indicates need of the demarcation of the entire NP perimeter boundary.

Map 2.12: Khyargas NP



The problem analysis for the Khyargas NP (Table 2.12.1) indicates the need for a better control of the lake and its northern shore currently threatened by uncontrolled human activities originating from the major road to UB traversing the northern section of the NP. One ranger unit should therefore be trained to be responsible for lake control and 3 additional rangers are needed to more effectively control the NP.

The rapidly growing desertification of the Zavkhan River Delta to the south of the NP as caused by the destruction of the delta's shrub vegetation is reason for concern and has to be addressed. It may have long-term adverse impacts on the park's Lake Airag that is fed by river Zavkhan.

Table 2.12.1: Problem Analysis for Khyargas NP

Problem	**Threat ranking***	**Mitigation Strategy**
Main Highway to UB traversing NP causing adverse impacts	1	Add 1 ranger station (with boat to control lake)
Uncontrolled tourism (road related)	2	Step up control/enforcement
Large distance from HQ	2	To be managed by new admin. center
Illegal fishing	1	Add ranger station with boat
Control area too large	1	Add rangers (3)
Increasing desertification outside NP)	1	Awareness; enforcement
Poorly trained and qualified rangers	2	Training needs in communication/ conservation
Poor control of lake area	1	New ranger station with boat
Poor educational level of rangers		Upgrade education (modules)
Rangers without inspector status	1	Parliament decision
No radio communication	1	Establish radio system
Low ranger wages	1	Parliament
*Ranking 1-3 (1 = highest threat)		

Basic information on the SPA is provided by Table 2.12.2 and further details on the SPA and its needs by Annex 12.

Table 2.12.2: Summary Data on Khyargas NP

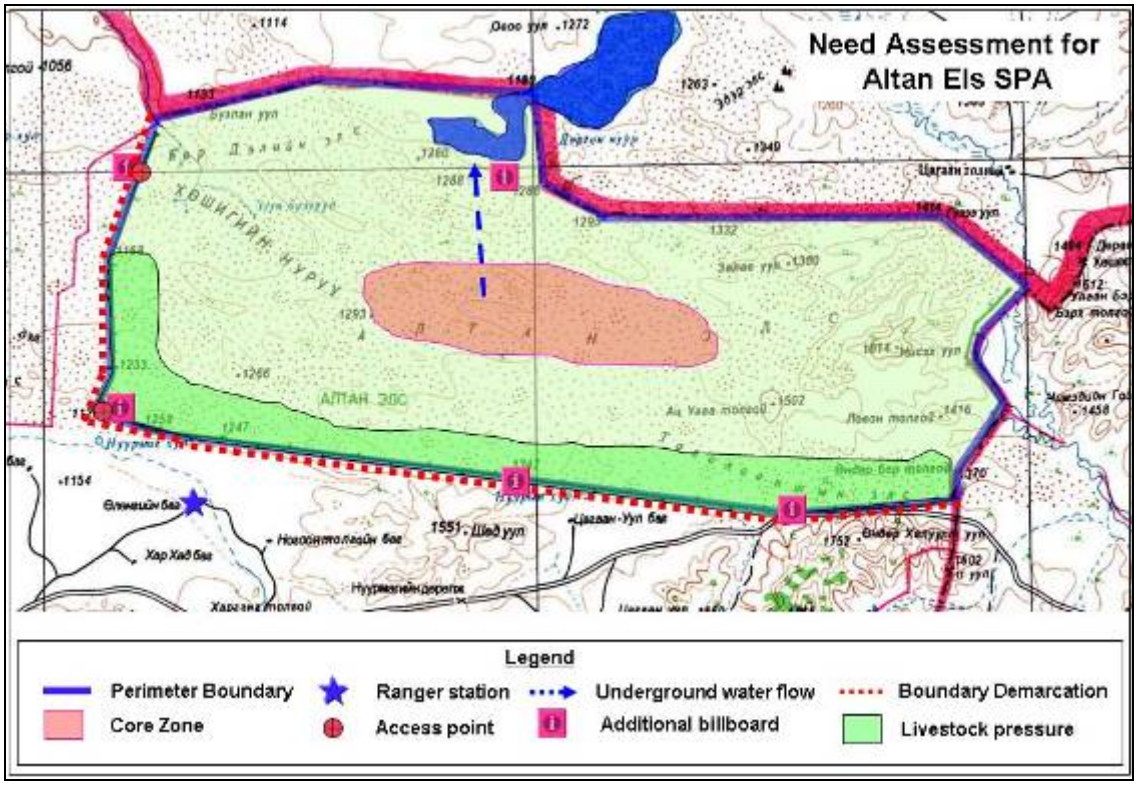
Established when	2000
Size of PA in ha	332,000
Size of Core Zone in ha	Estimated 10,000
Dominant ecosystems	Salt lake and freshwater lake ecosystems; steppe
Total number of rangers	2
Number of rangers living inside PA with livestock	1
Total number of administrative and professional staff	managed by Uvs Aimag administrative center
Number of key access points to the PA	9
Number of herder families inside the park	43 (summer)
Number of summer camps	43
Number of winter camps	none
Number of livestock	15,000
Grazing pressure rating*	high
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

2.13 Altan-els SPA

Altan-els SPA was created for the protection of its unique sand-dune ecosystems and a lake shared with Russia. The international border with Russia forms the northern boundary of the SPA. The freshwater lake is fed by subsurface water of the SPA (see Map 2.13 for water-flow). The core zone of the SPA is very small in size (Map 2.13). To the north the SPA is neighboured by a Zapovednik on the Russian side of the international border. A dialogue has been initiated between the two countries to discuss conservation concerns and management policies of joint interest.

Altan-els SPA will be part of the proposed new administrative centre in Under-Khangai.
Map 2.13 indicates demarcation needs of the SPA's perimeter boundary.

Map 2.13: Altan-els SPA



The problem analysis for the Altan-els SPA (Table 2.13.1) shows a need for better lake control to stop illegal fishing by people entering from the Russian part of the lake. Two additional rangers are required to provide minimum protection of the SPA.

Table 2.13.1: Problem Analysis for Altan-els SPA

Problem	**Threat ranking***	**Mitigation Strategy**
Grazing pressure	3	Produce range management plan (included in HQ Range Mgmt. Agenda)
Large distance from HQ	2	To be managed by new admin. center
Illegal fishing (Russian border guards)	1	Add ranger station with boat
Control area too large	1	Add rangers (2)
Poorly trained and qualified rangers	2	Training needs in communication/ conservation
Poor control of lake area	1	New ranger station with boat
Poor educational level of rangers		Upgrade education (modules)
Rangers without inspector status	1	Parliament decision
No radio communication	1	Establish radio system
Low ranger wages	1	Parliament
*Ranking 1-3 (1 = highest threat)		

Basic information on the SPA is provided by Table 2.13.2 and further details on the SPA and its needs by Annex 13.

Table 2.13.2: Summary Data on Altan-els SPA

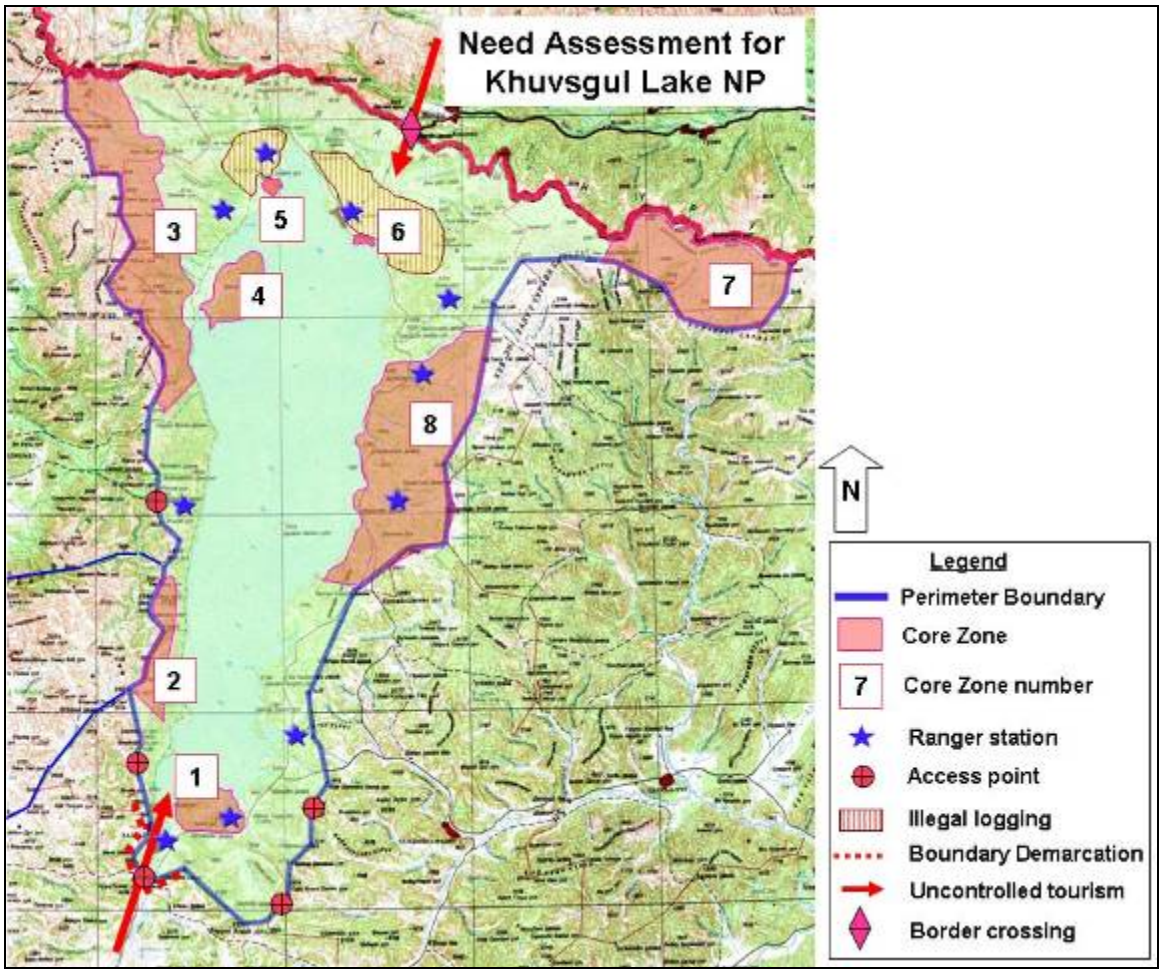
Established when	1993
Size of PA in ha	148,246
Size of Core Zone in ha	16,800
Dominant ecosystems	Sand-dunes; freshwater lake
Total number of rangers	1
Number of rangers living inside PA with livestock	none
Total number of administrative and professional staff	managed by Uvs Aimag administrative center
Number of key access points to the PA	2 (+2 minor access points)
Number of herder families inside the park	40
Number of summer camps	none
Number of winter camps	40
Number of livestock	15,000
Grazing pressure rating*	high
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

2.14 Khuvsgul Nuur NP

Khuvsgul Nuur NP was created for the protection of the Khuvsgul freshwater Lake and wetlands, the adjacent high mountain tundra, mountain forests, and steppe ecosystems. The international border with Russia forms the northern boundary of the NP. The core zone of the SPA is composed of 8 fragments with a great variation in size and ecosystems. (Map 2.14). There is an international border crossing with Russia providing direct access to the NP (Map 2.14).

Map 2.14 indicates demarcation needs of the NP's perimeter boundary.

Map 2.14: Khuvsgul Nuur NP



The problem analysis for the Khuvsgul Nuur NP (Table 2.14.1) shows a need for a better control of the lake, especially more effective law enforcement related to illegal gillnet-fishing in winter. It therefore is proposed to establish a mobile ranger unit to be equipped with a high speed power boat for lake control in summer and two snow-machines for winter control when the lake is frozen. Three additional rangers are required to provide minimum protection of the NP's terrestrial ecosystems.

There is a perceived need for a new administrative sub-unit to be established to the north of the park. A new sub-unit will strengthen the control of the northern section, especially related to tourists entering from Russia.

Table 2.14.1: Problem Analysis for Khuvsgul Nuur NP

Problem	**Threat ranking***	**Mitigation Strategy**
Administrative area of NP too large	1	Establish Sub-Unit in Northern Section of NP with 1 sub-director
No management plan	1	Elaborate management plan
Fragmented core zones	1	Enlarge core zones (consolidate?)
Low operational fund	1	Increase operational funds
No means of transport	1	Provide means of transport
Uncontrolled fires		Need fire management plan as part of PA management plan
Illegal logging. To many logging permits issued by local authorities and no controlling	1	Improve communication *soum* constituents officials and parks Elaborate Management Plan which allocates special zone for controlled logging for local people
Illegal fishing	1	Add special unit for lake surface control (see below) Provide 2 snow machines and radio-communication equipments
Overgrazing (affecting wetlands)	2	Add 1 additional Resource Specialist (logging, overgrazing and fishing) Develop Range management plan
Uncontrolled tourism	2	Better control of Russian border and release bi-lingual information for the benefit of Russian tourists. Build and control entry gates
Poaching	3	Step up law enforcement
Low ranger wages	2	Parliament
Poor ranger equipment	1	Provide proper equipment
Rangers without inspector status	1	Provide inspection status by Government
Control areas of rangers too large	1	Add rangers (3) for land surface Create special unit to control the lake surface with 2 more rangers and power boat
No radio communication	1	Establish radio communication system
*Ranking 1-3 (1 = highest threat)		

Growing concerns regarding people-caused fires, illegal logging and over-grazing by livestock re-enforce the urgent need for the elaboration of a participatory and comprehensive management plan to be supported by sound fire- and range-management programs.

The conflict regarding logging permits inside the NP which is created by too many logging permits currently issued by the two *Soum* rangers of the *Soums* located inside the park can only be resolved through better cooperation between park and *Soum* authorities. It has been suggested to set aside a special resource use zone for sustainable supply of construction timber and firewood for personal use of *Soum* constituents only.

Khuvsgul Nuur NP is one of the key tourist destinations in Mongolia, currently receiving more than 6,000 tourists per year of which approximately 60% are foreigners. Sustainable management of tourism requires a special tourism development plan to be complementary to the proposed NP management plan.

Basic information on the NP is provided by Table 2.14.2 and further details on the NP and its needs by Annex 14.

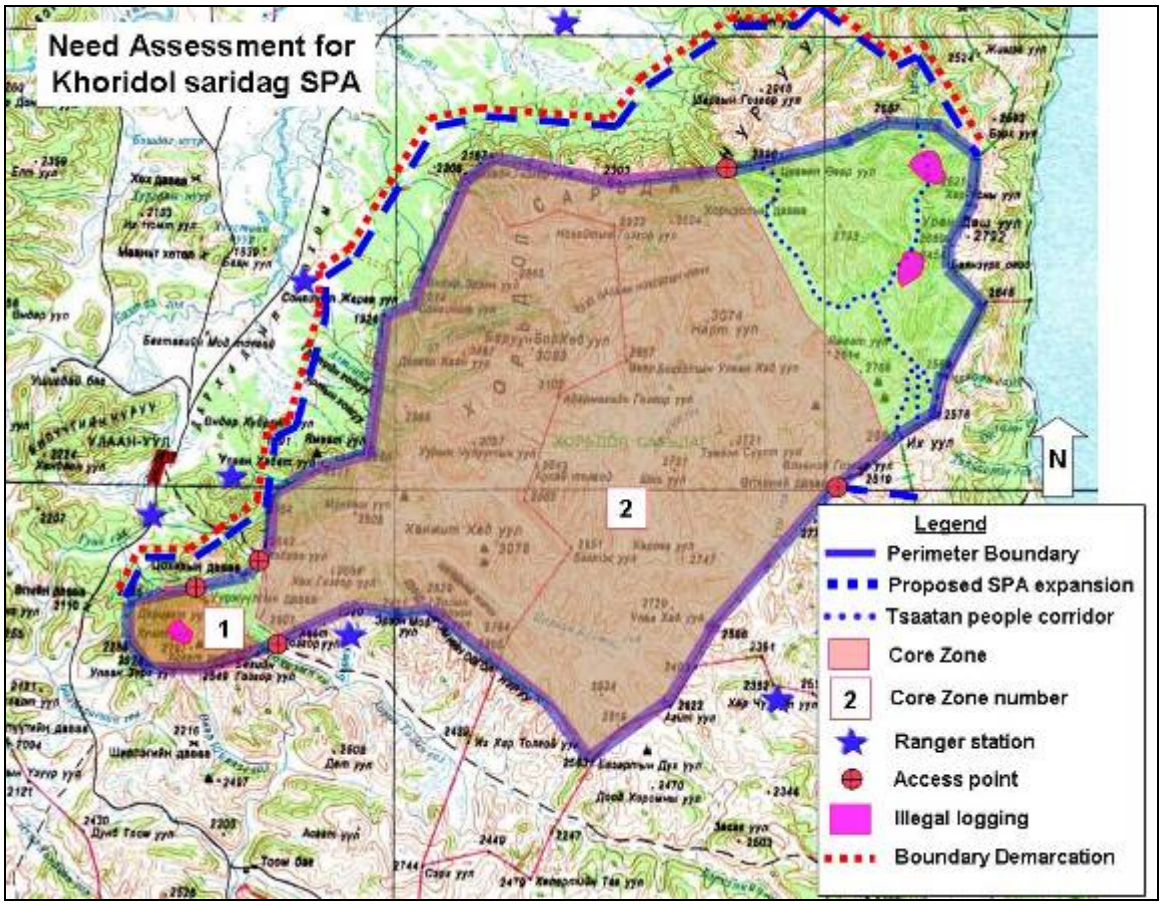
Table 2.14.2: Summary Data for Khuvsgul Nuur NP

Established when	1992
Size of PA in ha	838,100
Size of Core Zone in ha	Estimated 300,000 (total of 8 fragments)
Dominant ecosystems	High mountain forest; freshwater lake
Total number of rangers	10
Number of rangers living inside PA with livestock	9
Total number of administrative and professional staff	5 (HQ in Khatgal village inside the NP also responsible for Khoridal-SaridaagSPA and Ulaan Taiga NP)
Number of key access points to the PA	6 (including the border crossing)
Number of herder families inside the park	Kholkh Soum: 500 families; Khatgal Soum: 650 families; both Soums located inside NP
Number of summer camps	Unknown (60,000 livestock)
Number of winter camps	Unknown (60,000 livestock)
Number of livestock	60,000
Grazing pressure rating*	extreme
*extreme = exceeding more than twice the recommended carrying capacity very high = exceeding recommended carrying capacity high = within recommended carrying capacity low = below recommended carrying capacity none = no livestock use at any time of the year	

2.15 Khoridol-saridag SPA

Khoridol-saridag SPA was created for the protection of High mountain tundra ecosystems for the benefit of argali, ibex, maral, musk deer, bear and snow leopard. Most of the SPA area is included in the core zone (Map 2.15). The Khoridol-saridag SPA receives financial and technical support by the current UNDP-GEF ("Community Based Biodiversity Conservation in the Mongolian Alati Sayan Ecoregion")project which has provided ranger equipment, uniforms and motorcycles. A current proposal for the expansion of the SPA to the north-west is pending official approval. The expansion would include substantial areas of montane forest ecosystems, considered prime maral habitat. A perimeter boundary demarcation would only be required for the boundary of the proposed expansion (Map 2.15).

Map 2.15: Khoridol-saridag SPA



One of the problems listed in the threat analysis for the Khoridol-saridag SPA (Table 2.15.1) is related to the Tsaatan people and their reindeer herds. Part of the SPA is used for their seasonal migrations causing adverse impacts on the corridors and adjacent areas. The Tsatan and their reindeer herds are a special tourist attraction, partly responsible for the popularity of the Khuvsgul SPA which neighbours the Khoridol-saridag special protected area.

Table 2.15.1: Problem Analysis for Khoridol-saridag SPA

Problem	**Threat ranking***	**Mitigation Strategy**
Low operational fund	1	Increase operational funds
No means of transport	1	Provide means of transport
No management plan	1	Elaborate management plan
Uncontrolled collection of medicinal plants (mostly in buffer zone)	2	Reduce number of permits issued by MNE and improve cooperation with Ministries
Corridor of Reindeer people	1	Social-political problem, difficult to solve
Uncontrolled tourism	3	Increase number of rangers
Poaching	2	Step up law enforcement
Low ranger wages	1	Parliament
Poorly trained rangers	1	Provide training on ecology and legal aspects
Poor ranger equipment	1	Provide proper equipment
Rangers without inspector status	1	Provide inspection status by Government
Control areas of rangers too large	1	Add rangers (3) (25,000 ha/ranger)
No radio communication	1	Establish radio communication system (part of Khuvsgul NP HQ)
*Ranking 1-3 (1 = highest threat)		

Basic information on the SPA is provided by Table 2.15.2 and further details on the SPA and its needs by Annex 15.

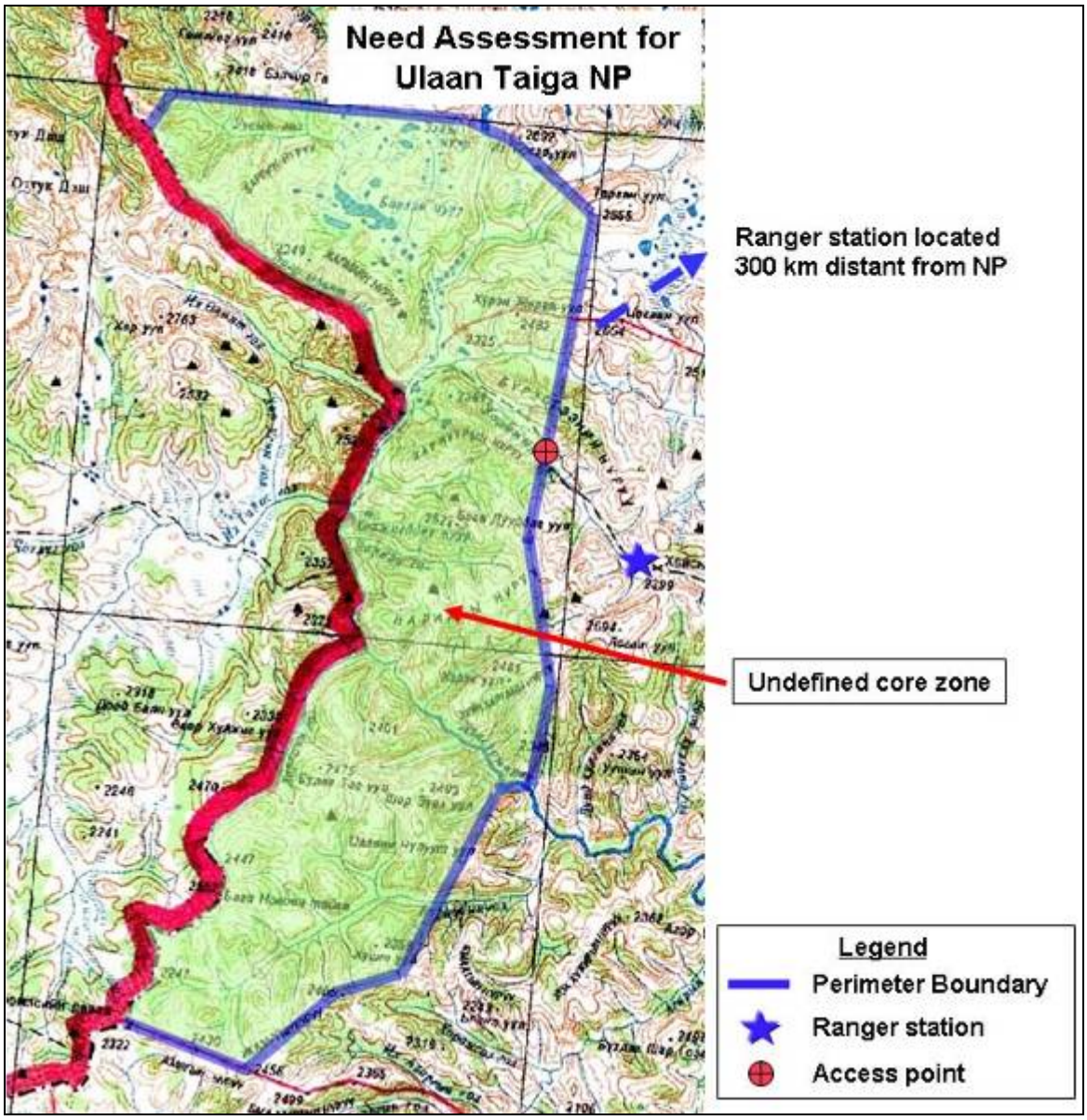
Table 2.15.2: Summary Data on Khoridol-saridag SPA

Established when	1997
Size of PA in ha	188,000
Size of Core Zone in ha	Estimated 40,000
Dominant ecosystems	High mountain tundra
Total number of rangers	6 (including 1 ranger operating KhoridolsPA entry gate)
Number of rangers living inside PA with livestock	none
Total number of administrative and professional staff	managed by Khuvsgul administrative center
Number of key access points to the PA	5
Number of herder families inside the park	none
Number of summer camps	none
Number of winter camps	none
Number of livestock	none
Grazing pressure rating*	none

2.16 Ulaan-taiga NP

Ulaan-taiga NP was created for the protection of High mountain tundra ecosystems for the benefit of argali, ibex, bear and snow leopard. The western boundary of the NP coincides with the international boundary with Russia (Map 2.16). No core zone has been defined yet for this NP. A proposal has been drafted for the expansion of the NP. Since the expansion area would include valid mining exploration permits, an official approval of the expansion plan is doubtful at this point. This NP forms part of the current UNDP-GEF project on “Community Based Biodiversity Conservation of Mongolia’s Altai Sayan Ecoregion”.

Map 2.16: Ulaan-taiga NP



One of the issues listed in the problem analysis for the Ulaan-taiga NP (Table 2.16.1) is related to occasional encroachment of the NP by Russian livestock herders. A dialogue with Russian authorities regarding the establishment of a protected area on the Russian side has been established. The large distance of the NP from Khuvsgul HQ requires the establishment of a senior ranger station close to the NP.

Table 2.16.1: Problem Analysis for Ulaan-taiga NP

Problem	**Threat ranking***	**Mitigation Strategy**
Low operational fund	1	Increase operational funds
Poor means of transport	1	Provide means of transport
Distance between NP and HQ too large	1	Establish senior ranger post (1)
Distance of ranger station from NP (300 km)	1	Establish ranger post closer to NP
NP unprotected on Russian side (no PA)	1	Dialogue initiated between Governments
Intrusion of Russian livestock herders	1	Improve cooperation with border guards
Poaching	2	Step up law enforcement
Low ranger wages	1	Parliament
Poorly trained rangers	1	Provide training on ecology and legal aspects
Poor ranger equipment	1	Provide proper equipment
Rangers without inspector status	1	Provide inspection status by Government
Control areas of rangers too large	1	Add rangers (1)
No radio communication	1	Establish radio communication system (included in Khuvsgul NP)
*Ranking 1-3 (1 = highest threat)		

Basic information on the Ulaan-taiga NP is provided by Table 2.16.2 and further details on the NP and its needs by Annex 16.

Table 2.16.2: Summary data on Ulaan-taiga NP

Established when	2003
Size of PA in ha	108,000
Size of Core Zone in ha	undefined
Dominant ecosystems	High mountain tundra
Total number of rangers	2
Number of rangers living inside PA with livestock	none
Total number of administrative and professional staff	managed by Khuvsgul administrative center
Number of key access points to the PA	1
Number of herder families inside the park	none
Number of summer camps	none
Number of winter camps	none
Number of livestock	none
Grazing pressure rating	none

Section 3. GENERIC ISSUES RELATED TO THE ASSESSED AREAS

3.1 Ecological Integrity

A significant fringe benefit of the capacity and financial need assessment is the valuable information gathered on the core zones and the ecological integrity of the targeted areas. There is general agreement that "**Ecological Integrity**" constitutes the most important of the four key pillars of protected areas (i.e., Ecological Integrity, Governance, Social Participation/Local Empowerment and Financial Sustainability). Given the assumption that biodiversity conservation is the key reason for the creation of a protected area (protection categories equivalent to IUCN categories I and II) it is apparent that once the ecological integrity of a protected area's ecosystem is lost the protected area has also lost its purpose. The main purpose of the three key pillars of (a) Governance, (b) Social Participation/Local Empowerment, and (c) Financial sustainability is to support efforts aimed at safeguarding the **"Ecological Integrity"** of a protected area.

3.1.1 Protected Area Categories, Boundaries and Zoning

Mongolia's protected area categories, the size of a protected area, the design of protected area perimeter boundaries and the internal zoning applied to protected areas in accordance with Mongolian law have been addressed by Schuerholz (2006)[2] in context with their importance related to the ecological integrity of a protected area as follows:

"….The criteria used to define Mongolia's protected areas are unknown. Also unknown are the criteria used to designate specific protection categories for the chosen areas, how the perimeter boundaries of a protected area were determined, and/or the criteria used to decide on size, location and boundaries of the core zones of protected areas. It also is unknown whether the current system of protected areas sufficiently represents the country's ecoregions in terms of size and conservation potential and whether specific ecosystems are over-, or under-represented.

According to the Mongolian Law on Protected Areas, "Strictly Protected Areas" (highest protection category) are divided into a "Pristine Zone" (=core area, free of use), a "Conservation Zone" (rather un-defined) and a "Limited Use Zone". The latter permits controlled resource use, livestock grazing, and all-season camps by nomadic families. The difference between the Pristine Zone and Conservation Zone is unclear. There appears to be little difference in the protection and management of "Strictly Protected Areas" compared to "National Parks" which in reality are treated as one and the same category in terms of actual land and resource use and protection, mostly confined to the designated core zones of the two categories. According to Mongolian law changes to core zones and perimeter boundaries require highest government approval.

[2] Schuerholz, Goetz. 2006. Situation analysis and conceptualization of future support to the ranger issue of the Khangai Nuruu Protected Areas. Final Report. GTZ archives.

The law related to "National Parks" (second-highest protection category) requires zoning into a "Special Zone" (=core zone which is free of use), a "Tourism Zone" and a "Limited Use Zone". The Limited Use Zone of a NP however permits the same use as the Limited Use Zone of a SPA. Since "tourism" is also permitted in both categories the difference becomes even less transparent. The only difference between the two categories appears semantics.

The limited use zones of all PAs visited in the Khangai Nuruu ***(*****and the Altai Sayan*****)*** *Regions are settled by nomadic families and their livestock. All areas visited show severe signs of over-grazing. It was confirmed by PA authority that winter-grazing by livestock may be permitted in cases of emergency such as posed by extremely harsh winters or severe droughts.*

*The designated "core zones" of the Khangai Nuruu (***and the Altai Sayan***) protected areas focus primarily on high mountain tundra ecosystems (***in the Altai Sayan Ecoregion 12 of the 16 assessed protected areas, see Table 3.1.2 ***)*** *which generally are "self-protected" due to their in-accessibility. It should be mentioned that by confining strictly protected core zones to high elevation mountains, not enough attention is paid to the importance of transitional ecosystems extending to lower elevation valleys include river floodplains. From an ecological perspective transitional areas are generally of a substantially higher biodiversity and conservation value than high mountain tundra.*

Table 3.1.1: Ecosystems Represented by the Targeted Pas

Administration Office	No	Name of PA	% Dominant Ecosystem	Sub-dominant Ecosystem	Shares International Boundary
Khar Us Nuur	1	Khar Us Nuur NP	Lakes/wetlands	High mountain tundra	no
	2	Myangan-Ugalzat NP	High mountain tundra		no
Munkh-khairkhan	3	Munkh-khairkhan NP	High mountain tundra		no
Altai-Tavan Bogd	4	Altai-Tavan Bogd NP	High mountain tundra		China
	5	Siilkhem NP	High mountain tundra		Russia
	6	Tsambagarav NP	High mountain tundra		no
Khukh-serkh	7	Khukh-serkh SPA	High mountain tundra		no
Uvs Nuur Basin	8	Uvs Nuur SPA	Salt lake	steppe; wetlands	Russia
	9	Tsagaan-shuvuut SPA	High mountain tundra		Russia
	10	Turgen SPA	High mountain tundra		no

Administration Office	No	Name of PA	% Dominant Ecosystem	Sub-dominant Ecosystem	Shares International Boundary
	11	Khankhukhii NP	Mountain forest	low mountain steppe	no
	12	Khyargas NP	Salt lake	lake; lowland steppe	no
	13	Altan-els SPA	Sand dunes	lake	Russia
Khuvsgul	14	Khuvsgul Nuur NP	lake and high mountain tundra	; mountain steppe	Russia
	15	Khoridol-saridag SPA	High mountain tundra	mountain forest	no
	16	Ulaan-taiga NP	High mountain tundra		Russia

It remains unclear how the perimeter boundaries of Mongolia's PAs were originally defined and why the mostly heavily settled limited use zones of the PAs at the time the PAs were created were not excluded. By excluding heavy use areas, many emerging conflicts could have been avoided.

Recommendations:

- *To critically address the issue of PA categories and provide a better distinction between the categories SPA and NP in terms of ecological significance/sustainability, and law enforcement.*
- *For each PA to re-visit the issue of perimeter boundaries in order to determine the ecological validity of the current boundaries and to re-adjust boundaries by excluding intensive-use areas, and/or by including additional areas of high ecological value as part of core zones. Special attention should be paid to transitional habitats.*
- *To properly survey, geo-reference and demarcate PA boundaries.*[3]

3.1.2 Core Zones

In accordance with Mongolian Law the core zones of a Strictly Protected Area and/or a National Park are free of any resource- and land use, serving strictly biodiversity conservation objectives. At present core zones related to SPAs and NPs are the only zone types enjoying protection (mostly self-protected due to access problems). Core zones appear to be respected by PA users or their conservation values. However as the results of this assessment confirm encroachment by livestock herders and other resource users (logging, hunting) into core zones of PAs appears to be increasing in disrespect of the special protection status.

[3] Schuerholz, Goetz. 2006. Situation analysis and conceptualization of future support to the ranger issue of the Khangai Nuruu Protected Areas. Final Report. Pages 7-13. GTZ archives.

Assuming that core zones constitute the ecologically most important and pristine parts of SPAs and NPs enjoying the highest protection status, it is safe to assume that core zones are "key" to the issue of "**Ecological Integrity**" related to protected areas. For the current assessment an attempt was made to determine the size of core zones for each protected area investigated and compared to the total size of the corresponding PA. The results confirm that the actual size of areas receiving effective protection (confined to core zones only) is substantially less than the official figure of 13% of Mongolia's surface area allegedly under protection in form of SPAs and NPs.

As indicated by Table 3.1.2 thirteen of the sixteen assessed areas have officially designated core areas. For three National Parks of the sixteen PAs core areas still have to be defined. The total size of the 13 areas with a designated core zone equals 4.6 million ha of which 848,700 ha (i.e., 14%) constitute designated core zones (Table 3.1.2).

Extrapolating the findings of this assessment (i.e., representative sample of 4.6 million ha equals approximately one fifth of the country's 20.5 million ha under nominal protection), the actual area under protection in Mongolia (in form of "core zones") is a mere 1.8% and not 13% as officially claimed. Considering the 1.8% effectively protected surface area it is evident that at least some of the country's ecosystems are under-represented by the national PA system and in urgent need of attention.

The findings by the Capacity and Financial Need Assessment (see the maps of area specific profiles, Chapters 2.1 to 2.16) related to the core zones f the PAs show that the size of core zones are mostly too small in order to meet the minimum critical size requirements for protected areas (the minimum critical size of a PA equals an ecosystem sample needed to sustain viable ecosystem functioning and viable populations of all flora and fauna). The problem of the too-small-sized core zones in Mongolia is compounded by the fact that as a result of intensive human activities core zones have effectively been converted into "islands", dangerously fragmenting ecosystems already threatened by resource over-use mostly related to livestock activity (see chapter 3.2 of this report).

In essence, this study confirms that the ecological integrity of most of the targeted PAs is already significantly compromised.

Table 3.1.2: Core Zones of Targeted PAs

Administration Office	No	Name of PA	Total size in ha	Size of Core Zone in ha	Core Zone % of total PA
Khar Us Nuur	1	Khar Us Nuur NP	850,000	estimated 37,000	4
	2	Myangan-Ugalzat NP	60,000	undefined	0
Munkh-khairkhan	3	Munkh-khairkhan NP	325,000	estimated 70,000	21
Altai-Tavan Bogd	4	Altai-Tavan Bogd NP	636,161	122,000	19
	5	Siilkhem (A and B) NP	140,080	undefined	0
	6	Tsambagarav NP	110,960	44,000	40
Khukh-serkh	7	Khukh-serkh SPA	65,920	24,800	36
Uvs Nuur Basin	8	Uvs Nuur SPA	712,545	395,500	55
	9	Tsagaan-shuvuut SPA	23,100	2,800	12
	10	Turgen SPA	116,000	10,800	9
	11	Khank hukhii NP	220,000	30,000	13
	12	Khyargas NP	332,000	estimated 10,000	3
	13	Altan-els SPA	148,000	16,800	11
Khuvsgul	14	Khuvsgul Nuur NP	838,070	estimated 300,000	35
	15	Khoridol-saridag SPA	188,634	estimated 40,000	21
	16	Ulaan-taiga NP	108,000	undefined	0
Total			**4,874,470**	**646,700**	

Recommendations:

- To critically assess the size of core zones in the light of the "minimum critical size" requirements of ecosystem samples needed to safeguard an area's ecological viability.
- To assess the validity of Mongolia's current "Zoning Concept" as applied to PAs and to re-asses the validity of the current internal zoning for each area.
- To change the current "law" on internal PA zoning in order to provide for more management flexibility and the opportunity to expand core zones as needed.

3.1.3 Livestock

In eight of the sixteen assessed areas livestock pressure resulting in severe over-grazing exceeds the officially recommended carrying capacity (CC) of this range type more than twice (Table 3.1.3.). In three further areas livestock pressure exceeds the recommended CC.

Of the 72 rangers entrusted with the protection of the 16 assessed protected areas 52 rangers live inside the protected areas with their families and livestock contributing to the severe overgrazing of nine of the areas assessed (Table 3.1.3). Approximately 82% of the 72 rangers confirmed that revenues from livestock constitutes between

50% to 90% of their family income; ranger wages on the other hand contribute less than an average 40% (Annexes 1-16).

The over-grazing problem which appears to be symptomatic to all of Mongolia's protected areas (Schuerholz. 2006) may be directly attributed to the country's constitutionalized "open range access" policy. Unless grazing can be regulated and better controlled the problem of over-grazing is expected to worsen. Although over-grazing may still be mostly confined to the limited use zones of the protected areas (effectively converting the already small-sized core zones into islands), encroachment of core zones will become a major concern as a result of increasing range deterioration in the limited use zones.

The recommendations made by the senior author of this report in an earlier assessment of the protected areas located in Mongolia's Khangai Mountains (Schuerholz, 2006)[4] equally apply to the current assessment of the 16 protected areas of the Altai Sayan Ecoregion:

"…*Sustainable range management inside PAs and the country's open access policy in general are topics that have to be addressed on a priority basis. Sound range management plans have to be elaborated jointly with herders for each PA affected by livestock grazing to-be based on prior range assessment. Although grazing impacts on flora and fauna inside PAs have not been investigated to-date, it may safely be assumed that repeated over-grazing and selective grazing typical for certain livestock species may soon result in local extermination of plant species as shown by research from similar areas in other parts of the world.*

Permissible range use in protected areas has to be confined to sites where there will be no interference with wild ungulates and no competition for limited winter range. License agreements for grazing have to be based on sound range management plans Each agreement should be jointly approved by the PA authority and the corresponding Sum Khural, specifying the number and species of livestock permitted, grazing location, size of area to be used and the number of days allotted to each permit. Grazing fees should be charged for each permit, structured in accordance with the specifications of the permit.

<u>Recommendations</u>:

- *To define available (=permissible) range-land for each PA.*
- *To designate and stratify rangeland into use-segments.*
- *To estimate the carrying capacity for each use-segment with due consideration given to the overall conservation objectives of PAs.*
- *To jointly with herders elaborate range management plans.*
- *To issue range-use permit for each use-segment and levy fees in accordance with the number of livestock by species and number of days allocated to each segment.*

[4] Schuerholz, Goetz. 2006. Situation analysis and conceptualization of future support to the ranger issue of the Khangai Nuruu Protected Areas. Final Report. GTZ archives.

- *To strictly control and enforce range-use permits."*

Table 3.1.3.: Rating of Livestock Pressure on Assessed PAs

Administration Office	No	Name of PA	Overall Rating* of grazing pressure	Total number of rangers	Number of rangers with livestock inside PA
Khar Us Nuur	1	Khar Us Nuur NP	extreme	11	9
	2	Myangan-Ugalzat NP	extreme	4	4
Munkh-khairkhan	3	Munkh-khairkhan NP	extreme	5	5
Altai-Tavan Bogd	4	Altai-Tavan Bogd NP	extreme	9	7
	5	Siilkhem (A and B) NP	extreme	3	none inside
	6	Tsambagarav NP	extreme	2	2
Khukh-serkh	7	Khukh-serkh SPA	extreme	5	4
Uvs Nuur Basin	8	Uvs Nuur SPA	very high	3	none inside
	9	Tsagaan-shuvuut SPA	none	1	none inside
	10	Turgen SPA	very high	4	none inside
	11	Khankhukhii NP	very high	4	3
	12	Khyargas NP	high	2	1
	13	Altan-els SPA	high	1	none inside
Khuvsgul	14	Khuvsgul Nuur NP	extreme	10	9
	15	Khoridol-saridag SPA	none	6	none inside
	16	Ulaan-taiga NP	none	2	none inside
Total				72	

*extreme = exceeding more than twice the recommended carrying capacity
very high = exceeding recommended carrying capacity
high = within recommended carrying capacity
low = below recommended carrying capacity
none = no livestock use at any time of the year

3.2. Management Plans and Business Plans

The need for the participatory elaboration of state-of-the art management plans for protected areas involving all stakeholders in the planning and implementation process has been aptly described by Schuerholz (2006)[5] as follows:

"…. Proper representation of local herder families and other key resource users on the planning team for the elaboration of the management plans is essential. The management plans should be guided by a long-term vision for the targeted area that truly reflects local interests and should be embedded in over-arching conservation objectives of a protected area.

The management planning process should be kick-started with a brain-storming multi-disciplinary stakeholder workshop. The workshop should be used as a venue to highlight current and potential problems facing the area under consideration as well as to discuss actual and potential resource- and land-use options. This would be followed by the participatory elaboration of a practical zoning concept, the design of management prescriptions for each of the chosen use zones and the planning of specific use programs. The management plan would also address issues related to habitat manipulation, wildlife management, resource use, user rights, user fees, control and law enforcement, ranger status and ranger role and responsibilities, voluntary control and any other issue of interest. The management plan would provide details on infrastructure development, maintenance needs and optimum administrative structures. The management plan would be complemented by a "business plan" to serve as a practical financial planning tool.

The purpose of the management plan and the complementary business plan is to assist the existing PAs to function effectively while reaching social, economic and environmental sustainability and for PA authority to effectively manage and conserve the natural resources of the PA in partnership with key stakeholders."

Section 4. CAPACITY OF THE ASSESSED PROTECTED AREAS

The capacity of the PA's has been assessed in terms of actual personnel, existing infrastructure and equipment which was then compared to the personnel, infrastructure and equipment needed for the minimum and optimum protection of each area analysed. Area-specific details on personnel, infrastructure and equipment are provided in Annexes 1-16. The results of the capacity assessment in terms of personnel are summarized as follows.

[5] Schuerholz, Goetz. 2006. Situation analysis and conceptualization of future support to the ranger issue of the Khangai Nuruu Protected Areas. Final Report. Page 16. GTZ archives.

4.1 Personnel

4.1.1. Existing Personnel

i) Professional Personnel. All six administration offices responsible for the 16 protected areas of the Altai Sayan Ecoregion are headed by a Director, all six have a designated accountant. The four administrative offices responsible for more than one protected area have one inspector in charge of legal matters and law enforcement (Table 4.1.1), and two to three professional staff responsible for tourism, environmental awareness building and research and monitoring. The other two administration offices have one professional each with responsibilities for tourism/awareness building and one of them has a specialist for research and monitoring. Ten of the 16 areas have no area-specific professional staff, being managed by staff from their respective administrative centers.

The educational background of most professional personnel appears to be only marginally related to the area of technical expertise required for the specific position. Most professional personnel have not received any job-related training and have only little or no prior work-related experience. There is no special expertise in any of the assessed areas related to range management and livestock. Special expertise is required for most PAs to adequately address public relation issues and environmental awareness needs. There is an urgent need for special training of PA accountants aimed at state-of-the art bookkeeping and financial management. No in-service training of any nature is currently provided to professional personnel of the targeted PAs.

The results of the assessment reveals that the centralized administration of offices with responsibility for more than one PA causes serious logistical and technical problems, adversely affecting management quality, compromising effective protection. Budget constraints, insufficiently trained staff, long distance between the administrative offices and PAs and too large of work volumes are serious concerns. This requires recruitment of additional staff with expertise currently not available, especially in the areas of range management and communication. Additional expertise for most PAs is also needed in the areas of ecology and biodiversity conservation in order to adequately address issues of ecological integrity related to core zones and the PAs at large.

ii) Rangers. The number of rangers varies greatly between the areas and is mostly related to the size of a PA and the magnitude of resource use problems. Key concerns addressed by the 72 rangers of the sixteen areas which adversely affect rangers' work performance, control/enforcement quality and work morale are: (a) lack of "inspector" status; (b) poor and/or no operational funds and poor/no allowances for field patrols; (c) poor infrastructure, equipment, and mode of transport; (d) no radio communication; (e) low wages and no incentives; (f) insufficient training; (g) control areas too large, and (h) poor communication with local herders and the public (see tables "Problem Analysis", Section 2 of this report). The same concerns have been voiced by the rangers of protected areas of the Khangai Ecoregions assessed by the senior author of this report in 2006 . The situation analysis of the Khangai PA rangers directly applies to the current assessment of the Altai Sayan PAs. Little can be added

to he results of the Khangai assessment which directly corresponds with the findings of the current assessment. The relevant chapters of the Khangai diagnostic report related to the ranger issues with direct relevance to this assessment are provided by Annex 17.

Table 4.1.1: Existing Personnel

Administration Office	#	Name of PA	Number of Administrative Personnel	Specialists and original profession	Number of Rangers
Khar Us Nuur	1	Khar Us Nuur NP	1 Director 1 Accountant	1 inspector (hydrologist) 1 awareness and tourism (tourism) 1 R & M (biology teacher)	11
	2	Myangan-Ugalzat NP	1 Unit-Director	managed by Khar Us Nuur HQ	4
Munkh-khairkhan	3	Munkh-khairkhan NP	1 Director 1 Accountant (part-time)	1 awareness and tourism (fine art teacher)	5
Altai-Tavan Bogd	4	Altai-Tavan Bogd NP	1 Director 1 Accountant	1 inspector (forester) 1 awareness and tourism (teacher) 1 R & M (ecologist) 1 buffer zone (teacher)	10
	5	Siilkhem NP		managed by Altai Tavan Bogd HQ	3
	6	Tsambagarav NP		managed by Altai Tavan Bogd HQ	2
Khukh-serkh	7	Khukh-serkh SPA	1 Director 1 Accountant	1 awareness and tourism (lawyer) 1 R & M (forester)	5
Uvs Nuur Basin	8	Uvs Nuur SPA	1 Director 1 Accountant	1 inspector (forester) 1 awareness and tourism (tourism) 1 R & M (biologist)	3
	9	Tsagaan-shuvuut SPA		managed by Uvs Nuur HQ	1
	10	Turgen SPA		managed by Uvs Nuur HQ	4
	11	Khankhukhii NP		managed by Uvs Nuur HQ	4
	12	Khyargas NP		managed by Uvs Nuur HQ	1
	13	Altan-els SPA		managed by Uvs Nuur HQ	1
Khuvsgul	14	Khuvsgul Nuur NP	1 Director 1 Accountant	1 inspector (forester) 1 R & M (ecologist) 1 buffer zone (business admin.)	10
	15	Khoridol-saridag SPA		managed by Khuvsgul Nuur HQ	6
	16	Ulaan-taiga NP		managed by Khuvsgul Nuur HQ	2

4.1.2. Personnel Needs for Minimum Protection of Targeted PAs

The number of and required expertise for additional personnel needed to provide minimum protection to the 16 PAs has been jointly discussed and determined with the current personnel of the 16 targeted areas at the workshops conducted as part of this assignment in support of each area. The results are summarized by Table 4.1.2.

Table 4.1.2: Personnel Needs for Targeted Areas (Acceptable Protection)

Administration Office	No	Name of PA	Minimum Number of Administrative Personnel	Minimum Number of Specialists	Minimum Number of Rangers
Khar Us Nuur	1	Khar Us Nuur NP	1 director 1 accountant	1 inspector 1 environmental educator 2 range management 1 tourism specialist 1 ecologist	15
	2	Myangan-Ugalzat NP	1 director 1 accountant	1 environmental educator 1 range management	4
Munkh-khairkhan	3	Munkh-khairkhan NP	1 director 1 accountant	1 environmental educator 1 range management 1 ecologist	9
Altai-Tavan Bogd	4	Altai-Tavan Bogd NP	1 director 1 accountant	1 environmental educator 2 range management 1 tourism specialist 1 ecologist	17
	5	Siilkhem NP	1 Sub-unit director	1 range management	5
	6	Tsambagarav NP	1 Sub-unit director	1 range management	4
Khukh-serkh	7	Khukh-serkh SPA	1 director 1 accountant	1 range management 1 ecologist	5
Uvs Nuur Basin	8	Uvs Nuur SPA (Central Office)	1 director 1 accountant	1 inspector (hydrologist) 1 environmental educator 1 range management 1 tourism specialist 1 ecologist	3
	9	Tsagaan-shuvuut SPA		managed by Uvs Nuur HQ	3

Administration Office	No	Name of PA	Minimum Number of Administrative Personnel	Minimum Number of Specialists	Minimum Number of Rangers
	10	Turgen SPA	1 sub-director	managed by Uvs Nuur HQ	5
(new administrative center to be also responsible for Khyargas NP and Altan-els SPA)	11	Khankhukhii NP	1 director 1 accountant	1 inspector (hydrologist) 1 environmental educator 1 range (forestry) management. 1 tourism specialist 1 ecologist	7
	12	Khyargas NP		to be managed by Khankhukii HQ	3
	13	Altan-els SPA		to be managed by Khankhukii HQ	2
Khuvsgul	14	Khuvsgul Nuur NP	1 director 1 sub-unit director 1 accountant	1 environmental educator 1 range management 1 tourism specialist 1 ecologist	12
	15	Khoridol-saridag SPA		managed by Khuvsgul Nuur HQ	10
	16	Ulaan-taiga NP		managed by Khuvsgul Nuur HQ	4

Recommendations:

i) Professional Personnel

- Range management specialists and range use plans are needed for 13 of the 16 PAs.
- Seven additional ecologists and six additional environmental educators should be hired as specified by Table 4.2.1.
- A new administrative center to be responsible for Khyargas NP and Altan-els SPA should be established at Khyargas and 6 professionals recruited for this office as specified by Table 4.1.2.
- Administrative Sub-units should be established for Siilkhem and Tsambagarov NPs.
- Additional rangers are required for 15 of the 16 areas as specified by Table 4.1.2.
- In-service training opportunities should be standardized and offered to all professional staff on a regular basis.
- Professional staff should be properly trained and equipped in order to professionally address the multi-facetted challenges of the PAs. Special skills to be improved on are bookkeeping and financial management. This applies to every administrative center visited.

ii) Rangers[6]:

General Recommendations

- *Setting country-wide ranger standards, specifying minimum educational and training requirements for new recruits (pre-requisites).*
- *Develop and standardize a comprehensive job description applicable to all PA rangers in Mongolia.*
- *Standardize ranger recruitment procedures and diligently advertise position openings in accordance with standardized procedures.*
- *Implement transparent recruiting process according to standardized job interviews and selection procedures.*
- *Standardize pre-service training for new recruits (21-days base training, preferably preceded by boot camp).*
- *Regulate and implement in-service training (10 days/year) based on need assessment.*

Specific Recommendations Concerning Training:

- *Conduct a country-wide training needs assessment involving every single ranger working in a PA (150 total), specifying training received and training/skills required for each ranger.*
- *Based on the comprehensive country-wide training needs assessment deliver the following two programs:*
  i) New recruits and rangers recruited within previous year to be provided with base training of 21 days.
  ii) Employees who have been in the service for more than two years to be provided with on-the job training to-be delivered in modular form according to assessed needs. Each module 2-5 days, to be delivered through three events/year or until the full base program of 21 days is completed. Mandatory annual in-service training of 10 days in accordance with specified needs.

Further recommendations:

- *Change system of fee collection (no cash in ranger's hands).*
- *Design and implement practical incentive system based on monetary rewards and special training opportunities (increase motivation).*
- *Provide enabling framework conditions to improve work performance by rangers.*
- *Provide full enforcement authority to rangers as guaranteed by law.*
- *To provide training in communication skills and interaction with the public.*
- *To fully involve rangers in environmental awareness building.*
- *To design meaningful bio-monitoring schedules and train rangers in systematic and meaningful data collection.*
- *To design practical and transparent evaluation system that permits assessing the effectiveness of protection efforts.*
- *To provide proper technical backstopping services for future bio-monitoring program.*
- *To design and implement proper system for the storage, processing and use of monitoring data.*

[6] Schuerholz, Goetz. 2006. Situation analysis and conceptualization of future support to the ranger issue of the Khangai Nuruu Protected Areas. Final Report. Page 25. GTZ archives

It is strongly advised to give preference to on-the-job training by bringing in trainers for on-site training in modular form. The advantages of site-related training in an environment familiar to the trainees are that it is cheaper than off-site training and more effective and efficient. It is obvious however that there is little sense in improving staff and ranger conditions without creating an enabling environment.

4.2. Infrastructure and Equipment

Except for Khuvsgul Nuur NP the administrative offices are all located distant from the PAs. Several administrative offices depend on rental space in the corresponding Aimag centers.

Except for the three PAs currently supported by WWF and the UNDP-GEF project none of the remaining 13 PAs has any protection-related and/or other infrastructure. None of the areas has demarcated perimeter boundaries needed for proper law enforcement. Most access points of the PAs are not marked and except for Khuvsgul Nuur NP none of the 15 PAs has a proper entry gate or facilities for receiving visitors. The few existing interpretation centers are in bad need of repairs and upgrading.

None of the PAs has shelters for rangers to stay when patrolling remote areas or ay proper ranger accommodation/posts. Rangers have to use their own homes as office mostly located inside the protected areas.

Most PAs do not have a wireless radio network or any other means of communication. Professional staff and rangers are poorly equipped and have insufficient access to transport. Numerous rangers have to use their own horses for patrolling without reimbursement.

All six administrative offices are poorly furnished and equipped except for the Khar Us Nuur NP which continues to be supported by WWF.

Infrastructure and equipment needs have been identified in this assessment for each area jointly with the staff and rangers of the corresponding PAs. Details are provided for each area by the spreadsheets “Investment Needs” as part of Annexes 1-16.

4.3 Budgets, Operational Costs, Revenues

The actual annual budgets of the PAs are composed entirely of base funding received from the MoE and do not reflect the real operational needs of the protected areas. Every single area assessed is significantly under-funded. Generally no funds are available for daily allowances for rangers or professional staff. Rangers are generally not paid for the use and maintenance of their own horses in absence of other modes of transport for field patrols. There is no budget line for training and/or career development and very little for travel expenses. Budget allocations for environmental awareness, public relations and resource use programs are insignificant. Practically no Government funds are available for equipment and vehicle purchase. In summary, the base funding received by the administrative

offices covers wages and the most elementary operational costs only. The currently allocated budgets are insufficient for PAs to properly function and/or to provide minimum protection to PAs.

Bookkeeping by the central administrative offices visited leaves much to be desired. Since budgets are not organized by budget-lines no specific information is available on how exactly the available funds are spent. Administrative offices with responsibility for more than one area in particular provide no break-down of costs and funds by item and/or specific PA. The current bookkeeping system mostly works with undifferentiated lump sums. The current bookkeeping has to be improved in terms of transparency and accountability.

Under the current legal system revenues generated by PAs from gate fees, fines and the sale of special use permits are returned in full to the central budget and may not be retained by the PAs. Presently there is no incentive of any kind in place for PA personnel to actively pursue revenue generation. There are also no incentives of any kind which would assist to boost the currently low staff/ranger morale and work ethics. One of the most common ranger complaints recorded for this assessment was the matter of low ranger wages. As shown by the tables on personnel (Annexes 1-16) the average contribution of ranger wages to the ranger household income is less than 40% forcing rangers to search for additional income. Since the extra income is derived from livestock using PA rangelands as pasture rangers actually exacerbate the most serious problem of over-grazing plaguing the majority of Mongolia's protected areas.

Based on the investment- and personnel-need tables (infrastructure and equipment) which have been elaborated for each area (Annexes 1-16), operational budgets were prepared which more realistically reflect the actual operational costs by area (Annexes 1-16). Key premises of the proposed budgets are:

- doubling ranger wages;
- providing sufficient operational funds for infrastructure and equipment maintenance, ranger field allowances and adequate operating expenses (sufficient fuel for vehicles, motor bikes, and funds for horse-related expenses etc.);
- providing sufficient operational funds for professional staff needed to comply with work requirements;
- providing funds for annual in-service training of rangers and funds for career development opportunities to be offered to professional staff.

The budgets needed for the optimum protection of the assessed protected areas include equipment replacement costs.

Section 5. FINANCIAL NEEDS

The financial investment needs of the 16 protected areas are approximately US$ 2.2 million (Table 5.1). Assuming that the current sample size (16 PAs) is statistically viable a total of US$ 6.6 million is needed for infrastructure development and

equipment purchase in order to bring all 48 of Mongolia's SPAs and NPs up to minimum acceptable standards.

The total operational costs calculated for the optimum protection of the 16 protected areas amount to approximately US$ 1.1 million, five times the current operational costs (Table 5.1). Extrapolated to Mongolia's 48 PAs under the jurisdiction of the MoE, a total of US$ 3.3 million would be needed to provide acceptable protection standards for the current system of PAs (i.e., SPAsand PAs).

Table 5.1: Summary of Investment Costs, Current and Proposed Operational Costs

Administration Office	No.	Name of PA	Investments	Actual Annual Operational Budget	Actual Annual Budget plus Revenues	Operational Costs for Acceptable Protection
Khar Us Nuur	1	Khar Us Nuur NP	270,370	45,860	47,360	123,260
	2	Myangan-Ugalzat NP	71,330	0	5,000	44,240
Munkh-khairkhan	3	Munkh-khairkhan NP	211,150	17,667	17,917	100,380
Altai-Tavan Bogd	4	Altai-Tavan Bogd NP	223,780	31,940	34,607	125,160
	5	Siilkhem (A and B) NP	150,320	2,880	2,880	45,220
	6	Tsambagarav NP	101,480	1,920	2,700	49,260
Khukh-serkh	7	Khukh-serkh SPA	193,420	18,833	20,083	66,400
Uvs Nuur Basin	8	Uvs Nuur SPA	156,620	44,274	48,024	123,260
	9	Tsagaan-shuvuut SPA	42,720	0	0	27,020
	10	Turgen SPA	59,460	0	0	43,720
	11	Khankhukhii NP	220,320	0	0	89,260
	12	Khyargas NP	118,700	0	0	33,480
	13	Altan-els SPA	45,800	0	0	33,480
Khuvsgul	14	Khuvsgul Nuur NP	122,990	48,083	60,583	150,780
	15	Khoridol-saridag SPA	161,050	0	0	44,200
	16	Ulaan-taiga NP	66,200	0	0	18,640
Total			**2,215,710**	**211,457**	**239,154**	**1,117,760**

Section 6. CONCLUSIONS

The results of this Capacity and Financial Need Assessment of the 16 Altai Sayan protected areas under the jurisdiction of the MoE confirms that all areas are currently under-staffed, under-equipped and under-financed, unable to provide minimum protection for the targeted areas. The ecological integrity of all 16 areas appears to be threatened or not secured. Main threats are posed by: (a) excessive livestock numbers resulting in severe over-grazing of the PA grasslands, and (b) the small size of PA core zones which may not meet minimum critical size requirements. Most

rangers live inside protected areas with their families and livestock exacerbating the problem of over-grazing.

Most rangers do not have access to wireless radio-communication and the mode of transport s generally insufficient. Patrol areas per ranger are too large for most PAs requiring additional rangers in order to provide adequate enforcement and protection services. In general rangers are poorly trained lacking foremost knowledge and skills related to conservation issues and how to communicate with PA users and the general public at large.

There is an urgent need for professional expertise in the area of livestock and range management and a need for the elaboration of sound range management plans for all areas under livestock grazing pressure. Environmental educators are needed for most areas.

Numerous areas are in need of state-of-the art management plans. Perimeter boundaries have to be demarcated and PA access to be controlled more effectively.

One of the key findings of the assessment directs attention to the fact that SPAs and PAs differ very little from each other in practical terms and that real protection is only provided to core zones of PAs. Both protection categories are subject to intensive livestock use, a serious threat to the ecological integrity of the assessed PAs compounded by the growing isolation of core zones which are effectively turned into artificial islands.

Only 14% of the 14 targeted PAs with designated core zones are under effective protection. The majority of the core zones related to the 16 targeted PAs are located in high mountain areas which are self-protected due to difficult access. The results of this assessment suggest (extrapolation of 14% of the targeted PAs that are effectively protected) that in reality only 1.8% of the country is under protection not 13% as officially claimed.

It is evident that in view of pressing social and economic priorities in Mongolia conservation efforts will continue to remain of a relatively low national priority. It is equally evident that the GoM will not be able to provide sufficient funds for the sustainable staffing and financing of its designated protected areas in the near future. Without long-term outside support there will be little hope for sustainable protection of the existing PA system and less of an opportunity to meet its urgent expansion needs.

It is hoped that the results of this assessment may serve donors and the GoM as an important tool for the design of a conservation “road map” and as a basis for the development of sustainable financing strategies.

Annex 1: Khar Us Nuur NP Capacity and Financial Need Assessment

Financial Need Assessment
Name of area: Khar Us Nuur NP

A Investments by Management Program (Minimum Protection) in USD

Management Program	Unit	Unit Total	Cost/Unit	Total Minimum
1 Protection Program				
1.1. Ranger control towers	tower	11	6,000	66,000
1.2. Solar panels and other tower equipment	tower	11	2,000	22,000
1.3. Fencing strategic PA boundary sections	km	30	3,000	90,000
1.4. Motorcycles	motorcycle	3	1,600	4,800
1.5. One Russian jeep 4x4	jeep	1	12500	12,500
1.6 Sign boards	sign board	7	800	5,600
1.7. Horses	horse	11	500	5,500
1.8. Russian light aluminum motor boat (25 horse power)	boat	3	5,000	15,000
Sub-Total Protection Program				**221,400**
2 Administration Program				
2.1. Inspector Service				
2.1.1. Digital camera	camera	1	300	300
2.1.2. GPS	GPS	1	200	200
2.1.3. Binoculars	binocular	1	150	150
2.2. Office equipment:				
2.2.1. Internet service (monthly charge…) see operational cost				0
2.2.2. Photocopier	copier	1	2,000	2,000
2.2.3. Laser printer	printer	1	600	600
2.2.4. Scanner	scanner	1	120	120
2.2.5. Computer complete	computer	4	1,200	4,800
2.2.6. Notebook	notebook	2	1,200	2,400
2.2.7. LCD projector	beamer	1	2,000	2,000
2.2.8. Personal defense equipment		10	150	1,500
2.2.9. Office furniture	room	5	1,000	5,000
2.2.10. Flipchart	flipchart	1	200	200
2.2.11. Screen	screen	1	200	200
2.2.12. Diesel generator	generator	1	3,000	3,000
2.2.13. Storage room and garage heating system	garage	1	5,000	5,000
Sub-Total Administration Program				**27,470**
3 Public Relations and Environmental Awareness Program				
3.1 Miscellaneous equipment for Educator	equipment	1	3,000	3,000
3.2 Upgrade existing EcoGer	ecoger	1	4,000	4,000
Sub-Total PR and Environmental Awareness Program				**7,000**
4 Resource Use Program				
4.1. Vehicle, Russian Jeep	jeep	1	12,500	12,500
4.2 Camping equipment	equipment set	1	1,000	1,000
4.2 Camera	camera	1	800	800
4.2 GPS	GPS	1	200	200
Sub-Total Resource Use Program				**14,500**
5 Visitor Program				0
none				
Sub-Total Visitor Program				0
6 Research and Monitoring Program				0
none				
Sub-Total Research and Monitoring Program				0
Total Investments National Park Khar Us Nuur (Minimum Protection)				**270,370**

B. Actual Annual Operational Costs	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Ranger wages	ranger/a	11	960	10,560
2. Ranger Per diems	pd/ranger/a	11	240	2,640
3. Staff wages	staff/a	5	3,800	19,000
4. Staff Per diems	pd/staff/a	5	120	600
5. Career development (staff and rangers total)				700
6. Miscellaneous				0
7. Gasoline	liter/m/ranger	5	528	2,640
8. Maintenance of Motorcycles	month/ranger	10	132	1,320
9. Actual recurring costs (all inclusive/year)				8,400
Total Actual Annual Operational Costs National Park Khar Us Nuur NP				**45,860**

C. Actual Annual Revenues				
1. Base funding (central Government) wages, office expenses				45,860
2. Other income				
2.1. Gate fees				800
2.2. Fines				700
Total Actual Annual Revenues National Park Khar Us Nuur				**47,360**

D. Operational Costs for Optimum Protection				
1. Administration Program				
1.1 Ranger wages		14	1,920	26,880
1.2. Ranger Per diems	pd/ranger/a	14	240	3,360
1.3. Staff wages	staff/a	8	3,800	30,400
1.4. Staff Per diems	pd/staff/a	8	240	1,920
1.5. Support staff	support staff/a	3	1,800	5,400
1.6. Training and Career development (staff and rangers total)				4,000
1.7. Vehicle expenses (combustibles, maintenance and replacement costs)				10,000
1.8. Recurring costs (office and operational)				15,000
1.9. Infrastructure maintenance				
2. Protection Program				
2.1. Infrastructure maintenance				5,000
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information tables etc.)				2,000
3.2. Public events				2,000
3.3. Operational costs (covered by Administration Program)				
4. Resource Use Program				
4.1. Operational costs (vehicle expenses covered by Administration Program)		2	1,500	3,000
4.2. Stakeholder event program (seminars, training etc.)	event	6	800	4,800
5. Visitor Program				
5.1. EcoGer maintenance and supplies				500
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				3,000
6. Research and Monitoring Program				
6.1. Bio monitoring				2,000
6.2. Range quality monitoring				3,000
Total Annual Operational Costs for Optimum Protection of Khar Us Nuur NP				**123,260**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program	11 rangers							
ranger 1	Zunduijamts	9	118500	special technical	45 days base training	yes	43 cows and horses	90% salary, 10% livestock
ranger 2	Battumer	7	27600	Secondary school (high school)	45 days base training	yes	260	20% salary, 80% livestock
ranger 3	Bold	9	90200	high school and college; Veterinarian	45 days base training (+special equipment training)	yes	about 200	20% salary, 80% livestock
ranger 4	Battsooj'	7	135500	high school	45 days base training	yes	about 200	20% salary, 80% livestock
ranger 5	Enkhee	7	51000	Secondary school	45 days base training	yes	150	30% salary, 70% milk and argal production
ranger 6	Palam	10	115400	special technical	Musician, 45 days base training	yes	120	40% salary
ranger 7	Otgonbayar	4	131500	Primary school	45 days base training	yes	280	30% salary
ranger 8	Bilegdemberel	5	85000	Secondary school	45 days base training	yes	90	40% salary
ranger 9	Battogtokh	10	95500	Special; technical	Construction technician. Training on PA.	no	0	100% salary
ranger 10	Narangerel	2		Secondary school	none	buffer zone	50	70% salary
ranger 11	Shiirev	2		Secondary school	driver	buffer zone	60	60% salary
2 Administration Program								
Director	Chinbat	0,3		University	Agronomist/botanist	no		
Accountant	Lhagvasuren	9		University	Accountant	no	0	
Inspector (legal control and monitoring)	Khashbaatar	10		University	Hydrologist \ Engineer	no	0	
Cleaner								
Driver								
Guard								
3 Public Relations/ Awareness Program								
Environmental Awareness and tourism officer	Ganzorig	1		University	Tourism manager	no	0	

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
4 Resource Use Program								
none								
5 Visitor Program								
same as "Public Relations and Awareness Program"								
6 Research and Monitoring Program								
Research and Monitoring specialist	Sosorbaram	0,3		University	Biologist (teacher). No additional training	no	0	

Personnel needed for minimum functioning and protection of NP

Khar Us Nuur

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	15	High School	base training
2 Administration Program				
	Director	1	University	resource related
	Accountant	1	University	accountant
	Secretary	1	High School	secretary
	support staff	4		
3 Public Relations and Environmental Awareness Program				
	Environmental Educator	1	University	environmental education
4 Resource Use Program				
	Resource use specialist	2	University	resource management
5 Visitor Program				
	Tourism officer	1	University	tourism related
6 Research and Monitoring				
	Ecologist	1	University	ecologist

Annex 2: Mayangan-Ugalzat NP Capacity and Financial Need Assessment

Financial Need Analysis

Name of area Myangan-Ugalzat NP

A Investments by Management Program (Minimum Protection) in USD

Management Program	Unit	Unit Total	Cost/ Unit	Total Minimum
1 Protection Program				
1.1. Radio communication system (including repeater stations, solar panels and portable radios)				10,000
1.2. Self defense equipment		4	100	400
1.3. Digital cameras		4	300	1,200
1.4. Tape recorders		4	20	80
				0
Sub-Total Protection Program				**11,680**
2 Administration Program				
2.1 Elaboration of management plan and business plan		1	50,000	50,000
2.2. Furnishing office room		1	1000	1,000
2.3. Computer system		1	1000	1,000
2.4. Scanner		1	150	150
2.5. Printer		1	500	500
2.6. Photocopier		1	2000	2,000
2.7. Solar Panel and batteries etc.		1	1000	1,000
2.8. Generator (5 KW)		1	4000	4,000
Sub-Total Administration Program				**59,650**
3 Public Relations and Environmental Awareness Program (covered by Khar Us Nuur HQ budget)				
				0
Sub-Total PR and Environmental Education Program				0
4 Resource Use Program (covered by Khar Us Nuur HQ budget)				
Sub-Total Resource Use Program				
5 Visitor Program (covered by Khar Us Nuur HQ budget)				0
Sub-Total Visitor Program				0
6 Research and Monitoring Program (covered by Khar Us Nuur HQ budget)				0
Sub-Total Research and Monitoring Program				0
Total Investments Myangan Ugalzat NP (Minimum Protection)				**71,330**

B. Annual Operational Costs Myangan Ugalzat NP				
no costs per budget line are available				
Total Actual Annual Operational Costs Myangan Ugalzat NP				**0**
C. Annual Revenues Myangan Ugalzat NP				
1. Base funding (central Government)				5,000
2. Other sources				0
Total Annual Revenues Myangan Ugalzat NP				**5,000**

D. Operational Costs for Optimum Protection Myangan Ugalzat NP				
1. Administration Program				
1.1. Ranger Wages		5	1,920	9,600
1.2. Ranger Per diems	range	5	240	1,200
1.3. Educator	staff/a	1	3,800	3,800
1.4. Educator Per diems	pd/sta	1	240	240
1.5. Support staff	lump	3	1,800	5,400
1.6. Training and Career development (staff and rangers total)				2,000
costs)		1		3,000
1.8. Recurring costs (office and operational)				6,000
1.9. Infrastructure maintenance cost				2,000
2. Protection Program				
2.1. Infrastructure maintenance cost				2,000
2.2. Horse related expenses (winter food etc.)	horse	4		2,000
				0
3. Public Relations and Awareness Program				
3.1. Public events				1,000
3.2. Operational costs				1,000
4. Resource Use Program				
covered by Khar Us Nuur NP budget				
5. Visitor Program				
not applicable				
6. Research and Monitoring Program				
6.1. Bio monitoring				2,000
6.2. Range quality monitoring				3,000
Total Annual Operational Costs for Optimum Protection of Myangan-Ugalzat NP				**44,240**

Personnel Need Assessment

Name of area: **Myangan Ugalzat NP**

Existing personnel (by Management Program)

Program								
1 Protection Program	**Name**	**Employ-ment in years**	**Control Area in ha**	**Educational level**	**Professional Qualification**	**Lives inside NP**	**# livestock**	**wages % of family income**
ranger 1							325000	
ranger 2	Galbadrakh	5	18700	secondary school	45 days base training on PA	no	100	20% salary
ranger 3	Gantumur	5	14000	secondary school	45 days base training on PA	at border	150	20% salary
ranger 4	Barsuren	5	15000	secondary school	45 days base training on PA	no	220	20% salary
	Tumurkhuyag	5	12500	technicion	Livestock technician.	no	200	30% salary
2 Administration Program								
Unit Director								
Guard	Khaishdavaa	5		University	Physical Education 45 days base training on PA, 21 training on PA	no	0	100% salary
3 Public Relations/ Awareness Program								
	none							
4 Resource Use Program								
	none							
5 Visitor Program								
	none							
6 Research and								

Personnel needed for minimum functioning and protection of NP Myangan-Ugalzat

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	4	high school	sound training
2 Administration Program				
	Sub-Director	1	university	resource use related
3 Public Relations and Environmental Awareness Program				
	Educator	1	University	Environmental education
4 Resource Use Program				
	Resource specialist	1	University	Range management
5 Visitor Program				
	Services provided by HQ in Khovd			
6 Research and Monitoring				
	Services provided by HQ in Khovd			

Annex 3: Munkh-Khairkhan NP Capacity and Financial Need Assessment

Financial Need Analysis

Name of area: Munkh-khairkhan NP

A Investments by Management Program (Minimum Protection) in USD

Management Program	Unit	Unit Total	Cost/Unit	Total Minimum
1 Protection Program				
1.1. Elaboration of management plan	1	1	50,000	50,000
1.2. Boundary demarcation	km	145	400	58,000
1.3. Access demarcation (signs)	billboard	5	800	4,000
1.4. Uniforms (winter and summer)	uniform	9	400	3,600
				0
1.5. Ranger kit (GPS, sleeping bag etc.)	kit	5	1,200	6,000
1.6. Self defense equipment		5	100	500
1.7. Horse related expenses	horse	5	200	1,000
1.8. Motorcycle		1	1,600	1,600
				0
Sub-Total Protection Program				**124,700**
2 Administration Program				
2.1. Sub-unit of administration in Bayan-Ulgii aimag's part				
2.1.1. Construction of building		1	2000	2,000
2.1.2. Furnishings		2	600	1,200
2.2. Construction of HQ in Tsetseg soum (7 rooms)				
2.2.1. Construction of building		1	25000	25,000
2.2.2. Furnishings	room	6	1000	6,000
2.3. Equipment				0
2.3.1. Computers		6	900	5,400
2.3.2. Printers		2	300	600
2.3.3. Beamer and screen		1	2500	2,500
2.3.4. Generator (small and large)		2	3000	6,000
2.3.5. Solar panel kit		1	250	250
2.3.6. Scanner		1	150	150
2.3.7. Photocopier		2	3000	6,000
2.3.8. GPS		2	200	400
2.3.9. Binocular		1	150	150
2.3.10. Digital camera		1	300	300
2.3.11. Vehicle (4x4) Russian Jeep in Bulgan		1	12500	12,500
Sub-Total Administration Program				**68,450**
3 Public Relations and Environmental Education				
3.1. Russian Jeep, 4x4		1	12500	12,500
3.2. Camping equipment		1	1500	1,500
				0
Sub-Total PR and Environmental Education Program				**14,000**

Management Program	Unit	Unit Total	Cost/Unit	Total Minimum
4 Resource Use Program				
4.1. GPS		1	200	200
4.2. Digital camera		1	300	300
4.3. Camping equipment		1	1500	1,500
Sub-Total Resource Use Program				**2,000**
5 Visitor Program				
5.1. Information Center (ger)		1	1000	1,000
5.2. Furnishing Ger		1	1000	1,000
Sub-Total Visitor Program				2,000
6 Research and Monitoring Program				
				0
Sub-Total Research and Monitoring Program				0
Total Investments National Park Munkh-khairkhan NP (Minimum Protection)				**211,150**
B. Actual Annual Operational Costs Munkh-khairkhan NP				
1. Ranger wages	ranger/a	5	960	4,800
2. Ranger Per diems	lump	5		0
3. Staff wages	staff/a			6,600
4. Staff Per diems	pd/staff/			667
5. Career development (staff and rangers total)				0
6. Miscellaneous				0
6.1 Gasoline	lump			500
6.2. Maintenance of Motorcycles				0
7. Actual recurring costs (all inclusive/year)				5,100
Total Annual Operational Costs Munkh-khairkhan NP				**17,667**
C. Actual Annual Revenues Munkh-khairkhan NP				
1. Base funding (central Government) wages, office				17,667
2. Other revenue				250
Total Actual Annual Revenues Munkh-khairkhan NP				**17,917**

D. Operational Costs for Optimum Protection Munkh-khairkhan NP				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1. Administration Program				
1. Ranger wages		9	1,920	17,280
2. Ranger Per diems		9	240	2,160
3. Staff wages	staff/a	6	3,800	22,800
4. Staff Per diems	pd/staff/	6	240	1,440
5. Support staff	lump	3	1,800	5,400
6. Training and Career development (staff and rangers				4,000
7. Vehicle expenses (combustibles, maintenance and				10,000
8. Recurring costs (office and operational)				15,000
9. Infrastructure maintenance cost				1,000
2. Protection Program				
2.1. Infrastructure maintenance cost				3,000
				0
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information				2,000
3.2. Public events				2,000
3.3. Operational costs				1,500
4. Resource Use Program				
4.1. Operational costs for 2 specialists (vehicle expenses covered by Administration Program)				3,000
4.2. Stakeholder event program (seminars, training etc.)	event	6	800	4,800
5. Visitor Program				
none				
6. Research and Monitoring Program				
6.1. Bio monitoring				2,000
6.2. Range quality monitoring				3,000
Total Annual Operational Costs for Optimum Protection of Munkh-khairkhan NP				**100,380**

Personnel Need Assessment

Name of area: Munkh-khairkhan

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wage % of family income
1 Protection Program								
ranger 1	Dashnyam	0.7	65000	University	Mongolian language teacher	no	15	95% salary
ranger 2	Baasanjav	1	80000	secondary school	45 days base training	yes	115	75% salary
ranger 3	Batsaikhan	1	65000	University	Physical education teacher	yes	60	60% salary
ranger 4	Davaakhuu	1	65000	technical education	Physician	yes	30	70% salary
ranger 5	Sukhbold	1	65000	technical education	Agro-technician	yes	35	75% salary
2 Administration Program								
Director	Lkhagvadorj	1		University	Physicist	no	50	90% salary
Accountant (40%)				University	Accountant			
Support staff 1								
3 Public Relations/ Awareness Program								
specialist on Tourism and Education	Bayanmunkh	0.3		University	Art Design teacher	no	0	100% salary
4 Resource Use Program								
none								
5 Visitor Program								
none								
6 Research and Monitoring Program								
none								

Personnel needed for minimum functioning and protection of Munkh-khairkhan NP

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	9	High School	base training
2 Administration Program				
	Director	1	University	resource related
	Accountant	1	University	accountant
	Secretary	1	High School	secretary
	support staff	3		
3 Public Relations and Environmental Awareness Program				
	Environmental Educator	1	University	environmental education
4 Resource Use Program				
	Resource use specialist	2	University	Resource Management
5 Visitor Program				
	none			
6 Research and Monitoring				
	Ecologist	1	University	Ecologist

Annex 4: Altai-Tavan Bogd NP Capacity and Financial Need Assessment

Financial Need Assessment
Name of area: Altai-Tavan Bogd NP

A Investments by Management Program (Minimum Protection) in USD				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Protection Program				
1.1. Elaboration of Management and Business Plan		1	50,000	50,000
1.2. Boundary demarcation in key areas	km	118	400	47,200
1.3. Access points demarcation	billboards	3		0
1.4. Improve existing Ranger House	add to building	9	1,200	10,800
1.5. Climate shelters (for emergency)	shelter	8	100	800
1.6. Ranger kit		9	1,500	13,500
1.7. Ranger uniforms (winter and summer)				0
1.8. Self defense equipment		9		0
1.9. Snowmobiles	snowmobile	2	6,000	12,000
1.10. Boats including outboard engines	boat	2	7,000	14,000
1.11. Upgrading existing radio communication system	mobile set	9	2,000	18,000
1.12. Lorry	lorry	1	12,000	12,000
1.13. Horse related expenses (winter food etc.)		10	500	5,000
Sub-Total Protection Program				**183,300**
2 Administration Program				
2.1. Spotting scope	scope	1	200	200
2.2. Digital camera	camera	1	300	300
2.3. GPS	GPS	1	200	200
2.4. Photcopier	copier	1	2,000	2,000
2.5. Laser printer	printer	1	600	600
2.6. Scanner	scanner	1	120	120
2.7. Computer complete set	computer	2	1,200	2,400
2.8. LCD projector	beamer	1	2,000	2,000
2.9. Office furniture	room	4	1,000	4,000
2.10. Screen	screen	1	200	200
2.11. Russian Jeep	jeep	1	12,500	12,500
Sub-Total Administration Program				**24,320**
3 Public Relations and Environmental Awareness Program (position shared with Visitors Program)				
3.1. DVD player		1	80	80
3.2. LCD projector		1	2,000	2,000
3.3. Screen		1	100	100
3.4. Notebook		1	1,200	1,200
3.5. Laser printer		1	300	300
3.6. Audio visual equipment		1	500	500
3.7. Generator		1	2,000	2,000
Sub-Total PR and Environmental Education Program				**6,180**
4 Resource Use Program				
4.1. Camping equipment	equipment set	1	1,000	1,000
4.2. Camera	camera	1	800	800
4.3. GPS	GPS	1	200	200
4.4. Computer	computer	1	900	900
4.5. Binoculars	binoculars	1	80	80
4.6. Motorcycle	bike	1	1,600	1,600
Sub-Total Resource Use Program				**4,580**
5 Visitor Program				
see PR and Environmental Awareness Program				0
Sub-Total Visitor Program				0

6 Research and Monitoring Program				
6.1. Notebook		1	1,200	1,200
6.2. Motorcycle		1	1,600	1,600
6.3. Computer		1	900	900
6.4. GPS		1	200	200
6.5. Camping equipment		1	1,200	1,200
6.6. Digital camera		1	300	300
Sub-Total Research and Monitoring Program				**5,400**

Total Investments Altai-Tavan Bogd				**223,780**

B. Actual Annual Operational Costs of Altai-Tavan Bogd				
1. Wages and per diems				
1.1. Ranger wages	ranger/a	9	960	8,640
1.2. Per diems		9	0	0
1.3. Staff wages	staff/a	6	3,800	22,800
1.4. Per diems (lumpsum)				500
2. Career development (staff and rangers total)				0
3. Actual recurring costs (all inclusive/year)			5,007	0
Total Annual Operational Costs National Park Altai Taivan Bogd (including PAs Siilkhem, Tsambaggarav and Tavanbogd)				**31,940**

C. Actual Annual Revenues of Altai-Tavan Bogd				
1. Base funding (central Government) wages, office expenses				31,940
2. Own income				
2.1. Gate fees				1,750
2.2. Fines				917
Total Actual Annual Revenues National Park Altai-Tavan Bogd				**34,607**

D. Operational Costs for Optimum Protection of Altai-Tavan Bogd NP				
1. Administration Program				
1.1. Ranger Wages		17	1,920	32,640
1.2. Rangerv Per diems	pd/ranger/a	17	240	4,080
1.3. Staff wages	staff/a	6	3,800	22,800
1.4. Staff Per diems	pd/staff/a	6	240	1,440
1.5. Support staff Lumpsum)	support staff/a	3	1,800	5,400
1.6. Training and Career development (staff and rangers total)				7,000
1.7. Vehicle expenses (combustibles, maintenance and replacement costs)				10,000
1.8. Recurring costs (office and operational)				15,000
1.9. Infrastructure maintenance cost				2,000
2. Protection Program				
2.1. Infrastructure maintenance cost				5,000
				0
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards etc.)				2,000
3.2. Public events				2,000
3.3. Operational costs (covered by Administration Program)				
4. Resource Use Program				
4.1. Operational costs (vehicle expenses covered by Administration Program)				1,500
4.2. Stakeholder event program (seminars, training etc.)	event	6	800	4,800
5. Visitor Program				
5.1. EcoGer maintenance and supplies				500
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				3,000
6. Research and Monitoring Program				
6.1. Bio monitoring				2,000
6.2. Range quality monitoring				3,000
Total Annual Operational Costs for Optimum Protection of Altai-Tavan Bogd NP				**125,160**

Personnel Need Assessment

Name of Area: AltaiTAvan Bogd NP

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# Livestock	Wages % of family income
1. Protection Program								
ranger 1	Serk	3	62000	University	Political Management, 45 days base training	yes (in winter outside)	100	15% salary
ranger 2	Duisen	8	63000	High school	45 days base training	yes	30	8% salary
ranger 3	Talgatbek	11	59000	Special technical	Construction technician, 45 days base training	no (all time)	90	10% salary
ranger 4	Humirbek	9	60000	Special technical	Sanitary technician, 45 days base training	yes	70	10% salary
ranger 5	Saldat	7	82000	Special technical	Veterinarian, 45 days base training	yes	82	12% salary
ranger 6	Serkbulat	3	102000	Special technical	Zoo-technician, 45 days base training	yes	115	10% salary
ranger 7	Murathan	7	62800	Special technical	Mechanic, 45 days base training	yes	72	10% salary
ranger 8	Ahmed	11	107000	Special technical	Forest technician, 45 days base training	yes	90	13% salary
ranger 9	Kukei	6	63000	Special technical	Veterinarian, 45 days base training	no in winter, yes in summer	130	8% salary
ranger 10	Gantulga (part-time)	1	41200	Special technical	Veterinarian, no training on PA	yes	100	

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# Livestock	Wages % of family income
2 Administration Program								
Director	Mantai	0,9		University	Agronomist/fisheries	no	0	
Accountant	Mugalimhan	11		University	Accountant/Economist	no	0	
Inspector (legal control and monitoring)	Esenbol	6		University	Forest engineer	no	0	
Driver 1								
Cleaner 1								
Guard 1								
3 Public Relations/ Awareness Program								
Training and tourism specialist	Nazgul	7		University	English language teacher	no	0	
4 Resource Use Program								
Specialist on buffer zone	Marat	1.5		University	Russian language teacher	no		
5 Visitor Program								
position shared with "Public Relations and Awareness Program"								
6 Research and Monitoring Program								
Research and Monitoring specialist	Amandbek	6		University	Ecologist	no	0	

Personnel needed for minimum functioning and protection of NP

Altai Tavan Bogd

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	17	High School	base training
2 Administration Program				
	Director	1	University	resource related
	Accountant	1	University	accountant
	Secretary	1	High School	secretary
	support staff	3		
3 Public Relations and Environmental Awareness Program				
	Environmental Educator	1	University	environmental education
4 Resource Use Program				
	Resource use specialist	2	University	resource management
5 Visitor Program				
	Tourism Officer	1	University	tourism related
6 Research and Monitoring				
	Ecologist	1	University	ecologist

Annex 5: Siilkhem NP Capacity and Financial Need Assessment

Financial Need Assessment
Name of area: Siilkhem NP

A Investments by Management Program (Minimum Protection) in USD

Management Program	Unit	Unit Total	Cost/Unit	Total Minimum
1 Protection Program				
1.1. Elaboration of Management and Business Plan		1	50,000	50,000
1.2. Boundary demarcation of key areas	km	220	400	88,000
1.3. Access points signboards	billboards	13	140	1,820
1.4. Ranger kit		3	1,500	4,500
1.5. Ranger Uniform (winter and summer)		3	400	1,200
1.6. Motorcycle	motorcycle	3	1,600	4,800
1.7. Radio equipment (covered by Altai Tavan Bogd NP HQ budget)				0
Sub-Total Protection Program				**150,320**
2 Administration Program				
(covered by Altai Tavan Bogd NP HQ budget)				
Sub-Total Administration Program				**0**
3 Public Relations and Environmental Awareness Program (position is shared Visitors Program)				
(covered by Altai Tavan Bogd NP HQ budget)				0
Sub-Total PR and Environmental Education Program				**0**
4 Resource Use Program				
(covered by Altai Tavan Bogd NP HQ budget)				
Sub-Total Resource Use Program				**0**
5 Visitor Program				0
(covered by Altai Tavan Bogd NP HQ budget)				
Sub-Total Visitor Program				0
6 Research and Monitoring Program				0
(covered by Altai Tavan Bogd NP HQ budget)				
Sub-Total Research and Monitoring Program				0
Total Investments Siilkhem NP				**150,320**

B. Actual Annual Operational Costs Siilkhem NP				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1. Wages and per diems				
1.1. Ranger wages	ranger/a	3	960	2,880
1.2. Per diems	pd/ranger/a	3	0	0
Total Annual Operational Costs Siilkhem NP				**2,880**
C. Actual Annual Revenues Siilkhem NP				
1. Base funding (central Government) wages, office expenses	ranger	3	960	2,880
2. Other income				0
2.1. Gate fees		0	0	0
2.2. Fines				0
Total Actual Annual Revenues Siilkhem NP				**2,880**

D. Operational Costs for Optimum Protection Siilkhem NP				
1. Administration Program				
1.1. Ranger wages		5	1,920	9,600
1.2. Ranger Per diems	pd/ranger/a	5	240	1,200
1.3. Staff wages	staff/a	3	3,800	11,400
1.4. Staff Per diems	pd/staff/a	3	240	720
1.5. Training and Career development (staff and rangers)	per year			3,000
1.6. Vehicle expenses (combustibles, maintenance and replacement costs)				4,000
1.7. Recurring costs (office and operational)				3,000
1.8. Infrastructure maintenance cost				800
2. Protection Program				
2.1. Infrastructure maintenance cost				700
				0
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, etc.)				800
3.2. Public events				1,000
3.3. Operational costs (covered by Administration Program)				
4. Resource Use Program				
4.1. Operational costs (vehicle expenses covered by Administration Program)				1,500
4.2. Stakeholder event program (seminars, training etc.)	event	4	800	3,200
5. Visitor Program				
5.1. Preparation of information and educational materials				2,000
6. Research and Monitoring Program				
6.1. Bio monitoring				800
6.2. Range quality monitoring				1,500
Total Annual Operational Costs for Optimum Protection of Siilkhem NP				**45,220**

Personnel Need Assessment

Name of Area: Siilkhem NP

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program	3 rangers							
ranger 1	Telegen	3	40500	special technical	45 days base training	no	125	15% salary
ranger 2	Erzat	11	32000	secondary school	45 days base training	no	500	5% salary
ranger 3	Hairat	2	68000	high school (10th grade)	45 days base training	no	50	20% salary
2 Administration Program (covered by Central Administration Office Altai Tavan Bogd NP)								
3 PR and Awareness Program (covered by Central Administration Office Altai Tavan Bogd NP)								
4 Resource Use Program (covered by Central Administration Office Altai Tavan Bogd NP)								
5 Visitor Program (covered by Central Administration Office Altai Tavan Bogd NP)								
6 Research and Monitoring Program (covered by Central Administration Office Altai Tavan Bogd NP)								

Personnel needed for minimum functioning and protection of NP Siilkhem

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	5	High School	base training
2 Administration Program (covered by Central Administration Office Altai Tavan Bogd NP)				
	Sub-unit Director	1	University	resource related
	support staff	1		
3 PR and Awareness Program (covered by Central Administration Office Altai Tavan Bogd NP)				
	none			
4 Resource Use Program				
	Resource use specialist	1	University	Resource Management
5 Visitor Program (covered by Central Administration Office Altai Tavan Bogd NP)				
	none			
6 Research and Monitoring (covered by Central Administration Office Altai Tavan Bogd NP)				
	none			

Annex 6: Tsambagarav NP Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD

Management Program	Unit	Unit Total	Cost/Uni	Total Minimum
1.1. Elaboration of Management and Business Plan (incl. Tourism Developm.Plan)		1	50,000	50,000
1.2. Boundary demarcation (key areas only)	km	116	400	46,400
1.3. Access points (sign boards)	billboards	7	140	980
1.4. Ranger kit		2	1,500	3,000
1.5. Ranger Uniform (winter and summer)		2	400	800
1.6. Self defense equipment		2	150	300
1.7. Radio system (part of central system of Altai Taivan Bogd HQ)				0
2 Administration Program				
Covered by Altai-Tavan Bogd HQ				
Sub-Total Administration Program				**101,480**
3 Public Relations and Environmental Awareness Program (position is shared Visitors Program)				
Covered by Altai-Tavan Bogd HQ		1		0
Sub-Total PR and Environmental Education Program				**0**
4 Resource Use Program				
Covered by Altai-Tavan Bogd HQ				
Sub-Total Resource Use Program				**0**
5 Visitor Program				0
Covered by Altai-Tavan Bogd HQ				
Sub-Total Visitor Program				0
6 Research and Monitoring Program				0
Covered by Altai-Tavan Bogd HQ				
Sub-Total Research and Monitoring Program				0
Total Investments Tsambagarav NP				**101,480**

B. Actual Annual Operational Costs Tsambagarav NP				
1. Wages and per diems				
1.1. Ranger wages	ranger/a	2	960	1,920
1.2. Per diems	pd/ranger/a	2	0	0
Total Actual Annual Operational Costs National Park Tsambagarav				**1,920**

C. Actual Annual Revenues Tsambagarav NP				
1. Base funding (central Government) wages, office expenses	ranger	2	960	1,920
2. Other income				
2.1. Gate fees	tourist	300	3	750
2.2. Fines				30
Total Actual Annual Revenues National Park of Tsambagarav				**2,700**

D. Operational Costs for Optimum Protection of Tsambagarav NP				
1.1. Ranger Wages		4	1,920	7,680
1.2. Ranger Per diems	pd/ranger/a	4	240	960
1.3. Staff wages (includes 1 educator)	staff/a	3	3,800	11,400
1.4. Staff Per diems	pd/staff/a	3	240	720
1.5. Support staff	support staff/a	1	1,800	1,800
1.6. Training and Career development (staff and rangers total)				3,000
1.7. Vehicle expenses (combustibles, maintenance and replacement costs)				4,000
1.8. Recurring costs (office and operational)				4,000
1.9. Infrastructure maintenance cost				2,000
2. Protection Program				
2.1. Infrastructure maintenance cost				2,000
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information tables etc.)				800
3.2. Public events				800
3.3. Operational costs (covered by Administration Program)				
4. Resource Use Program				
4.1. Operational costs (vehicle expenses covered by Administration Program)				1,500
4.2. Stakeholder event program (seminars, training etc.)	event	6	800	4,800
5. Visitor Program				
5.1. Preparation of information and educational materials				1,500
6. Research and Monitoring Program				
6.1. Bio monitoring				800
6.2. Range quality monitoring				1,500
Total Annual Operational Costs for Optimum Protection of Tsambagarav NP				**49,260**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	% of family income
1. Protection Program	2 rangers							
ranger 1	Seterhan	7	55000	special technical	Veterinarian, 45 days base	yes	200	20% salary
ranger 2	Batmenkh	0.9	56000	secondary school	none	yes	150	20% salary
2 Administration Program (covered by Altai Taivan Bogd NP HQ)								
3 Public Relations/ Awareness Program (covered by Altai Taivan Bogd								
4 Resource Use Program (covered by Altai Taivan Bogd NP HQ)								
5 Visitor Program (covered by Altai Taivan Bogd NP HQ)								
6 Research and Monitoring Program (covered by Altai Taivan Bogd NP HQ)								

Personnel needed for minimum functioning and protection of NP

Tsambagarav

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	4	High School	base training
2 Administration Program				
	Sub-unit Director	1	University	resource related
	support staff	1		
3 Public Relations and Environmental Awareness Program				
	none			
4 Resource Use Program				
	Resource use specialist	1	University	Resource
5 Visitor Program				
	none			
6 Research and Monitoring				
	none			

Annex 7: Khukh serkh SPA Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD

Management Program	Unit	Unit Total	Cost/Unit	Total Minimum
1 Protection Program				
1.1. Elaboration of Management- and Business Plan		1	50,000	50,000
1.2. Ranger station with furnishing	house	2	2,000	4,000
1.3. Boundary demarcation (5 sections)	km	64	400	25,600
section 1 and 4 first priority	km	23	3,000	69,000
1.4. Access demarcation	billboards	5	140	700
1.5. Ranger kit	ranger kit	5	1,500	7,500
1.6. Motorcycles	motorcycle	5	1,600	8,000
1.7. Russian jeep 4x4	jeep	1	12500	12,500
1.8. Horses	horse	5	300	1,500
1.9. Radio communication equipment including solar panels	set			18,000
1.10. Personal defense equipment				
Sub-Total Protection Program				**146,800**
2 Administration Program				
2.1. New office building with 6 rooms (120sq.m)	building	1	20,000	20,000
2.1.1. Office furniture	office	6	500	3,000
2.1.2. Heating system for the office		1	600	600
2.2. Digital camera	camera	1	300	300
2.3. GPS	GPS	1	300	300
2.4. Binoculars	binocular	1	200	200
2.5. Photocopier	copier	1	2,000	2,000
2.6. Laser printer	printer	1	600	600
2.7. Scanner	scanner	1	120	120
2.8. Computer complete	computer	1	900	900
2.9. Notebook	notebook	4	1,200	4,800
2.10. LCD projector		1	2,000	2,000
2.11. Flipchart	flipchart	5	150	750
2.12. Screen	screen	1	200	200
2.13. Diesel generator	generator	1	3,000	3,000
2.14. Fax machine	fax	1	150	150
2.15. Spotting scope		1	300	300
Sub-Total Administration Program				**39,220**
3 Public Relations and Environmental Awareness Program				
3.1 Miscellaneous equipment for Educator	equipment	1	3,000	3,000
Sub-Total PR and Environmental Awareness Program				**3,000**
4 Resource Use Program				
4.1. Motorcycle	motorcycle	1	1,600	1,600
4.2. Camping equipment	equipment set	1	1,000	1,000
4.3. Camera	camera	1	300	300
4.4. GPS	GPS	1	200	200
Sub-Total Resource Use Program				**3,100**
5 Visitor Program				0
included in Administration Program				
Sub-Total Visitor Program				0
6 Research and Monitoring Program (implemented by Park Director)				0
6.1 Camping equipment	equipment set	1	1,000	1,000
6.2 Camera	camera	1	300	300
Sub-Total Research and Monitoring Program				**1,300**
Total Investments Khekh-serkh SPA (Minimum Protection)				**193,420**

B. Actual Annual Operational Costs Khekh-serkh SPA				
1. Ranger wages	ranger/a	5	960	4,800
2. Ranger Per diems	pd/ranger/a	5	0	0
3. Staff wages (including support staff)	staff/a	6		8,333
4. Staff Per diems	pd/staff/a			750
5. Career development (staff and rangers total)				0
6. Miscellaneous Gasoline				1,083
7. Actual recurring costs (all inclusive/year)				3,866
Total Annual Operational Costs Khekh-serkh SPA				**18,833**

C. Actual Annual Revenues Khekh-serkh SPA				
1. Base funding (central Government) wages, office expenses				18,833
2. Other income				1,250
2.1. Gate fees:				0
2.2. Fines				0
Total Actual Annual Revenues Khekh-serkh SPA				**20,083**

D. Optimum Protection Annual Operational Costs Khekh-serkh SPA				
1. Administration Program				
1.1. Ranger Wages		5	1,920	9,600
1.2. Ranger Per diems	pd/ranger/a	5	240	1,200
1.3. Staff wages (+2 resource specialist and 1 educator)	staff/a	5	3,800	19,000
1.4. Staff Per diems	pd/staff/a	5	240	1,200
1.5. Support staff	support staff/a	3	1,800	5,400
1.6. Training and Career development (staff and rangers total)				4,000
1.7. Vehicle expenses (combustibles, maintenance and replacement costs)				4,000
1.8. Recurring costs (office and operational)				4,000
1.9. Infrastructure maintenance cost				2,000
2. Protection Program				
2.1. Infrastructure maintenance cost				2,000
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, etc.)				700
3.2. Public events				1,500
3.3. Operational costs (covered by Administration Program)				
4. Resource Use Program				
4.1. Operational costs (vehicle expenses covered by Administration Program)				3,000
4.2. Stakeholder event program (seminars, training etc.)	event	6	800	4,800
5. Visitor Program				
5.1. Brochure and information material				1,000
6. Research and Monitoring Program				
6.1. Bio monitoring				1,000
6.2. Range quality monitoring				2,000
Total Annual Operational Costs for Optimum Protection of Khukh-serkh SPA				**66,400**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	% of family income
1. Protection Program								
ranger 1	Nurlan	11	15000	secondary school	45 days base training	yes	80	8% salary
ranger 2	Saulethan	5	13000	special technical	Driver, 45 days base training	yes	150	10% salary
ranger 3	Jazelbek	0.9	10000	University	Ecologist	no	0	100% salary
ranger 4	Chaken	12	14900	secondary school	45 days base training	yes	100	unknown
ranger 5	Bakatkhan	0	13000	secondary school	none	yes	150	unknown
2 Administration Program								
Director	Huanish	0,9		University	Veterinarian	no		
Accountant	Ilusish	5		University	st	no	40	
Cleaner								
Driver								
Guard								
Environmental Awareness and Buffer zone specialist	Sapargul	0.2		University	Lawyer	no	0	
4 Resource Use Program								
none								
5 Visitor Program								
same as "Public Relations and Awareness Program"								
6 Research and Monitoring Program								
Research and Monitoring specialist	Sandigul	5		University	Forester	no	0	

Personnel needed for minimum functioning and protection of SPA

Khukh-serkh

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	5	High School	base training
2 Administration Program				
	Director	1	University	resource related
	Accountant	1	University	accountant
	support staff	3		
3 Public Relations and Environmental Awareness Program				
	Environmental Educator	1	University	environmental education
4 Resource Use Program				
	Resource use specialist	1	University	resource management
5 Visitor Program				
	none			
6 Research and Monitoring				
	Ecologist	1	University	ecologist

Annex 8: Uvs Nuur SPA Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Protection Program				
1.1. Boundary demarcation in key areas (concrete)	km	290	400	116,000
1.2. Access points demarcation	billboards	20	140	2,800
1.3. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, flashlight, cooking set etc.)		3	1,500	4,500
1.4. Radio communication equipment (see Administration Program)				0
1.5. Motorcycles		3	1,600	4,800
1.6. Fire look-out towers		2	2,000	4,000
1.7. Boat with outboard engine, lifejackets and trailer	set	1	4,000	4,000
Sub-Total Protection Program				**136,100**
2 Administration Program (this budget covers all 6 PAs located in Uvs aimag)				
2.1. Radio communication equipment (for all 5 areas)	set	1		40,000
2.2. Internet service (monthly charge…) see operational cost				0
2.3. Photocopier	copier	1	2,000	2,000
2.4. Laser printer	printer	2	600	1,200
2.5. Scanner	scanner	1	120	120
2.6. Computer complete	computer	6	900	5,400
2.7. Notebook	notebook	1	1,200	1,200
2.8. LCD projector	beamer	1	2,000	2,000
2.9. Office furniture	room furnishing	6	1,000	6,000
2.10. Flipchart	flipchart	1	200	200
2.11. Screen	screen	1	200	200
2.12. Russian Jeep		1	12,500	12,500
2.13. for Inpector Service				0
2.13.1. Camping equipment		1		0
2.13.2. Forest research and monitoring equipment		1	500	500
2.13.3. Miscellaneous equipment for Inspector		1	1,000	1,000
				0
				0
Sub-Total Administration Program				**18,320**
3 Public Relations and Environmental Awareness Program (this budget covers all 6 PAs located in Uvs aimag)				
3.1 Miscellaneous equipment for Educator	equipment	1	1,000	1,000
DVD player		1	100	100
Music Center with Microphone, Loadspeeker		1	800	800
Color printer		1	300	300
				0
Sub-Total PR and Environmental Aqwareness Program				**2,200**
4 Resource Use Program (this budget covers all 6 PAs located in Uvs aimag)				
none				
Sub-Total Resource Use Program				**0**
5 Visitor Program (this budget covers all 6 PAs located in Uvs aimag)				0
see Public Relations and Environmental Awareness Program				
Sub-Total Visitor Program				0
6 Research and Monitoring Program (this budget covers all 6 PAs located in Uvs aimag)				
6.1. Spotting scope		1	200	200
6.2. GPS		1	150	150
6.3. Camping equipment		1	500	500
6.4 Digital camera		1	300	300
6.5. Binocular		1	100	100
6.6. Boat with outboard engine, lifejacket and trailer	set	1	4,000	4,000
Sub-Total Research and Monitoring Program				0
Total Investments Uvs Nuur NP (Minimum Protection)				**156,620**

B. Actual Annual Operational Costs Uvs Nuur SPA (covering all 6 PAs in Uvs aimag)				
1.1. Ranger wages	ranger/a	14	960	13,440
1.2. Ranger per diems	pd/ranger/a	4	0	0
1.3. Staff wages	staff/a	6	1,200	7,200
1.4. Staff per diems	pd/staff/a			788
1.5. Career development (staff and rangers total)	lump sum			0
1.6. Gasoline	lump sum			2,204
1.7. Actual recurring costs (all inclusive/year)	lump sum			20,641
Total Actual Annual Operational Costs Uvs Nuur SPA				**44,274**

C. Actual Annual Revenues Uvs Nuur SPA				
1. Base funding (central Government) wages, office expenses				44,274
2. Other income				3,750
2.1. Gate fees				0
2.2. Fines				0
Total Actual Annual Revenues Uvs Nuur NP Uvs Nuur SPA				**48,024**

D. Operational Costs for Optimum Protection Uvs Nuur SPA (The Professional staff of the Uvs Nuur Central Administrative Office will also be responsible for Thurgen SPA and Tsagaan Shuvuut SPA)				
1. Administration Program				
1.1. Ranger wages		14	1,920	26,880
1.2. Ranger per diems	pd/ranger/a	14	240	3,360
1.3. Staff wages	staff/a	8	3,800	30,400
1.4. Staff per diems	pd/staff/a	8	240	1,920
1.5. Support staff	support staff/a	3	1,800	5,400
1.6. Training and Career development (staff and rangers total)				4,000
1.7. Vehicle expenses (combustibles, maintenance and replacement costs)				10,000
1.8. Recurring costs (office and operational)				15,000
1.9.. Infrastructure maintenance costs				
2. Protection Program				
2.1. Infrastructure maintenance costs				5,000
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance costs (billboards, information tables etc.)				2,000
3.2. Public events				2,000
3.3. Operational costs (covered by Administration Program)				
4. Resource Use Program				
4.1. Operational costs (vehicle expenses covered by Administration Program)		2	1,500	3,000
4.2. Stakeholder event program (seminars, training etc.)	event	6	800	4,800
5. Visitor Program				
5.1. EcoGer maintenance and supplies				500
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				3,000
6. Research and Monitoring Program				
6.1. Bio monitoring				2,000
6.2. Range quality monitoring				3,000
Total Annual Operational Costs for Optimum Protection of Uvs Nuur SPA				**123,260**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1 (only land area)	Dungerdorj	5	60000	Secondary school (high school)	45 days base training	no	0	100% salary
ranger 2 (only land area)	Ganbat	5	50000	Secondary school (high school)	45 days base training	no	110	25% salary
ranger 3 (only land area)	Enkhee	14	50000	Special technical	Forest technician	no	160	
2 Administration Program (responsible for 5 areas in Uvs aimag)								
Director	Ankhbayar	7		University	History teacher/ political science	no		
Accountant	Batsuuri	1		University	Accountant	no	0	
Inspector (legal control and monitoring)	Jamsran	10		University	Forester	no	0	
Secretary	Enkhee	14		Special technical	Forest technician	no	160	
Cleaner 1								
Driver 1								
Guard 1								
Forest worker 1								
3 Public Relations/ Awareness Program								
Environmental Awareness and tourism officer	Javzansuren	2		University	Eco-tourism manager	no	0	
4 Resource Use Program								
none								
5 Visitor Program								
same as "Public Relations and Awareness Program"								
6 Research and Monitoring Program								
Biologist	Buyantsog	6		University	Biologist	no	0	

Personnel needed for minimum functioning and protection of Uvs Nuur SPA

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	3	High School	base training
2 Administration Program (responsible for 5 areas in Uvs aimag)				
	Director	1	University	resource related
	Inspector (legal control and monitoring)	1	University	resource related
	Accountant	1	University	accountant
	Secretary	1	High School	secretary
	support staff	4		
3 Public Relations and Environmental Awareness Program (responsible for 5 areas in Uvs aimag)				
	Environmental Educator	1	University	environmental education
4 Resource Use Program (responsible for 5 areas in Uvs aimag)				
	Resource use specialist	1	University	resource management
5 Visitor Program				
	Tourism Officer	1	University	tourism related
6 Research and Monitoring				
	Ecologist	1	University	ecologist

Annex 9: Tsagaan-shuvuut SPA Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Protection Program				
1.1. Boundary demarcation in key areas (beton)	km	85	400	34,000
1.2. Access points demarcation	billboards	8	140	1,120
1.3. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, fleshlight, cooking set etc.)		3	1,500	4,500
1.4. Radio communication eqipment (included in Admin.Office in Ulaangom)				0
1.5. Horse (3 per ranger)		6	350	2,100
1.6. Fire control station with basic equipments		1	1,000	1,000
Sub-Total Protection Program				**42,720**
2 Administration Program (covered by budget of Uvs Nuur SPA)				
none				0
Sub-Total Administration Program				**0**
3 Public Relations and Environmental Awareness Program (covered by budget of Uvs Nuur SPA)				
none				0
Sub-Total PR and Environmental Aqwareness Program				**0**
4 Resource Use Program (covered by budget of Uvs Nuur SPA)				
none				
Sub-Total Resource Use Program				**0**
5 Visitor Program (covered by budget of Uvs Nuur SPA)				0
none				
Sub-Total Visitor Program				0
6 Research and Monitoring Program (covered by budget of Uvs Nuur SPA)				
none				
Sub-Total Research and Monitoring Program				0
Total Investments Tsagaan-shuvuut SPA (Minimum Protection)				**42,720**
B. Actual Annual Operational Costs (covered by budget of Uvs Nuur SPA)				
no special budgetline for Tsagaan-shuvuut available				
Total Actual Annual Operational Costs Tsagaan-shuvuut SPA				**0**
C. Actual Annual Revenues				
no special budgetline for Tsagaan-shuvuut available				
Total Actual Annual Revenues Tsagaan-shuvuut SPA				**0**

D. Operational Costs for Optimum Protection Tsagaan-shuvuut SPA (The Professional staff of the Uvs Nuur Central Administrative Office will also be responsible for Thurgen SPA and Tsagaan Shuvuut SPA)				
1. Administration Program				
1.1. Wages				
1.1.1. Rangers		3	1,920	5,760
1.1.2. Per diems	pd/ranger/a	3	240	720
1.2. Staff wages (1 sub-director)		1	1,320	1,320
1.2.1. Per diems		1	120	120
2. Training and Career development (rangers total)				1,400
3. Horse related expenses	horse	6	500	3,000
4. Recurring costs (office and operational)				800
5. Infrastructure maintenance cost				0
2. Protection Program				
2.1. Infrastructure maintenance cost				1,500
				0
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information tables etc.)				800
3.2. Public events				800
3.3. Operational costs (covered by Uvs Nuur budget)				
4. Resource Use Program				
4.1. Operational costs (covered by Uvs Nuur budget)		2	1,500	3,000
4.2. Stakeholder event program (seminars, training etc.)	event	3	800	2,400
5. Visitor Program				
5.1. Operational costs (covered by Uvs Nuur budget)				
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				3,000
6. Research and Monitoring Program				
6.1. Operational costs (covered by Uvs Nuur budget)				
6.1. Bio monitoring				900
6.2. Range quality monitoring				500
Total Annual Operational Costs for Optimum Protection of Tsagaan-shuvuut SPA				**27,020**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1	Altangerel B.	7	23170	Secondary school	45 days base training	no	110	30% salary
2 Administration Program (covered by Uvs Nuur SPA HQ)								
3 Public Relations/ Awareness Program (covered by Uvs Nuur SPA HQ)								
4 Resource Use Program (covered by Uvs Nuur SPA HQ)								
5 Visitor Program (covered by Uvs Nuur SPA HQ)								
6 Research and Monitoring Program (covered by Uvs Nuur SPA HQ)								

Personnel needed for minimum functioning and protection of Tsagaan shuvuut SPA

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	3	High School	base training
2 Administration Program (covered by Uvs SPA)				
3 Public Relations and Environmental Awareness Program (covered by Uvs SPA)				
4 Resource Use Program (covered by Uvs SPA)				
5 Visitor Program (covered by Uvs SPA)				
6 Research and Monitoring (covered by Uvs SPA)				

Annex 10: Turgen SPA Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Protection Program				
1.1. Boundary demarcation in key areas (beton)	km	112	400	44,800
1.2. Access points demarcation	billboards	14	140	1,960
1.4. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, fleshlight, cooking set etc.)		4	1,500	6,000
1.5. Radio communication eqipment				
Sub-Total Protection Program				**52,760**
2 Administration Program (covered by budget of Uvs Nuur SPA except for new sub-office)				
				0
for Sub-Office				0
2.1. Solar Panel		1	400	400
2.2. Purchase office room		1	1,000	1,000
2.3. Office furniture	room furnishing	1	1,000	1,000
2.4. Motocycle		1	1,600	1,600
2.5. Camping equipment		1	500	500
				0
Sub-Total Administration Program				**4,500**
3 Public Relations and Environmental Awareness Program (covered by budget of Uvs Nuur SPA except for new sub-office)				
3.1 Miscellaneous equipment for Educator	equipment	1	1,000	1,000
DVD player		1	100	100
Music Center with Microphone, Loadspeeker		1	800	800
Color printer		1	300	300
				0
Sub-Total PR and Environmental Aqwareness Program				**2,200**
4 Resource Use Program (covered by budget of Uvs Nuur SPA except for new sub-office)				
none				
Sub-Total Resource Use Program				**0**
5 Visitor Program (covered by budget of Uvs Nuur SPA except for new sub-office)				0
see Public Relations and Environmental Awareness Program				
Sub-Total Visitor Program				0
6 Research and Monitoring Program (covered by budget of Uvs Nuur SPA except for new sub-office)				
none				
Sub-Total Research and Monitoring Program				0
Total Investments Turgen SPA (Minimum Protection)				**59,460**

B. Actual Annual Operational Costs (covered by budget of Uvs Nuur SPA)				
no special budgetline for Turgen available				
Total Actual Annual Operational Costs Turgen SPA				**0**

C. Actual Annual Revenues				
no special budgetline for Turgen available				
Total Actual Annual Revenues Turgen SPA				**0**

D. Operational Costs for Optimum Protection Turgen SPA (The Professional staff of the Uvs Nuur Central Administrative Office will also be responsible for Thurgen SPA and Tsagaan Shuvuut SPA)				
1. Administration Program				
1.1. Wages				
1.1.1. Rangers		5	1,920	9,600
1.1.2. Per diems	pd/ranger/a	5	240	1,200
1.2. Staff wages	staff/a	3	3,800	11,400
1.2.1. Per diems	pd/staff/a	3	240	720
1.3. Support staff	support staff/a	1	600	600
2. Training and Career development (staff and rangers total)				3,000
3. Vehicle expenses (combustibles, maintenance and replacement costs)				2,000
4. Recurring costs (office and operational)				800
5. Infrastructure maintenance cost				
2. Protection Program				
2.1. Infrastructure maintenance cost				3,000
				0
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information tables etc.)				1,500
3.2. Public events				1,000
3.3. Operational costs (covered by Uvs Nuur budget)				
4. Resource Use Program				
4.1. Operational costs (covered by Uvs Nuur budget)				
4.2. Stakeholder event program (seminars, training etc.)	event	3	800	2,400
5. Visitor Program				
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				2,000
6. Research and Monitoring Program				
6.1. Bio monitoring				1,500
6.2. Range quality monitoring				2,000
Total Annual Operational Costs for Optimum Protection of Turgen SPA				**43,720**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1	Baatarjav	5	40000	Secondary school (high school)	45 days base training	no	200	30% salary
ranger 2	Naymdavaa	7	33030	Secondary school (high school)	Driver, 45 days base training	no	130	25% salary
ranger 3	Erdenebaatar	14	20200	Special technical	Electrician, 45 days base training	no	170	20% salary
ranger 4	Dashdavaa	7	24000	Special technical	Metal worker, 45 days base training	no	200	25% salary
2 Administration Program (covered by Uvs Nuur SPA HQ)								
3 Public Relations/ Awareness Program (covered by Uvs N								
4 Resource Use Program (covered by Uvs Nuur SPA HQ)								
5 Visitor Program (covered by Uvs Nuur SPA HQ)								
6 Research and Monitoring Program (covered by Uvs Nuur SPA HQ)								

Personnel needed for minimum functioning and protection of Turgen SPA

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	5	High School	base training
2 Administration Program (responsible for 5 areas in Uvs aimag)				
	Sub-Director	1	University	resource related
	support staff	1		
3 Public Relations and Environmental Awareness Program (covered by Uvs SPA)				
4 Resource Use Program (covered by Uvs SPA)				
5 Visitor Program (covered by Uvs SPA)				
6 Research and Monitoring (covered by Uvs SPA)				

Annex 11: Khankhukhii NP Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Protection Program				
1.1. Boundary demarcation in key areas (beton)	km	204	400	81,600
1.2. Access points demarcation	billboards	20	140	2,800
1.4. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, fleshlight, cooking set etc.)		4	1,500	6,000
1.5. Radio communication eqipment (base station for new office)		1	5,000	5,000
1.6. Motocycle		4	1,600	6,400
1.7. Ranger Tower (wooden)		4	400	1,600
1.8. Fire control station with basic equipments		2	1,000	2,000
Sub-Total Protection Program				**105,400**
2 Administration Program				
2.1. Establish new administrative center Under-khangai soum center:				
2.1.1. Constract new office building with heating system (120 m2)		1	75,000	75,000
2.1.2. Furnishing		6	1,500	9,000
2.2. Photocopier	copier	1	2,000	2,000
2.4. Laser printer	printer	2	600	1,200
2.5. Scanner	scanner	1	120	120
2.6. Computer complete	computer	5	900	4,500
2.7. Notebook	notebook	1	1,200	1,200
2.8. LCD projector	beamer	1	2,000	2,000
2.10. Flipchart	flipchart	1	200	200
2.11. Screen	screen	1	200	200
2.12. Russian Jeep		1	12,500	12,500
2.13. for Inpector Service				0
2.13.1. Camping equipment		1	1,500	1,500
2.13.2. Forest research and monitoring equipment		1	500	500
2.13.3. Miscellaneous equipment for Inspector		1	1,000	1,000
				0
Sub-Total Administration Program				**110,920**
3 Public Relations and Environmental Awareness Program				
3.1 Miscellaneous equipment for Educator	equipment	1	1,000	1,000
				0
Sub-Total PR and Environmental Aqwareness Program				**1,000**
4 Resource Use Program				
4.1. Ranger kit		1	1,500	1,500
4.2. Camping equipment		1	1,500	1,500
Sub-Total Resource Use Program				**3,000**
5 Visitor Program				0
included in Program 3				
Sub-Total Visitor Program				0
6 Research and Monitoring Program				
6.1. GPS		1	150	150
6.2. Camping equipment		1	500	500
6.3. Digital camera		1	300	300
6.4. Binocular		1	100	100
Sub-Total Research and Monitoring Program				0
Total Investments Khan-Khukhii NP (Minimum Protection)				**220,320**

B. Actual Annual Operational Costs (covered by budget of Uvs Nuur SPA)				
no specific information on allocation of budgetline for Khan-khukhii NP is available				
5				
Total Actual Annual Operational Costs Khan-Khukhii NP				**0**

C. Actual Annual Revenues				
no specific information on allocation of budgetline for Khan-khukhii NP is available				
Total Actual Annual Revenues Khan-Khukhii NP				**0**

D. Operational Costs for Optimum Protection of Khan-khukhii NP (new Khan-khukhii adminstration office will be responsible also for Altan-Els NP and Khyargas Nuur NP)				
1. Administration Program				
1.1. Wages				
1.1.1. Rangers		7	1,920	13,440
1.1.2. Per diems	pd/ranger/a	7	240	1,680
1.2. Staff wages	staff/a	6	3,800	22,800
1.2.1. Per diems	pd/staff/a	6	240	1,440
1.3. Support staff	support staff/a	3	1,800	5,400
2. Training and Career development (staff and rangers total)				3,000
3. Vehicle expenses (combustibles, maintenance and replacement costs)				6,000
4. Recurring costs (office and operational)				7,000
5. Infrastructure maintenance cost				1,000
2. Protection Program				
2.1. Infrastructure maintenance cost				3,000
2.2. Horse related expenses		8	500	4,000
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information tables etc.)				1,000
3.2. Public events		3	1,000	3,000
3.3. Operational costs				1,000
4. Resource Use Program				
4.1. Operational costs				2,000
4.2. Stakeholder event program (seminars, training etc.)	event	3	800	2,400
5. Visitor Program				
4.1. Operational costs				800
5.1. EcoGer maintenance and supplies				500
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				3,000
6. Research and Monitoring Program				
4.1. Operational costs				800
6.1. Bio monitoring				2,000
6.2. Range quality monitoring				3,000
Total Annual Operational Costs for Optimum Protection of Khan-Khukhii NP				**89,260**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1	Altangerel	7	60000	Special technical	Forest technician, 45 days base training	yes	160	25% salary
ranger 2	Batsukh	7	60550	University	Forest engineer, 45 days base training	yes	150	60% salary
ranger 3	Tserendorj	5	50000	Special technical	Electric, 45 days base training	no	80	unknown
ranger 4	Jargalsaikhan	5	50000	Secondary school	45 days base training	yes	100	unknown
2 Administration Program (covered by Uvs Nuur SPA HQ)								
3 Public Relations/ Awareness Program (covered by Uvs Nuur SPA HQ)								
4 Resource Use Program (covered by Uvs Nuur SPA HQ)								
5 Visitor Program (covered by Uvs Nuur SPA HQ)								
6 Research and Monitoring Program (covered by Uvs Nuur SPA HQ)								

Personnel needed for minimum functioning and protection of NP

Khan-khukhii NP

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	7	High School	base training
2 Administration Program (need to open new Administration Office)				
	Director	1	University	resource related
	Inspector (legal control and monitoring)	1	University	resource related
	Accountant	1	University	accountant
	support staff	3		
3 Public Relations and Environmental Awareness Program				
	Environmental Educator	1	University	environmental education
4 Resource Use Program				
	Resource use specialist (for pasture use and foestry)	1	University	Resource Management
5 Visitor Program				
	see Program 3	1	University	Tourism related
6 Research and Monitoring				
	Ecologist	1	University	Ecologist

Annex 12: Khyargas NP Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Protection Program				
1.1. Boundary demarcation in key areas (beton)	km	262	400	104,800
1.2. Access points demarcation	billboards	15	140	2,100
1.4. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, fleshlight, cooking set etc.)		3	1,500	4,500
1.5. Radio communication eqipment (included in current Admin.Office)		1		0
1.6. Motocycle		3	1,600	4,800
1.7. Boat with outboard engine, lifejacket	set	1	2,500	2,500
1.8. Establish new ranger station (all costs included)	lump sum			4,000
Sub-Total Protection Program				**118,700**
2 Administration Program (will be managed by new Office in Khan-khukhii NP)				
				0
Sub-Total Administration Program				**0**
3 Public Relations and Environmental Awareness Program (will be managed by new Office in Khan-khukhii NP)				
				0
Sub-Total PR and Environmental Aqwareness Program				**0**
4 Resource Use Program (will be managed by new Office in Khan-khukhii NP)				
Sub-Total Resource Use Program				**0**
5 Visitor Program (will be managed by new Office in Khan-khukhii NP)				0
Sub-Total Visitor Program				0
6 Research and Monitoring Program (will be managed by new Office in Khan-khukhii NP)				
Sub-Total Research and Monitoring Program				0
Total Investments Khyargas Nuur NP (Minimum Protection)				**118,700**

B. Actual Annual Operational Costs (covered by budget of Uvs Nuur SPA)				
no specific information on allocation of budgetline for Khyargas Nuur NP is available				
5				
Total Actual Annual Operational Costs Khyargas Nuur NP				**0**

C. Actual Annual Revenues				
no specific information on allocation of budgetline for Khyargas Nuur NP is available				
Total Actual Annual Revenues Khyargas Nuur NP				**0**

D. Operational Costs for Optimum Protection of Khyargas Nuur NP (new Khan-khukhii adminstration office will be responsible also for Altan-Els NP and Khyargas Nuur NP)				
1. Administration Program				
1.1. Wages				
1.1.1. Rangers		3	1,920	5,760
1.1.2. Per diems	pd/ranger/a	3	240	720
1.2. Staff wages (covered by new Khan-khukhi HQ)				
1.2.1. Per diems (covered by new Khan-khukhi HQ)				
1.3. Support staff (covered by new Khan-khukhi HQ)				
2. Training and Career development (rangers total)				2,000
3. Vehicle expenses (covered by new Khan-khukhi HQ)				
4. Recurring costs (office and operational) (covered by new Khan-khukhi HQ)				
5. Infrastructure maintenance cost (covered by new Khan-khukhi HQ)				
2. Protection Program				
2.1. Infrastructure maintenance cost				3,000
2.2. Equipment maintanence (motorcycles, boat etc)				4,000
2.3. Operational costs				900
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information tables etc.)				2,000
3.2. Public events				2,000
3.3. Operational costs				1,500
4. Resource Use Program				
4.1. Operational costs (vehicle expenses covered by Administration Program)				1,000
4.2. Stakeholder event program (seminars, training etc.)	event	3	800	2,400
5. Visitor Program				
5.1. Operational costs				700
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				3,000
6. Research and Monitoring Program				
6.1. Bio monitoring				1,500
6.2. Range quality monitoring				1,500
6.3. Operational costs				500
Total Annual Operational Costs for Optimum Protection of Khyargas Nuur NP				**33,480**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1	Baymbajav	7	332080	special technician	Groundwater drilling technician, 45 days base training	no	90	20% salary
2 Administration Program (covered by Uvs Nuur SPA HQ)								
3 Public Relations/ Awareness Program (covered by Uvs Nuur SPA HQ)								
4 Resource Use Program (covered by Uvs Nuur SPA HQ)								
5 Visitor Program (covered by Uvs Nuur SPA HQ)								
6 Research and Monitoring Program (covered by Uvs Nuur SPA HQ)								

Personnel needed for minimum functioning and protection of NP

Khan-khukhii NP

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	3	High School	base training
2 Administration Program (covered by Khan-khukhi HQ)				
3 Public Relations/ Awareness Program (covered by Khan-khukhi HQ)				
4 Resource Use Program (covered by Khan-khukhi HQ)				
5 Visitor Program (covered by Khan-khukhi HQ)				
6 Research and Monitoring Program (covered by Khan-khukhi HQ)				

Annex 13: Altan-els SPA Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Protection Program				
1.1. Boundary demarcation in key areas	km	91	400	36,400
1.2. Access points demarcation	billboards	5	140	700
1.3. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, flashlight, cooking set etc.)		2	1,500	3,000
1.4. Radio communication equipment (included in current Admin.Office)		1		0
1.5. Motorcycle		2	1,600	3,200
1.6. Boat with outboard engine, lifejacket	set	1	2,500	2,500
Sub-Total Protection Program				**45,800**
2 Administration Program (will be managed by new Office in Khan-khukhii NP)				
				0
Sub-Total Administration Program				**0**
3 Public Relations and Environmental Awareness Program (will be managed by new Office in Khan-khukhii NP)				
				0
Sub-Total PR and Environmental Awareness Program				**0**
4 Resource Use Program (will be managed by new Office in Khan-khukhii NP)				
Sub-Total Resource Use Program				**0**
5 Visitor Program (will be managed by new Office in Khan-khukhii NP)				0
Sub-Total Visitor Program				0
6 Research and Monitoring Program (will be managed by new Office in Khan-khukhii NP)				
Sub-Total Research and Monitoring Program				0
Total Investments Altan-els SPA (Minimum Protection)				**45,800**

B. Actual Annual Operational Costs Altan-els SPA (covered by budget of Uvs Nuur SPA)				
no specific information on allocation of budget for Altan-els SPA is available				
5				
Total Actual Annual Operational Costs Altan-els SPA				**0**

C. Actual Annual Revenues Altan-els SPA				
no specific information on allocation of budget for Altan-els SPA is available				
Total Actual Annual Revenues Altan-els SPA				**0**

D. Operational Costs for Optimum Protection of Altan-els SPA (new Khan-khukhii administration office will be				
1. Administration Program				
1.1. Ranger wages		3	1,920	5,760
1.2. Ranger per diems	pd/ranger/a	3	240	720
1.3. Staff wages (covered by new Khan-khukhii HQ)				
1.4. Staff per diems (covered by new Khan-khukhii HQ)				
1.5. Support staff (covered by new Khan-khukhii HQ)				
1.6. Training and Career development (rangers total)				1,500
2. Protection Program				
2.1. Infrastructure maintenance cost				3,000
2.2. Maintenance costs (motorcycles and boat)				2,000
2.3. Operational costs				4,000
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information tables etc.)				2,000
3.2. Public events				2,000
3.3. Operational costs				600
4. Resource Use Program				
4.1. Operational costs				2,000
4.2. Stakeholder event program (seminars, training etc.)	event	3	800	2,400
5. Visitor Program				
5.1. Operational costs				500
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				3,000
6. Research and Monitoring Program				
6.1. Bio monitoring				800
6.2. Range quality monitoring				1,500
6.3. Operational costs				700
Total Annual Operational Costs for Optimum Protection of Altan-els SPA				**33,480**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1	Dalantai	4	148246	Secondary school	45 days base training	no	30	25% salary
2 Administration Program (covered by Uvs Nuur SPA HQ)								
3 Public Relations/ Awareness Program (covered by Uvs Nuur SPA HQ)								
4 Resource Use Program (covered by Uvs Nuur SPA HQ)								
5 Visitor Program (covered by Uvs Nuur SPA HQ)								
6 Research and Monitoring Program (covered by Uvs Nuur SPA HQ)								

Personnel needed for minimum functioning and protection of NP

Altan-els SPA

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	2	High School	base training
2 Administration Program (covered by Khan-khukhi HQ)				
3 Public Relations/ Awareness Program (covered by Khan-khukhi HQ)				
4 Resource Use Program (covered by Khan-khukhi HQ)				
5 Visitor Program (covered by Khan-khukhi HQ)				
6 Research and Monitoring Program (covered by Khan-khukhi HQ)				

Annex 14: Khuvsgul Nuur NP Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD
in addition to current UNDP/GEF support

Management Program	Unit	Unit Total	Cost/Unit	Total Minimum
1 Protection Program				
1.1. Boundary demarcation of key areas (concrete)	km	15	400	6,000
1.2. Access demarcation	billboards	60	100	6,000
1.3. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, flashlight, cooking set etc.)		10	1,500	15,000
1.4. Radio communication equipment (included in Admin.Office in Khatgal)				0
1.5. Horses (see operational expenses)		0	0	0
1.6. Develop Management Plan (including Fire Management issues)		1	50,000	50,000
1.7. Self defense equipment		1	150	150
1.8. Motorcycles		4	1,600	6,400
1.9. Aluminum boat with outboard engine (60 hp) for Special Ranger Unit		1	12,000	12,000
1.10. Solar panels for recharging hand-held ranger radios		10	300	3,000
1.11. Ranger house		9	6,667	60,000
1.12. Uniforms (winter and summer)		15	300	4,500
Sub-Total Protection Program				**98,550**
2 Administration Program (responsible for 3 areas in Khuvsgul aimag)				
2.1. Headquarters:				
2.1. Radio communication equipment (for all 3 areas)	set	1		40,000
2.2. Internet service (monthly charge) see operational cost				0
2.3. Photocopier	copier	2	2,000	4,000
2.4. Laser printer	printer	3	600	1,800
2.5 Color printer (for visitor center)				
2.6. Scanner	scanner	2	120	240
2.7. Computer complete	computer	5	900	4,500
2.8. Notebook	notebook	1	1,200	1,200
2.9. LCD projector	beamer	2	2,000	4,000
2.10. Furnishing of the existing office in Khatgal	room	6	1,000	6,000
2.11. Flipchart	flipchart	2	200	400
2.12. Screen	screen	2	200	400
2.13. Russian Jeep (one for Sub-Unit)	jeep	2	12,500	25,000
2.2. Main entrance gate and building				
2.2.1. Entrance Gate house (all inclusive information center, collection booths etc.) furnishing and equipment		1	40,000	40,000
2.3. Sub-unit				
2.3.1. Construction of new building (10x10m) with 4 rooms including garage		1	20,833	20,833
2.3.2. Furnishings		4	1,000	4,000
2.4. Inspector Service				0
2.4.1. Camping equipment (including cooking set)		1	800	800
2.4.2. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, flashlight, cooking set etc.)		1	1,000	1,000
Sub-Total Administration Program				**22,540**
3 Public Relations and Environmental Awareness Program (responsible for 3 areas in Khuvsgul aimag)				
3.1. Improve existing Visitor center (heating system, renovation, furnishing)		1	12,500	12,500
3.2. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, flashlight, cooking set etc.)	equipment	1	1,000	1,000
3.3. DVD player		1	100	100
3.4. Audio visual unit		1	800	800
Sub-Total PR and Environmental Awareness Program				**1,900**
4 Resource Use Program				
none				
Sub-Total Resource Use Program				**0**
5 Visitor Program				0
covered by PR and Awareness Program				
Sub-Total Visitor Program				0
6 Research and Monitoring Program (responsible for 3 areas in Khuvsgul aimag)				
6.1. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, flashlight, cooking set etc.)				
6.2. Elaboration of Research and Monitoring Program as part of Management Plan		1	200	200
Sub-Total Research and Monitoring Program				0
Total Investments Khuvsgul NP (Minimum Protection)				**122,990**

B. Actual Annual Operational Costs Khuvsgul NP (covering all				
1. Ranger wages	ranger/a	19	960	18,240
2. Ranger Per diems	pd/ranger/a	10	0	0
3. Staff wages (5) and support staff (6)	staff/a			12,583
4. Staff Per diems	pd/staff/a			1,417
5. Career development (staff and rangers total)				250
6. Miscellaneous (combustibles etc.)				2,833
7. Actual recurring costs (all inclusive/year)				12,760
Total Actual Annual Operational Costs Khuvsgul NP				**48,083**

C. Actual Annual Revenues Khuvsgul NP				
1. Base funding (central Government) wages, office expenses				48,083
2. Other income (just tourism)				12,500
2.1. Gate fees				0
2.2. Fines				0
Total Actual Annual Revenues Khuvsgul NP				**60,583**

D. Operational Costs for Optimum Protection Khuvsgul NP				
1. Administration Program				
1.1. Ranger wages		15	1,920	28,800
1.2. Ranger Per diems	pd/ranger/a	15	240	3,600
1.3. Staff wages (5) and support staff (6)	staff/a	7	3,800	26,600
1.4. Staff Per diems	pd/staff/a	7	240	1,680
1.5. Support staff	support staff/a	9	1,800	16,200
1.6. Training and Career development (staff and rangers total)	lump sum			9,600
1.7. Vehicle expenses (combustibles, maintenance and replacement costs)	lump sum			10,000
1.8. Boats and related expenses	lump sum			8,000
1.9. Recurring costs (office expenses etc.)	lump sum			15,000
1.10. Infrastructure maintenance cost	lump sum			4,000
2. Protection Program				
2.1. Infrastructure maintenance cost	lump sum			5,000
				0
3. Public Relations and Awareness Program				
3.1. Infrastructure maintenance cost (billboards, information center etc.)	lump sum			3,500
3.2. Public events	lump sum			2,000
3.3. Operational costs (covered by Administration Program)	lump sum			
4. Resource Use Program				
4.1. Operational costs (vehicle expenses covered by Administration Program)		2	1,500	3,000
4.2. Stakeholder event program (seminars, training etc.)	event	6	800	4,800
5. Visitor Program				
5.1. covered by Programs 2 and 3.				
5.2. Visitor events (VIP visits etc.)				1,000
5.3. Preparation of information and educational materials				3,000
6. Research and Monitoring Program				
6.1. Bio monitoring				2,000
6.2. Range quality monitoring				3,000

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1	Enkhtaivan	5	83000	University	Telecommunication engineer, Ranger and environmentalist (gradated from Muren Forest College, 2 years training), 45 days base training	yes	15	60% salary
ranger 2	Batjargal D.	14	67000	Special technician	Ranger and environmentalist (gradated from Muren Forest College, 2 years training), 45 days base training	yes	100	30% salary
ranger 3	Dashpunchag	7	74000	Special technician	Ranger and environmentalist (gradated from Muren Forest College, 2 years training)	yes	100	40% salary
ranger 4	Ukhnaa	6	90000	Special technician	Ranger and environmentalist (gradated from Muren Forest College, 2 years training)	yes	150	30% salary
ranger 5	Khishigjargal	12	60000	Special technician	Ranger and technician. (gradated from Muren Forest College, 2 years training)	yes	0	
ranger 6	Ganbaatar	5	68000	Special technician	Ranger and environmentalist (gradated from Muren Forest College, 2 years training)	yes	68	50% salary
ranger 7	Nyam-Ochir	5	45000	Secondary school	21 days training by UNDO project and MNE	yes	150	30% salary
ranger 8	Inkster	3	15000	Secondary school	21 days training by UNDP project and MNE	yes	26	20% salary
ranger 9	Urjinsuren	5	67000	Special technician	Ranger and environmentalist (gradated from Muren Forest College, 2 years training)	yes	100	unknown
ranger 10	Batjargal G.	7	30000	Secondary school	14 days basic training	yes	100	unknown
2 Administration Program (responsible for 3 areas in Khuvsgul aimag)								
Director	Salvador	1		University	Administration	yes	0	
Accountant	Tuya	5		University	Labor economist	yes	0	
Inspector	Purevdorj	5		University	Forest engineer	yes	60	50% salary
4 support staff								
3 Public Relations/ Awareness Program								
Buffer zone and Public Awareness officer	Narantsetseg	8		University	Trade management	yes	100	50% salary
4 Resource Use Program								
none								
5 Visitor Program								
same as "Public Relations and								
6 Research and Monitoring Program								
Tourism	Khulganaa	3		University	Ecologist	yes	0	

Personnel needed for minimum functioning and protection of Khuvsgul NP

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	12	High School	base training
2 Administration Program (managed by Admin.Office in Khatgal responsible for 3 areas)				
	Director	1	University	resource related
	Sub-unit director	1		
	Inspector (legal control and monitoring)	1	University	resource related
	Accountant	1	University	accountant
	Secretary	1	High School	secretary
	support staff	4		
3 Public Relations and Environmental Awareness Program				
	Environmental Educator	1	University	environmental education
4 Resource Use Program				
	Resource use specialist	1	University	resource management
5 Visitor Program				
	Tourism Officer	1	University	tourism related
6 Research and Monitoring				
	Ecologist	1	University	Ecologist

Annex 15: Khoridol-saridag SPA Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD

in addition to current UNDP/GEF support

Management Program	Unit	Unit Total	Cost/Unit	Total Minimum
1 Protection Program				
1.1. Boundary demarcation of key areas (concrete)	km	120	400	48,000
1.2. Access points demarcation	billboards	0	100	0
1.3. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, flashlight, cooking set etc.)		6	1,500	9,000
1.4. Radio communication equipment (covered by Khuvsgul NP budget)				0
1.5. Horses (see operational expenses)		0	0	0
1.6. Develop Management Plan		1	50,000	50,000
1.7. Self defense equipment		1	150	150
1.8. Motorcycles		4	1,600	6,400
1.9. Solar Panels for recharging ranger radios		10	300	3,000
1.10. Ranger stations	building	5	6,667	33,333
1.11. Uniforms (winter and summer)		15	300	4,500
1.12. Upgrade SPA main entrance gate	lump sum	1	6,667	6,667
Sub-Total Protection Program				**161,050**
2 Administration Program				
covered by Khuvsgul Administration Office				
Sub-Total Administration Program				**0**
3 Public Relations and Environmental Awareness Program				
covered by Khuvsgul Administration Office				
Sub-Total PR and Environmental Awareness Program				**0**
4 Resource Use Program				
none				
Sub-Total Resource Use Program				**0**
5 Visitor Program				0
covered by Khuvsgul Administration Office				
Sub-Total Visitor Program				0
6 Research and Monitoring Program				
covered by Khuvsgul Administration Office				
Sub-Total Research and Monitoring Program				0
Total Investments Khoridol-saridag SPA (Minimum Protection)				**161,050**

B. Actual Annual Operational Costs				
covered by Khuvsgul Administration Office; no specifics available for Khoridol-saridag SPA				
Total Actual Annual Operational Costs Khoridol-saridag SPA				**0**

C. Actual Annual Revenues Khoridol-saridag SPA				
none				
Total Actual Annual Revenues Khoridol-saridag SPA				**0**

D. Operational Costs for Optimum Protection Khoridol-saridag SPA				
1. Administration Program				
1.1. Ranger wages		10	1,920	19,200
1.2. Ranger per diems	pd/ranger/a	10	240	2,400
1.3. Staff wages (covered by Khuvsgul NP budget)				
1.4. Staff per diems (covered by Khuvsgul NP budget)				
1.5. Support staff (covered by Khuvsgul NP budget)				
1.6. Training and Career development (rangers total)		10	500	5,000
1.7. Vehicle expenses (combustibles, maintenance and replacement costs)	lump sum			8,000
1.8. Recurring costs (office and operational)	lump sum			1,600
1.9. Infrastructure maintenance cost	lump sum			0
2. Protection Program				
2.1. Infrastructure maintenance cost	lump sum			3,000
2.2. Horse related expenses	lump sum	10	500	5,000
3. Public Relations and Awareness Program				
covered by Khuvsgul NP budget				
4. Resource Use Program				
covered by Khuvsgul NP budget				
5. Visitor Program				
covered by Khuvsgul NP budget				
6. Research and Monitoring Program				
covered by Khuvsgul NP budget				
Total Annual Operational Costs for Optimum Protection of Khoridol-saridag SPA				**44,200**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1	Batdorj	5	71000	Special technician	Ranger and environmentalist (gradated from Muren Forest College, 2 years training)	no	130	50% salary
ranger 2	Byambaa	10	45000	Special technician	Ranger and environmentalist (gradated from Muren Forest College, 2 years training)	no	100	50% salary
ranger 3	Myagmar	10	45000	Secondary school	21 days training by UNDP project and MNE	no	80	50% salary
ranger 4	Maruush	3	50000	Secondary school	14 days basic training	no	10	90% salary
ranger 5	Naymkhuu	3	42000	Secondary school	21 days training by UNDP project and MNE	no	80	50% salary
ranger 6	Davaajav (at Entry Gate)	1		University	Auto engineer, 21 days training by UNDP project and MN	no	40	50% salary
2 Administration Program (managed by Khuvsgul HQ)								
3 Public Relations/ Awareness Program (managed by Khuvsgul HQ								
4 Resource Use Program (managed by Khuvsgul HQ)								
5 Visitor Program (managed by Khuvsgul HQ)								
6 Research and Monitoring Program (managed by Khuvsgul HQ)								

Personnel needed for minimum functioning and protection of Khoridol-saridag SPA

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	10	High School	base training
2 Administration Program (managed by Admin.Office in Khuvsgul)				
3 Public Relations and Environmental Awareness Program (managed by Admin.Office in Khuvsgul)				
4 Resource Use Program (managed by Admin.Office in Khuvsgul)				
5 Visitor Program (managed by Admin.Office in Khuvsgul)				
6 Research and Monitoring (managed by Admin.Office in Khuvsgul)				

Annex 16: Ulaan-taiga NP Capacity and Financial Need Assessment

A Investments by Management Program (Minimum Protection) in USD				
in addition to current UNDP/GEF support				
Management Program	**Unit**	**Unit Total**	**Cost/Unit**	**Total Minimum**
1 Protection Program				
1.1. Boundary demarcation of key areas (concrete)	km	0	0	0
1.2. Access points demarcation	billboards	8	100	800
1.3. Ranger kit (tape recorder, digital camera, GPS, tent, sleeping bag, binocular, flashlight, cooking set etc.)		4	1,500	6,000
1.4. Radio communication equipment (covered by Khuvsgul NP budget)				0
1.5. Horses (1 horse/ranger)		4	300	1,200
1.6. Develop Management Plan		1	50,000	50,000
1.7. Self defense equipment		4	150	600
1.8. Motorcycle		4	1,600	6,400
1.9. Solar Panel for recharging		4	300	1,200
1.10. Ranger house (station) (including 1 senior ranger post)		4	6,667	26,667
1.11. Uniforms (winter and summer)		4	300	1,200
Sub-Total Protection Program				**66,200**
2 Administration Program				
covered by Khuvsgul Administration Office				
Sub-Total Administration Program				**0**
3 Public Relations and Environmental Awareness Program				
covered by Khuvsgul Administration Office				
Sub-Total PR and Environmental Awareness Program				**0**
4 Resource Use Program				
none				
Sub-Total Resource Use Program				**0**
5 Visitor Program				0
see Public Relations and Environmental Awareness Program				
Sub-Total Visitor Program				0
6 Research and Monitoring Program				
covered by Khuvsgul Administration Office				
Sub-Total Research and Monitoring Program				0
Total Investments Ulaan-taiga NP (Minimum Protection)				**66,200**

B. Actual Annual Operational Costs Ulaan-taiga NP				
covered by Khuvsgul Administration Office				
Total Actual Annual Operational Costs Ulaan-taiga NP				**0**

C. Actual Annual Revenues Ulaan-taiga NP				
covered by Khuvsgul Administration Office				
Total Actual Annual Revenues Ulaan-taiga NP				**0**

D. Operational Costs for Optimum Protection Ulaan-taiga NP				
1. Administration Program				
1.1. Ranger wages		4	1,920	7,680
1.2. Ranger per diems	pd/ranger/a	4	240	960
1.3. Staff wages (managed by Admin.Office Khuvsgul NP)				
1.4. Staff per diems (managed by Admin.Office Khuvsgul NP)				
1.5. Training and Career development (rangers total)		4	500	2,000
2. Protection Program				
2.1. Vehicle expenses (combustibles, maintenance and replacement costs)	lump sum			4,000
2.2. Recurring costs (office and operational)	lump sum			2,000
2.3. Infrastructure maintenance cost	lump sum			0
2.4. Horse related expenses	lump sum	4	500	2,000
3. Public Relations and Awareness Program				
managed by Admin.Office Khuvsgul NP				
4. Resource Use Program				
managed by Admin.Office Khuvsgul NP				
5. Visitor Program				
managed by Admin.Office Khuvsgul NP				
6. Research and Monitoring Program				
managed by Admin.Office Khuvsgul NP				
Total Annual Operational Costs for Optimum Protection of Ulaan-taiga NP (without proposed NP expansion)				**18,640**

Existing personnel (by Management Program)

Program	Name	Employ-ment in years	Control Area in ha	Educational level	Professional Qualification	Lives inside NP	# livestock	Wages % of family income
1. Protection Program								
ranger 1	Naymkhuu	2	50000	Special technician	Agricultural mechanic. 21 days training by UNDP project and MNE	no	20	50% salary
ranger 2	Oldokh	1	58000	University	Auto mechanic engineer. 21 days training by UNDP project and MNE	no	50	unknown
2 Administration Program (managed by Khuvsgul HQ)								
3 Public Relations/ Awareness Program								
4 Resource Use Program (managed by Khuvsgul HQ)								
5 Visitor Program (managed by Khuvsgul HQ)								
6 Research and Monitoring Program								

Personnel needed for minimum functioning and protection of NP

Ulaan-taiga NP

Program	Title	Positions required	Educational level	Professional Qualification
1 Protection Program				
	Ranger	4	High School	base training
2 Administration Program (managed by Admin.Office Khuvsgul NP)				
3 Public Relations and Environmental Awareness Program (managed by Admin.Office Khuvsgul NP)				
4 Resource Use Program (managed by Admin.Office Khuvsgul NP)				
5 Visitor Program (managed by Admin.Office Khuvsgul NP)				
6 Research and Monitoring (managed by Admin.Office Khuvsgul NP)				

Annex 17: Ranger Related Issues (Khangai Mountains)

The following text is part of the "Khangai Ecoregion Ranger Assessment" by Schuerholz, 2006. GTZ archives Ulan Bataar

1. Legal Status of Mongolia's PA Rangers

The legal status of a "PA-Ranger" as part of Mongolia's Protected Area System is defined by the "Mongolian Law on Special Protected Areas". Article 30 ("Activities of the Protected Area Administration in Strictly Protected Areas and National Conservation Parks") and Article 31 in particular ("Plenary Rights of Rangers") describe the "Rights" of a ranger. The "Rights" as defined by Article 31 relate exclusively to law enforcement matters. Article 31 explicitly states that PA Rangers have the same "Rights and Obligations" as a State Environmental Control Inspector (although still valid by Law this right was revoked in 2003). The same Article specifies the Right of Rangers to wear "uniforms" and "distinguishing badges". Article 32 of the Law on Special Protected Areas refers to the Right of Rangers to carry "Arms" for self-defence purposes but does not provide further specification of the type of arms to-be used (Myagmarsuren, 2000).

There is no mention in the "Mongolian Law on Special Protected Areas" on the "functions" of PA-Rangers beyond their law enforcement responsibilities. According to the same Law, there is only one category of PA-Ranger. The Community Rangers working in the Batshireet and Mungunmorit CBNRMAs are operating under a special licence agreement with the Aimag Governor and a special enforcement permit provided by the local Sum police. Within the current constellation the Community Rangers have no reporting responsibilities to the Sum authorities and no relationship with the Protected Areas Administration. Local Protected Areas fall under the jurisdiction of the Sum Authority and do not form part of the National PA System. Apart from the operating licence and Aimag agreement the Community Rangers have no official legal status.

Most PAs and PA-Rangers appear to have some kind of informal cooperation agreement with other environmental law enforcement authorities, most prominent the "State Specialized Inspection Agency" (SSIA). The SSIA is represented on the Aimag and Sum level by "Environmental Inspectors" who enjoy the highest legal authority status of environmental law enforcement personnel in Mongolia. "Environmental Rangers" who are Aimag and/or Sum employees, are the second-highest ranking environmental law enforcement authority reporting to the Ministry of Nature and Environment. PA-Rangers who are also MNE employees are the lowest-ranking environmental law enforcement authority. Community "Rangers" operating under special local permits are the lowest ranking environmental law enforcement authority, however, without a defined legal status.

2. Typical Ranger Profile

The educational- and professional background of rangers varies widely. The educational level ranges from a grade 6 to post-secondary education. Rangers come from all walks of life. Typical professions prior to becoming a ranger are: Veterinary Technician, Forester, Truck-Driver, Herder, Electrician, Soldier, Geologist, Ecologist, Hydrologist, Inspector, Labourer, Carpenter, Environmental Technician, Un-employed, etc. The term "Un-employed" requires clarification since this term appears to be used synonymously with the rarely used term "Self-employed". In the Soviet era seemingly everyone had been a State employee working for wages, a person not receiving any "wages" therefore appears "un-employed". Typically, a ranger with a herder background and self-employment status refers to himself as formerly being un-employed in spite of having derived a sound livelihood from livestock husbandry under his own regime.

Most rangers are born and raised in the area of employment, being familiar with their surroundings, neighbours and resource users of the PAs in which they work. Approximately 80% of Khangai Nuuru PA rangers interviewed for this assessment live inside PA boundaries together with their families and livestock.

3. Job Description and Ranger Selection

All rangers questioned confirmed the lack of a written job description related to the position offered. Positions also appear not to be widely advertised and/or advertised in the local area, also there appears to exist a government resolution stipulating job descriptions and job advertisement (the average PA authorities appear not to be aware of any such resolution).

4. Protected Area-related Training and Work Experience

i) Pre-service training: There is no mandatory pre-entry training requirement for Mongolia's PA rangers, neither is there any training offered by the Agency for Protected Areas and Tourism prior to rangers entering the service. In contrast, rangers employed in Hustai Nuruu NP (under Governance of a Private Foundation on contract with the MNE) and community rangers of the Batshireet and Mungunmorit Local Protected Areas, have received pre-entry base-training of a minimum of 20 days (Hustai Nuruu rangers have received training of several months).

ii) In-service Training: No scheduled in-service ranger training is offered by any of the Khangai Nuruu PAs **(and/or the Altai Sayan PAs).** *Ministerial Resolutions, new policies and new legislation applying to PAs may be internally discussed at the one day staff meeting that appears to take place once per year in the administrative PA centers of Tsetserleg and Uliastay* **(unknown whether this also applies to the**

administrative centers of the Altai Sayan PAs). *Occasionally a Sum or Aimag official (Environmental Inspector, or Sum Ranger) is invited to the annual event to discuss enforcement matters.*

Some rangers have taken part in exchange visits to other PAs in Mongolia, others in training seminars and other training events when sponsored by international donors. In general, there is no mandatory in-service training requirement in place.

iii) On-the-job Training: Except for Hustai NP and the two Local Protected Areas there is no on-the-job training that would require trainers to be brought in to provide training in accordance with identified needs.

iv) Work experience: PA-related work experience by rangers prior to entering the PA service is very limited and mostly associated with law enforcement rather than conservation, environment, or ecology. Some rangers have prior work experience as environmental inspectors, environmental Sum rangers, or experience related to police or military work. None of the rangers interviewed had any special PA-related prior work experience **(similar situation in Altai Sayan Ecoregion).**

It should be noted that a training program for rangers has been approved by another Ministerial Order but appears not to be implemented as stipulated by this Order7.

5. PA-Rangers' Understanding of Their Functions and Responsibilities

In absence of clear job descriptions, work programs and supervisory guidance, PA Rangers have a very limited understanding of their functions and responsibilities. When asked about their functions, the most common answer is: "the same as Environmental Sum Rangers" (who are also MNE employees but paid by the Sum). The only function of Sum rangers however is the issuing and controlling of resource use permits and licenses. In other words, PA rangers perceive the issuing and control of PA entry permits and resource-use permits (i.e., firewood collection, pine-nut collection etc.) their principal function. Other functions mentioned by rangers are: anti-poaching control -especially associated with marmots- and "public relations" work. The latter in reality is confined to visits of herder families using PA rangeland, in order to discuss forest- and grassland fire prevention prior to the summer grazing season. Another function mentioned is "environmental monitoring", confined to completing the standardized monitoring forms given to each ranger by the Agency for Protected Areas and Tourism..

In summary, the newly employed ranger is left to his (there are only few female rangers yet in Mongolia) own devices. Practically no technical guidance appears to be provided by PA officials except for the most basic instructions regarding fee collection, enforcement procedures, how to keep daily logs and how and when to

[7] Personal communication Chimed-Ochir, Director WWF Mongolia.

complete the monitoring forms. The design and implementation of a control system for geographic areas assigned to a ranger are left to his personal discretion. This also applies to how much time a ranger spends on "control".

No ranger questioned was able to provide a detailed break-down of his annual activities. Since most rangers in the Khangai Nuruu PAs live inside the PA's limited use zone, just physically being present in the PA is considered "being on control". It was therefore not uncommon for rangers asked on how much time is actually spent on patrols, to mention 300 days per year, although most of that time the ranger may be occupied looking after his personal livestock.

6. Monitoring and Field Books

The environmental monitoring to be implemented by every PA ranger in Mongolia is confined to completing the standardized "monitoring forms" on which to record information on special events related to:

Climate, weather and seasons: by recording the dates of the first snow- melt or ice break-up on rivers and lakes; Seasonal wildlife activities: by recording dates of the onset and end of fall and spring bird migrations, the date of the first marmot sighting after winter dormiance and the date of the beginning of ungulate rutting seasons, etc.; Phenological events: by recording dates tree start budding etc.; Natural catastrophes: by recording dates of flooding; fires, insect epidemics etc.).

Apart from completing the "monitoring" forms, rangers are required to make bi-monthly "wildlife" observations from "fixed points" to be selected by the ranger at his discretion. "Wildlife" is not defined, and the species to be recorded left to the discretion of the ranger. Rangers questioned on the term "wildlife" commonly refer to wildlife as larger mammals and birds. Flora is not considered part of "wildlife" at all. In view of the presumably limited and varying degree of taxonomic knowledge by rangers, the information provided through the bi-monthly observations is of very questionable value.

In general, the information collected by the rangers appears to bear little relevance to PA protection and management. The hand-written recordings are submitted by the rangers once/year to the Chief Ranger of a PA to be evaluated and forwarded to the MNE. How the data are used by the Ministry is not known.

7 PA- Ranger Patrol

The protected areas are usually stratified into control blocks by the Chief Ranger of a PA. The control blocks correspond to an area allocated to a ranger (one single ranger per control block). The size of a control block depends on the problems related to its use intensity and associated enforcement problems; it appears that the higher the

pressure the smaller the control area. The size of control areas related to Khangai Nuruu PAs range from 60,000 to 100,000 ha **(in the Altai Sayan Region an average of more than 50,000 ha, see Annexes 1-16)***. On average, a single ranger is responsible for 70,000 ha. Since there is only one single ranger assigned to each control block, "doubling-up" as common practice elsewhere for security and safety purposes is not possible in the Khangai Nuruu Pas* ***(and the Altai Sayan Ecoregion).***

As mentioned before, the design and implementation of field patrols (when, where, why and how to patrol, the design of a "Marschroute", frequency of patrols etc.) are at the discretion of each ranger. Patrols appear to concentrate on peak events during a calendar year (i.e., tourist season, hunting season, fire season, berry- collection season, religious ceremonies, fire-wood collection season, access to hot springs, etc.), although no ranger questioned could produce a proper annual work schedule reflecting peak activities.

As mentioned earlier it is difficult to estimate how much time rangers spent on "patrols" and how much time is really "duty related" since most rangers live inside the "limited use zone" or the "buffer zone" of the PAs. There also is little clarity on PA-related ranger activities during the five-months winter season, considered "down-time" (i.e., no hunting, or collection of minor forest products, less grazing pressure etc.).

Although no official cooperation agreements appear to be in place between PA rangers and other law enforcement authorities, rangers repeatedly refer to "joint" patrols implemented jointly with Sum rangers and occasionally with environmental inspectors mostly during times of peak resource use and tourism activities in protected areas (summer, early fall).

8. PA Ranger Wages and Fringe Benefits

The average wage of a PA ranger amounts to approximately $60/month compared to $100/month earned by a Sum ranger. As shown by the survey results the difference in wage scales proves to be a highly contentious issue for PA rangers, especially in the light of both ranger categories being part of the same MNE umbrella agency. The only difference is that Sum rangers are paid directly by the Sum, PA rangers by the MNE. There are no monetary rewards for fines levied and/or intelligence shared with other enforcement authorities. It is apparent that ranger wages are insufficient to support a family. This forces rangers to find other sources of income, although a ranger position implies full-time employment.

PA rangers do not receive any daily subsistence allowance when on patrol or travelling. There are no incentives of any type provided to rangers that would encourage field patrols. No food supplements, supplies or support for the use of personal horses, motorbikes and/or personal gear. Rangers do not receive a clothing

allowance and no uniforms are supplied, unless provided by a donor although wearing uniforms is legislated8.

PA rangers enjoy no fringe benefits of any kind, benefits that could help to enhance work morale, motivation and job performance. The only "remunerations" for "outstanding" work performance are certificates issued and awarded by the park authority during the annual staff meeting event. There are no other job enhancement and/or career development opportunities offered by the PA service.

9. PA-Ranger-Related Infrastructure and Equipment

There is not any infrastructure and equipment associated with ranger-related enforcement and monitoring work in any of the protected areas targeted for this survey **(similar situation in the Altai Sayan Pas except for Pas supported by the current UNDP-GEF project and WWF Mongolia).** *No permanent weather shelters are located in remote and isolated parts of PAs to serve rangers on patrol; there are no proper PA entrance gates or any other facilities marking major PA road access points. The perimeter boundaries of protected areas are not demarcated, neither are the "Pristine Zones" of SPAs or the "Special Zones" of NPs. This makes law enforcement difficult.*

Rangers in the target areas do not receive personal "kits" as commonly supplied to rangers of areas under private- and Sum governance (i.e., Hustai Nuruu and Batshireet/Mungunmorit local protected areas). Most PAs do not have radio-communication.

Practically no funds are available to cover operational costs of the Khangai Nuruu protected areas **(neither the Altai Sayan PAs),** *confining protection efforts for the areas to an absolute minimum (e.g., the Tarvagatai Mountain National Park of more than 500,000 ha has a total operational budget of $ 50 /month to be shared by seven rangers).*

The Bulgan Mountain- and the Khuisiin Naiman Nuur Natural and Historic Monuments (third category of protected areas in Mongolia) do not have any rangers for their protection.

10. PA-Ranger Supervision

There is practically no ranger supervision by PA authorities. As mentioned before this is mostly due to the chronic budget shortages typifying Mongolia's protected area administration, lack of radio communication, and poor means of transport. The lack of funds to buy gasoline for the very few PA-owned vehicles does not permit senior PA

[8] Mongolian Law on Specially Protected Areas, Article 31.

*administrative staff to visit field rangers and/or to properly supervise and guide their work. Administration and supervision remains therefore mostly restricted to "from the desk" advise conducted by the administrative centers in Uliastay and Tsetserleg when and if there is communication with rangers. Both administrative centers are very poorly equipped, barely capable of meeting their minimum administrative obligations***(this also applies to the six administrative centers of the Altai Sayan Ecoregion)**.