



# MANAGEMENT EFFECTIVENESS OF PROTECTED AREAS in ASER and AHEC, MONGOLIA

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## **LIST OF ABBREVIATIONS**

MEGD	Ministry of Environment and Green Development
PA	Protected area
PAA	Protected area administration
SPA	Strictly Protected area
NP	National Park
NR	Nature Reserve
NM	Nature Monument
WWF	World Wildlife Fund
METT	Management effectiveness tracking tool
PoWPA	Programme of Work Protected Area
RAPPAM	Rapid Assessment and Prioritization of Protected Area Management
ASER	Altai Sayan ecoregion
AHEC	Amur Heilong ecoregion complex

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## INTRODUCTION

The Secretariat of the Convention on Biological Diversity concluded that the numbers and sizes of the Protected Areas as well as amounts of funding allocated and spent for their management that are increasing worldwide year by year, are not making tangible contributions in mitigation of biodiversity loss due to poor levels of Protected Areas' management. Therefore, assessing management effectiveness of their protected areas and improving their management options is becoming a pressing issue for the countries around the world. In this connection, the World Commission on Protected Areas, World Bank, World Wildlife Fund and UN Development Program have worked out a number of assessment methodologies including Rapid Assessment and Prioritization of Protected Area Management (RAPPAM), Management Effectiveness Tracking Tools (METT) and financial scorecard (FSC).

In Mongolia, the following national level assessments were carried out concerning the legal status, human resource, financial sustainability, and management effectiveness of Special Protected Areas:

1. Protected Area network: assessment and expansion – WWF Mongolia, 2002;
2. Capacities in biodiversity conservation: Ministry of Nature & Environment of Mongolia, Environmental Consortium and World Bank, 2003;
3. Protected Area (PA) network and its management effectiveness – National Audit Office, 2004;
4. Rapid Assessment and Prioritization of Protected Areas Management (RAPPAM) of Mongolia – WWF Mongolia, 2005;
5. Filling the Gaps to protect the biodiversity of Mongolia – WWF Mongolia, 2010;
6. Management Effectiveness Tracking Tool (METT) of Protected Areas – WWF Mongolia, 2005, and 2012;

Recommendations derived from these assessments are being used for implementation of National Program on Protected Areas, and the Action Plans, as well as amendments to the Law on Protected Areas and other related regulations.

## CURRENT MANAGEMENT SITUATION OF THE PROTECTED AREAS IN MONGOLIA

Mongolia was probably one of the first countries in the world to realize the importance of conservation. In 1778, Bogd Khan mountain strictly protected area was established. Therefore, since 1778 the PA system of Mongolia has developed into 89 protected areas, covering 27.1 million hectares, which is around 17.4% of the country's total territory (Table 1). In addition, there are 911 locally protected areas covering a total of 7.74 million hectares that constitute 10.3% of the country's total territory. The state and local protected areas cover a total of 34.5 million hectares of area, which is 27.7% of the country's total territory.

National program on PA was designated in 1998, and Law on PA was designated in 1994. The legislation creates four categories of state protected areas: Strictly Protected areas (IUCN Ia, Ib, II), National parks (IUCN Ib, II, V), Nature reserves (IUCN IV), Natural monument (IUCN III).

Table 1. Protected areas of Mongolia (July, 2013)

Items	National level	ASER	AHEC
Number of state protected areas	89	28	14
Strictly protected areas	14	5	3
National parks	30	14	2

Items	National level	ASER	AHEC
Nature reserves	31	7	7
Natural monuments	14	2	2
Size of state protected areas / ha	27,190,304	8,372,673	2,136,209
Strictly protected areas	12,402,429	1,508,356	569,154
National parks	11,887,233	5,985,467	409,287
Nature reserves	2,775,564	846,941	1,148,119
Natural monuments	125,077	31,908	9,650
Territory of Mongolia / ha	156,411,600	31,665,400	18,276,300
By percentage	17.4	26.4	11.7
World Heritage site	3	2	0
MAB	6	1	1
PAMSAR site	11	5	3
Protected Ramsar site	6	3	1
Management planning			
Approved	3	0	1
Updating	25	5	5
Developing	20	16	2
Not started	41	7	6
Number of PAs which are assessed through the METT (2010 - 2012)	25	14	2

At national level, the Department of Protected Area Administration of the Ministry of Environment, & Green Development is responsible for providing overall Protected Area management and Protected Area administrations (PAAs) established at local level are responsible for carrying out the actual management of Protected Areas. There are 29 PAAs that are responsible for daily management of overall Strictly Protected Areas (SPA), National Parks (NP) and some of Nature Reserves (NR) and National Monuments (NM). 27 PAAs are state funded and one administration (Khustai nuruu NP)'s management is financed by a NGO and one administration (Ikh Nart NR)'s management is financed by local government. The Law on Special Protected Areas states that local governments shall be responsible for NR, NM and local protected areas conservation management. However, the consideration of these conditions, the daily management of protected areas (NR and NM) has been transferred to the nearby PAAs in order to provide them with professional guidance & management.

### GENERAL INFORMATION ON PROTECTED AREAS IN AHEC AND ASER, ASSESSED WITH THE METT

In 2012, with the support of the WWF Mongolia Program Office in cooperation with Protected Area administrations, their stakeholders and GIZ Mongolia have performed the METT and have prepared Recommendations on management effectiveness of 25 protected areas on a national level. Thereof 2 PAs located in AHEC, 14 PAs located in ASER, Mongolia. Total nine PAs were assessed twice using the METT in 2005 and 2012 (Table 2).

Table 2. General information on PAs in ASER and AHEC, assessed with the METT

No	Name of Protected area	Category	Ecoregion	Year (s) designated	Total size/ha	Management planning	METT score
1	Khan Khentii	SPA	AHEC	1992/2012	1,748,104	2008 - 2013 year, it is implementing and updating through the new methodology in 2013.	2012 year - 49.1%
2	Onon Balj	NP	AHEC	2000/2012	400,467	2011 - 2015 year, it is implementing.	2011 year - 56.3% 2012 year - 64.6%

No	Name of Protected area	Category	Ecoregion	Year (s) designated	Total size/ha	Management planning	METT score
3	Khasagt khairkhan	SPA	ASER	1965	26,761	Developing.	2012 year - 40%
4	Khukh Serkh	SPA	ASER	1977	75,750	Developing.	2013 year - 54.5%
5	Uvs nuur basin	SPA	ASER	1993/1995	747,479	2010 - 2015 year, it is implementing and updating through the new methodology in 2013.	2005 year - 60.4% 2012 year - 66.4%
6	Altai Tavan bogd	NP	ASER	1996	656,106	Developing.	2005 year - 59.4% 2012 year - 60.9%
7	Khar-Us nuur	NP	ASER	1997	852,997	Developing.	2005 year - 71.9% 2012 year - 60.4%
8	Khyargas nuur	NP	ASER	2000	341,302	2010 - 2015 year, it is implementing and updating through the new methodology in 2013.	2005 year - 60.4% 2012 year - 70.8%
9	Khan Khukhii	NP	ASER	2000	221,598	2010 - 2015 year, it is implementing and updating through the new methodology in 2013.	2005 year - 60.4% 2012 year - 67.7%
10	Siilkhem nuruu	NP	ASER	2000	147,878	Developing.	2005 year - 40.6% 2012 year - 60.9%
11	Tsambagarav uul	NP	ASER	2000	113,749	Developing.	2005 year - 38.5% 2012 year - 60.9%
12	Munkhkhairkhan uul - Uenchiin khavtsal	NP	ASER	2006/2012	506,097	Developing.	2013 year - 70.5%
13	Mongol Els	NP	ASER	2010	271,313	Developing.	2012 year - 41.9%
14	Ulaagchny Khar nuur	NP	ASER	2010	259,403	Developing.	2012 year - 40.6%
15	Develyn aral	NR	ASER	2000	10,619	Developing.	2005 year - 15.6% 2012 year - 60.9%
16	Tesiin gol	NR	ASER	2006	103,704	2010 - 2015 year, it is implementing and updating through the new methodology in 2013.	2005 year - 60.4% 2012 year - 31.3%

## SUMMARY OF THE WORK

The following works have been completed under the assessment of Protected Areas' management effectiveness with METT:

- The final version of the management effectiveness-tracking tool (METT) (<http://ebookbrowse.com/revised-mett-final-downloadable-version-pdf-d110247341>) has been translated into Mongolian language and some of questions have been changed in accordance with the applicable laws and regulations of Mongolia. Besides, buffer zone management related questions have been added to the tracking tool questions.
- The previous assessments performed nationally and internationally have been studied and analyzed and necessary data and information has been integrated under METT methodology.

- Threat analysis methodologies and scoring options have been newly worked out within the scope of the METT.
- Methodological training session on METT was organized for specialists and directors of Protected Area administrations. Trainees have finalized data & information on threats to the biodiversity of the protected areas, have delivered the data & information to the Protected Area Administration department of the MEGD for their feedback, and finalized them.
- According to the schedule, on-site assessments were conducted in each PA and prepare its final report.
- During the assessment exercise the justifications, importance, methodologies, agenda and expected results were explained to all involving parties to have a common understanding on the task. During the stakeholders' discussions-meetings, the participants have agreed firstly to define pressures & threats to the biodiversity in Protected Areas and secondly, to give answers to the questions on protected areas' management effectiveness tracking through their joint efforts.

## THE RESULTS OF THE METT

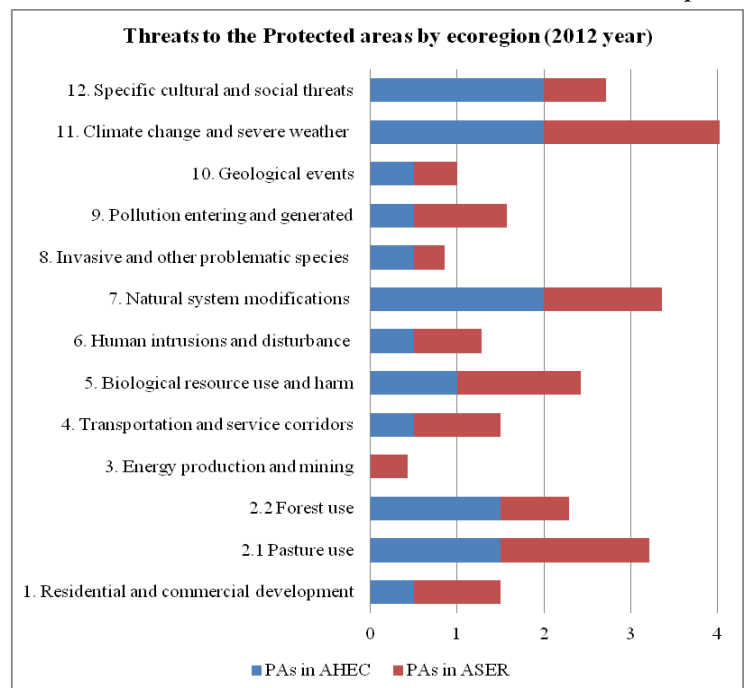
This report of METT comprises of two basic parts to define threats to biodiversity and to assess management effectiveness of 16 PAs in AHEC and ASER, Mongolia. In addition, nine PAs were assessed twice using the METT in 2005 and 2012, scores compared and consolidated in this report.

## THREAT ASSESSMENT

In order to improve a protected area's management effectiveness, it is required to define pressures and threats to biodiversity & its values of the Protected Area and the mitigation management options. Protected areas biodiversity & its values and threats have been determined through participation of stakeholders. Each threat was assessed with three criteria: scope, severity, and irreversibility and overall assessments were made based on these criteria findings. Average assessment scores were identified as grouped them into 12 chapters (*Graph 1, Annex 3*). In 2005, threats to the PAs not assessed.

As per the assessment findings on threats:

*Graph 1.*



In all PAs, pasture use induced threats affecting strongly on the biodiversity are caused by pasture degradation due to the increase of livestock number, encroachment of many herding families in an area due to the lack of water resource and abandoning the traditional livestock herding. Overgrazing is particularly common in buffer zone. Because of overstocking, herders usually have interests in residing in the protected area temporarily or permanently to seek better pasture for their herds. The livestock herd structure is misbalanced while goat number is high in herds and it causes overgrazing. Besides, other threats like increase of pasture rodents, decrease of vegetations cover and plant composition, habitat declining are concluded as high risky threats. Moreover, soil erosion is likely to increase due to unregulated tourism activities.

In PAs which are located in AHEC, unsustainable forest resource use induced threats is causing high negative impacts on water level decline, forest fire, habitat degradation of wildlife and forest pest. Forest fire has the highest disruption to ecosystem affecting severely on biodiversity. Forest resource of the Khan Khentii SPA and Onon Balj NP were affected by fire occurred in 2005-2007, the park administrations have no financial capacity to do restoration work and have no research and database.

Majority of these forest fires are started unintentionally while collecting non-timber forest products, poaching and cross border fire. The high numbers of herders in the buffer zone are driving natural system degradation too.

The strongest impacts of climate change based threats are the reduction of precipitation amount, desertification, drought, windstorm, and sand migration, especially Altai Tavanbogd NP, Tsambagarav NP, Siilkhem NP and Munkhkhairkhan NP. These NPs were placed under protection by Parliament resolution based on the its representation of amazing beauty embodies the specific features of ecosystems which contains high mountains, icy crystal rivers, mountain valleys, steppe landscapes, mountain with eternal snow where big mammals.

Moreover, the stronger impacts of hydro-power station and transportation service based threats are the reduction of water level on rivers and lakes and habitat fragmentation which is located in ASER.

The cultural heritage and social changes induced threats are caused mainly due to the lost tradition and custom to treat cultural values in connection with social development and changes. Because of the forgotten custom to worship mountains and “ovoo”, it is leading to lot of environmental pollution from solid waste.

## **MANAGEMENT EFFECTIVENESS ASSESSMENT**

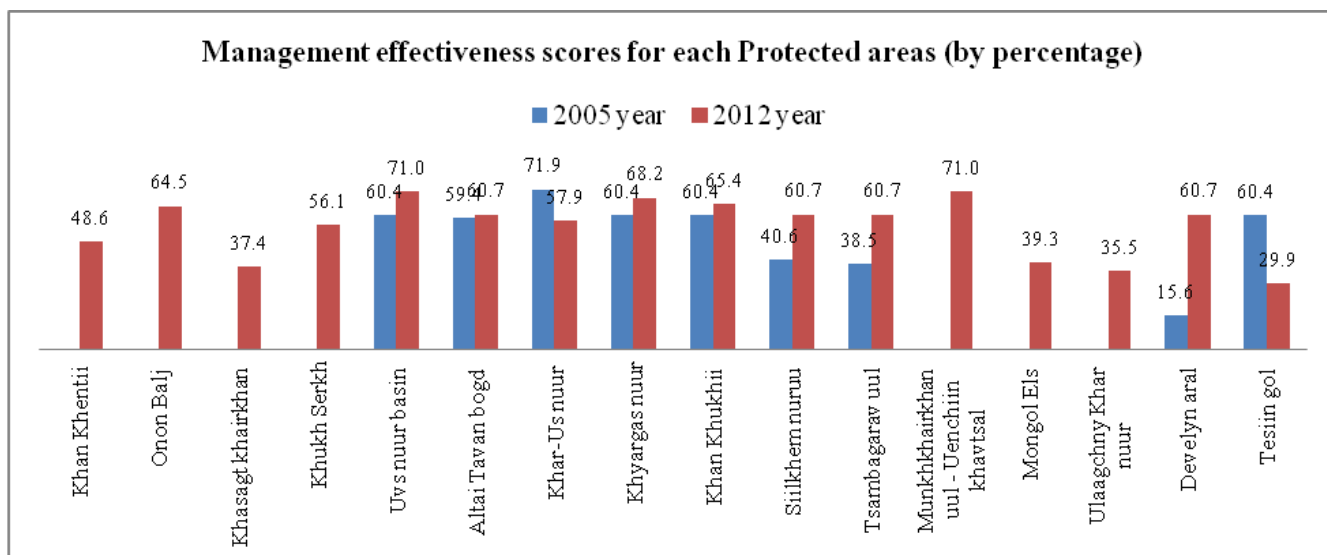
In 2012, the score of management effectiveness of the PAs are 29.9-71<sup>1</sup>%. Among the PAs management effectiveness, the Uvs nuur basin SPA and Munkhkhairkhan NP are the highest or 71% and the lowest PA is Tesiin gol NR. The Khan Khentii and Khasagt khairkhan SPAs have the lowest management effectiveness comparing to other PAs established at the same time (Graph 2).

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<sup>1</sup> Indicated as percentage as described in the methodology of the METT



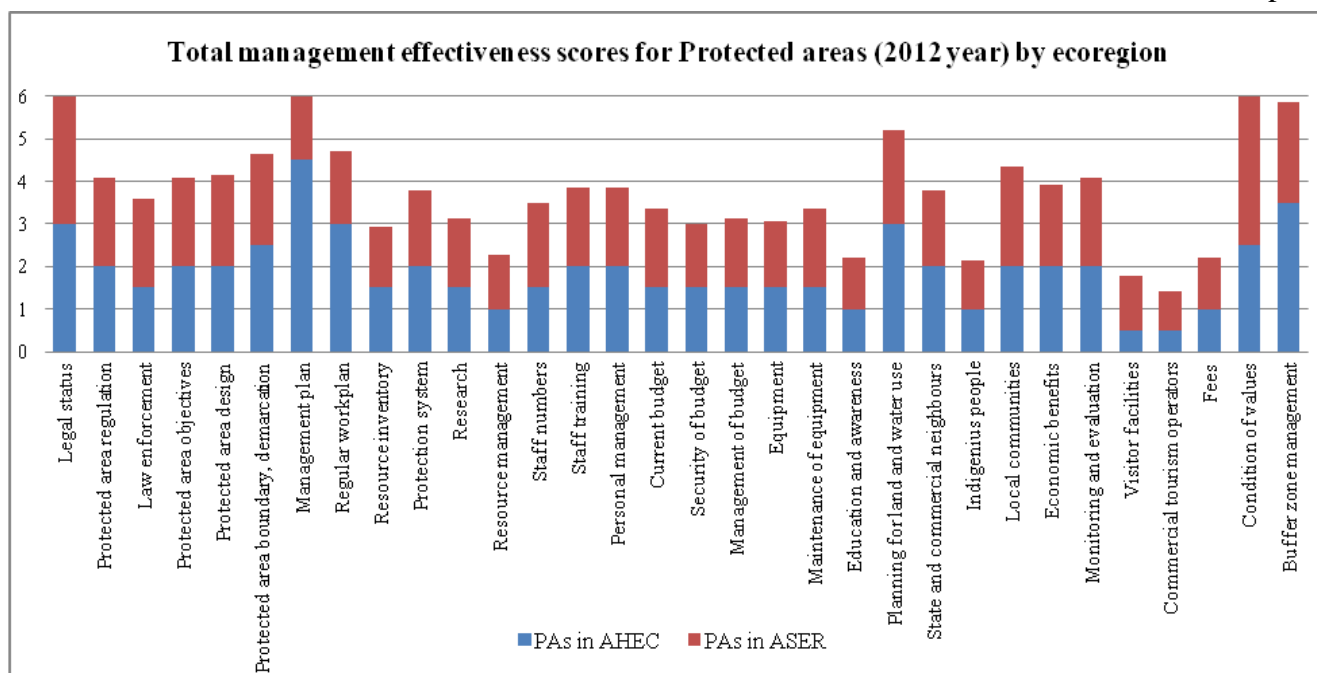
Graph 2.



The scores of management effectiveness of 7 PAs have been increased by 1.3 – 45.1% as compared to those in 2005. This score has been improved from 15.6% in 2005 to 60.7% in 2012 for the Develyn aral NR, showing great progress in the management effectiveness (*Annex 4*). Especially, the effectiveness of research, finance & budgeting, patrolling, training, monitoring and evaluation and public awareness have been significantly increased by at least 15%. But, not all PAs showed success. The Khar-Us Lake NP and Tesiin gol NR’s assessment revealed that their management effectiveness has dropped due to insufficient work performance in planning, finance and budgeting, and law enforcement.

In 2012, management effectiveness of the PAs involved in METT was analyzed in 32 directions and its integrated results are shown in the Graph 3.

Graph 3.



As indicated in the average score of METT, effectiveness of legal status, PA boundary, demarcation and design, planning, participation local communities, monitoring and evaluation, condition of values and buffer zone management related activities are evaluated at more than 65%. The resource inventory, resource management, financing, education and awareness, equipment and its maintenance related activities' effectiveness was lower than 50%. In all the PAs, effectiveness of tourism management was the worst.

Here we described the management effectiveness assessment by the issues:

### **Legal status**

All the PAs were established and control mechanisms were put in place under the applicable laws but some obstacles have been facing to implement them in on the ground. The zoning regime is violated because the local people were not involved in determining the internal zone boundary and information on the zone boundary and significance was not given fully to the local people. For instance, traditionally used livestock pasture, winter camps and spring camps of herding households were enclosed within the high conservation value zones of protected area. It has become the main condition to break the zone regime and depreciate value of the protected areas. Therefore, it is required to study possibilities for re-establish of internal zone boundary and convince the local people about the value of protected areas.

Boundaries of the three PAs were demarcated, but boundaries of other protected areas were not marked as per the standard requirements. Although no survey has been conducted by the park administration, it is considered that the local government in rural areas and people living in buffer zones know the boundaries of protected areas but do not know about internal zone boundaries. Therefore, cooperation between the park administration and governmental organizations in charge of land and water use is poor.

### **Planning**

In 2012, boundaries of the Munkhkhairkhan Mountain NP, Myangan Ugalzat NP and Khan Khentii SPA were expanded to maintain integrity of biodiversity and habitat of wildlife.

Currently, six PAs have developed and started implementation of their mid-term management plans and other PAs have being developed management plans. To work out & implement more realistic & practical management plans for Protected Areas, it is inevitably necessary to have all stakeholders' inputs into their planning & implementation. However, most of these management plans still have some weaknesses such as not clearly stated outcome, lack of supporting baseline data, and their implementations are not systematically assessed against the criteria specially developed. Meantime, the activities specified in management plans are not implemented because detailed operational costs are not fully reflected in annually approved budget. The PA Administrations did analyze and discuss performance of their annual plan at the end of the year but have not assessed its management plan implementation and have not identified ways for implementation. The Administrations also could not analyze implementation of the management plan objectives and goals because of the lack of research and information on values selected to be protected. It is concluded that the Administrations are failing to objectively link the management plan and annual work plan, budget, and do not have any business plan to carry out the management plan.

## Research and database

Research and database provision received the lower score in the protected areas. In general, some ad hoc research works have been conducted in the past with the participation of experts and scientists within the scope of medium and short-term projects and programs. However, protected areas have insufficient research on the changes of biodiversity, which are required to plan appropriate activities that are in line with the primary objectives of putting these areas under special protection.

The most threats to degrade biodiversity are appraised as fire induced ecosystem change, improper pasture use and forest management and climate change. However, there is not enough information, which defines in scope, severity of threats. In other words, there is not enough information about which impacts the relevant threat causes on biodiversity of the relevant protected area and not appropriate planning to reduce the impact. PA also does not have a long-term plan for research and monitoring to define impacts of threats and integrate information. Besides, there is a lack of professional specialists to carry out the research and monitoring.

Research works and databases of the protected areas in the same regions are not integrated. This is a reason of why an integrated system has not been created on biodiversity and threats facing them. A special management has not been performed due to the lack of socio-economic, historical and valuable cultural heritage researches and detailed research and database of very rare and rare animals and plants on the international and regional levels. There is a need to have professional organizations carried out a survey on endangered species at the international and regional levels.

## Human resource management

All the park administrations are lacking in the human resources needed for efficient Protected Area management (*Table 3*).

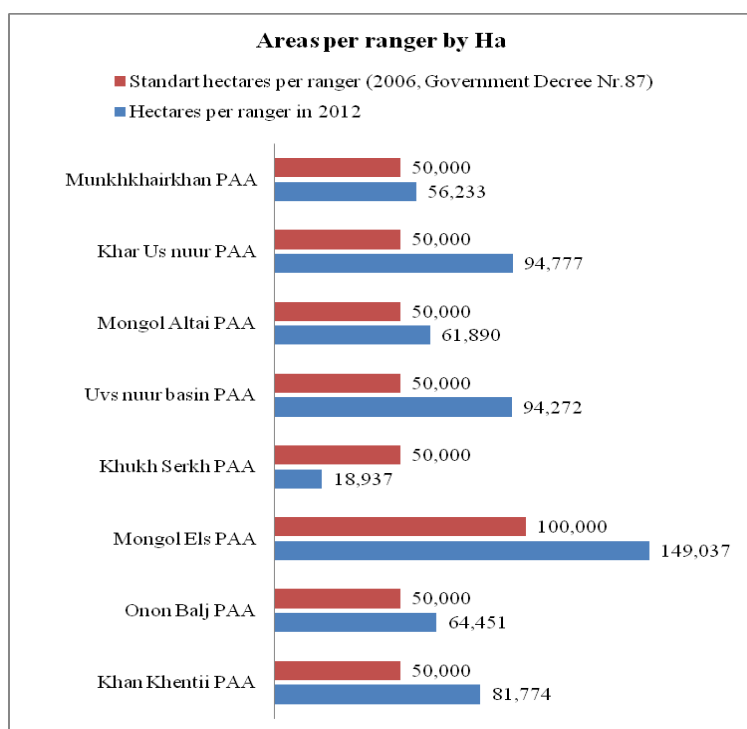
Table 3. General information of PAAs

№	Assessed Protected areas administrations	Established year of PAA	2012 year						
			Name of related PAs	Area by Ha	Staff numbers	Number of rangers	Area by Ha per ranger	Total budget of PAA by USD	Budget per square km in \$US
1	Khan Khentii	1992	Khan Khentii SPA	1,748,104	42	25	81,774	284,444	13.91
			Nagalkhaan NR	3,076					
			Gorkhi Terelj NP	293,168					
2	Onon Balj	2006	Onon Balj NP	400,467	15	7	64,451	60,160	13.33
			Khar Yamaat NR	50,691					
Total in AHEC				2,495,506	57	32	73,113	344,605	13.62
3	Mongol Els	2011	Mongol Els NP	271,313	7	2	149,037	34,074	11.43
			Khasagt khairkhan SPA	26,761					
4	Khukh Serkh	2003	Khukh Serkh SPA	75,750	13	4	18,937	74,174	97.92
5	Uvs nuur basin	1994	Uvs nuur basin SPA	747,479	26	15	94,272	176,162	12.46
			Tesiin gol NR	103,704					
			Khyargas nuur NP	341,302					
			Khan khokhii NP	221,598					
6	Mongol Altai	1996	Altai Tavan Bogd NP	656,106	27	15	61,890	109,664	11.81
			Siilkhem nuruu NP	147,878					
			Tsambagarav uul NP	113,749					
			Develyn aral	10,619					

7	Khar Us nuur	1997	Khar Us nuur NP	852,997	18	9	94,777	192,519	22.57
8	Munkhkhairkhan	2006	Munkhkhairkhan uul NP	506,097	14	9	56,233	92,556	18.29
	Total in ASER			4,075,354	105	54	79,191	679,148	29.08
	Total			6,570,859	162	86	76,152	1,023,753	21.35

According to the Table above, there were totally 162 individuals recruited by the Protected Area administrations designated for the assessment. Out of them, 86 were rangers. When compared the data with the Protected Area human resource capacity and financial scorecards, the numbers of specialists and rangers were increased. However, these numbers are still lowering compared to the numbers of required rangers as those set by the Government Resolution No: 87 in 2006 (Graph 4). It shows that 21 to efficiently run the Protected Area management should increase the current number of rangers working at the Protected Area administrations.

Graph 4.



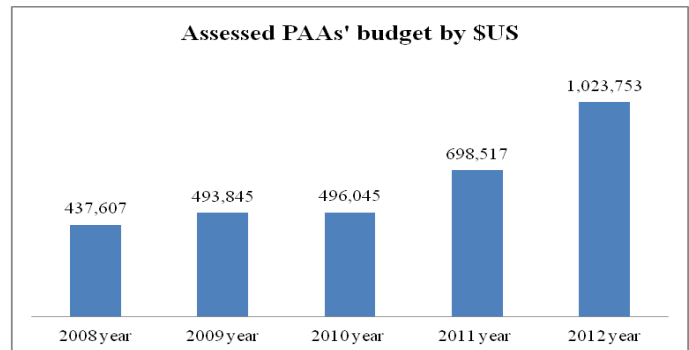
The numbers of specialists and researchers currently being working at the park administrations are in line with the Environment, and Green Development Minister's Directive A-100 in 2010, however, there are quite many overlaps in terms of their duties and responsibilities when reviewed them against their job descriptions. In recent years, capacity building trainings are organized for the park administrations' staffing, it needs to develop and implement a midterm training programme designed based on the park administrations' staffing training and capacity needs assessments.

### Financial management

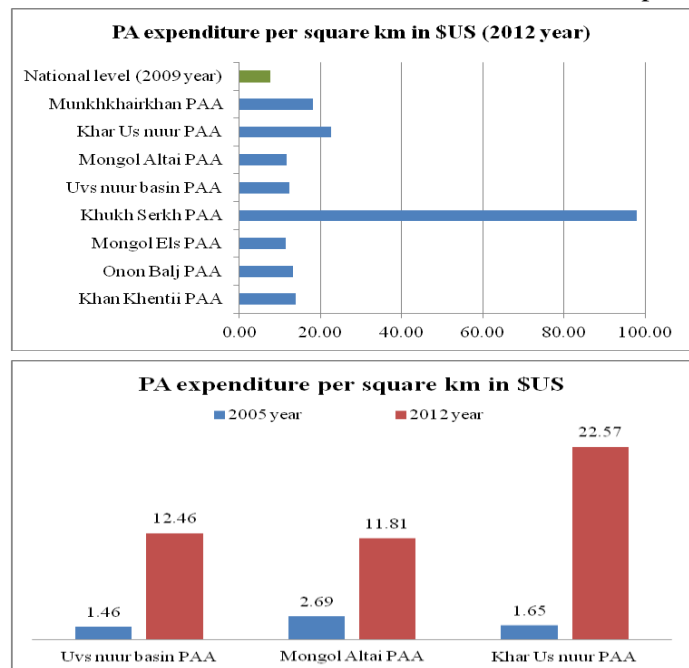
The budget amount has annually been increasing by the government of Mongolia but 80% of the budget is spent on salary of the staff and running expenses of the administration and the remaining 20% is spent on the management activities (Graph 5, Table 3). The budget has not been sufficient to implement the management plan. There are concerns such as budget breakdowns aren't done in compliance with the management plan, it is impossible to fulfill activities which require a large amount of budget (examples are; develop and implement management plans of the park or regional environmental council) without outside funding and entrance fees are collected, but they are put into

the state budget, make no contribution to the protected area or its environs. The available budget is inadequate and presents a serious constraint to the capacity to manage. Budget management is poor which leads to reduce management effectiveness. The allocation to PA management in Mongolia can be compared with what other countries spend, which can be done by comparing PA expenditure per km<sup>2</sup> in different countries. When doing so, the Mongolian figure for expenditure is equivalent to US\$ 25 per square kilometer, making it one of the lowest globally. The budget was raised, but is still among the lowest expenditures in the world (Graph 6). It is required to objectively plan the financing of Protected Areas, increase financial sources, create a sustainable financing mechanism, provide a possibility to the administration to spend its generated incomes on management activities and improve the legal environment to support these.

Graph 5.



Graph 6.



## Patrolling

The PA Administrations do carry out the patrolling over its responsible areas but could not completely cover the PA area due to the lack of human resource and petroleum and areas under protection is big in size. Volunteer rangers do work irregularly because no incentive system is in place for them. In order to improve a protection system, it is needful to create posts for rangers as a standard requires, increase numbers of check points, foster multi-lateral intervention or involvement, and provide rangers with equipment and working premises.

## **Equipments and its maintenance**

The park administration staffs have been provided with equipment in a sort of way, but equipment can't be adequately maintained because of financial constraints. Office staff has been provided with equipment, and rangers have been supplied with only uniforms, motorbikes and self defense, some of the needed equipments are necessary for example they don't have communication equipments in the event of detecting serious breaches on the spot. Facility and vehicle maintenances are done on a regular basis. Maintenance and repair of the rangers' motorcycles aren't done periodically.

## **Public awareness**

Public awareness and advocacy works of the protected areas were assessed with the lower scores. Two PA Administrations carry out the public awareness, advocacy works through its information centres, and other PAAs carry out the public awareness advocacy works through rangers. No budget is allocated to the public awareness and advocacy works. Therefore, wide-ranging and staged public awareness works have not been arranged to improve knowledge and attitude of the local people. Advocacy works over significance and value of the protected areas to the local people and decision makers have been insufficient. Therefore, the partners do not have sufficient understanding about the protected areas and do not well participate in the PA management. Ecological and economic assessments of the protected areas have not been performed in detail and as a result, partners do not have enough understanding about it. It is required therefore to have this type of research within the scope of a network of protected areas of Mongolia and widely share the findings with all stakeholders.

## **Cooperation**

Buffer zone councils have been established in the protected areas except the Ulaagchni Khar Nuur and Mongol Els National Parks. However, the Buffer zone council's activities have been not regularized due to high turnovers of council members and insufficient participation of partners in the management plan implementation. PA to improve BZ management due to weak capacity of the PA specialists provided no technical backstopping. An insufficient work is done to improve knowledge on values and ecological benefits of PA among the stakeholders such as community based organizations and business entities, as such, they are not involved in the management implementation.

## **Tourism**

One of the objectives to establish PAs into the special protection is to develop tourism and provide sustainable development of the region. Around 80% of the foreign tourists visit the protected areas and a number of domestic tourists to the areas have been increasing in recent years. In General, PA Administrations have been organizing two kinds of works: to clean garbage from tourists and collecting entry fees to generate own income. Tourism management was evaluated as the weakest management in the protected areas due to the insufficient legal environment, human resource and capacity. The park administration cooperates closely with tourism operators under contracts and makes control on environmental impact assessments. However, the tourist operators are being slow at providing services which meet modern requirements and didn't arrange specific spots for stop-over and camping. Due to lack of budget, activities reflected in the management plan haven't been done towards tourism advancement. Therefore, it is required to develop responsible tourism and improve management and appropriate legal environment.

## **Monitoring and evaluation**

Generally, monitoring & evaluation over the PAs objective, achievements and their outputs is limited. The overall appraisals of the PA objective achievements show that although some of the biological, ecological, and cultural values under protection have deteriorated main parts of these values are under protection.

The PA Administrations do annually review its performance with the stakeholders and reflect the recommendations and comments into next year's work plan. However, due to lack of financing many works are never implemented. The monitoring over the Management plan implementation status is not conducted.

The MEGD does enter into performance-based contract with the PA Directors and reviews the performance annually and rank the PAs. The METT carried out in collaboration with the PA show some inconsistencies with the 2011 ranking of PA carried out by the MEGD. It is therefore recommended that Mongolia develop a single methodology for assessing the PA management effectiveness, and performance. At the same time, one should take into account the fact that no assessment is perfect and hence carry out assessments using different tools and at different stages.

There are neither assessments nor research works conducted concerning the values and benefits of PA in Mongolia resulting little understanding the latter. Therefore, it is recommended to carry out work to establishing the value and benefits of PA among the PA network of Mongolia.

## **CONCLUSION**

### **Sustainable financing**

It is required to objectively plan the financing of Protected Areas, increase financial sources, create a sustainable financing mechanism, provide a possibility to the administration to spend its generated incomes on management activities and improve the legal environment to support these. A core to implement activity plans, work fruitfully and maintain a sustainability of human resource is a business plan, which is an inseparable part of the management plan. Therefore, PAs needs to develop business plan and implement it.

### **Cooperation**

Cooperation is essentially important for the stakeholders, who participate in activities of protected areas and collaboration between all the partners will be a basis to solve many issues. It is also important for Administrations of Protected areas in one region to develop regional level cooperation. The partners in cooperation and Protected Areas Administrations may consider following set of actions as first priority:

- Develop and implement joint projects and programs,
- Establish partnership between the government and non-governmental organizations and other donor organizations,
- Joint activities for resource mobilization,
- Carry out training programme and exchange of experience within the region,
- Study experiences from foreign and domestic organizations working in the same field and adapt them,
- To have unified performance appraisal system and unified monitoring and evaluation methodology.

## **Human resource management**

It is required to pay more attention to improve knowledge and skills of specialists and rangers and develop professional skills in accordance with the relevant region. Besides, it is needed to make a plan of activities to be carried out in the human resource field, reflect it in a business plan and place control over the implementation.

## **Analysis research and monitoring**

Information on biodiversity of the protected area, biodiversity target and threat analysis is of important to make a management plan of the protected areas and further management. A research and monitoring system are required to be introduced to appraise results of activities, let the parties know about the gained successes, provide financing organizations with necessary information, and determine mistakes and achievements of the current activities.

## **Public awareness and advocacy**

The public participation occupies the leading position in the management activities of specially protected areas. Therefore, it is required to implement special public awareness and advocacy activities& campaigns relied on a targeted survey on knowledge and attitude of people. Because of the awareness activities, many positive impacts may be shown. The impacts are:

- To amplify the conservation work results,
- To have clear and unified understanding about for what and what are we doing with which purpose,
- Not to cause any misunderstanding and prevent from undesirable consequences,
- Avoid extra expenses.

## **Tourism**

Relations & cooperation among the park administrations and tour operators running their business within the PA is weak. Their relations are restricted only to charging & paying the PA entrance fees. Thus, it needs to pay particular attention to improved cooperation with tour operators, tourism development, and expansion of stakeholders' cooperation & relations.

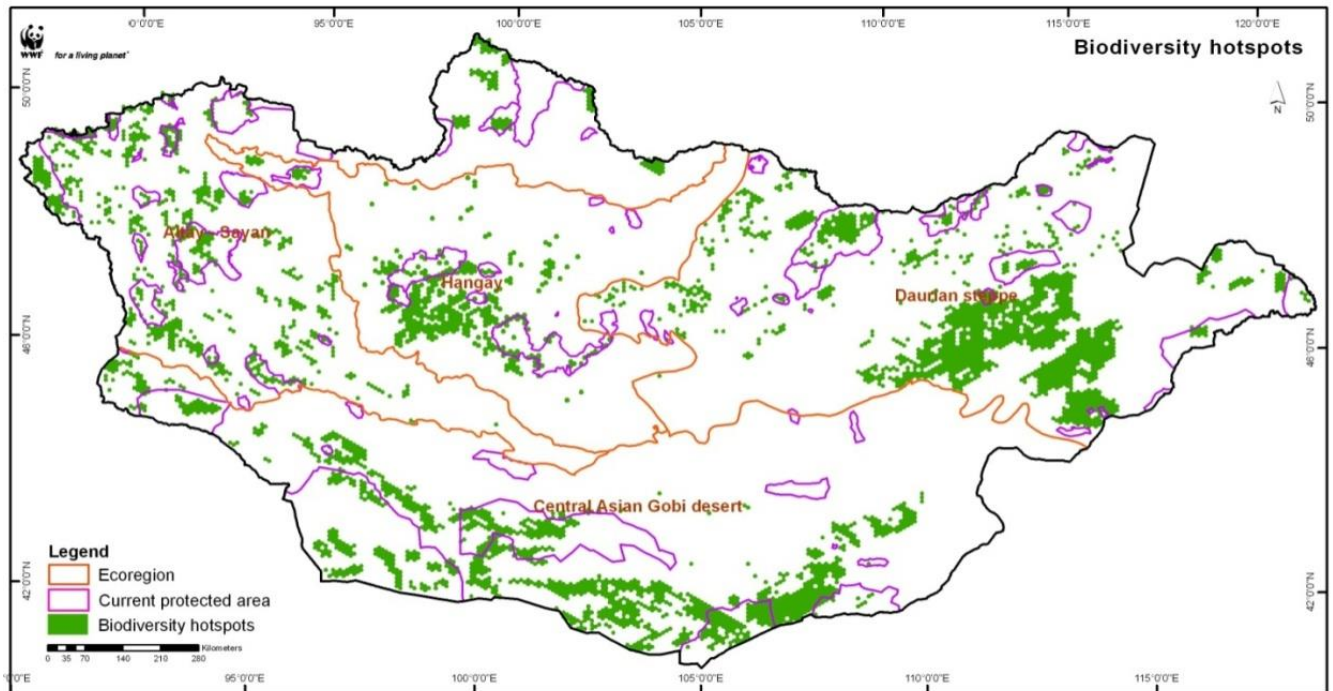
## **Planning**

It is required to immediately determine internal zones of Mongol Els National Park with participation of local people. Inclusion of traditional pasture areas, hay making areas and winter camp of herding households within the internal zone of Khar Us National Park is causing particular obstacles to implement goals of the management activities. Therefore, it is required to change the internal zoning of protection based on the site assessment.

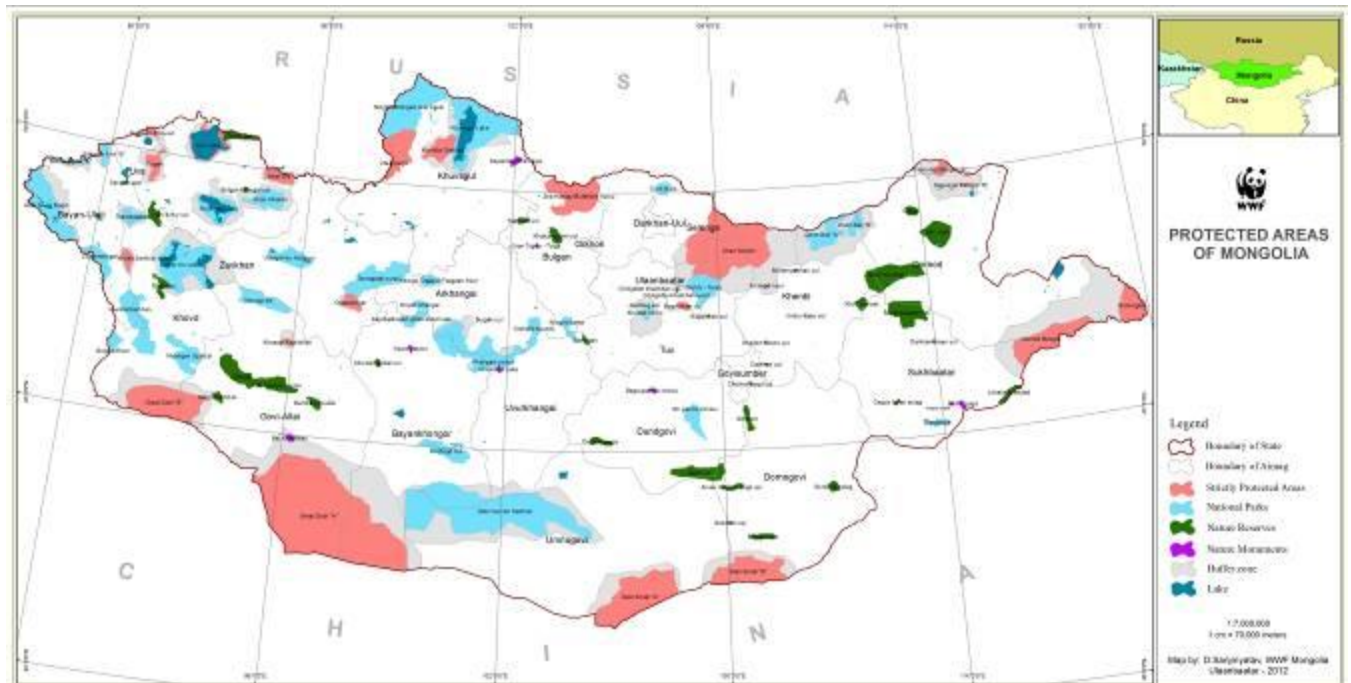
## **ANNEXES**



**Annex 1. Areas that are of importance to biodiversity and boundaries of current protected areas**



**Annex 2. Protected areas of Mongolia**



### Annex 3. Threat information of the protected areas

Threats	Khan Khentii SPA	Onon Balj NP	Khasagt Khairkhan SPA	Khukh Serkh SPA	Uvs nuur basin SPA	Altai Tavan bogd NP	Khar-Us nuur NP	Khyargas nuur NP	Khan Khokhii NP	Siilkhemii nuruu NP	Tsambagarav NP	Munkhkhairkhan NP	Mongol els NP	Ulaagchmii khar nuur NP	Develyn aral NR	Tesim gol NR
1. Residential and commercial development	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2.1 Pasture use	1	2	1	2	1	2	2	2	1	2	2	3	2	1	2	1
2.2 Forest use	3	0	1	0	1	1	1	1	1	1	1	2	0	0	0	1
3. Energy production and mining	0	0	0	0	0	0	1	0	0	0	0	3	1	0	0	1
4. Transportation and service corridors	0	1	1	0	0	3	1	1	1	1	1	2	1	0	1	1
5. Biological resource use and harm	1	1	1	1	1	1	1	1	1	1	1	2	3	3	1	2
6. Human intrusions and disturbance	0	1	1	0	1	1	1	1	1	1	0	1	1	1	0	1
7. Natural system modifications	1	3	1	1	1	3	1	1	1	1	2	2	1	1	2	1
8. Invasive and other problematic species	0	1	0	0	0	1	1	0	0	0	0	0	0	2	0	1
9. Pollution entering and generated	0	1	1	0	1	1	1	1	1	1	1	2	1	2	1	1
10. Geological events	0	1	0	0	0	3	0	0	0	1	1	1	0	0	1	0
11. Climate change and severe weather	2	2	1	1	1	3	2	2	2	3	3	2	2	2	3	2
12. Specific cultural and social threats	3	1	1	0	1	1	1	0	0	1	1	2	1	1	0	0

### Annex 4. METT scores of the protected areas

	Category	Issue / Question	Score		Protected areas										
					Khan Khentii SPA	Onon Balj NP	Khasagt Khairkhan SPA	Khukh Serkh SPA	Uvs nuur basin SPA		Altai Tavan bogd NP		Khar-Us nuur NP		
			2005	2012	2012	2012	2012	2012	2005	2012	2005	2012	2005	2012	
1	Context	Legal status	3	3	3	3	3	3	3	3	3	3	3	3	3
2	Planning	Protected area regulation	3	3	2	2	2	2	2	3	2	2	2	2	1
3	Input	Law enforcement	3	3	1	2	2	1	1	3	2	2	3	2	
4	Planning	Protected area objectives	3	3	2	2	1	2	3	3	2	2	3	2	
5	Planning	Protected area design	3	3	2	2	3	2	3	2	2	2	3	2	
6	Process	Protected area boundary, demarcation	3	3	2	3	2	1	3	3	2	2	3	3	

	Category	Issue / Question	Score		Protected areas									
					Khan Khentii SPA	Onon Balj NP	Khasagt Khaikhan SPA	Khukh Serkh SPA	Uvs nuur basin SPA		Altai Tavan bogd NP		Khar-Us nuur NP	
			2005	2012	2012	2012	2012	2012	2005	2012	2005	2012	2005	2012
7	Planning	Management plan	3	3	2	2	0	1	2	2	1	1	3	2
			3	3	2	3	0	0	1	3	0	0	3	2
8	Planning	Regular workplan	3	3	3	3	1	0	3	2	3	3	3	2
9	Input	Resource inventory	3	3	1	2	0	1	2	2	2	2	2	2
10	Process	Protection system	3	3	2	2	1	3	1		2	2	2	2
11	Process	Research	3	3	1	2	0	2	1	3	1	2	2	2
12	Process	Resource management	3	3	0	2	1	1	1	2	2	2	2	1
13	Input	Staff numbers	3	3	1	2	2	2	2	2	2	2	2	2
14	Input	Staff training	3	3	2	2	1	2	2	2	2	2	2	2
15	Process	Personal management	3	3	2	2	2	2	2	2	2	2	2	2
16	Input	Current budget	3	3	1	2	2	2	2	2	1	2	2	2
17	Input	Security of budget	3	3	1	2	1	2	2	2	1	2	1	1
18	Process	Management of budget	3	3	1	2	2	1	1	2	2	2	2	2
19	Input	Equipment	3	3	1	2	1	1	1	2	2	2	2	1
20	Process	Maintenance of equipment	3	3	1	2	2	3	2	2	1	2	1	2
21	Process	Education and awareness	3	3	1	1	0	1	2	2	1	1	2	2
22	Planning	Planning for land and water use		3	3	3	2	3		2		3		1
22	Process	State and commercial neighbours	3	3	2	2	1	2	2	2	2	2	2	1
23	Process	Indigenus people	3	3	1	1	0	3	1	2	2	1	1	2
24	Process	Local communities	3	3	1	1	1	3	1	1	2	1	1	2
			2	3	1	1	0	1	1	2	1	1	2	1
25	Outcomes	Economic benefits	3	3	2	2	2	2	2	2	2	2	3	2
26	Planning	Monitoring and evaluation	3	3	1	3	1	0	1	3	2	3	1	2
27	Outputs	Visitor facilities	3	3	0	1	2	0	1	2	2	1	2	1
28	Process	Commercial tourism operators	3	3	0	1	0	0	1	1	1	1	2	1
29	Input	Fees	3	3	1	1	0	3	3	1	3	1	3	2
30	Outcomes	Condition of values	3	3	2	2	2	3	2	3	2	2	2	2
			1	3	1	0	0	2	1	1	0	2	0	0

	Category	Issue / Question	Score		Protected areas									
					Khan Khentii SPA	Onon Balj NP	Khasagt Khaikhan SPA	Khukh Serkh SPA	Uvs nuur basin SPA		Altai Tavan bogd NP		Khar-Us nuur NP	
			2005	2012	2012	2012	2012	2012	2005	2012	2005	2012	2005	2012
31	Process	Buffer zone management		3	2	3	0	2		3		2		2
				2	1	1	0	1		2		1		1
<b>Total score</b>			<b>96</b>	<b>107</b>	<b>52</b>	<b>69</b>	<b>40</b>	<b>60</b>	<b>58</b>	<b>76</b>	<b>57</b>	<b>65</b>	<b>69</b>	<b>62</b>
<b>Evaluation by percentage</b>					<b>48.6</b>	<b>64.5</b>	<b>37.4</b>	<b>56.1</b>	<b>60.4</b>	<b>71.0</b>	<b>59.4</b>	<b>60.7</b>	<b>71.9</b>	<b>57.9</b>

	Issue / Question	Protected areas															
		Khyargas nuur NP		Khan Khokhii NP		Siilkhemiin nuruu NP		Tsambagarav NP		Mun kkhk airkhan NP	Mongol els NP	Ulaagc hny khar nuur NP	Develyn aral NR		Tesiin gol NR		
		2005	2012	2005	2012	2005	2012	2005	2012	2012	2012	2012	2005	2012	2005	2012	
1	Legal status	3	3	3	3	3	3	3	3	3	3	3	3	3	3		
2	Protected area regulation	2	3	2	3	2	2	1	2	2	2	1	0	2	2		
3	Law enforcement	1	3	1	3	2	2	2	2	2	2	1	1	2	1		
4	Protected area objectives	3	3	3	3	2	2	2	2	2	1	2	1	2	3		
5	Protected area design	3	2	3	2	3	2	3	2	3	2	2	1	2	3		
6	Protected area boundary, demarcation	3	3	3	3	1	2	1	2	2	2	1	1	2	3		
7	Management plan	2	2	2	2	0	1	0	1	2	0	0	0	1	2		
		1	2	1	2	0	0	0	0	2	0	0	0	0	1		
8	Regular workplan	3	2	3	2	2	3	2	3	2	1	0	0	3	3		
9	Resource inventory	2	2	2	2	2	2	1	2	3	0	0	1	2	2		
10	Protection system	1	2	1	2	2	2	1	2	2	1	1	0	2	1		
11	Research	1	2	1	2	2	2	2	2	3	0	1	0	2	1		
12	Resource management	1	1	1	1	1	2	1	2	0	1	1	1	2	1		
13	Staff numbers	2	3	2	2	1	2	2	2	3	2	1	0	2	2		
14	Staff training	2	2	2	2	1	2	2	2	2	2	2	0	2	2		
15	Personal management	2	3	2	2	1	2	1	2	2	1	1	0	2	2		

	Issue / Question	Protected areas														
		Khyargas nuur NP		Khan Khokhii NP		Siilkhemiiin nuruu NP		Tsambagarav NP		Mun kkhk airkhan NP	Mongols NP	Ulaagehny khar nuur NP	Develyn aral NR		Tesiin gol NR	
		2005	2012	2005	2012	2005	2012	2005	2012	2012	2012	2012	2005	2012	2005	2012
16	Current budget	2	2	2	2	1	2	1	2	2	2	1	0	2	2	1
17	Security of budget	2	2	2	2	0	2	1	2	2	1	0	0	2	2	0
18	Management of budget	1	2	1	2	1	2	0	2	2	2	0	0	2	1	0
19	Equipment	1	2	1	2	0	2	0	2	2	1	2	0	2	1	0
20	Maintenance of equipment	2	2	2	2	0	2	0	2	1	2	2	0	2	2	0
21	Education and awareness	2	2	2	2	0	1	0	1	2	2	0	0	1	2	0
22	Planning for land and water use		2		2		3		3	1	2	2		3		2
22	State and commercial neighbours	2	2	2	2	2	2	1	2	2	1	2	0	2	2	2
23	Indigenus people	1	1	1	1	1	1	1	1	2	0	1	0	1	1	0
24	Local communities	1	1	1	1	1	1	1	1	2	1	1	0	1	1	1
		1	1	1	1	2	1	1	1	3	0	2	2	1	1	0
25	Economic benefits	2	2	2	2	1	2	1	2	1	2	2	2	2	2	2
26	Monitoring and evaluation	1	3	1	3	1	3	0	3	3	1	0	0	3	1	1
27	Visitor facilities	1	2	1	1	1	1	1	1	1	2	2	0	1	1	1
28	Commercial tourism operators	1	1	1	1	0	1	0	1	2	0	2	1	1	1	1
29	Fees	3	1	3	1	0	1	3	1	3	0	2	0	1	3	0
30	Condition of values	2	3	2	3	3	2	2	2	3	2	0	1	2	2	3
		1	1	1	1	0	2	0	2	3	1	0	0	2	1	0
31	Buffer zone management		2		2		2		2	2	0	0		2		0
			1		1		1		1	2	0	0		1		0
	<b>Total score</b>	<b>58</b>	<b>73</b>	<b>58</b>	<b>70</b>	<b>39</b>	<b>65</b>	<b>37</b>	<b>65</b>	<b>76</b>	<b>42</b>	<b>38</b>	<b>15</b>	<b>65</b>	<b>58</b>	<b>32</b>
	<b>Evaluation by percentage</b>	<b>60.4</b>	<b>68.2</b>	<b>60.4</b>	<b>65.4</b>	<b>40.6</b>	<b>60.7</b>	<b>38.5</b>	<b>60.7</b>	<b>71.0</b>	<b>39.3</b>	<b>35.5</b>	<b>15.6</b>	<b>60.7</b>	<b>60.4</b>	<b>29.9</b>

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