

**PROGRAM: PROTECTION AND SUSTAINABLE
MANAGEMENT OF NATURAL RESOURCES
MONGOLIA**

**SITUATION ANALYSIS AND CONCEPTUALIZATION OF FUTURE SUPPORT
RELATED TO THE RANGER ISSUE**

Of the

KHANGAI NURUU PROTECTED AREAS

**Implemented on behalf of:
Deutsche Gesellschaft für Technische Zusammenarbeit
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Draft Report

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Mongolian Language Terms

<i>Aimag</i>	Second level of Government; largest political territorial division in Mongolia (English equivalent: “Province”)
<i>Sum</i>	Third level of Government; second largest political territorial division in Mongolia (English equivalent: “District”)
<i>Bag</i>	Fourth level of Government; smallest political territorial division in Mongolia
<i>Tugrig</i>	Mongolian national currency
<i>Sum Khural</i>	District Citizen Representative

Acronyms used

AK	Aimag Khural
BZ	Buffer Zone
BZC	Buffer Zone Council
BZF	Buffer Zone Fund
CBD	Convention on Biological Diversity
CBNRMA	Community Based Natural Resource Management Area
CI	Conservation International
GTZ	<i>Gesellschaft für Technische Zusammenarbeit</i>
KKSPA	Khan Khentee Strictly Protected Area
MNE	Ministry of Nature and Environment
MoU	Memorandum of Understanding
NCBZD	GTZ Nature Conservation and Buffer Zone Development Project
NGO	Non-governmental Organisation
PA	Protected Area
SSIA	State Specialized Inspection Agency
SSEI	Sum State Environmental Inspector
SPA	Special Protected Area
TNC	The Nature Conservancy
ToR	Terms of Reference
WCS	World Conservation Society
WMA	Wildlife Management Area
WWF	World Wide Fund for Nature

**FINAL REPORT ON THE SITUATION ANALYSIS AND
CONCEPTUALIZATION OF FUTURE SUPPORT RELATED TO THE RANGER
ISSUE OF THE KHANGAI MOUNTAINS' PROTECTED AREAS AND
SUGGESTIONS REGARDING A POTENTIAL PROTECTED AREA GAP
ANALYSIS FOR THE KHANGAI NURUU**

PART A: SITUATION ANALYSIS

Section 1. INTRODUCTION

1.1. Background

The background, framework conditions and proposed components of the highly ambitious GTZ-implemented “Conservation and Development of Khangai Nuruu” Project are described in the original Project Document by L. Sayanaa, B. Steinhauer-Burkart, and P. Wit (2004). The project started in 2005 and has a four-year timeline. Key partners of GTZ for this project are the Ministry of Nature and Environment (MNE), locally represented in the Khangai Mountains by the Protected Area Administrations of Tsetserleg and Uliastay. This GTZ implemented program is financially supported by the Royal Netherlands Embassy in Beijing.

The overall project objectives are:

- *“to ensure sustainable development and ecological balance, to maintain nature conservation and environmental policies as priorities within regional socio-economic development”*
- *“to rationally utilize and rehabilitate natural resources with due consideration of their capacity to ensure an eco-oriented economic growth; precisely define civil rights and responsibilities related to the utilization and protection of local natural resources and create a mechanism of nature and environment protection by the citizens themselves”.¹*

Specific project objectives, expected results and corresponding activities are summarized in the original Project Document as follows:

“Immediate objective 1: Ensuring sustained delivery of ecosystem services and products

Product 1: Improved protection

- *Activity 1: Making the Protected Areas Administration more effective*
- *Activity 2: Awareness raising and education*

Product 2: Improved knowledge about ecosystem composition and functioning

- *Activity 1: Research and inventories*
- *Activity 2: Design and implementation of a monitoring system for a limited number of key parameters*

Product 3: Integrated Land-use plan and its implementation

¹ L. Sayanaa, B. Steinhauer-Burkart, and P. Wit (2004). Project Document.

- *Activity 1: Elaborate an integrated land-use plan with map of Khangai Nuruu (overview scale)*
- *Activity 2: Implementation of an integrated land-use plan*

Immediate Objective 2: Improving local livelihoods

Product 1: Socio-economic base-lines

- *Activity 1: Thematic PRAs.*
- *Activity 2: Socio-economic characterisation of the intervention zone at the onset of the project.*
- *Activity 3: Monitoring of socio-economic parameters*

Product 2: Users organisations and cooperatives

- *Activity 1: Training in management and organisation*
- *Activity 2: Empowerment*

Product 3: Improved income through wise use of natural resources

- *Activity 1: Participatory planning of resource use*
- *Activity 2: Implementation of local management and/or sustainable use plans.*

Product 4: Alternatives for actual natural resource use

- *Activity 1: Income generation options to relieve pressure on natural resources.*

Product 5: Improved socio-economic infrastructure.

- *Activity 1: Seeking collaboration with other projects, e.g. provision of electricity, opening of export markets*

Immediate Objective 3: Strengthening the facilitating environment

- *Product 1: Strengthened management institutions*
- *Activity 1: Training of natural resources managers*

Product 2: Improved knowledge about ecosystem management in the Khangai Nuruu

- *Activity 1: Interdisciplinary research.*
- *Activity 2: Monitoring of management institutions*
- *Activity 3: Documentation.*

Product 3: More appropriate policies for ecosystem management

- *Activity 1: Policy support on participatory formulation and adoption of integrated management plans for land- and water use, and use of natural resources in general (at local, Aimag and National level)*
- *Activity 2: Policy support to the giving out of future concessions on use of natural resources*
- *Activity 3: Organisation of workshops to feed results of the project back to the policy making level.*

Product 4: Effective cross-sectoral cooperation structures are functional

- *Activity 1: Promoting cross-sectoral cooperation*
- *Activity 2: Formulation and implementation of a communication strategy.”²*

The expected overall outcome of the project is “*the improved management of Khangai Nuruu as one coherent system of Protected Areas, Buffer Zones, Corridors and Development Zones*”³ for the benefit of local herders and herder organisations, and the

² *IBID*

³ *IBID*

extremely poor at the Sum and Aimag centres, in particular user groups of forest products (timber and non-timber).

The Khangai ecosystems which sustain 20% of Mongolia's forests are increasingly threatened by the combined adverse impacts of noticeable climate change and human interference as a result of growing poverty, weakened management institutions and a general increase in illegal resource use. The most prevalent indicators of growing environmental degradation are: (a) overgrazing affecting the extensive mountain steppes and floodplain grasslands, (b) forest destruction through fire and inappropriate exploitation, and (c) poaching.

In this context GTZ contracted the services of Dr. Goetz Schuerholz in order to assess the role and profile of the rangers working in the Khangai protected areas, to identify opportunities for the improvement of the current ranger- and protection system, to assess the overall ecological validity of the existing protected areas, and to provide recommendations leading to enabling framework conditions and improvements of the protected area system in the target area (Annex 1, Terms of Reference).

1.2. Methods and Approach

The situation analysis commenced with a comprehensive review of the legal and policy framework related to Protected Area (PA) Rangers and environmental law enforcement personnel in general, complemented through structured discussions with key stakeholders from the public and private sector in Ulaan Baatar. This was followed by a two-week field reconnaissance of the Khangai Mountain Range with visits to four of the seven protected areas located in the Khangai Region and a visit to Hustai Nuruu National Park (NP). Prior to this assignment the Consultant had an opportunity to assess the ranger status of Khan Khentie Strictly Protected Area (SPA) and the status of community rangers of the two Community-Based Natural Resource Management Areas (CBNRMA) Batshireet and Mungunmorit.

The field trips focused on structured discussions with management personnel and rangers of the PAs visited; more specifically, on a general assessment of the ranger's functions, responsibilities and work programs, their level of interaction with PA users, visitors and neighbours. Overall PA management, administrative shortcomings and constraints and local threats to the PAs were discussed with key management personnel of the PAs visited.

A two-day reconnaissance was conducted of the western extension of the Khangai Mountain Range in order to assess the overall status of the relatively dry Mountain Steppe Ecosystem characterizing this part of the Khangai Nuruu, currently not covered by the existing PA system. During the field trip the consultant was accompanied by Tilman Jaeger and Dr. Galragchaa who are responsible for the implementation of the Khangai GTZ Project.

The preliminary findings of the field assessment and recommendations regarding enhancement opportunities of the ranger situation were presented at the end of the mission to the participants of a GTZ-implemented multi-stakeholder “wrap-up” workshop in Ulaan Baatar. The suggestions and observations resulting from the workshop form part of this report.

The report is composed of two Parts. Part “A” provides the results of the situation analysis of the ranger system supported through an analytical description of pertinent framework conditions and a description of area-specific problems and issues. This is followed by a brief assessment of the ecological status of the Khangai PA-System and its expansion potential. Part “B” concentrates on the “Way Forward”, defining some of the priority interventions needed to improve the conservation status of the Khangai Mountain Ecosystems.

1.3. Project Rationale and Outlook

In the year 2004 the Khangai Project Document was prepared and submitted by GTZ to the Dutch Embassy in Beijing for approval (L. Sayanaa, B. Steinhauer-Burkart, and P. Wit. 2004). On approval in 2005 the Dutch Embassy in Beijing awarded GTZ the contract for project implementation.

GTZ's activities related to the Khangai Project started in the Year 2006 with the arrival of Tilman Jaeger, GTZ's Technical Advisor to the project. Jaeger's inception report from April 2006 re-confirms the complexity of the project and the difficulty in selecting priority issues amongst the multitude of proposed activities listed under the three project components (Chapter 1.1.). Following a general reconnaissance of the target area, a laudable attempt was made by Jaeger to streamline and prioritize project activities in order to make the project more “manageable”. However, the project still appears to be much too ambitious and multi-faceted to be successful. It is apparent that the project goals and objectives cannot be achieved as planned within the project's short time-line and limited budget.

It would therefore appear in the best interest of the project to narrow its focus. This requires a critical assessment of each proposed project component regarding its plausibility, priority, feasibility and practicality. Based on the assessment, the project should then be re-evaluated, down-sized and tailored to the framework conditions. It is evident that the current “split-and splinter” approach will not deliver the promised results.

This report concentrates on a situation analysis of the Khangai rangers, a minor segment of one of the three key objectives of the project that aims *inter alia* at strengthening the protection and enhanced management of the seven designated protected areas of the Khangai Mountain Range (Immediate Objective 1, Product 1 of the GTZ Project). Improving the ranger situation for the Khangai Protected Area System however will have little overall impact if the general framework conditions are not enhanced on all levels as will be shown by this report.

The protected areas of the Khangai Mountain Range are managed by the two local Administrative Units of the National Agency for Protected Areas and Eco-tourism in Uliastay and Tsetserleg. One of the seven PAs (Otgontenger) is a designated Strictly Protected Area (SPA=category with the highest protection status under Mongolian Law), four areas are designated National Parks (NP=category with the second-highest protection status), and two are designated Natural and Historic Monuments (Table 1).

The four largest and most important PAs of the Khangai Mountain Range were visited during this assignment. Additionally, the Khan Khentee SPA, the Hustai NP and the two Local Protected Areas of Batshireet and Mungunmorit were included in the assessment of the ranger status. It is noteworthy that the Bulgan Mountain and the Khuisiin Naiman Nuur Natural and Historical Monuments are currently without ranger protection.

A total of sixteen rangers from the SPAs and NPs visited and twenty-three community rangers were interviewed for this assessment. Structured interviews were held with PA Directors, Chief Rangers and Senior Professionals from all SPAs and NPs sampled.

Table 1: Protected areas in Khangai Nuruu and PAs visited for this assignment.

Protected Areas representing the Khangai Mountain Range Ecosystems	Category of Protection	Year Established	Size (km²)	Number of Rangers
*Otgontenger Mountain	Strictly Protected Area	1992	955	4
*Tarvagatai Mountain	National Park	2000	5.254	8
Noyon Khangai	National Park	1998	590	1
*Khorgo Terkhiin Tsagaan Nuur	National Park	(1965)/1995	773	1
*Khangai Nuruu	National Park	1996	8.885	13
Bulgan Mountain	Natural and Historical Monument	1995	19	0
Khuisiin Naiman Nuur	Natural and Historical Monument	1995	115	0
“*” =Protected Areas visited for this assignment				
Total			16.591	
Areas sampled outside Khangai Nuruu:				
*Khan Khentee	Strictly Protected Area	1992/1995	1200	34
*Hustai Nuruu	National Park	1993	50	14
*Batshireet	Local Protected Area	2004	100	12
*Mungunmorit	Local Protected Area	2005	50	11

Section 2. Status, Role and Profile of Mongolia's PA Rangers

2.1. 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. Mongolia's highest environmental law enforcement authority is the State Specialized Inspection Agency (SSIA), an independent institution which formerly was part of the MNE. 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.

2.2. 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”. Since under 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.

2.3. 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 accordance with standardized procedures. Ranger candidates are generally being interviewed by a local group of authorities led by a PA official. No standardized selection criteria for ranger candidates are in use and there appear no “minimum” educational-, job-related work-experience standards according to the rangers and senior PA personnel interviewed. Selection criteria for ranger candidates appear to be limited to:

- Being from the target area with proven local experience;
- “proven” communication skills (mostly based on “hear-say” and knowledge on how the candidate gets along with local people);
- No criminal record;
- Preferably being “un-employed”;
- Preferably with background related to enforcement and/or the “environment”;
- Appreciation of nature and conservation (very vague).

The common recruitment procedure was described by the rangers interviewed as follows: After successful selection, the newly employed ranger receives a short briefing by the PA authority regarding his geographic area of responsibility, duties and logistics and is sent on his way with some “leaflets” to do his job (leaflets and written materials: apparently whatever is at-hand and somewhat related to Pas, PA policies and legal framework).

It should be noted that job descriptions for ranger positions have apparently been mandatory since 1999 in accordance with the Ministerial Order # 63⁴, but do not seem to be applied by PA authorities. The same applies to ranger selection criteria and pre-qualifications for which a Ministerial Resolution has been passed. Although there are currently 30 to 40 Ministerial Resolutions in place related to Mongolia's Protected Areas, the average PA authorities appear not to be ware of any such resolutions.

⁴ Personal communication Chimed-Ochir, Director WWF Mongolia.

2.4. 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 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. 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. 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.

Again, it should be noted in this context that a training program for rangers has been approved by another Ministerial Order but appears not to be implemented as stipulated by this Order⁵.

2.5. 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

⁵ Personal communication Chimed-Ochir, Director WWF Mongolia.

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 to (see following Chapter 2.6).

In summary, the newly employed ranger is left to his (there are no 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 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.

2.6. 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 the onset and end of fall and spring bird migrations were observed, 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 appear 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.

This assessment differs significantly from the official view reflected by Myagmarsuren in his "Compendium on Special Protected Areas of Mongolia" (2000) who argues that the "notebook on environmental observations" to be kept daily by rangers, "*is a valuable source of primary information useful in the field of science*" (Page 17, Research and Investigation).

2.7. PA- Ranger Patrol

The protected areas are usually stratified into control blocks by the Chief Ranger of a PA. The control blocks correspond to 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 (see Table 1). 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.

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).

2.8. 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 legislated⁶.

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.

2.9. 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. 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, 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.

⁶ Mongolian Law on Specially Protected Areas, Article 31.

2.10. PA-Ranger Supervision

There is practically no ranger supervision by PA authorities As repeatedly 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 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 from 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.

Section 3: Challenges and Barriers to Sustainable PA Management in Mongolia

3.1. Protected Area Categories, Boundaries and Zoning

The original criteria used to define the areas to be set aside for protection in the Khangai Nuruu Mountain Region are unknown. Also unknown are the criteria used to designate specific protection categories for the chosen areas and criteria used to define PA boundaries. It also is unknown whether the current system of protected areas sufficiently represents the Khangai Nuruu Mountain Region, or whether specific ecosystems are over-, or under-represented.

In general, there appears to be little difference in the protection and management of "Strictly Protected Areas" (SPA) and "National Parks" which in practice are treated as one and the same, as confirmed by PA personnel questioned on this issue⁷.

Both categories are subject to "zoning", a management tool originally developed in the western world affiliated with national parks and first applied to Mongolia's PA system following its independence. It appears however that the zoning concept as a practical management tool is not properly understood and/or applied in Mongolia, where the zones for SPAs and PAs that are prescribed by law do not allow for area-specific needs, and or management flexibility.

It is difficult under existing Mongolian Law to change internal PA zoning in response to changing framework conditions and/or to use zone names not listed in the legislation for a specific PA category. This differs significantly from other parts in the world, where internal zones are strictly used as a management tool to be changed according to arising needs by PA staff. In contrast to internal zone boundaries, the perimeter boundaries of a PA which have to be surveyed, geo-referenced, registered in the national cadastre and gazetted should not be changed without good reasons and prior approval by the Parliament. It should be understood that internal zones are intended to control and regulate access and resource use and to facilitate law enforcement.

⁷ Personal Communication with senior PA staff from Khangai Nuruu PAs.

According to the Mongolian Law on Protected Areas, the category "Strictly Protected Area" (highest protection status) is 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. The category "National Park" (second-highest protection status) requests zoning into a "Special Zone" (=core area, 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" appears also to be permitted in both categories the difference becomes even less transparent. The only difference between the two categories appears to be a matter of semantics.

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

The "nuclei" or designated "core zones" of the Khangai Nuruu protected areas focus on relatively pristine high mountain reaches which are mostly self-protected due to their inaccessibility. In this context it is suggested that by confining strictly protected core areas to high elevation mountain areas, too little attention is given to the importance of transitional ecosystems (vertical transition) considered of equal or even higher ecological value than mountain ridge ecosystems.

It also remains unclear how the perimeter boundaries of the PAs were originally defined and why the mostly heavily settled limited use zones were not excluded when defining the perimeter boundaries. By excluding heavy use areas, many emerging conflicts may have been avoided.

Recommendations:

- To critically address the issue of PA categories and provide a better distinction between the 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. Special attention should be paid to habitats in a vertical transition.
- To properly survey, geo-reference and demarcate PA boundaries.
- To assess the validity of the current "Zoning Concept" as applied to PAs in Mongolia and to re-assess the internal zoning for each area.
- To suggest changes to the current "law" on internal PA zoning in order to provide more management flexibility.

3.2. Protected Areas and Buffer Zones

According to the Mongolian "Buffer Zone Law" (BZL, 1997) buffer zones can be established adjacent to protected areas following a consultation process by PA personnel and the Sums expressing potential interest in a buffer zone. The rationale provided by the BZL for a buffer zone designation is to promote sustainable economic development and to strengthen biodiversity conservation of Sums sharing a common boundary with a PA. Becoming part of a buffer zone is a voluntary decision to be made by the Sum Khural. Sums opting to become part of a buffer zone appear to be mostly motivated by potential economic prospects resulting from being part of the PA-Buffer Zone System.⁸

According to the BZL, a Buffer Zone Council (BZC) has to be established for each buffer zone following its official registration. The BZC is composed of two representatives each of the Sum and the KKSPA and three representatives of the Sum constituents. The BZC members work pro bono. The main function of the BZC is the establishment of a "Buffer Zone Fund" and to elaborate a "Buffer Zone Management Plan".

Due to the voluntary nature of forming a buffer zone and unsecured funding, the BZCs are generally weak with no visible impacts on the sustainable development of the buffer zones. At current there is no linkage between buffer zones and protected areas and buffer zone constituents questioned on the purpose of buffer zones are generally unaware of why and how buffer zones are established and do not understand that buffer zones are created only in connection with nationally protected areas (Schuerholz, 2006).

Due to the limited capacity of the BZCs it appears unrealistic to expect the BZCs to play an important future role in the management of the buffer zone areas and/or the management of neighbouring PAs.

Recommendations:

- To focus environmental awareness building efforts and technical support on buffer zones of identified priority PAs in the Khangai Nuruu Range.
- To highlight in the awareness building efforts the rationale for the establishment of buffer zones and their close affinity to protected areas.

3.3. Management Plans and Business Plans

One of the most pressing needs of each of the Khangai Nuruu Protected Areas is the participatory elaboration of a comprehensive management plan for each area, involving all stakeholders in the panning and implementation process. 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 the over-arching conservation objectives.

⁸ Personal Communication with numerous Sum authorities.

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 common interest. The management plan would provide details on infrastructure development, maintenance needs and optimum administrative structures (Schuerholz, 2006). The management plan would be complemented by a "business plan" to serve as a practical financial 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.

Recommendations:

- To prioritize the Khangai Nuruu PAs based on a threat analysis and an assessment of ecological importance and embark on the participatory elaboration of a management plan for the first priority area to serve as a model to other areas.

3.3. Open Access

Mongolia's open range access policy is expected to cause growing conflicts in all protected areas subject to grazing by livestock unless grazing can be regulated and better controlled. All protected areas visited during this assignment showed severe signs of overgrazing within their limited use zones and winter camps of nomads and their livestock were found in all Khangai Nuruu PAs visited, threatening the ecological integrity of the areas.

Country-wide increasing range deterioration is forcing herders and their livestock to utilize areas not/or little used in the past, also placing growing pressure on protected areas. 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 proper range assessments. 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 some 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.

Recommendations:

- To define available (=permissible) range-land for each Khangai Nuruu 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 (minimize adverse impacts on flora and fauna).
- To elaborate jointly with herders range management plans for each designated use-segment.
- 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.
- To strictly control and enforce range-use permits.

Section 4. The Khangai Nuruu PA System: Need for a Gap Analysis?

4.1. Introduction and Background

The Terms of Reference for this assignment (see Annex 1) request the Consultant to provide conceptual input into the design of national protected area systems, and a “Gap Analysis” related to the Khangai Nuruu Mountain Range. This request was prompted by concerns regarding the overall representativeness of Mongolia’s Protected Area System, and more specifically, the “completeness” of the PA system representing the ecosystems of the Khangai Nuruu Range.

It is evident that such challenging task cannot be accomplished satisfactorily based on a two-day field reconnaissance allotted to this task. The following suggestions are therefore meant to only stimulate further discussions on this topic rather than prescribing a blueprint approach on how to conduct a gap analysis which may not even be necessary.

In general, there are many different ways to tackle the formidable task of designing country-wide PA systems which have to meet international obligations under the Convention on Biological Diversity (CBD) -if ratified by the target country- and country specific needs and priorities. Countries signatories to the CBD are obliged to set aside representative samples of all its ecosystems in form of protected areas (IUCN categories I and II).

Mongolia which ratified the CBD has currently 13% of its surface area under protection in form of 12 Strictly Protected Areas, 9 National Parks, 15 Natural Reserves, and 6 Natural, Historic Monuments. The five “Natural Zones” of Mongolia (“natural zones” appear to be the same as the term “landscapes” used in other parts of the world) appear to

be well represented by the current protected area system⁹ and in tune with accepted international guidelines stipulating sustainable protection of at least 12% of each ecosystem. The landscape types “Desert Steppe” and “Desert” appear to be over-represented by Mongolia's current PA system (i.e., 27% and 39 % respectively). The lowest representation recorded for any of the five “Natural Zones” is the “Steppe Zone”, with 9.6 % of its total area under protection.

4.2 “Gap-Analysis”

Regardless of the approach taken to a “Gap Analysis”, and regardless whether addressing the entire country or a specific region, any meaningful analysis will begin with a definition of ecosystems typifying the area to be addressed. This requires determining the total size of an ecosystem, its distribution and a general assessment of its conservation status.

There are different ways to assess the conservation status of an ecosystem. Most approaches seem to focus on key indicator species. Some researchers prefer the use of “umbrella” species as indicators of the vigor and overall ecosystem “health”, others use “keystone”. A keystone species is a species whose very presence contributes to a diversity of life and whose extinction would consequently lead to the extinction of other forms of life. Both methods are based on species rather than habitat, although the disappearance of a keystone- or umbrella species could also be related to habitat deterioration. Both species-dependent approaches are somewhat flawed and would benefit from using complementary indicators that are more habitat related.

“Gap Analysis” and ecosystem assessment are well documented in the literature. The Websites of large international conservation NGOs such as Worldwide Fund for Nature - WWF, The Nature Conservancy -TNC, Conservation International -CI, etc. provide useful information on this topic since all major organizations and Environmental NGOs appear to feel the need to develop their own methodology instead of building on each others.

A shortcoming of most “Gap Analysis” is that the presence of man is generally insufficiently addressed. This has been taken into account by the more holistic approach to system planning and gap analysis developed by WWF, the “Eregional Integrated Land Use Planning Approach”. This is based on WWF's “Ecoregion” concept. Ecoregions are defined as large parcels of land or water that harbour a characteristic set of species, communities, dynamics, and environmental conditions and that are ecologically “coherent”. Ecoregions provide an opportunity to set meaningful and strategic biodiversity conservation goals, focus on sites, populations, ecological processes, and threats critical to the entire Ecoregion. WWF prefers to operate at an ecoregional scale to achieve conservation results that are:

- ecologically viable,
- conserving networks of key sites,

⁹ Myagmarsuren, d. 2000. Special protected Areas of Mongolia. Page 8 table.

- provide corridors, and
- allow for ecological processes to take place that maintain healthy ecosystems.

The ecoregional approach by WWF effectively addresses the broader social, economic, and policy factors essential to long-term success. It provides a realistic assessment of competing demands for land and areas linking PAs and other economic sectors and trends. Examples for competing demands are: requirements of human settlements (due consideration given to population growth, densities, and economic growth); expansion of agricultural- and grazing lands; forest exploitation; increase in tourism; location of industries (raw materials, processing) and traffic requirements (roads, pipelines, traffic corridors).

The outcome of this comprehensive analysis is a long-term integrated land-use plan with priority areas set aside for biodiversity conservation, based on a series of thematic map overlays which show the competing demands for land use. The key question always remains on how to deal with identified conflicts and land competition. In a pessimistic scenario conservation will only be possible in residual/remote areas. In the optimistic scenario, a compromise between different user interests is reached and conservation will be mainstreamed into development.

Key elements of this approach are: the focus on biodiversity, multiple disciplines, stakeholder participation, partnerships, long-term commitment, learning and adaptability, flexibility and judgment.

The steps involved are:

- Reconnaissance of the conservation landscape (assessment of the ecoregion's biodiversity, threats and opportunities for conservation, effectiveness of existing conservation efforts, and identification of a list of key stakeholders and actors).
- Development of a 50-year Biodiversity Vision (guides the planning process, moves beyond "business as usual" and defines what is truly necessary).
- Addressing the four fundamental conservation goals (representation of all distinct natural communities, maintenance of ecological and evolutionary processes, maintenance of viable populations of species, resiliency in the face of large-scale periodic disturbances and long-term change).
- Biological assessment (emphasizes distribution of species, and communities over landscapes; ecological dynamics and biophysical processes that sustain them; and the relative rarity of different communities).

The ecological assessment identifies: the sites that offer native biodiversity the best chance of persistence, or that should be of high priority for restoration; keystone habitats (such as riverine forests etc.), keystone species and ecological processes of importance (fire regimes or water flows); furthermore key threats to biodiversity in the ecoregion such as over-grazing, timber removal or water diversion: the **root causes**.

The assessment develops a portfolio of priority conservation sites or areas that are representative and contribute to the long-term persistence of biodiversity throughout the ecoregion. The ecoregional assessment provides a description of the status of biodiversity,

socioeconomics and threats to biodiversity. This leads to the Ecoregional Conservation Plan which sets the 10- to 15-year goals for conservation and identifies the actions needed to achieve those goals. The resulting action program constitutes a strategic blueprint for activities in the ecoregion over the next five years, describes specific targets and the actions to achieve those targets. It provides for monitoring key indicators and establishes a system for synthesizing this information.

4.3. The Khangai Nuruu PA System

Regarding the Khangai Nuruu Range, there are currently 16,000 km² protected by seven conservation units (i.e., one Strictly Protected Area, four National Parks, and two Natural and Historic Monuments). In order to assess whether the seven areas sufficiently represent all ecosystems of this ecoregion it would be essential to first identify the total size and geographic distribution of each ecosystem in the target area and beyond. This should then be compared to the total area of each of the identified ecosystems currently under protection. If the current PAs cover less than 10% of a targeted ecosystem, there may be reason for concern, especially if the targeted ecosystem is represented by only one PA. Several PAs representing the same ecosystem are desirable in order to safeguard against natural catastrophes which may lead to local species extinction if there are no replicas of the affected ecosystem elsewhere.

In a second step, the conservation status of each ecosystem in the target area and beyond should be defined in order to assess its overall vulnerability. For the assessment of the conservation status it is recommended to use a habitat- rather than a species-specific approach, based on the assumption that as long as high quality and well protected habitat is available, temporarily low species populations will recover (and as long as the root causes of temporary population depressions can be successfully eliminated or managed).

This should be followed by an assessment of whether the current PA system needs to be expanded since an ecosystem of concern may not be sufficiently represented by the existing PAs. If an expansion deems necessary the most suitable areas to be added for protection should be evaluated based on parameters such as representativeness, ecological value, ecological integrity, size, actual and potential threats and parameters which also address socio-economic framework conditions, economic development perspectives and settlement scenarios.

Before expanding the existing PA system it would be prudent to first address the issue of ecological connectivity. This implies defining suitable biological corridors that could bridge existing protected areas.

Of special concern in this context appear to be the extensive Mountain Steppe characterizing the south-western extension of the Khangai Nuruu Range, and the "transitional" ecosystems extending into the Gobi Desert. It is believed that these unique grassland-dominated ecosystems may currently be insufficiently represented by the Khangai Nuruu Protected Areas, although larger parts of the Otgontenger SPA (95,000 ha)

are covered by high elevation Mountain Steppe, the same ecosystem found to the south-west of this protected area.

A brief field reconnaissance was implemented during this assignment in order to obtain a first-hand impression of the area and its ecological condition complemented by discussions with local residents, herders and Otgontenger PA personnel familiar with the targeted area.

The reconnaissance revealed that greater part of the south-western Mountain Steppe is heavily grazed by livestock from early spring to late fall. Some herders have established winter camps in higher elevation side valleys. Most of the area visited showed signs of severe over-grazing. Persons familiar with this region confirmed that "pristine" Steppe is presently confined to the remotest and most isolated high elevation areas of this mountainous region. Local people further confirmed that Argali sheep, a typical "Mountain Steppe" dweller, had been "plentiful" until the late 80s. At present, Argali sheep appear to be confined to the isolated hinterland, forced into marginal habitat by high livestock numbers and continuing disturbance. Argali populations have sharply declined within the past two decades, mostly attributed to heavy livestock pressure in areas which formerly were shared by the wild ungulates and low livestock numbers.

The field reconnaissance suggests that there is little suitable pristine Steppe ecosystem left to meet the criteria for the creation of either a Strictly Protected Area or a National Park. Before attempting to locate a suitable fragment of this ecosystem to be converted into yet another protected area it should first be investigated whether the Mountain Steppe Ecosystem is at current sufficiently represented by the existing PAs of the Khangai Nuruu and beyond.

4.4 Recommendations

- Rather than tackling the formidable task of reviewing/revising the country's PA system and/or extending the Khangai Nuruu Protected Area System, the project would be well advised to focus on the more "manageable" and more obvious priority areas related to biodiversity conservation of the Khangai Nuruu Mountains as defined by the original project proposal and this report (Part B).
- In this context it appears prudent however to re-address the issue of PA-categories and the possible re-classification of existing PAs to be converted into a more suitable protection category. Also the issue of the current zoning, especially with regard to the "limited use zone" should be re-visited.
- Other issues to be addressed in this context are the definition and demarcation of PA boundaries, and most importantly the issue of ecological integrity of PAs seemingly threatened in all PA through encroachment by livestock.

- Also of significant importance in this context would be a critical look at the ecological connectivity issue and the identification of potential biological corridors linking existing PAs of the Khangai Nuruu Mountains.

PART B: The Way Forward

Section 5. The Ranger Issue

5.1. Ranger Training and Training Curricula

Curricula aimed at basic training of rangers is currently offered through the Mongolian Training Institutions of Eco-Asia 1 and Eco Asia 2. The curricula offered as a Diploma course meet the Government requirements for the training of Environmental Inspectors. In other words, successful completion of the course qualifies the trainees to obtain inspector status (highest environmental enforcement authority).

Ranger-related training is also offered by the Agricultural University and the Khuvsgul Training Center (prior Forestry School). Several NGOs such as Monreal, WWF and WCS have offered ranger training seminars and courses in the past. More recently, the World Conservation Society (WCS) has developed and implemented a syllabus for wildlife law enforcement for the rangers employed by the Nomrog SPA (2006). WCS also has developed a "Ranger Manual" with funding provided by USAID. Another Ranger Training Manual, has been elaborated in a joint effort by GTZ, UNDP and WWF.

There is no doubt that each curriculum, manual, syllabus, seminar and module elaborated and applied in the past contains useful training elements. The training programs however lack homogeneity and complexity and need to be synchronized.

Ranger training in many other parts of the world usually commences with a mandatory 20-day "boot camp" to be attended by all potential candidates for ranger positions offered. The boot camp offers fitness training, fosters discipline and obedience, helps to develop team-spirit, provides guidance on personal conduct, appearance, personal hygiene, and familiarizes the recruits with basic equipment used on the job.

Based on the performance during boot camp and the success in the final exams the most outstanding candidates are then selected for further training. The boot camp also serves the trainer to identify candidates with obvious leadership qualities. During training they will be placed in charge of candidate teams. From these potential future leaders, candidates suitable to independently and responsibly operate future ranger posts are selected.

The boot camp is followed by a one-month base-training to be complemented each year through 10 to 15 days on-the-job training by bringing in trainers to teach specific subject matters in modular form. One example of a typical training curriculum developed by Schuerholz (1994) is provided in Annex 2.

Key shortcomings and constraints related to rangers and their work in the PAs assessed for this assignment are highlighted as follows:

- No standardized educational requirements, work related experience and/or prior ranger-related training.
- No standardized job announcements and recruiting procedures.
- No job descriptions.
- No entry-training and/or in-service training.
- Most rangers have not received any relevant training at all.
- No proper briefing and or training for the job and no on-the job guidance provided to newly recruited rangers.
- New recruits are expected to design and implement ranger beats and fulfill control duties without proper knowledge on what, where, how and why to control.
- Rangers have poor grasp of their functions and responsibilities.
- Rangers have no proper enforcement authority.
- In absence of proper training and guidance, the validity of rangers' participation in environmental monitoring is questionable.
- The quality and nature of data collected ("wildlife" observations, daily logs etc.) lack a scientific basis and appear to be of little overall value to management or protection.
- Law enforcement by rangers is seriously handicapped by lack of demarcated PA perimeter boundaries and the unrecognizable of core zones.
- Control areas allocated to each ranger are too large.
- Rangers have no uniforms, equipment and/or job related infrastructure.
- Each control area has only one single ranger allocated although there should be a minimum of two rangers/area for safety reasons.
- The framework conditions for rangers are very unfavourable.
- Most rangers live inside PAs and own livestock (conflict of interest).
- Insufficient control and supervision of rangers by PA officials due to lack of operational funds, means of communication and transport.
- There are no standardized and/or mandatory control/patrolling requirements.
- Poor team spirit and rather undisciplined (applies to community rangers working in groups).
- Poor personal conduct and communication skills (mostly applied to community rangers).
- Little appreciation of importance of uniforms and insignia with respect to conduct in public and interaction with people (mostly applied to community rangers).
- Insufficient dedication to the job, low work morale and motivation.
- Low wages which force rangers to rely on other sources of income.
- Rangers responsible for collection of PA "gate"-fee (no cash in rangers' hands).

5.2 Proposed Action Program

It appears prudent to extract the most applicable, practical and feasible training components from past ranger training efforts and manuals developed for Mongolia and to consolidate all useful elements within one-single training program. The consolidated standardized training program should be applicable country-wide, meeting all the

country's training needs. The universal training program should be structured in modular form in order to permit custom-tailoring of programs for PAs that require special ranger skills (i.e., CBNRMA community rangers, PAs catering to international tourists etc.).

Although the to be standardized new ranger training-program for Mongolia should meet international standards, it should be adapted first to the Mongolian requirements. Realistically, it will not be feasible to provide every ranger currently employed by the Agency with the same training new recruits would be subjected to. There has to be a compromise.

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.
- Provide training in communication skills and interaction with the public.
- Fully involve rangers in environmental awareness building efforts.

- Design meaningful bio-monitoring schedules and train rangers in systematic and meaningful data collection.
- Design practical and transparent evaluation system which permits assessing the effectiveness of protection efforts.
- Provide proper technical backstopping services for future bio-monitoring program.
- Design and implement proper system for the storage, processing and use of monitoring data.

Preference should be given to on-the-job training by bringing in trainers for on-site training. The advantages of on-site training: more cost-effective and efficient since rangers are on familiar turf.

It is self-evident that improving the ranger situation without improving the enabling framework conditions of the protected areas will not achieve the desired results. The following Chapter highlights some of the key problems and constraints related to the Pas which will have to be solved at some point.

Section 6. Recognized Problems Related to Mongolia's Protected Area System

6.1. The Four Pillars of Biodiversity Conservation

In the following Chapter recognized key problems related to Mongolia's PA-system will be highlighted. These problems were discussed at the "wrap-up" workshop for this assignment in Ulaan Baatar at the end of the mission. Although the workshop focused on the situation analysis of the ranger issue it was apparent that solving ranger-related issues without addressing over-arching issues, generic to Mongolia's PA system will not result in a sustainable improvement of the status quo.

Widely recognized 'pillars' common to protected areas worldwide and equally applicable to Mongolia's PA-System were used at the Ulaan Baatar Ranegr workshop in order to facilitate a more meaningful grouping of identified problems. Prior to the workshop spreadsheets were prepared for the benefit of the workshop participants, defining the "pillars" of biodiversity conservation and showing the relationship between problems directly linked to rangers and over-arching problems to be solved in order to create the enabling environment for more effective and efficient ranger work. The four key pillars are:

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 framework and policies related to any single protected area and the national system of protected areas at large.

Social Participation: defined as to actively involve PA neighbours and PA users in PA planning and management; to establish sound and regular communication between PA staff and PA stakeholders.

Financial Sustainability: defined as to actively pursue funding opportunities for individual PAs and the PA system at large.

It is apparent that not all challenges emerging from the following problem analysis can be addressed at the same time and that not all barriers removed at once. The biggest challenge therefore is to address the right issues at the right time in order to maximize the impacts of future interventions and to improve the efficiency and effectiveness of the protection efforts.

6.2. Key Problems Related to the Four Pillars

6.2.1 Problems related to “Ecological Integrity”

- Existing system of protected areas insufficient to safeguard country's biodiversity.
- PA-System does not include communal PAs.
- PA boundaries not geo-referenced and/or demarcated.
- No management plans and/or business plans for PAs.
- Little difference between SPA and NP (see zoning).
- PA categories need to be re-defined and expanded.
- Need to consolidate PAs and Buffer Zones.
- Need to consider ecological connectivity (prevent fragmentation, create ecological corridors).
- PA system understaffed, under-equipped and under-financed.
- Insufficient monitoring and evaluation of biodiversity outside and inside PAs.
- Insufficient emphasis on need for spatial land use planning related to protected areas and ecological corridors.
- Poorly controlled and regulated resource use inside PAs.
- Huge problems related to open access policy (over-grazing).
- Poverty of PA neighbours and high dependency on natural resources.
- Highly scattered, diverse and incomplete baseline data.

6.2.2 Problems Related to “Governance”

- Weak institutional structures on all levels.
- Weak legal framework and policies.
- PA categories need to be re-defined and expanded.
- Need to consolidate PAs and Buffer Zones.
- Review opportunities regarding different models of PA governance.
- Insufficient emphasis on devolution and local empowerment.
- Need for clear policies and legal framework.
- Conflicting policies and interests in land- and resource use inside and outside PAs.

6.2.3 Problems Related to “Social Participation”

- Insufficient private sector involvement in biodiversity conservation.
- Insufficient community involvement in conservation issues.
- Insufficient community and private sector involvement in the establishment of new protected areas.
- Difficulties in assessing goods and services provided by biodiversity and protected areas (water, oxygen, non-timber products etc.).
- Differing perspectives and expectations on all levels and in all sectors regarding biodiversity conservation.
- Insufficient willingness and commitment by Government to provide local empowerment.
- Conflict of interest between conservation and traditional use rights.

6.2.4 Problems Related to “Financial Sustainability”

- Insufficient Government Funds to maintain and expand Mongolia's PA system.
- Insufficient ability to capture and capitalize the goods and services provided by PAs and biodiversity at large.
- Limited capacity of PAs to generate sufficient revenues.
- Insufficient Government commitment to biodiversity conservation in view of other priorities.
- Poor integration of biodiversity conservation into economic and social development.
- Insufficient private sector involvement in PA management.
- Insufficient Government flexibility in experimenting with different models of Governance for protected areas.
- Line institutions mandated with biodiversity conservation poorly equipped to effectively comply with sustainable protection mandate (understaffed, under-financed)

Section 7. Conclusions and Recommendations

The greatest risks associated with the GTZ-implemented project are its complexity, short timeline, and low implementation capacity. The manpower allocated to the project is basically composed of one single international Technical Advisor and his local counterpart. It is highly unlikely that under given circumstances the expected results as described in the planning matrix of the project document can therefore be achieved.

Although the objectives and associated activities stated in the project document are comprehensive and logically conclusive, the project is too complex in order to deliver the projected results under given constraints.

Against this background it would appear prudent to drastically streamline the project. Instead of continuing to fight brushfires with little visible impacts to show for at the end of the project it would be more efficient, effective and rewarding to concentrate all efforts on the most pivotal priority issues. This requires a critical review of the project objectives and expected results. Based on this analysis all activities which realistically will not provide the expected results under given constraints should be eliminated from the work program. Activities to be dropped or modified may be summarized as follows:

“Immediate objective 1

Product 1, Activity 1: Making the Protected Areas Administration more effective: how can this be achieved without sufficient funds available to provide for the most rudimentary infrastructure needs of the Khangai Nuruu protected areas?

Product 2, Activity 1: Research and inventories: of low priority at this point and should be dropped.

Product 3: Integrated Land-use plan and its implementation: Actually of high overall priority but unrealistic to be achieved by the project. Should be dropped.

Immediate Objective 2:

Product 1: Socio-economic base-lines

Related efforts should focus on the limited use zones and core areas of the Khangai Nuruu PAs currently threatened by over-grazing and encroachment.

Product 2: Users organisations and cooperatives

To be dropped. It requires too much time and effort. The focus should be on the immediate needs of PAs and their users.

Product 3, Activities 1 and 2: Improved income through wise use of natural resources: Better to focus on one single PA for which to elaborate and implement a state-of-the art management plan instead of spreading efforts too thinly and producing plans that cannot be implemented.

*Product 4: Alternatives for actual natural resource use:*unrealistic; Suggested to drop this.

Product 5: Improved socio-economic infrastructure: unrealistic. Suggested to drop from the list, although cooperation and linkages with other projects should be pursued.

Immediate Objective 3

Product 1, Activity 1: Strengthened management institutions: Which institutions and how to strengthen them. The two Khangai Nuruu PA administrative Centers?

Product 2: Improved knowledge about ecosystem management in the Khangai Nuruu. Suggested to drop entirely; to be confined to “bio-monitoring” .

Product 3, Activity 1: Policy support on participatory formulation and adoption of integrated management plans for land- and water use, and use of natural resources in general (at local, Aimag and National level): too complex. It is suggested to concentrate on “policy” advice regarding management plans and business plans for PAs instead.

Summing up it is recommended:

- To concentrate all project efforts on the existing PAs of the Khangai Nuruu Range.
- To prioritize the seven existing PAs according to their overall biodiversity value and conservation needs.

- To brainstorm and identify key issues to be solved in order to enable minimum but sustainable functioning of the targeted PA (s), safeguarding its ecological integrity and accommodating local people's needs.

The next step should focus on the participatory elaboration of one single, state-of-the art management plan for the selected priority PA to be complemented through a business plan which analyses the PA's financial future. The management plan would address all problems and issues inherent to the targeted PAs as highlighted in this report.

At present, the project does not offer a realistic exit strategy, one of its key shortcomings. Streamlining and down-sizing the project would facilitate the design of a more realistic and convincing exit strategy.

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Annex1: Terms of Reference

Aufgabenbeschreibung:

1 Etablierung von Standards fuer Ranger in Schutzgebieten der Mongolei

- Kritische Analyse der aktuellen gesetzlichen Rahmenbedingungen (Umweltgesetzgebung, Jagdgesetz, Schutzgebietsgesetz, Pufferzonengesetz). Diese werden dem Gutachter durch das Projekt zur Verfuegung gestellt
- Kritische Analyse der bisherigen Bemuehungen (WWF, UNDP u.a.) auf Verwertbarkeit und Weiterentwicklung
- Durch Feldbesuche und Gespraechе mit Vertretern des Umweltministeriums, der Parkverwaltungen und Rangern Identifizierung sinnvoller Standards fuer Ausruestung, sowie Aus- und Fortbildung (needs assessments)
- Vorschlag einer realistischen Funktionsbeschreibung fuer Ranger (z.B. Kommunikation und Zusammenarbeit mit lokaler Bevoelkerung, Monitoring, law enforcement, emergency response, Tourismus) und entsprechenden rechtlichen Vorgaben
- Durchfuehrung eines Workshops mit Vertretern mongolischer und internationaler Akteure des Schutzgebietsmanagements (z.B. Umweltministerium MNE, Staatliche Fachaufsichtsbehoerde SSIA, Parkverwaltung Polizei, Zoll, WWF, UNDP, NZNI, WCS, GTZ, DED, Universitaeten) zur Vorstellung, Diskussion und Abstimmung der vorgeschlagenen Standards
- Schriftliche Dokumentation obenstehender Aufgaben

2. Erarbeitung von Kriterien und anwendbaren Vorschlaegen fuer die partizipative Selektion, Grenzziehung und Zonierung von Schutzgebieten

- Vorschlag fuer umfassenden Kriterien und Vorgehensweise fuer eine Gap analysis im Suedwesten des Khangai-Gebirges, auch als Beitrag zur nationalen Diskussion bzgl. der konzeptionellen Grundlage eines repraesentativen Schutzgebietssystems der Mongolei
- Vorschlag zur Vorgehensweise einer modellhaften, partizipativen Selektion, Grenzziehung und Zonierung von Schutzgebieten, auch als Beitrag zur nationalen Diskussion
- Durchfuehrung eines Workshops mit Vertretern mongolischer und internationaler Akteure des Schutzgebietsmanagements (z.B. Umweltministerium MNE, Staatliche Fachaufsichtsbehoerde SSIA, Parkverwaltung Polizei, Zoll, WWF, UNDP, NZNI, WCS, GTZ) zur Vorstellung, Diskussion und Abstimmung der vorgeschlagenen Standards (s.o.)
- Schriftliche Dokumentation obenstehender Aufgaben, auch als Argumentationsgrundlage fuer die Beratung bei der zukuenftigen Ausweisung von Schutzgebieten oder der kritischen Analyse existierender Schutzgebiete

Annex 2: Ranger Training Schedule and Modules (Curriculum designed by Schuerholz, 1994)

Selection Process

20 days boot camp all candidates

(Discipline, obedience, team spirit, leadership, group performance and coherence, personal hygiene etc.)

Selection of best candidates

Selection of candidates with proven leadership qualities

Examination after 20 days (written and oral)

Module 1 Conservation Management and CBNRM (Concepts and Practice)

International Concepts of PA systems and Buffer zones

CBNRM and CBWMA concepts and principles

Mongolia's PA system, PA categories, buffer zones and CBNRM

PA management in Mongolia

Management Plans and operational plans for PAs

Concept of CBNRMAs in Mongolia (pilot projects)

Module 2 The new Community Ranger in Mongolia

Functions and responsibilities

Ethics and Conduct

Uniforms and insignia

Legal framework related to WMA

Module 3 Policies and laws related to CBNRMAs

Land Law

Hunting Law

Buffer Zone Law

Protected Area Law

Criminal code and civil law

CBNRM resource-use/access policies and rules

Module 4: Fundamentals to law enforcement

Personal defence (boot camp)

Search and Seizure,

Arrests and Evidence

Processing violations (violation reports)

Formalizing working relationships

Inter-agency Agreements

Module 5: Ecology

Introduction to elementary ecology (synecology: landscape, eco-zone, ecosystem, habitat

Principles of ecosystem functioning

Plant and animal identification

Habitat types (plant communities)

Habitat inventories (what, when, where, why and by whom)
Inventory design and implementation
Basic inventory statistics
Basics of animal population dynamics
Habitat and wildlife management concepts and options

Module 6 Equipment and use

Basic ranger kit
GPS
Binoculars and Spotting scopes
Compass
Altimeters
Map reading and interpretation
Etc. etc., etc.

Module 7 Monitoring, Keeping Records and Producing Reports

Bio-monitoring (design, transects, what to record, how to record)
Monitoring templates
Record keeping and processing
Use of field books
Monthly Activity reports
Annual reports
Data storage and processing
Principles of GIS

Module 8 Skill development (on-the-job training)

Driving motorcycles and vehicles (safe driver training and exams)
Basic carpentry
Basic mechanics and small repairs
Basic electrics (solar panels, inverters, batteries etc.)
Working with logs and building log structures
Use and safe handling of chainsaws and other power tools

Module 9 Human Relations

How to build team spirit
Communication and conduct with each other
Leadership
Crisis intervention
Sociology of ranger groups and group interaction
Dealing with the public
Communication with the public and stakeholder dialogue
Conflict resolutions

Module 10 Other Management Programs

Public Use Program (Entry gates and visitor logs)
Environmental Education and Awareness Building

Module 11 Ranger Beats and Control

Zoning concept related to control system
Design of control system
Protection program
CBNRMA boundaries
Geographical conflict areas
Resource use and access inside PA

Module 12 Patrolling

Planning a patrol (time schedule, emergencies, equipment checklist)
On Patrol (conduct, over-nighting etc.)
Proper horse care
Safety

Module 13 Search and Rescue

Search and rescue procedures
Inter-agency cooperation and procedures
First Aid

Module 14 Maintenance

Designing maintenance program (who, where, what, when and why)
Implementing maintenance program
Keeping maintenance records

To be addressed by maintenance program:

WMA boundaries
Access points
Boundary demarcation and signs
Ranger posts
Landscaping and aesthetics
Garbage
Equipment
Vehicles
Personal gear

Module 15 CBNRMAs Batshireet and Mungumorit community ranger responsibilities

Preparing annual work plans (Post leaders)
Identify key annual events and consider in work plan
Bio-monitoring
Nut collection (includes MoUs)
Berry collection
Winter access to hot springs
Prepare plan for each event
Patrols

Vacations
Winterizing

Module 16 Winterization
Winterize posts (insulation of building)
Winter wood supply
Hay production and safe storage
Winterize equipment
Horse shelters

Annex 3: Spreadsheets GTZ-implemented Ranger Workshop, Ulaan Baatar, 23 November 2006.

Work Group 1

"GOVERNANCE"

Definition: The administrative form, authority, legal framework and policies related to any individual and the national system of protected areas.

Topics related to rangers and their duties:

Policy and legal framework:

- legal status and enforcement
- authority
- definition of ranger category (PAs, local PA, voluntary)
- functions and responsibilities
- recruitment procedure to be standardized)
- pre-qualifications and training requirements
- job description, position announcement
- selection process etc.
- etc. etc.

Training need assessment country-wide

Topics related to creating enabling environment for sustainable protection, law enforcement and control:

Policy and legal framework:

- gazettment of PA and legal definition (geo-referenced PA boundaries)
- demarcation of PA boundaries
- PA categories with well defined and un-ambiguous purpose
- practical management plans with clear zoning and use policies
- consolidation of PAs and buffer zones
- etc.etc.
- Definition of PA administration, functions and responsibilities by PA category
- etc. etc.

Key Problems

Proposed Solutions (Prioritize)

Key Problems

Proposed Solutions (Prioritize)

Work Group 2

"ECOLOGICAL INTEGRITY"

Definition: 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.

Topics related to rangers and their duties:

what, where and how to protect and monitor
meaningful monitoring and evaluation (applied M&E)
unambiguous resource use guidelines for limited use zone
key indicators to assess protection success
key indicators to monitor system integrity
periodic census of key species (to be identified)
clearly defined PA boundaries and Core Zone
access control
resource use permits
etc. etc.

Key Problems

Proposed Solutions (Prioritize)

Topics related to creating enabling environment for sustainable protection, law enforcement and control:

minimum critical size of a PA
ecological bricks (replicas of representative and viable ecosystem samples)
establishing guideline for ecological connectivity
CITES policies
enforceable and transparent hunting law and guidelines
hunting in local protected areas (rules and regulations/policies)
etc. etc.

Key Problems

Proposed Solutions (Prioritize)

Work Group 3

"SOCIAL PARTICIPATION"

Definition: To actively involve PA neighbours and users in PA planning and management.

To establish sound and regular communication between PA staff and PA stakeholders.

Topics related to rangers and their duties:

communication skill development
 inter-acting with the "public"
 enlisting PA stakeholders in control and enforcement system
 implement public awareness program
 make use of peer control and voluntary "rangers"
 visit schools, take school classes into field
 mainstream biodiversity conservation into all public rel. activities
 etc. etc.

Topics related to creating enabling environment for sustainable protection, law enforcement and control:

participatory elaboration of PA management planning and participatory implementation of PA management plan
 custom-tailor PR- and Public Awareness Program for each PA
 participatory definition of newly created PAs and boundaries
 Specify in management plan functions and responsibilities of rangers to participate in PR and environmental education
 participate in formal and in-formal environmental education
 mainstream biodiversity conservation into school curricula jointly with MoE
 etc. etc.

Key Problems

Proposed Solutions (Prioritize)

Key Problems

Proposed Solutions (Prioritize)

Work Group 4

"FINANCIAL SUSTAINABILITY"

Definition: To actively pursue funding opportunities for individual PAs and the PA system at large.

Topics related to rangers and their duties:

diligently enforce PA entrance fee payments by PA visitors
diligently enforce PA entrance fee payments by PA visitors
enforce fines

etc. etc.

Topics related to creating enabling environment for sustainable protection,
law enforcement and control:

design monetary incentive system for rangers for enforcement success
empower PAs to retain all revenues generated through PA (license fees, user fees, entrance fees, fines etc.)
empower local authorities (local protected areas) to retain all revenues from sustainable hunting
provide sufficient budget to cover minimum operational cost for each PA
provide sufficient funds for ranger kit, uniforms and operations to enable effective protection and control
change system of fee collection (no cash in ranger hand)
etc. etc.

Key Problems

Proposed Solutions (Prioritize)

Key Problems

Proposed Solutions (Prioritize)