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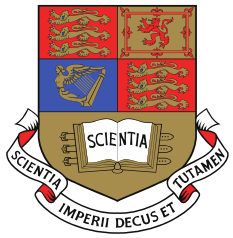

Evaluating stakeholder perceptions and approaches for improving the impact of the re-designated Saigachy Reserve, Uzbekistan

Sarekha Dhanda
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A thesis submitted for the partial fulfilment of the requirements for the degree of Master of Science at Imperial College London

Submitted for the MSc in Conservation Science

DECLARATION OF OWN WORK

I declare that this thesis, “Evaluating stakeholder engagement perceptions and approaches for improving the impact of the re-designated Saigachy Reserve, Uzbekistan,” is entirely my own work, and that where material could be construed as the work of other, it is fully cited and referenced, and/or with appropriate acknowledgement given.

Signature

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Acronyms

CBD	Convention on Biological Diversity
CMS	Convention on the Conservation of Migratory Species of Wild Animals
FG	Focus Group
GEF	Global Environment Facility
Gosbiokontrol	State Biological Control Service
I	Interview
IUCN	International Union for Conservation of Nature
NGO	Non governmental organisation
SCA	Saiga Conservation Alliance
SCNP	State Committee for Nature Protection
UN	United Nations
UNDP	United Nations Development Programme

Abstract

Understanding people's perceptions and attitudes towards protected areas are an essential factor for the fulfilment of protected area goals. There are few studies that address this prior to protected area designation.

The Saigachy Reserve in northern Uzbekistan is in the process of being re-designated. The goal of the reserve is to conserve the Ustyurt saiga antelope (*Saiga tatarica*). This study adopts a participatory approach to assess stakeholder knowledge, attitudes and perceptions towards the re-designated reserve and saiga conservation. Additionally, an evaluation of participatory stakeholder engagement was carried out simultaneously.

Findings suggest that local residents have poor perceptions of the current reserve and its functions, displaying mistrust towards rangers and disbelief that the government will make restoring saigas a reality, which may impact on the re-designation. The re-designation of the Saigachy Reserve will have minimal impact on the stakeholders, but there are issues such as poaching, park management and enforcement that should feature high on the agenda for the final stages of the implementation. Participatory stakeholder engagement is evidently novel in Uzbekistan seen through the low recruitment of local residents in focus groups. Nonetheless, contributions were given and provided valuable guidance for the future management of the reserve. Recommendations were suggested for the re-designated reserve and saiga conservation, stressing the need to understand people's perceptions to benefit protected areas.

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1. Introduction

Protected areas are a conservation strategy designated for the management of long-term species and habitat protection, conserving ecosystem services or for recreational and cultural values (IUCN, 1994). They are established globally to realise conservation goals as mandated in the Convention of Biological Diversity (CBD) through the recently agreed Aichi targets (2011-2020) -to achieve at least 17% of terrestrial land to be under protection by 2020. Due to the various functions and purposes of protected areas, they bring together different interests and affect multiple stakeholders (Nastran, 2015). One of the most influential groups are local residents who are often overlooked by the protected area planners and managers for reasons such as lack of capacity, funding or interest from the protected area staff (Hirschnitz-Garbers & Stoll-Kleemann, 2011). Traditionally, protected areas focused on biodiversity or natural resources and excluded stakeholders from the planning process; however, recently attention has been drawn to participatory planning processes as a measure to increase conservation success of protected areas (Trakolis, 2001; Ormsby & Kaplin, 2005; Wallner *et al.,* 2007).

Several studies have shown local peoples' perceptions and their attitudes towards protected areas are an essential factor for the fulfilment of protected area goals (Stoll-Kleemann, 2001; Rao *et al.,* 2003; Arnberger *et al.*, 2012; Htun *et al.* 2012). Perceptions towards the management of protected areas also play an essential role in people's attitudes towards protected areas (Alexander, 2000). Inevitably, protected areas bring changes to the local residents in the form of costs and benefits (Wallner *et al.,* 2007). The benefits of protected areas to local residents can include basic services such as fuel wood, pastoral land, agricultural products, medicinal plants, to economical benefits that come from tourism-related income (Campbell, 1999; Ormsby & Kaplin, 2005; Karanth & Nepal, 2012). Local residents living in close proximity to protected areas can also endure costs such as damage or loss of crops and livestock from pest wild animals, and restricted access to natural resources (Mehta & Kellert, 1998; Trakolis, 2001). The process of protected area designations must include local residents as their perceptions of

the protected area influence the attitudes and interactions people will have with it (Nastran, 2015). Hough (1988) stated conflicts arise between local residents and protected areas if there is a lack of resident participation in conservation, along with the absence of transparent processes. Furthermore, there is a lack of qualitative studies on people's perceptions of protected areas, as predominantly research has been quantitative which does not allow stakeholders to express their opinions openly, in the way qualitative research can offer (Stoll-Kleemann, 2001; Allendorf *et al.*, 2007; Wallner *et al.,* 2007; Nastran, 2015).

This study aims to contribute to qualitative research on evaluating participatory stakeholder engagement approaches in Uzbekistan, using the Saigachy Reserve as a case study. Additionally, it will address local people's perceptions towards a protected area in transition from a paper park to a well-managed protected area. The Saigachy Reserve is currently in the process of being re-designated from an IUCN category IV protected area to a Complex Landscape Reserve, that is the equivalent to an IUCN category 1b protected area. The upgraded reserve aims to be an effective protected area with designated funds, resources and management financed through offsetting of the environmental damage from oil and gas industrial developments in the region. The process of re-designation commenced in 2008 and is in the final stage of the project, being led by the United Nations Development Programme (UNDP) and Global Environment Facility (GEF): "Mainstreaming biodiversity into oil and gas offsetting policies in Uzbekistan."

An international organisation, the Saiga Conservation Alliance (SCA), works in country to restore the saiga antelope in the Central Asian steppe. SCA recognised an opportunity for change as protected areas in Uzbekistan are currently being revised from their former Soviet system, but have adopted a top-down approach to legislation and planning processes. This study addresses this by evaluating the potential for stakeholder engagement approaches using the Saigachy Reserve as a case study, in order to explore whether this strategy could be incorporated into Uzbekistan's planning processes in the future. This project contributes to the support of the Saigachy Reserve as part of a wider SCA project on saiga conservation funded by the Whitley Fund For Nature.

1.1 Study aims and objectives

Aim: To evaluate stakeholder perceptions and approaches for improving the impact of the re-designated Saigachy Reserve for saiga conservation and local communities.

To achieve this aim the study will address the following objectives:

Objectives:

I. To identify the stakeholders who will affect or be affected by the re-designated reserve, and their degree of influence and interest in the reserve.
II. To determine the level of knowledge of different stakeholder groups regarding the status and trends of biodiversity in the Ustyurt region.
III. To evaluate the knowledge of and attitudes towards protected areas as a conservation strategy in general, and of the Saigachy reserve, in particular, among people in the areas adjacent to the protected area.
IV. To evaluate perceptions of the potential costs, benefits, challenges and opportunities of the Saigachy Reserve for different stakeholder groups.
V. To explore perceptions of different stakeholder groups of methods to mitigate negative impacts and enhance the positive impacts stakeholder groups could have on the reserve.

2. Background

2.1 Protected areas

Protected areas are the cornerstones of biodiversity conservation for virtually all national and international conservation strategies, supported by international institutes such as the CBD (Dudley, 2008). To deliver protected area objectives, evaluation frameworks for assessing the management effectiveness have been developed (Hockings *et al.*, 2000). Evaluation is necessary as multiple threats face protected areas and inform both site-specific actions and the broader policy context (Hockings *et al.*, 2000). Conservationists acknowledge the social, political and economic background of individual protected areas is essential to understand for the implementation of well-managed protected sites (West *et al.* 2006).

In recent decades with the increase of protected area designation, the body of research on people-park relationships has grown too (West *et al.* 2006). Discussions of land ownership, natural resource access and displacement of people have placed local residents at the heart of protected area conservation. Research shows without local support the success of protected areas is not guaranteed (Wells & McShane, 2004) and they are unlikely to show support if they have a negative perception or attitude towards protected areas (Alkan *et al*., 2009). Thus it has become essential to understand local people's perceptions and attitudes at the site-specific level.

2.1.1 Perceptions and protected areas

Perception is defined as people's beliefs that are derived from their experiences and interactions with an entity (Xu *et al.,* 2006). It has been argued that local resident's perceptions are connected to protected area costs and benefits, reliance on protected area resources and their knowledge of the protected area (Xu *et al.,* 2006). Attitudes are a positive or negative evaluation towards a certain entity (Ajzen & Fishbein, 1980). Attitudes towards protected areas and conservation may be influenced by socio-economic factors or protected area management processes (Htun *et al.,* 2012). Positive perceptions and attitudes of the protected area do not

necessarily link to positive behaviour (Ajzen & Fishbein, 1980), however positive perceptions are a good stepping-stone towards positive actions (Trakolis, 2001; Allendorf, 2010).

Attitude and perception studies require site-specific research as the entanglement of social, economic and political issues varies in each conservation area, each with its own causal chain. There are only a few studies regarding stakeholder perceptions prior to the designation of protected areas, even though they can be useful to take into account as they can influence perceptions and attitudes held after the designation (Barbič *et al.,* 2004; Winter *et al.,* 2005; Nastran, 2015). Often these studies are conducted only when conflicts arise between people and parks (West & Brechin, 1991; Pimbert & Pretty, 1995).

Research has highlighted a gap exists between perceptions held by protected area founders (e.g. national governments, non-governmental organisations (NGOs), international organisations) and local residents. A study by Nastran (2015) concluded the main themes that affect stakeholder perceptions towards protected areas were perceived costs and benefits of the protected area, which were linked to stakeholder involvement that stemmed from the trust in the founders. Their trust was based on previous experiences of institutions connected to the park or the management authority (Figure 2.1).

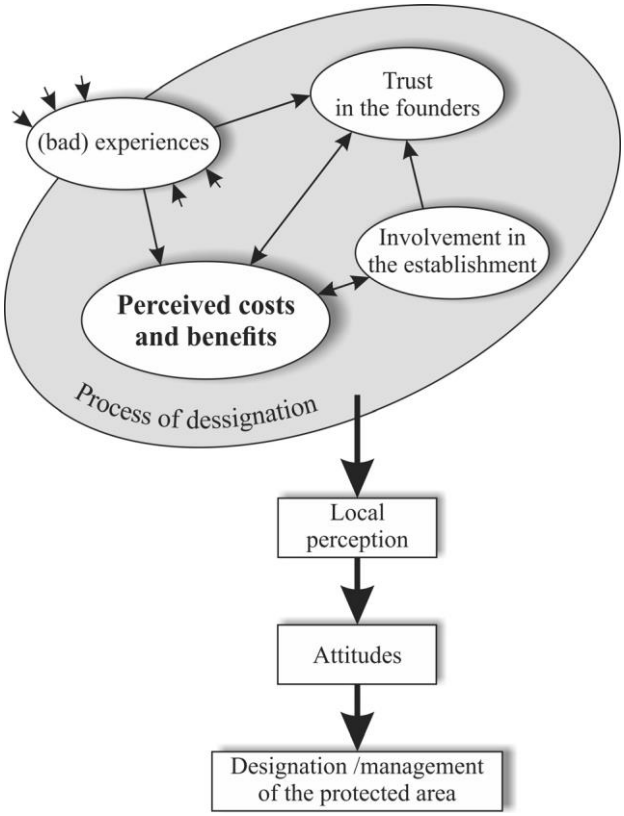

Figure 2.1: Theoretical scheme of interconnected factors that influence local perceptions towards a protected area (source: Nastran, 2015).

2.2 Participatory planning processes

It is fundamental to understand the factors that influence people-park relationships in order to improve biodiversity conservation; participatory approaches can aid this understanding (Barzetti, 1993). Predominantly the studies relating to perceptions and planning processes are quantitative and they focus on discovering the variable that influences protected area perceptions such as gender or education (Nastran, 2015). Qualitative research offers in-depth reviews of stakeholder's concerns and opinions and creates a platform for everyone's views to be equally projected (Bruyere *et al.,* 2009; Heinen, 2010; Khadka & Nepal, 2010; Sladonja *et al.,* 2012).

Stakeholder engagement has been increasingly integrated into global policies such as the Aarhus Convention, which gives legal backing for public participation in environmental decision making. This has been adopted by many Central Asian countries like Turkmenistan (1999), Kazakhstan (2001), Tajikistan (2001), but not

Uzbekistan (UN, 2015). This is an important step as conservation policies have failed in the past due to lack of consultation with those who are either impacted or influence the policy (Sarkar, 1999). Establishment of protected areas has sometimes involved displacement of rural people or loss of their assets (Geisler & Sousa, 2001; Smardona & Faust, 2006). Occasionally, there have been accusations of paternalism or colonialism when protected area planners are from international organisations which creates ill-sentiment (Guha, 1989). Stakeholder engagement seeks to address these issues by managing stakeholder expectations and integrating them to improve the success of protected areas.

Traditionally where participatory approaches have been used, studies have focused on developing countries due to fewer opportunities for stakeholder participation (Nastran, 2015). This also makes the former Soviet countries interesting case studies; since the countries gained independence many of their environmental laws are being revised from former Soviet legislation.

2.3 Protected areas in Uzbekistan

Uzbekistan contains globally significant biodiversity such as snow leopard (*Uncia uncia*), saiga antelope (*Saiga tatarica*) and Bukhara Urial (*Ovis orientalis ssp. bocharensis*). Uzbekistan has listed 51 birds and 24 mammals in its Red Data Book (2009). To-date there are eight strictly protected nature reserves, two national parks, 10 state reserves designated for a special purpose and five state memorials (Bykova, *in press*). Uzbekistan ratified the CBD in 1995 and the Convention on the Conservation of Migratory Species of Wild Animals (CMS) in 1998, but over a period of a decade (1995-2005) protected areas increased to only 1.18% of the country's territory (UNDP, 2004). As the current situation stands, approximately 95% of Uzbekistan remains unprotected (Bykova, *in press*). Uzbekistan developed a Biodiversity Strategy Action Plan in 1998 which is in need of an update (Murzakhanov, 2012) and UNDP have been helping build capacity to support Uzbekistan's commitments to the CBD with projects such as, "Strengthening Sustainability of the National Protected Area System by Focusing on Strictly Protected Areas" and "National Biodiversity Planning to Support the

Implementation of the CBD 2011-2020 Strategic Plan in Uzbekistan."

These projects have built support to transform Uzbekistan's protected areas, predominantly designated in the former Soviet system of strict protected areas with a 'fortress conservation' approach, to new possibilities of protected area management and implementation. The previous legislation did not allow local residents as decision-makers in strict reserves, but the current law has granted this opportunity (UNDP, 2004).

Modern planning processes have been emerging in Uzbekistan such as systematic conservation planning; this is a structured approach that incorporates natural and social systems into the planning, designation and implementation of protected areas (Margules & Pressey, 2000). An early step in systematic conservation planning is identifying and engaging with stakeholders in the planning process, those who use or influence the natural resources in the region (Margules & Sarkar, 2007). One study has adopted this planning process to create a recommended zonation for a new protected area in Southern Ustyurt (Murzakhanov, 2012). It acknowledged the importance of engaging relevant stakeholders with the planning process but due to limited resources this was not undertaken during the study. Stakeholder engagement was highlighted as a critical step should the implementation of the protected area proceed (Murakhanov 2012).

In another case, a UNDP-initiated project acted as a test ground for the first community owned and managed protected area in Uzbekistan. The Surkhan Strict Nature Reserve set up a Community Conservation Council to play an active role in representing the concerns and interests of local residents to the management of the reserve (UNDP, 2004). This protected area was the first to implement a buffer zone for sustainable use by local residents who rely on the reserve's natural resources, as natural gas is not available to the area and firewood is essential to their daily living (UNDP, 2004). This initiative stemmed from UNDP's project "Strengthening Sustainability of the National Protected Area System by Focusing on Strictly Protected Areas". However, although the project framework has impact indicators for biodiversity, protected area coverage, active management, staff capacity, there is no evaluation of participatory stakeholder engagement or

recruitment uptake with the community conservation project. Therefore, there is a deficiency of uptake and evaluation of participatory processes in relation to protected areas in Uzbekistan.

2.4 The conception of the Saigachy Reserve

In recognition of the CBD and CMS, sustainable development has been integrated into the key sectors of Uzbekistan like the economically important oil and gas industry. This industry is prevalent in Karakalpakstan with extraction and gas stations dotted around the landscape. Figure 2.2 highlights the prominence of the oil and gas industry as advertised on the billboard in the capital of Karakalpakstan – Nukus, which translates to "Together towards the prosperity of Uzbekistan!"

Figure 2.2: Advertisement for gas exploration in Karakalpakstan.

Modern conservation is seeking to find the balance between development and conservation and biodiversity offsetting is one tool for doing this (Bull *et al.,* 2013). In 2004, the Parliament of Uzbekistan passed new laws 'On protected areas" effectively allowing for the expansion of protected areas, the concept of buffer zones and active management, as well as giving protected areas the ability to seek extra funding sources (UNDP, 2004). This has been especially important, as lack of funding has hindered protected area expansion and effective implementation in

Uzbekistan. These processes led to the conception of the Saigachy Reserve being re-designated to a well-managed protected area using oil and gas offset funds. Saigachy will be the first reserve in Uzbekistan to benefit from offsetting and is seen as the pilot project which can be scaled across Uzbekistan through the UNDP project, "Mainstreaming Biodiversity into Uzbekistan's Oil-and-Gas Sector Policies and Operations."

2.4.1 The Saigachy Reserve

The focus of this study is the Saigachy Reserve, Uzbekistan's largest reserve with an area of one million hectares. It is situated in the Ustyurt Plateau in the Kungrad district of the semi-autonomous region of Karakalpakstan. The Saigachy Reserve was gazetted in 1991 under the State Committee of Karakalpakstan with the purpose of safeguarding and restoring the critically endangered saiga antelope and their breeding places (Bykova & Esipov, 2004). It was designated as a temporary reserve for 10 years, which has since been twice renewed in 2001 and 2011 (Esipov *et al.,* 2009). The reserve is unstaffed and instead patrolled irregularly by a team of inspectors from the State Committee for Nature Protection (SCNP) of Uzbekistan and SCNP of Karakalpakstan. Parts of the reserve fall within the scope of activity of the Ministry of Agriculture and Water Resources of Uzbekistan (Bykova and Esipov, 2004). Since 1991, neither of these groups has effectively protected biodiversity in the reserve due to lack of capacity and resources, and the Ustyurt saiga continues to be affected by illegal poaching for the trade of saiga meat and horns. Furthermore, social surveys undertaken found that residents of nearby settlements to the reserve did not know about the existence of the protected area, indicating that acknowledgement or enforcement of the park was unfulfilled (Bykova & Esipov, 2004).

The re-designated reserve will be expanded and divided into 6 strictly protected zones and a buffer area (Figure 2.3). The territory of the reserve has high natural heritage value. It has been the passageway for a variety of travellers, including for many centuries part of the Great Silk Road, and so the remains of ancient cemeteries with mausoleums can be found there (Esipov *et al.*, 2009). The territory

also has ancient hunting traps up to 700m wide, dating back to the 5th-6th century for the capturing of ungulates such as saigas and goitered gazelles (*Gazella subgutturosa*) (Bull & Esipov, 2013).

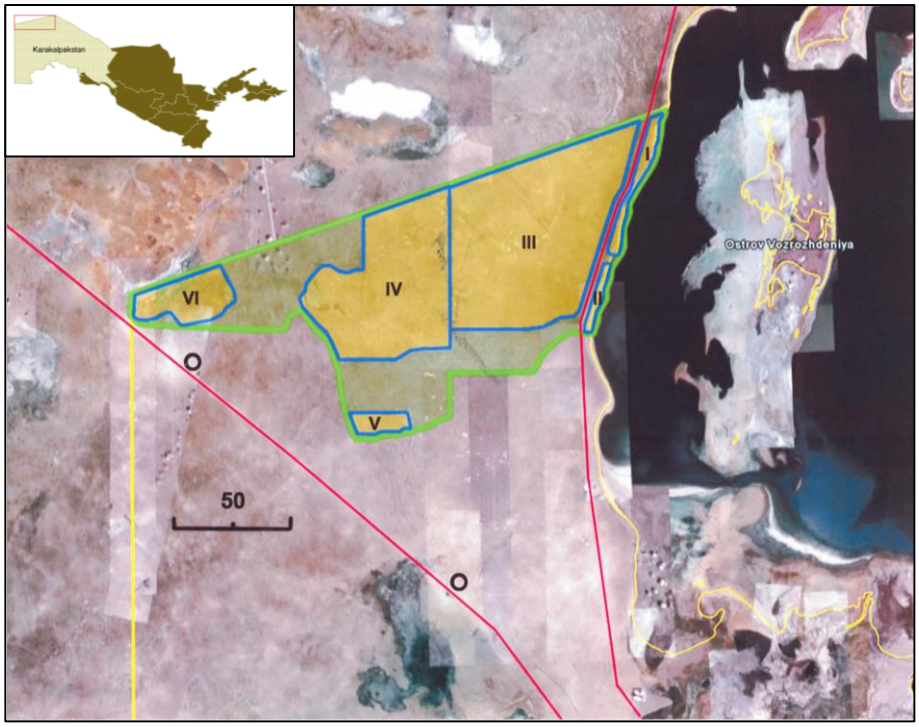

Figure 2.3: A map of the Saigachy Reserve showing the six strictly protected areas and buffer zone. The yellow line marks the border of Uzbekistan. The northern boundary line of the reserve is parallel to the Uzbek-Kazakh border. Map by Victor Grigoriev.

The saiga antelope is the key mammalian species in the reserve. The population of saigas is considered an indicator of the levels of pressure on natural resources in Ustyurt, and highly important for maintaining the balance in the steppe ecosystem (Esipov *et al.*, 2009). The Ustyurt saiga population migrates to winter pastures located in northern Uzbekistan from summer pastures in Kazakhstan. In recent decades the Ustyurt saiga population has been decreasing drastically from 100-120,000 to 5000-7000 (Esipov *et al.*, 2009), with recent figures at 5,400 in 2013 and 1,700 in 2014 (Bykova *et al*, 2014). In the past the migration has been defined by weather patterns, particularly snow cover. In more recent years the population decline is due to the effects of barriers, such as the construction of a border fence for national security reasons built along the Kazakh-Uzbek border (Bykova *et al*, 2014) and exacerbated by poaching for horns and meat. The re-designated reserve

will be expanded and will cover the greatest concentration of the Ustyurt Saiga in Uzbekistan, offering hope for this resilient species (Figure 2.4).

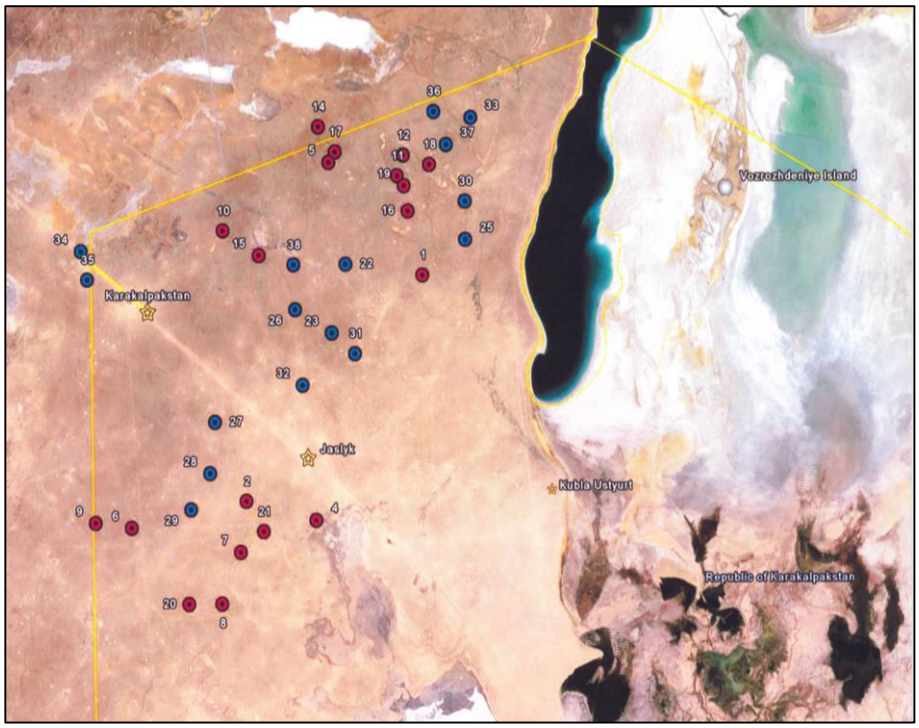

Figure 2.4: A map showing saiga distribution data. The red dots represent GPS coordinates recorded in 2013 and the blue dots are coordinates recorded in 2014. The yellow boundary line marks the border of Uzbekistan. Distribution map by Elena Bykova.

2.4.2 Management hierarchy for Saigachy reserve

Governmental headquarters are based in Tashkent and Nukus. The government partner for UNDP's Saigachy project is the SCNP. They are a sub-division (Ministry) of the Parliament of Uzbekistan and are primarily responsible for the enactment of environmental legislation; and they have a presence in each region of Uzbekistan (UNDP, 2004). Within SCNP there is the State Biological Control Service (Gosbiokontrol), responsible for keeping control of, and ensuring compliance with, national legislation on flora and fauna conservation activities, as well as overseeing the effectiveness of protected area management (UNDP, 2004). Both Gosbiokontrol and SCNP have rangers for inspecting natural resource use (Figure 2.5).

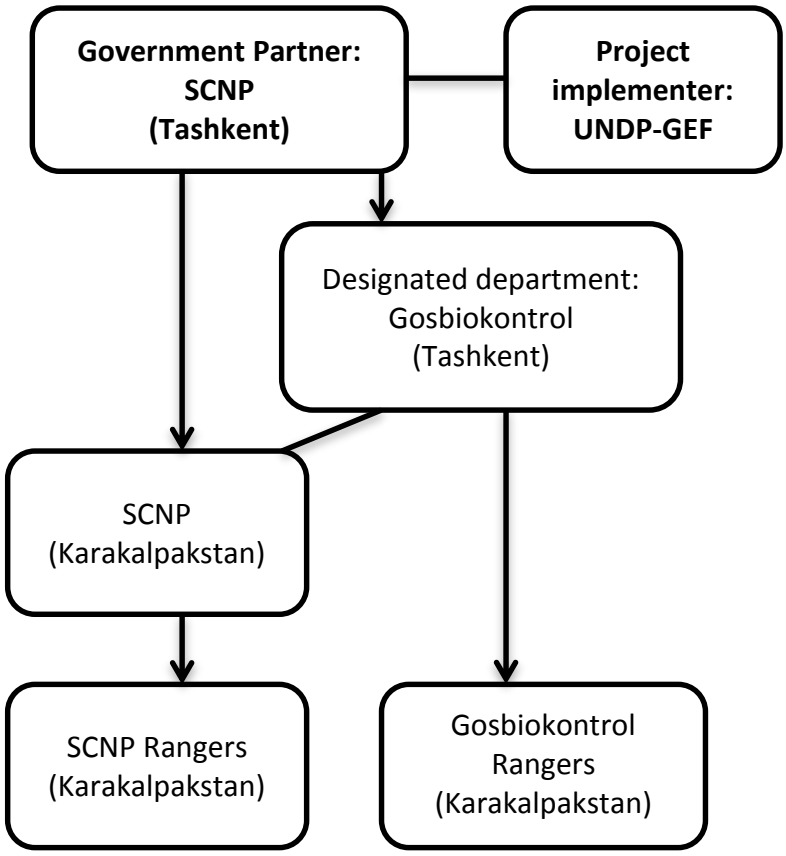

Figure 2.5: Management hierarchy for Saigachy reserve.

2.5 Background of study villages

The study engaged with local residents in Kubla Ustyurt and Kyrk-Kyz because these are villages located close to the reserve. Kubla Ustyurt and Kyrk-Kyz lie within the semi-autonomous region of Karakalpakstan, which has this autonomy due to the third of the ethnic Karakalpak that live in the region, with the another third being ethnic Uzbek and the rest are ethnic Kazakh and others (Phillipson & Milner-Gulland, 2011). Karakalpakstan has the highest poverty risk out of all the regions in Uzbekistan, the rural population is estimated at 51.3% (UNDP, 2006). The region suffers from environmental degradation due to the Aral Sea catastrophe, high levels of desertification and during the Soviet era biochemical weapons research was conducted there (Fergus, 1999).

The Uzbek Ustyurt is estimated to have a population of 10,000 with the main sources of employment being the railway and gas compression stations (Phillipson

& Milner-Gulland, 2011). Kubla Ustyurt is a small settlement of 219 people and is located close to the saiga's migratory range (Phillipson & Milner-Gulland, 2011). One study detailed the majority of male adults in Kubla Ustyurt are involved annually or seasonally in saiga poaching and trade, spurred from the lack of employment opportunities (Bykova & Esipov, 2004). Kyrk-Kyz has a population of around 1000 people and since it is further away from Ustyurt it is inferred to be less likely involved in poaching activities (Phillipson & Milner-Gulland, 2011). There are also employment opportunities in Kyrk-Kyz as it has the Ustyurt gas chemical factory. Traditionally, the villages of Jaslyk and Karakalpakia have been seen as a hub for poaching activity and smuggling of saiga meat and horns into Kazakhstan (Bykova & Esipov, 2004; Kuhl *et al*., 2009) and they are the closest settlements to Saigachy. However, this research could not be carried out there due to research permission not being granted by the authorities.

2.6 Background to participatory methodology

Qualitative research is a useful approach for understanding social aspects of conservation issues; it adopts a system of summarising and synthesising data from different sources and devises a narrative of the situation (Newing *et al.,* 2011). Stakeholder analysis is a qualitative tool increasing in use to aid public participation. Reed *et al.* (2009) discussed the normative and instrumental theory behind stakeholder analysis in natural resource management and defined the process as i) identifying stakeholders; ii) categorising and differentiating stakeholders; and iii) exploring stakeholders' relationships. Common data collection methods for stakeholder analysis include focus groups and semi-structured interviews.

Focus groups are formal pre-arranged groups with a small number of participants that allow for open discussion and group engagement with the research in question (Newing *et al.,* 2011). They are a cost-effective way to collect data for an overview of the important points of a topic, however they require good facilitation to focus the discussion, as the protocols are loosely structured (Reed *et al.,* 2009).

Semi-structured interviews are pre-arranged interviews with a pre-requisite list of topics to be covered. The time spent on each topic is the choice of the interviewer as they may be speaking to an expert of the topic, which presents further opportunity to hear their perspective on the matter. A drawback of this method is the time and effort required to conduct the interviews (Reed *et al.,* 2009).

3. Methods

3.1 Research overview

A qualitative approach was applied to this study. Data collection was carried out between 24th April and the 18th June 2015 in the cities of Tashkent and Nukus as well as two rural settlements, Kyrk-Kyz and Kubla Ustyurt. (Figure 3.1) Stakeholder analysis was conducted through the use of focus groups, semi-structured interviews and questionnaires. The sampling strategy was purposeful as it focused on the stakeholders of the reserve.

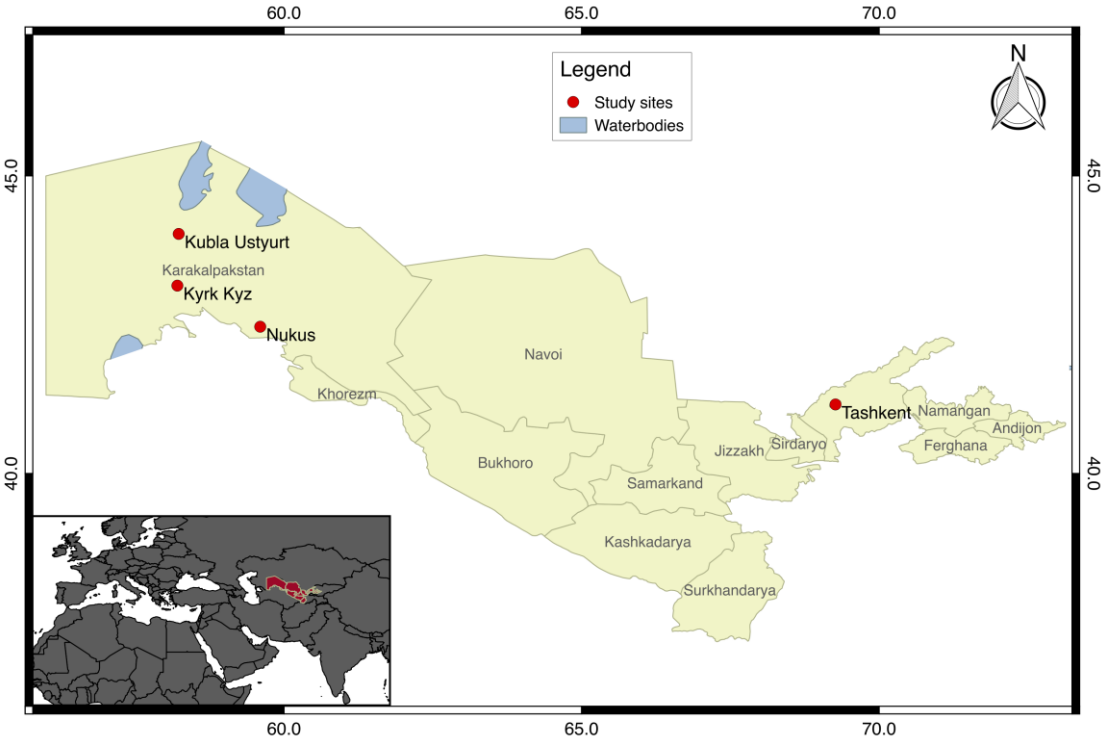

Figure 3.1: Map of the study sites.

3.2 Approach I –Identifying stakeholders

To identify stakeholders, an initial list was compiled through a literature search of reports relating to the Saigachy Reserve and through consultation with the SCA. The aim of the list was to collect the names of the stakeholders who were involved or could potentially be impacted by the re-designation. In the initial focus groups and interviews, participants were asked to think of additional stakeholders that were not included on the original list and justify their role in relation to Saigachy.

This approach was loosely based on snowball sampling, when you seek out relevant people to the study and ask them to refer other people (Newing *et al.*, 2011).

3.3 Approach II - Focus groups

Five focus groups were conducted with stakeholders in Nukus and Tashkent and six focus groups were undertaken with local residents in Kyrk-Kyz and Kubla Ustyurt. The number of participants in the groups ranged from 3 to 8 people, the age range and gender are shown in Table 3.1.

Table 3.1: Focus group composition

Focus Group	Location	Number of people	Age 15-17		Age 18-30		Age 31-50		Age 51+	
			M	F	M	F	M	F	M	F
Gosbiokontrol Employees	Tashkent	4			1		1		2	
Gosbiokontrol Rangers	Nukus	3					1		2	
SCNP Rangers	Nukus	8					6	2		
Scientists	Nukus	6					3	3		
Teachers	Nukus	7				1		6		
Local residents	Kyrk-Kyz	8	3				2	3		
Local residents	Kyrk-Kyz	4				2		2		
Local residents	Kyrk-Kyz	3	1				1	1		
Local residents	Kyrk-Kyz	6			2	1		2		1
Local residents	Kubla Ustyurt	5			2	1		2		
Local residents	Kubla Ustyurt	4					1	1	1	1

The duration of the focus groups varied from one to two hours. Participants for the focus groups in Kyrk-Kyz and Kubla Ustyurt were canvassed randomly or referred via snowball sampling. The focus groups were predominantly discussion-based but there were participatory exercises included, such as the interest-influence matrix and cost-benefit analysis, which involved the participants charting their answers onto A3 paper (Figure 3.2a and 3.2b). Interest-influence matrices place stakeholders on a matrix in relation to their interest and influence and categorises stakeholders based on the perceptions of stakeholders (Reed *et al.,* 2009).

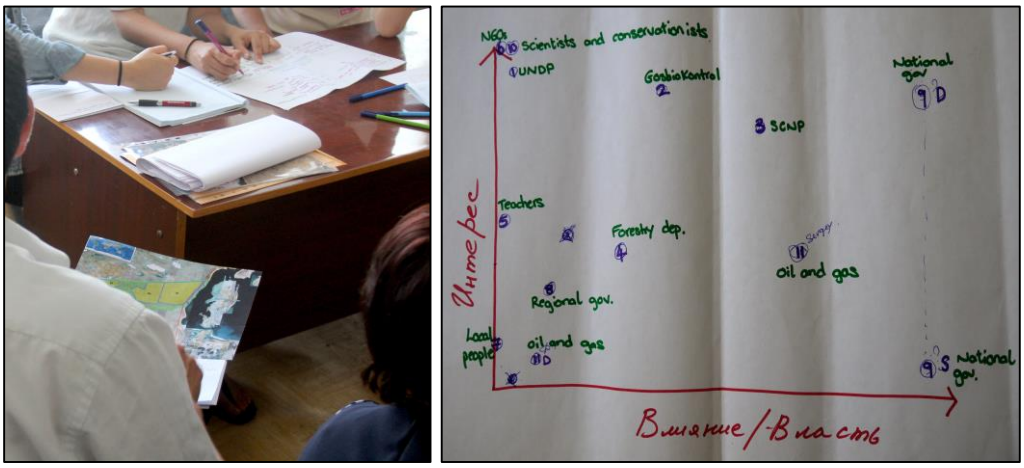

Figure 3.2a and 3.2b: Focus group participatory exercises.

The focus groups covered six main topics (Appendix 7.1):

- Knowledge of Ustyurt biodiversity
- Attitudes towards protected areas
- Perceptions of the functions of the Saigachy Reserve
- Stakeholders that could be affected or impacted by the reserve, and could affect the reserve
- Analysis of the potential costs and benefits of the reserve for stakeholders, and the negative impacts and positive impacts stakeholders could have on the reserve
- Ideas for mitigating the negative impacts and enhancing the positive impacts of stakeholders

The length of time spent on each topic was covered at the author's discretion due to the varied positions of authority the stakeholders held. For this reason, a two-pronged approach was taken regarding the knowledge and attitude sections. A questionnaire was administered to local residents on these topics prior to the focus group. This provided more time for the cost-benefit discussion. It was assumed that the other stakeholders were more informed on the biodiversity of Ustyurt and the need for protected areas as these topics integrate with their work, and so instead they were asked to discuss trends in saiga population and the reserve more specifically.

The author facilitated the focus groups in Tashkent and Nukus with the assistance of an English-Russian translator. The Gosbiokontrol ranger's focus group in Nukus was facilitated by another researcher due to time constraints. Two research assistants conducted the focus groups with the local residents, in the Uzbek language, without the author present, due to limitations on research permissions.

3.4 Approach III – Semi-structured interviews

Nine interviews were conducted with stakeholders in Nukus and Tashkent and four interviews were undertaken in Kyrk-Kyz and Kubla Ustyurt. All but one of the interviews had one interviewee; their demographics are shown in Table 3.2.

Table 3.2: Semi-structured interview composition

Stakeholder	Location	Age range	Number of interviewees	Gender
Gosbiokontrol Employee	Tashkent	51+	1	M
Gosbiokontrol Employee	Tashkent	51+	1	M
Gosbiokontrol Employee	Tashkent	51+	1	M
UNDP Employee	Tashkent	51+	1	M
UNDP Employee	Tashkent	51+	1	M
Archaeologist	Nukus	31-50	1	M
Archaeologist	Nukus	51+	1	M
Department of Hunting & Fishing Employees	Nukus	51+	2	M
SCNP Employee	Nukus	51+	1	M
Local resident	Kyrk-Kyz	51+	1	M
Local resident	Kyrk-Kyz	51+	1	M
Local resident	Kubla Ustyurt	51+	1	M
Local resident	Kubla Ustyurt	51+	1	M

The semi-structured interviews covered the same topics as the focus groups (Appendix 7.2) and lasted one to two hours. Similar to the focus groups, the local residents were provided the questionnaire to complete regarding knowledge and attitudes towards biodiversity and protected areas prior to their interview. The local residents were selected purposefully as respected elders of the settlements. The semi-structured interviews allowed for in-depth opinions and perspectives on the topics covered. In the interviews with participants who had specialist

knowledge on Saigachy, additional information was sought to provide further detail on the current management and status of the reserve.

The author conducted face-to-face interviews with the stakeholders in Tashkent and Nukus through the assistance of an English-Russian translator. Two research assistants conducted the interviews with the local residents in Uzbek and Russian on the author's behalf.

3.5 Approach IV -Questionnaire

The knowledge and attitudes questionnaire was administered to local residents (Appendix 7.3). It was translated into Uzbek and Russian allowing local residents to self-complete it prior to the focus group and interviews. This allows for anonymity and a rapid way of collecting data (Heinen, 2010).

The questionnaire was adapted from previous questionnaires that were devised by SCA researchers carrying out similar studies in the past (e.g. Damerell *et al.*, 2011; Hogg, 2014; Mabbutt 2014,). Due to the adaptation, the questionnaire was piloted on 7 people and minor revisions were made. Participants were asked about Ustyurt ecology and conservation to create a knowledge score. The scores were calculated by giving each correct answer one point, with a total maximum score of 12.

The questionnaire then had an attitudinal section to assess views towards protected areas by addressing: i) whether participants thought species and their habitats should be protected; ii) to what degree they thought it was important to have protected areas; iii) if there should be a difference in the level of protection; iv) and if they were aware of the existence of the Saigachy Reserve.

3.6 Data analysis

All of the interviews and focus groups were translated during the time of the interview or focus group and recorded by hand. These notes were then transcribed onto the computer and manually coded into themes. Notes on the interview with

Gosbiokontrol rangers in Nukus and focus groups and interviews with the local residents were sent to the author, clarification was required on some of the transcripts and then these were coded and themed. Photographs of the interest-influence matrices were taken and then produced graphically by the author on the computer.

3.7 Ethics

Prior to fieldwork an ethics assessment was carried out to ensure the study would protect and safeguard the anonymity and confidentiality of participants. Free, prior and informed consent was sought from the participants. Participants in the focus group and interviews were informed they were allowed to stop at any time, and were asked only to disclose their employment, age range and gender.

Due to personal opinions and perceptions being shared in the focus groups and interviews, the stakeholders have been classified into three groups to safeguard and allow confidentiality on individual and group views. 'Local residents' encompass individuals and groups from Kyrk-Kyz and Kubla Ustyurt. 'Official organisations' include all the government and international organisations: UNDP, SCNP, Gosbiokontrol, and the Department for Hunting and Fishing. 'Interested parties' comprise of stakeholders with an indirect interest in the reserve such as scientists, teachers and archaeologists. They have been given reference codes, which are referred to in the results section (Appendix 7.4).

The results section contains paraphrased extracts from focus groups and interviews, they are paraphrased in part because they were translated from Russian and cannot be exact translations and in part to ensure participant privacy.

3.8 Limitations

Due to political reasons it was not possible to collect the data first-hand from the rural settlements, instead two research assistants kindly collected it on the author's behalf. The original sampling strategy included the villages of Jaslyk, Karakalpakia and Kyrk-Kyz. The author was present for the first research expedition, however on arrival to Jaslyk the team were prohibited from entering

the village so it was excluded from the second research expedition. Kubla Ustyurt replaced Jaslyk in the second expedition, but on that occasion the research team were not permitted to conduct the research in Karakalpakia. Due to these restrictions data were collected from Kyrk-Kyz and Kubla Ustyurt only.

A few of the focus group participatory exercises (such as the influence-interest matrix and cost-benefit analysis) were not carried out by some of the groups and were therefore excluded from the results for these groups. This was either due to time limitations or because they did not wish to participate in the task. For these exercises it was not possible to discuss the answers when the participants were not interested in the tasks.

Focus groups were originally planned to be assembled by age group and to comprise separate genders for the adults, as previous research demonstrated woman feel uncomfortable to speak in mixed groups. Due to practical reasons some of the focus groups were mixed gender and had a wide age range, but this did not appear to negatively impact the results. The literature search has been biased to documents, reports and journals published in English and there could be further materials of interest published in Russian or Uzbek that the author has not been able to research due to the language barrier.

4. Results

4.1 Stakeholder Identification

The stakeholder analysis exercise resulted in a list of stakeholders and their involvement with the Saigachy Reserve (4.1). The shaded boxes provide information on stakeholders that were not consulted during this study but were considered important for the implementation of the reserve, and so stakeholder perceptions were sought towards these groups.

Table 4.1: Stakeholders and their importance in respect of the Saigachy Reserve

Stakeholder Category	Stakeholder	Perceived role in Saigachy Reserve
Official organisation	Gosbiokontrol of SCNP of Uzbekistan	Governmental department delegated with flora and fauna conservation, and protected area management.
	Gosbiokontrol of SCNP of Uzbekistan rangers	Rangers with national powers and responsibility regarding natural resource inspection and control.
	SCNP	Governmental department that implements policy and protection of the natural environment including natural resources at national (SCNP of Uzbekistan) and regional (SCNP of Karakalpakstan) levels.
	SCNP of Karakalpakstan rangers	Rangers that have regional powers and responsibility.
	UNDP-GEF	The project has been conceived and implemented through UNDP's wider programme on implementation of CBD strategic plan in Uzbekistan 2011-2020.
	Department of Sports Union for Hunting and Fishing of Karakalpakstan	Governmental union of the hunters and fishermen who are familiar with the region and occasionally consult SCNP.
Local resident	Residents of Kyrk-Kyz and Kubla Ustyurt	Some of the closest residents to the reserve and their support is vital to realise conservation goals. In particular, reducing poaching for saiga meat and horns.
Interested party	Academy of Science,	Assisted on input for the justification of the Saigachy Reserve as archaeological monuments are found in

	Archaeologist	the reserve area.
	Saiga Conservation Alliance	Work towards long-term restoration of saigas and enable their support through education activities, monitoring of saigas, consultation and capacity building for saiga conservation. This organisation has been working with local residents with the goal of increasing positive attitudes and behaviour towards saiga conservation.
	Academy of Science, Scientists (biologists)	Interested in biodiversity preservation and research expeditions to the reserve. They help to record and monitor biodiversity in Ustyurt and adept to provide consultation.
	Teachers	New material for the curriculum in terms of educational literature and potential educational field trips to the reserve. Teachers also play an important role in promoting positive environmental behaviour to their students.
Official organisation	Border troops	The reserve is adjacent to the Kazakh-Uzbek border, which is securely patrolled and they could coordinate with the rangers of the reserve.
	National Government	The reserve will protect a national and internationally important species as well as preservation of the Ustyurt ecosystem. The designation will help fulfil obligatory national conservation targets.
	Regional Administration	The reserve is designated in their semi-autonomous state and they will share responsibilities of the national reserve.
Interested party	Media	This was added during focus group discussions in Karakalpakstan and their role could be widely important in future promotion of the reserve.
	National and international public	Nationally, saigas are of cultural importance and part of Uzbekistan's natural heritage. Internationally, there is conservation interest and support as saigas are historic and migratory.
	Oil and gas companies	Prospects for oil and gas in Ustyurt. They are instrumental to the implementation of the reserve through the biodiversity offsetting project.
	Tourism agencies	This was added during focus group training with the researchers. This group could be important in the future promotion of eco-tourism at the reserve.

4.2 Local residents' knowledge on biodiversity

The questionnaire was administered only to the local population in Kubla Ustyurt and Kyrk-Kyz during focus groups and interviews, so the total sample size was 34.

Overall, fairly high levels of knowledge were found on the topic of Ustyurt biodiversity with an average score of 8.4 out of 12. Knowledge was higher on average within the 51+ age group (Figure 4.1).

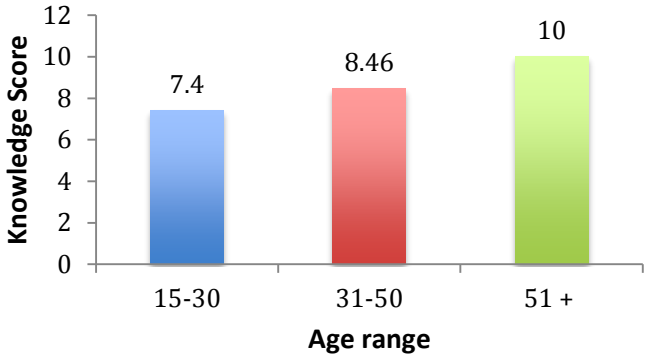

Figure 4.1: Average knowledge scores of Kyrk-Kyz and Kubla Ustyurt inhabitants

4.2.1 Local residents' perceptions of saiga ecology and trends

Overall, the focus groups and interviewees noted that the population of saigas is in decline and their numbers do no exist like in previous times (FG7). One participant said: '*in former times there were many saigas in the area, which even happened to walk in the streets of the village [Kubla Ustyurt], but then saigas disappeared, along with wolves'* (FG9).

In open conversation local residents did not speak much on the issue of poaching but they listed "hunting by people" as the greatest threat facing saigas (Figure 4.2).

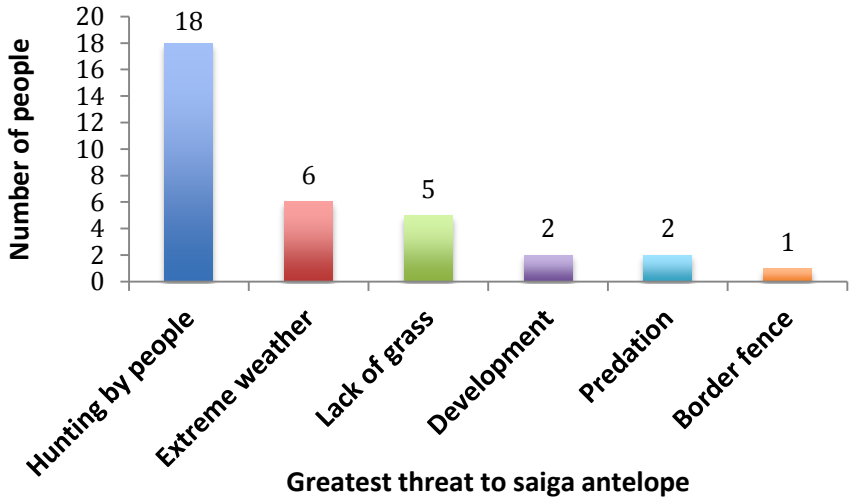

Figure 4.2: Local residents' views on greatest threats facing saigas

The majority of the participants were familiar with the current saiga legislation, when asked, "From what you understand about your local wildlife regulations:"

It is always illegal to hunt saigas	I don't know	It is legal to hunt to hunt saigas
24	7	3

Extreme weather was cited as the second greatest threat facing saigas. One participant reflected on climatic trends:

'*This year it rained greatly in spring and as a result there is much grass. Prior to this, there was very little rain in spring and little snow in winter for 7 or 8 years running. I associate this with the shrinkage of the Aral Sea, because when the lake was normal size it rained frequently in the area and there was more grass'* (I8).

During discussions participants acknowledged the issue of the border fence blocking the migratory route of saigas (I9, I8, FG8). One of the comments stated: '*in former times saigas used to cross the area in large herds, Almambet was their breeding place, now there are very few saigas'* (I8).

4.2.2 Local residents' attitudes towards protected areas

The questionnaire asked the local residents, "Do you think animals and their habitat should be protected?"

Yes	Don't know	No
31	2	1

Local residents were asked if they agreed with the following statement, "It is important to have a geographically defined area that is designated and managed to protect and animals and their habitat."

Strongly Agree	Agree	Don't know	Neutral
18	7	8	1

They were also asked "Should some areas be more strictly protected than other areas of Uzbekistan?"

Yes	Don't know	No
27	6	1

Activities that could be limited or prohibited in the Saigachy reserve were discussed with local residents. It was often mentioned that hunting should be prohibited in the reserve (I9, FG8, I11), and any activities of the oil and gas industry (I9, FG10). In addition, restricting access to people was cited (I8, FG9, FG8).

4.3 Local residents' perceptions towards the existing Saigachy Reserve and its functions

There was a mix of knowledge of local people who had heard of the Saigachy Reserve (I8, I9, FG4, FG9, FG7, FG8) and those who had not (I11, I10, FG7, FG6, FG4). The impression presented was that those who knew about the reserve felt that it did not fulfil conservation goals:

'*It is impossible to conserve saigas in Uzbekistan. There are no rangers and there are no saigas. The government of Kazakhstan does everything to ensure the protection of saigas: cars patrol the area, if they see a suspicious vehicle they order it to stop and inspect it carefully. If they cannot catch-up with the vehicle they call for helicopters. As for Uzbekistan, last year they put a hut for rangers near the border of Saigachy but no rangers live in it*' (FG9).

There were also feelings of mistrust towards the rangers, two of the views that were expressed:

'*Rangers go as far as Lake Sudochye where people go fishing, they collect money and return. If they placed ranger huts in our village [Kubla Ustyurt] and Jaslyk and employ rangers from these villages then it would bring some results*' (FG9).

'Rangers penetrate the territory where they pick up saiga horns to sell' (FG7).

'The border of the territory [Saigachy] should be marked by signs' (I9). '*People say there are no signs around the territory of the reserve'* (I8). This suggests that the boundary of the reserve is not clearly marked or known, however this will be addressed as UNDP have supplied 50 signs to be erected on the reserve boundary with the re-designation.

One respondent wished '*the idea of restoring saiga did not remain on paper but was made a reality'* (I10).

Recognition of the paper park led to queries regarding the kind of activities that currently occur in the Saigachy territory since it is not under enforced protection. One group did not know whether the area of the reserve was used or not (FG4). A few local residents said nobody visited the territory unless their livestock went astray there (I9, FG9). They also believed oil and gas maintenance workers and researchers monitoring the Aral Sea passed through the territory (I9, I10).

Some local residents revealed the reserve is visited by poachers (I9, FG7, FG6). On the other hand, it was said '*There were many poachers in Kyrk-Kyz but now they do not hunt as there are no saigas'* (I11) In another group there was a divided opinion as to whether '*poachers from Kyrk-Kyz visit Saigachy'* (FG7).

4.4 Local residents' perceptions of interested or influential stakeholders

Local residents' opinions were sought on stakeholders they thought might be affected by the re-designation either in a positive or negative way. The general theme, which came out of the discussion, was that local people would not be affected by the re-designation as the reserve is a great distance away from them (I9, I8, I10, FG6). Some of their views:

One respondent said that '*local people either in Kyrk-Kyz or in areas closer to Saigachy might not have any interest in the reserve, as the area is too remote from any villages and the people could not use it anyway*' (I10).
'The reserve is too remote; it is of no use [to anyone]. If it were closer it would be good. It is difficult to give excursions there. Nobody will go there – it's too far away' (FG6).

Local residents found it difficult to identify who the stakeholders of the reserve were. For this reason, and to facilitate a continuous dialogue and flow during focus groups and interviews, it was suggested that they consider the following stakeholders; local people, national and international public, scientists and conservationists, regional administration, national government, oil and gas companies. The discussion of the stakeholders provided the general opinion that these stakeholders were not interested in the reserve:

'*Local people do not enter the reserve as the territory is quite remote. The citizens of Uzbekistan have neither interest nor influence. Foreign citizens only come to visit the area and leave again, they have no influence. Scientists should pursue policies for nature protection but they do not have the funding. The regional administration have no influence either as they have difficulties reaching the territory, through absence of transport and fuel, and therefore cannot control the territory. The national government should have concern over the reserve and involve our neighbours. Oil and gas companies will harm the reserve area as trucks and equipment produce noise and frighten the animals*' (I9).

'None of the organisations have anything to do with Saigachy. Local people do not use the area in any way, as it is situated very far from any of the villages, the national and international public is not interested in it in any way either, the local administration, as well as the national government, do not care at all about what happens to the reserve, oil and gas companies do not have wells or pipelines in the territory of Saigachy' (I8).

4.5 Official organisations' perceptions of saiga ecology and trends

Knowledge and opinions were sought regarding reasons for the decline in saigas from the representatives of official organisations. They also acknowledged that in previous times saigas roamed in greater numbers:

'*In 1988, we took part in monitoring activities and we saw at least 60,000 saigas as we stopped monitoring them because they seemed to be in healthy numbers. It was agreed it would be okay for people to kill up to 10,000 as people were interested in the meat. But the monitoring study did not count males and females, during the Soviet Union time the sex balance was not an issue so we didn't study it*' (FG1).

There had also been a case which suggested a change in predator-prey dynamics due to the reduction of saigas:

'*There are registered cases 2-3 years ago where wolves attacked livestock due to the lack of saigas. The local community addressed the government to apply for a gun as wolves were attacking more frequently. SCNP had asked our department but nothing further came of it*' (I1).

Predominately the main reasons cited for the decline were the border fence (FG2, FG3, I3), poaching (FG2, FG3, I3) with a few stating the anthropogenic disturbance from the oil and gas companies (I1). Some of the interesting points were:

'*There is a short pass where saigas can go through [border fence] and poachers wait near it until saigas arrive. It is difficult to find saigas on the steppe now so this makes it easier for poachers*' (I3).

'*Last year we caught 302 saiga horns from people between the Kazakh and Uzbek border*' (FG2).

'The Kazakh-Uzbek border, this is the main problem, a fence was built in 2012-2013. The fence is continuous, it was agreed it would have a 5km gap but this didn't happen so the migration is broken and the population suffers' (FG3).

'*Local people and myself believe wild animals do not belong to anyone and a natural resource free for all to use'* (FG1).

4.6 Interested party perceptions of saiga ecology and trends

The majority declared the reason for the decline was poaching (FG10, FG11, I12, I13) followed by the border fence (FG10, I13), reduction of food base (FG10) and oil and gas companies causing disturbance in the area (FG10). A few of the interesting comments were:

'*Overall there is a strong decline due to people becoming rich with horns used for medicine'* (FG11).

'*In 1997, there were many saigas during a visit to the Ustyurt plateau…back then the plateau was quieter, we only saw one border patrol soldier on the trip but this was pre-oil and gas expansion'* (I12).

'In 2000, saiga was sold openly along the railway, fried saiga meat with potato but nobody sells saiga meat now… Saiga hunting is prohibited and there are no saigas now' (FG11).

'*Poaching is the main threat, in Karakalpakia there are many poachers'* (I13).

Overall, the three groups have a similar view that poaching is the main reason for the decline of saigas. Every group recognised that saigas were in plentiful numbers during the 90s but their numbers have diminished now. All of the groups connected the decline of saigas into the wider ecosystem, the local people cited extreme weather affecting saigas, official organisations spoke of predator-prey dynamics and interested parties spoke about the reduction in the food base for

saigas. One difference was local residents stated extreme weather as the second greatest threat to saigas where as the official organisations and interested parties said it was the border fence.

4.7 Official organisations and interested parties' perceptions towards the existing Saigachy Reserve and its functions

Official organisations and interested parties identified the reserve as being visited by poachers (FG2, I12, I13). Enforcement has been difficult to implement, especially as they have to overcome '*weak technical and financial support from the government'* as one official organisation mentioned. Currently, it seems the rangers and staff involved in tackling poaching are not being supported or given the capacity or resources to do so.

One of the official organisations stated they would patrol the Saigachy Reserve if they had a working car. '*We use our own car and fuel expenses and visit once a month. There is one group stationed in Nukus and one group close to the plateau and they are involved more so. The group from Nukus only go once a month'* (FG3).

'*Poachers have really good vehicles and motorbikes. Rangers have cars but these are not as fast as motorbikes so they cannot catch them'* (I3).

The work of the rangers appeared to be simplified by one individual of an official organisation, when asked to comment if the re-designated zones would be respected by the local residents, '*This depends on the work of the rangers. There are not many people who live there, therefore as long as they are made aware of the rules, everything should be fine'* (I2).

It was acknowledged by an official organisation that poaching is part of a wider problem that needs to be tackled:

'Poaching and hunting provide additional income, people need to be given more jobs. People know saiga horn is good for medicine and receive high prices for it. In

Karakalpakia the law is strict on people [penalties and fees] but SCNP are in Nukus and far away from the poaching activity' (I1).

They continued by highlighting the problems currently facing the reserve:

'*There is not enough transport to this area for monitoring and not enough specialists or technical people, and lack of materials and resources. There is little awareness about the reserve for both local people and people who work in this sphere. Scientists do not live in this area, they live in the city so they are detached from the situation'* (I1).

They did not display confidence in the restoration of saigas:

'*Prohibition will never lead to anything good [strictly protected zones], it is impossible for twenty-four hour protection so people will continue to hunt and shoot. For example, the pheasant population decreased so it became prohibited to hunt them, the government raised fines greatly but there has been no improvement or results and the low pheasant population has not grown in five years'* (I1).

Additionally, official organisations mentioned the reserve is marginally used by herders (FG2, I4,). One participant said '*People who own livestock – around 10% of the population have an interest in the Saigachy territories. They can have an impact as they have chaotic movements with livestock'* (I6).

Furthermore, official organisations and interested parties mentioned maintenance workers visited the area either for oil and gas work or monitoring of the Aral Sea (FG2, I12).

The overall tone was that practical conservation was required to make saiga conservation a reality. When asked to comment on obstacles required to overcome the implementation of the reserve, one participant responded:

'*Not the easiest but not the hardest task to do, saiga is a migratory species, and so the three republics [Russia, Kazakhstan & Uzbekistan] need to find a common solution.*

We have everything on paper, [protection status, action plan, memorandums] but without action nothing will come of it' (I4).

It is evident the stakeholders groups realise the current goals of Saigachy are not being achieved, local people and official organisations attributed this to poor management and governance.

4.8 Official organisations' and interested parties' perceptions of interested or influential stakeholders

Official organisations had the view that local people would not be affected by the reserve but poachers may be impacted (FG2, I5, I1). There was a divided opinion among official organisations on whether herders would be impacted.

'Local people will not be affected there is a lot of land between them and the reserve area so they will not be impacted. There would be a negative impact for poachers. Livestock grazing does not occur as far into the plateau so they would not be affected' (FG2).

'*Local people will be negatively impacted as their pastures will be confiscated. If work is organised for local people they can reduce the need for livestock'* (I1).

On the other hand one opinion was, '*local people are the most interested stakeholder as saigas used to be in the yards and locals use saiga meat, local people want to increase saigas and remove them from the red list and have them as a game species'* (I7).

During interviews and focus groups interested parties directed the discussions based on their work sector and how it would be impacted; therefore there was not much input from them regarding different stakeholders. One did say:

'*Tourists would receive benefits viewing wildlife. Oil and gas companies can go to other areas to explore. Local people would not be impacted, maybe if they were given jobs, and they would benefit from more saigas. Teachers, would be good as they could*

take trips out and show heritage to the students and teachers with an interest in biology and geography' (FG11).

In summary, local residents and official organisations had a similar opinion that local people would not be impacted by the reserve as it is located far away from them. The main difference was official organisations mentioned livestock herders and poachers may feel negatively impacted by the re-designation, where as local residents said herders only visit the territory when their livestock go astray. Therefore, the impact from herders appears minimal, but poaching remains a threat.

4.8.1 Official organisations' and interested parties' interest-influence matrices

This exercise was not undertaken with the local residents because they did not wish to participate or understand the task, therefore there are only matrices available from official organisations and interested parties that had the time to participate. During the focus groups, each group was asked to list the stakeholders of the reserve, this question was open-ended to understand their perceptions of the reserve's stakeholders and they were also suggested stakeholders. If they disagreed with a stakeholder that was mentioned they would exclude it from the matrix.

Gosbiokontrol were the most knowledgeable regarding the re-designation project (Figure 4.3a). Therefore, this group was familiar with the governmental bodies involved and so they added UNDP, SCNP and the Forestry department to their matrix. The group did not agree with the media as a stakeholder- '*doesn't matter to them currently, there is no news to report, no information to present currently*'- and they could not envisage them being involved in the current re-designation plan, so they were excluded from the matrix. One of the participants was sceptical of teachers as a stakeholder. They were unconvinced that school trips would run from Nukus as it is quite far away from Saigachy and the logistics, travel and effort may be too much, but he believed local village schools would make the trip and so teachers were included onto the matrix. This group were not asked to consider

tourism agencies during this discussion as the focus was on managerial stakeholders.

The group of Scientists demonstrated a high understanding of the re-designation project and therefore included UNDP in the matrix (Figure 4.3b). They made additions to the matrix of an Ecological Political Party, and were the first and only group to state the media as a stakeholder. They thought raising awareness of the reserve would be important for communicating messages both locally and nationally to support its conservation objectives. Their thought process encompassed a futuristic outlook and so they were asked to consider tourism agencies and they included them on their matrix.

The group of teachers had the least amount of knowledge regarding Saigachy, in fact, none of the participants had heard about the reserve prior to the focus group. They showed positive attitudes towards the re-designation but did not understand the role of the oil and gas companies and therefore excluded them from the matrix (Figure 4.3c). The teachers made the addition of the police to their matrix, who they regarded as important for enforcement purposes. This group was able to conceive that tourism and media may play an important role for the reserve and so included them onto the matrix.

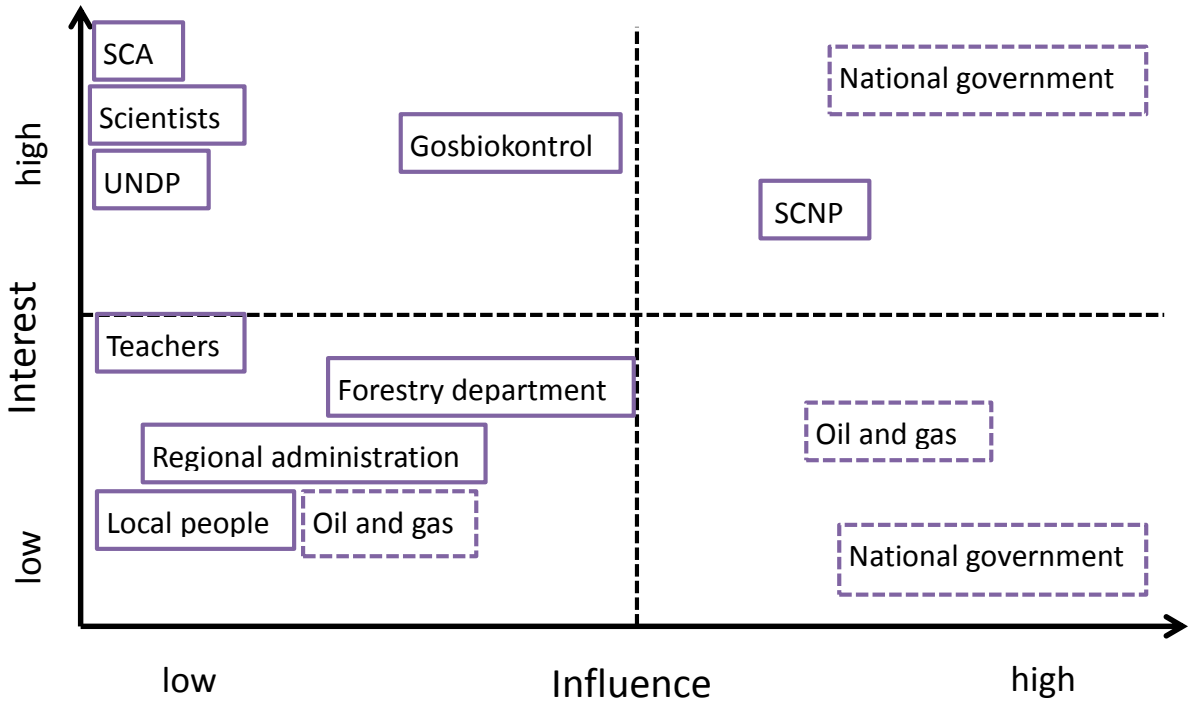

Figure 4.3a: Gosbiokontrol's perceptions of stakeholder interest-influence. The boxes outlined with a dash illustrate differences of opinion in the group regarding the position of those stakeholders. As one of the implementers of the project it is interesting to see where the placed themselves and UNDP.

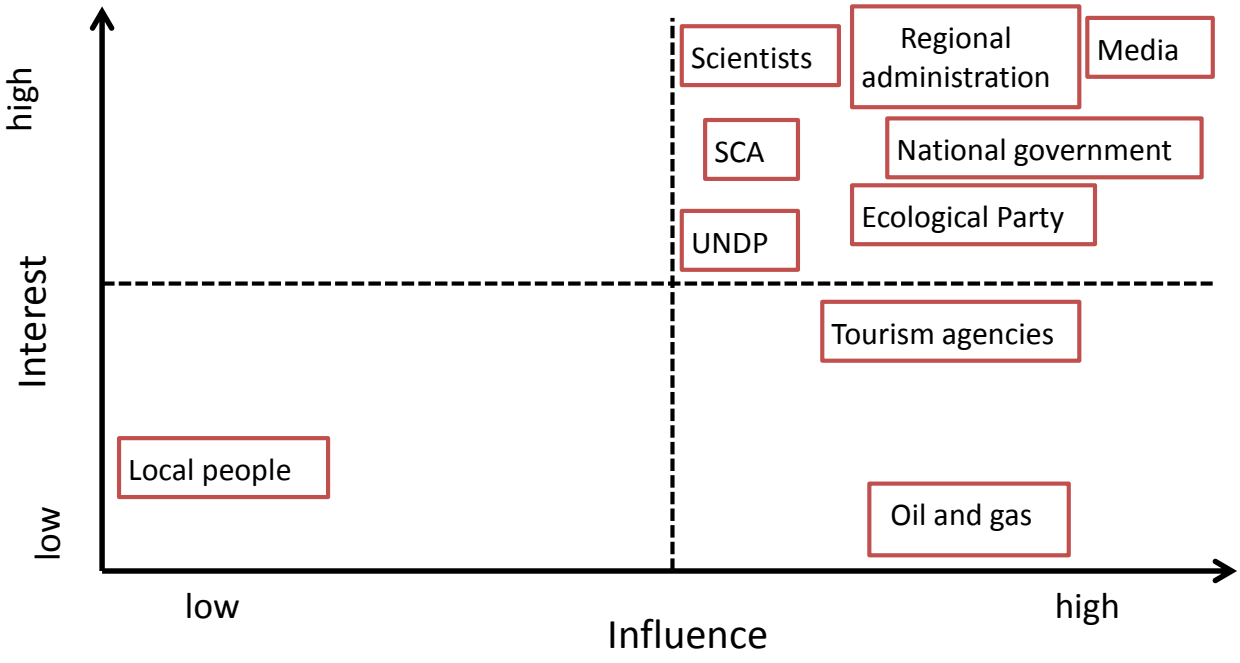

Figure 4.3b: Scientists' perceptions of stakeholder interest-influence. It is noteworthy that this group placed the media which high influence and power. It is interesting they placed themselves with moderate influence suggesting they feel their work is valued.

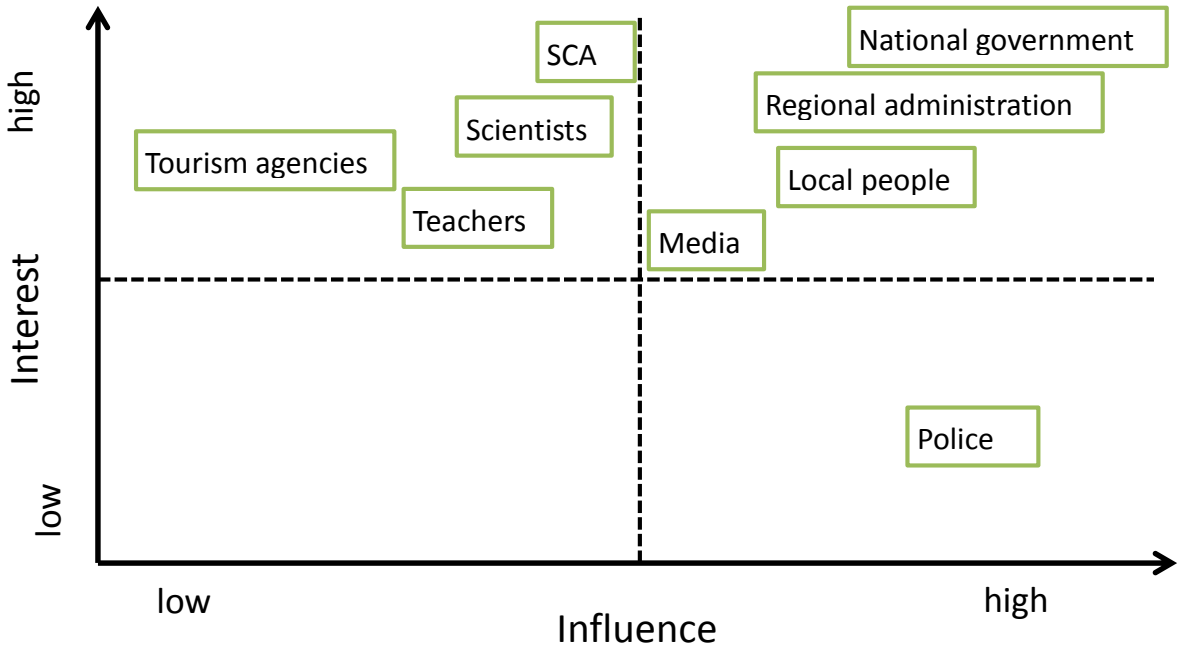

Figure 4.3c: Teachers perceptions of stakeholder interest-influence. This was the only group to add in the police, who they perceived as important but not interested in the reserve. They placed themselves in a low to moderate influence category along with technical experts. Interestingly, they placed local people with moderate to high influence and interest.

There are several interesting observations from these matrices. Firstly, the internal differences between the Gosbiokontrol group in relation to where oil and gas, and the national government stand for the re-designation, but the group did consist of representatives from different specialist departments who individually held strong views. The oil and gas companies are compensating for environmental damage through the offsetting scheme, so perhaps their interest in the reserve is not high but the foundation of the project relies on the offsetting funds to allow Saigachy to be an effectively functioning reserve. The perceptions of the interest levels of the national government were notable, but perhaps not surprising, as the re-designation is on the cusp of being initiated but it has been a prolonged period of time waiting for the government to sign-off the project. Their placement of UNDP is particularly interesting as they are aware they are the lead organisation funding this project but did not believe UNDP held any influence. Equally, they placed technical experts like SCA and scientists with very low influence.

Gosbiokontrol placed themselves with moderate influence and they are implementers of this project which may indicate how involved they feel with the re-designation.

The teachers and scientists showed a more positive outlook, perhaps because they are further removed from government processes. These two groups made the addition of the media and the police which shows a more participatory outlook. The teachers were the only group to place local people with a high interest and influence, accounting it to the reserve offering employment and if the reserve restored saigas for the benefit of local consumption.

Figure 4.3d shows the combination of perceptions from the three groups (Gosbiokontrol, teachers, scientists). Several of the differences are due to the adaptability of the focus groups and topics were covered differently in each group based on stakeholder knowledge and their responses.

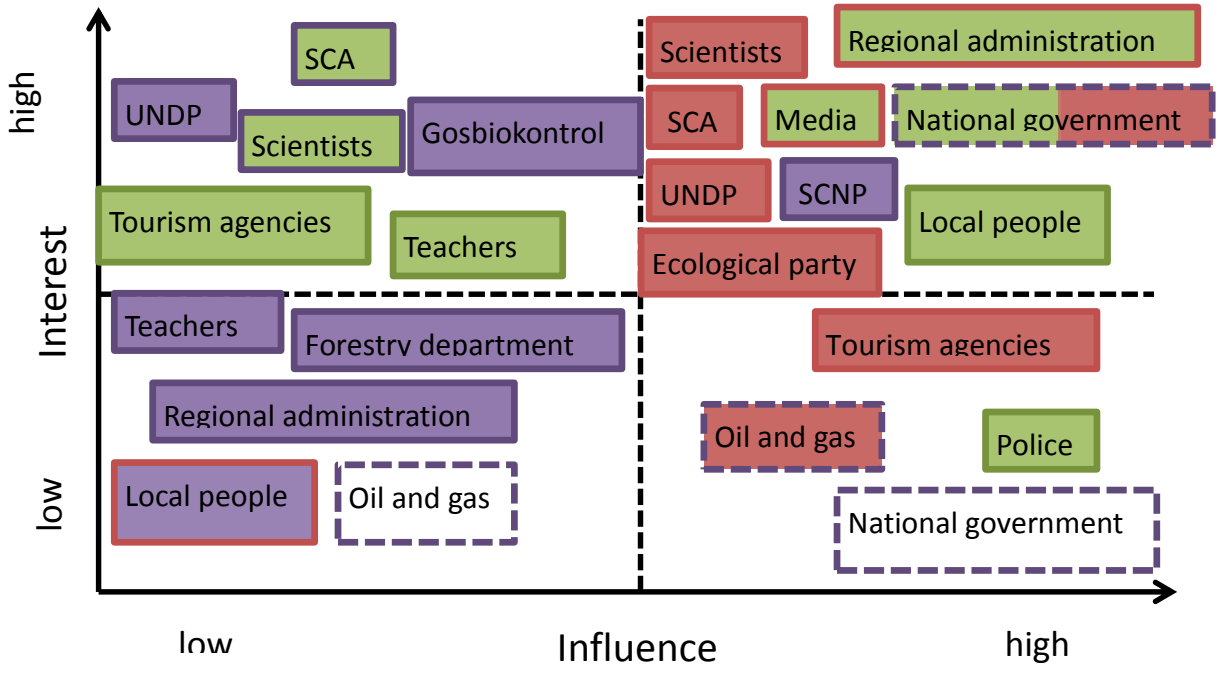

Figure 4.3d: Summary interest-influence matrix showing the perceptions of Gosbiokontrol, teachers and scientists. It summarises the i) range of positions each stakeholder was grouped into and ii) how each stakeholder varies between the groups. The colours represent the view of each group: Purple – Gosbiokontrol, Red – Scientists, Green – Teachers. The boxes with two colours or more represent a similarity of opinion from the respective groups. The boxes outlined with a dash represent a difference of opinion within the group.

4.9 Cost-benefit analysis of re-designated reserve

The cost-benefit analysis explored the perceived future costs and benefits of the re-designated reserve and the positive and negative impacts stakeholders could have on the reserve. The cost-benefit analysis individually explored the perceptions of local residents (Appendix 7.5a), official organisations (Appendix 7.5b) and interested parties (Appendix 7.5c) perceptions. A few of the groups did not provide input into the cost-benefit analysis, as they found it difficult to undertake the exercise or did not have the time (I8, FG9, FG8).

Across the stakeholder categories, local people and regional government were perceived to receive the most benefits from the re-designated reserve (Table 4.2). The majority of the perceived costs seem to affect local people. The groups who featured in having a positive impact on the reserve included: local people, the oil and gas companies and the regional government. Local people and oil gas companies were most frequently mentioned in having a possible negative impact on the reserve. Local people were the only group to feature in all aspects of the cost-benefit analysis, reflecting their potential for influence and interest in the reserve, despite them being apathetic during the semi-structured interviews and focus groups and the official organisations and interested parties not featuring them highly on the interest-influence matrices.

Table 4.2: Common points of discussion across the stakeholder groups

Benefits	Positive Impacts
Local People • Provide employment (i.e. rangers) • If the saigas are restored then saiga will return as a game animal	**Local People** • Gain employment at the reserve (i.e. construction work, eco-tourism, rangers)
National and International Public • Preservation of natural heritage	**Regional Government** • Provide resources for the reserve (i.e. transport and fuel)
Regional Government • If saigas are restored they will be able to hunt saigas and gain profit	**Oil and Gas Companies** • The reserve will receive more financial and technical support from the offsetting scheme
Scientists • Research opportunities in the area	
Costs	**Negative Impacts**
Oil and Gas Companies • Lack of prospecting opportunities	**Local People** • Hunting for saiga horns and meat
Local People • Having limited access to natural resources (i.e. livestock pastures)	**Oil and Gas Companies** • If further development occurs in the area then a negative impact on biodiversity

4.10 Mitigating negative effects and enhancing positive effects

Across the three stakeholder categories, perceptions overlapped regarding ideas to mitigate the negative effects stakeholders could have on the reserve and enhance the positive impacts stakeholders could bring (Table 4.3). An individual analysis is available for the local residents (Appendix 7.6a), official organisations (Appendix 7.6b) and interested parties (Appendix 7.6c). Official organisations did not provide input on enhancing the positive impacts due to time constraints during focus groups and interviews. It is evident there are some similarities between stakeholder expectations. The participatory approach could open dialogue from local residents, official organisations and interested parties.

Table 4.3: Common ideas across the stakeholder groups

Enhancing Positive Effects of Stakeholders	Mitigating Negative Effects of Stakeholders
Start eco-tourism in the area and employ local people for guest house construction and drivers	Additional rangers and financial support to control poaching
Use the reserve as an educational resource for schools.	Have a mixed team of rangers some local and some outsiders so there is no bias
Use the mass media to inform the public and make them aware of the issues and promote the reserve	Improvement of local attitudes through environmental education including education for oil and gas workers
	The government should provide alternative sources of income for the area

4.11 Participatory process

My overall independent evaluation of this pilot participatory planning process is that this concept is rather novel in Uzbekistan, which was reflected through the participation in focus groups and interviews. It was difficult to find people to participant in the focus groups and interviews. Often village participants would leave early in focus groups because they weren't interested in answering the questions. This generally suggested they didn't feel involved or concerned about the re-designation, or the official organisations or interested parties role with the reserve. Generally, participants in the villages did not like the participatory exercises that were suggested in the focus group protocol, they either found them time consuming, regarded them as pointless, or didn't have answers to give. Nonetheless, across the stakeholder categories, good insights and contributions were provided regarding the potential costs, benefits and impacts stakeholders could have on the reserve, which could be useful guidance for the future management of the reserve.

5. Discussion

This study suggests stakeholder knowledge and attitudes affect their perceptions and expectations for the Saigachy Reserve. Local residents have poor perceptions of the current reserve and its functions, displaying mistrust towards rangers and disbelief that the government will restore saigas as a reality. Official organisations acknowledged Saigachy would not fulfill its goals until finance, capacity and management are provided for the reserve and to allow them to undertake their work to implement a well-managed reserve. Official organisations demonstrated the Saigachy Reserve is not on their current work agenda until the government sign-off on the project, and so far UNDP have taken the main lead. Interested parties showed encouragement for the re-designation process and had a positive outlook on the future functions on the reserve.

This chapter discusses the findings and limitations of this study and places them in the wider context of protected areas in Uzbekistan. Lastly, it draws on studies from other saiga territories and the broader conservation literature, and makes recommendations for practical conservation actions and further research.

5.1 Stakeholder knowledge

Overall, high knowledge was shown regarding the status and trends of biodiversity in the Ustyurt region and local residents showed an understanding of laws regarding saiga hunting. This parallels with findings from an evaluation of environmental education across the saiga territories of Kalmykia, Kazakhstan and Uzbekistan, which demonstrated high levels of knowledge regarding saiga ecology and conservation as well as rules regarding saiga hunting (Hogg *et al.,* 2015). Additionally, the average knowledge scores were higher for the 51 + age range in this study; similarly Hogg *et al.* (2015) found elderly people were significantly more knowledgeable than middle-aged people. There were similarities across the groups regarding the main reasons for the decline of saigas; both local residents and interested parties cited poaching. Official organisations attributed the Kazak-Uzbek border fence and poaching as the main reasons for their decline. Hunting of

saigas was the accepted reason behind their population collapse in the mid-90's (Milner-Gulland *et al.,* 2001). This demonstrates the stakeholders have a good understanding of the threats facing saigas as similar conclusions have been drawn from the literature.

The Kazakh-Uzbek border fence was constructed over 2011 and 2012 and data suggests this has had a negative impact on the saiga population in Uzbekistan (Bykova *et al.,* 2015) which the official organisations have also highlighted. The harmful effects of fences on migratory ungulates has been illustrated through case studies such as the Mongolian gazelle becoming entangled and dying in wire fences on the Russian-Mongolian border (CMS, 2011). Kaczensky *et al.* (2011) stated the case for the Mongolian-China border fence to be opened in certain sections to allow Asiatic wild ass habitat to be connected. Unfortunately, despite mitigation measures being submitted to the Kazakh government (e.g. Olson 2013) the border fence appears to be having a profound impact on the Ustyurt saiga.

5.2 Stakeholder attitudes

The general attitude towards protected areas was positive across the stakeholder groups. This should provide a good foundation to build support for the re-designation of the reserve. However, whether this will limit saiga poaching remains to be seen, as increasingly research shows that positive attitudes towards a resource do not link to positive actions necessarily (Ite, 1996; Alexander, 2000). Natural resource exploitation is intrinsically linked to rural poverty (Mainka & Trivedi, 2002), and although this study did not explore socio-economic factors of the region it has been researched (e.g. Bykova & Esipov, 2004; Kühl *et al.,* 2009, Phillipson & Milner-Gulland, 2011). The main conclusions from these studies found increased incomes to the people residing in Ustyurt would probably reduce illegal poaching as it is regarded as a low prestige activity primarily undertaken by unemployed individuals. The stakeholders in this study recognised the need for rural empowerment through employment opportunities, which is a potential benefit the reserve could bring to the area. Several of the suggestions included utilising local knowledge and so local people could act as guides and rangers, along

with jobs such as drivers and construction work. The only drawback of this benefit is that eco-tourism to the area would be implemented only in the longer-term once the ecology has been restored to the reserve as the wildlife would attract tourists. This would also require strong support from the regional government as this area is tightly guarded and has restricted access to visitors, which was experienced through the data collection of this study and the reserve is even closer to the Kazakh border than Jaslyk, one of the villages we were not permitted to enter. It seems plausible that tours from schools from the surrounding villages could occur in the near future, with the possibility of tours running from Nukus too, a participant in the Gosbiokontrol focus group emphasised arranging logistics to visit the reserve from Nukus would require effort and planning and may not be a reality at the moment.

On a positive note, there is scope to expand the existing tourism that is brought to the region to visit famous sites such as the Aral Sea and the Savitsky Art Museum in Nukus which holds the second largest collection of Russian avant-garde art (Karakalpak Museum of Arts, 2013). Currently there are several tour operators (e.g. Advantour, Centralasia-travel, Orexca) conducting tours in Karakalpakstan and one employee of this industry commented 'last year almost 300 non-nationals went on camping trips to the coastline [Aral sea], and numbers are increasing,' (Lochner, 2014). Many of these tours include an overnight stay which opens the possibility to overnight stays at the Saigachy Reserve. UNDP Uzbekistan said the buffer zone would allow construction of guesthouses for the purpose of ecological tourism (I6). Therefore tourism opportunities exist should the reserve restore wildlife populations.

5.3 Stakeholder interest and influence

Official organisations and interested parties did not regard local people to be either interested or powerful regarding the re-designation, but they were one of the few user groups of the reserve territory, suggesting their support should be enlisted. Marginalising stakeholders could cause alienation and rejection of the management plan (Bottrill & Pressey, 2012). It is important for local residents to

be informed prior to a re-designation otherwise a 'business as usual' approach will be adopted by them and unauthorised activities like poaching and livestock pasturing will continue. The placement of stakeholders on the interest-influence matrix echoed Soviet methodologies of strictly protected areas and top-down enforcement approaches, particularly seen in the case of the Gosbiokontrol matrix. They positioned themselves with a much lower authority than SCNP but are the designated department who will oversee management of the Saigachy Reserve. Although perhaps their approach is changing as one participant was emboldened to categorise the national government with low interest in the reserve, as a result of the long bureaucratic processes involved with nature conservation.

5.4 Who will be impacted by the re-designation?

Interestingly, the predominant theme from local residents, official organisations and interested parties was local people would not be impacted by the reserve as they reside a great distance away from it. The opinions and views of local people not being impacted by the reserve are broadly true as it appears only herders and poachers visit the area, and then only infrequently. The zonation of the reserve should prevent problems arising from herders, this leaves poaching to be tackled. There did appear to be a gap in realising the overall goal for Saigachy is to restore and preserve saigas and that local poachers have had a profound impact on the decline of the species. It is difficult to say whether stakeholders believe that due to the current very low saiga population minimal poaching is occurring or that resources to help enforce the reserve will make this problem negligible. Saiga poaching may not be as prevalent as it once was, as the cost-effort has increased since the 1990s onset from the drastic decline in their migratory range, especially seen in Ustyurt (Kühl *et al.,* 2009). Poaching was mentioned by each stakeholder category so it would be fair to say it will be one of the biggest threats to the Saigachy Reserve.

5.5 Reviewing the past and present to provide for the future

A challenge will be overcoming the perceptions of the current functions of the reserve. Local residents displayed distrust towards the managers and rangers and this will need to be overcome so that it doesn't impact on future implementation of the reserve. Another study found similar results regarding local residents holding negative perceptions towards governmental management of protected areas, and indicated this may give rise to perceptions that the government should not solely be responsible for the management of protected areas and perhaps a more inclusive participatory approach to management may be promoted (Dimitrakopoulos *et al.,* 2010). Research has shown that past conservation practices have a long-term influence on attitudes towards conservation (Newmark *et al.,* 1993; Ite, 1996). Therefore it is important to account for historical influences that drive stakeholders' perceptions during the planning process for the reserve, such as the previous poor management and governance of the reserve.

The perceptions of the official organisations were similar to local residents with regards to not enough is being done to control poaching and having the resources to tackle it. They also showed disbelief in the project as they referred to the decline of pheasants as analogous to the saiga situation in terms of hunting prohibition which has not alleviated the situation due to the lack of enforcement and action plans. These perceptions offer a good starting point for highlighting the issues to be tackled in the management plan for the reserve.

The perceived costs and benefits of the reserve can help to manage stakeholder expectations and align their attitudes prior to the designation. A study by Vodouhê *et al.* (2010) showed community perceptions of biodiversity conservation were strongly linked to locally perceived benefits. The suggestions provided in the cost-benefit analysis, and methods for enhancing and mitigating positive and negative impacts from stakeholders could be incorporated if management consultation is carried out for the park. Understanding perceptions can help direct methods to improve the relationship people have with the reserve.

5.6 Evaluating the participatory planning approach

Overall this methodology was difficult to undertake in the region, partly due to the restrictions on access to the settlements and partly due to the unfamiliar concept of this research process to the stakeholders involved. One qualitative study in Kalmykia suggested people thought the authorities ought to be responsible for handling environmental problems, this was connected to a culture of collectivism adopted from the Soviet era (Waylen *et al.,* 2012). Waylen *et al.* (2012) found this cultural link to the past had limited people's perceptions of their role and capacity to take action to help the environment, as the Soviet systems had a top-down approach to management and enforcement. Equally, the political setting in Uzbekistan does not welcome open discussion on authority and perhaps participants did not feel comfortable speaking about the reserve. This is reflected through the data collection; the participants unexpectedly canceled one focus group that had been pre-arranged in Kubla Ustyurt after understanding that the discussion might cover saiga hunting, and one of the official organisation focus groups included the employees plus the head of the department being present, making it hard for the employees to speak freely. Additionally, some of the stakeholders may not have felt empowered with enough knowledge to hold perceptions and opinions towards the reserve. Alternatively, they could have reflected similar views to Waylen *et al.* (2012) and their culture has led them to have perceptions that they as individuals cannot improve saiga conservation.

Despite these obstacles, some good data was collected from the stakeholders demonstrating that when consulted they can make helpful contributions. A few of the positive outcomes were that one focus group showed great appreciation that the team were taking the time to listen to their opinions and values, and two of the focus groups listed stakeholders that the study did not ask them to consider displaying initiative and widening the picture of the stakeholders connected to Saigachy. Pimbert and Pretty (1997) argued that participation by consultation will not lead to action by local people; they categorised participation into seven different types, and they corresponded it to a top-down approach of participation. Although this study has adopted a top-down approach of participation it was the

most suitable method for the circumstances, as a first attempt to align stakeholder perceptions and expectations of the reserve. It has hopefully opened the possibility for further participatory approaches to take place and expand in the Ustyurt region.

Based on Pimbert and Pretty's (1997) participation typology, cases of bottom-up participation have been demonstrated in Uzbekistan, which involves participants forming groups or self-mobilising for an initiative. An example of this includes the Surkhan Strict Nature Reserve and community-managed buffer zone, the outcomes of this project could offer further insight into bottom-up participatory planning (UNDP, 2004). Another case is shown through the participatory monitoring of saigas that SCA is operating in Ustyurt and which is also being carried out in Kalmykia and Kazakhstan (Dorward *et al*, 2013; SCA, 2015). This has involved local residents being trained to undertake an annual saiga population survey (Offord, 2011), and has produced successful results. Participatory processes are emerging and currently being piloted in Uzbekistan complemented by the legal framework to support them, therefore this approach does show promise as a tool for planning processes.

5.7 Recommendations for saiga conservation in Ustyurt

The outcome of this study has highlighted several recommendations for future saiga conservation work in Ustyurt and other saiga territories (Table 5.1); it applies the CMS's saiga work programme prioritisation method and categories (CMS, 2010).

Table 5.1: Recommendations for the re-designation and saiga conservation in Ustyurt

	Measures to be taken	**Urgency[1]**	**Timescale[2]**
1.0	**Prior to re-designation**		
1.1	Strengthening anti-poaching patrols across the Ustyurt saiga range.	1	A
1.2	Provide consultation for the Saigachy management plan with indicators for both social and biological data.	2	A

	Measures to be taken	Urgency[1]	Timescale[2]
1.3	Provide information to local residents regarding the re-designation process and celebrate the protected area re-designation with local ceremonies and national ones so the media and national government can get involved.	2	A
2.0	**Post re-designation**		
2.1	Develop an educational programme at the reserve for schools to benefit from field trips and ecological lessons.	2	B
2.2	Run workshops and capacity-building days for the future rangers of Saigachy to build morale and their knowledge base.	1	A
2.3	Continue independent evaluations of saiga conservation interventions. In particular, a comparison of local resident's perceptions after the re-designation has been well established.	2	B
2.4	Strengthen relations with the saiga conservation team in Kazakhstan and work towards a trans-boundary protected area across the Kazak-Uzbek border.	1	B
2.5	A study on ranger motivations and what factors influence their determination in Ustyurt.	2	A
3.0	**Human Factors**		
3.1	Expand alternative livelihood programmes for rural empowerment and reduce the income need from poaching.	2	B
4.0	**Awareness**		
4.1	Continue education and awareness campaigns on the importance of saiga conservation as a component of the health of Ustyurt ecosystems. This could connect the well-known environmental degradation issues in Karakalpakstan (resulting from the Aral sea disaster) to wildlife conservation and could help people relate to these issues.	2	B
4.2	Continue saiga education interventions and work with the current generation to take social responsibility for saiga conservation by focusing on the long-term benefits of saiga restoration.	2	B
5.0	**Country-wide**		
5.1	Further work on lobbying for environmental legislation change and a stronger legal framework to allow pilot projects to be scaled across protected areas in Uzbekistan.	1	A
5.2	Continue to gain the support of the regional government to allow access and undertake research in Ustyurt.	2	B

[1] Urgency: 1 – Urgent (critical to prevent species decline) 2 – Important (required for the stabilisation of the species).

[2] Timescale: A – Immediate (1-2 years) B – Medium-term (5 years).

5.8 Recommendations for further research

The study relates to broader lessons for research on participatory planning in the region:

- Deeper understanding of appropriate participatory processes depending on the political setting
- Review the former Soviet states' protected areas and evaluate social outcomes and evaluation strategies
- Evaluate the expansion of participatory monitoring to other biodiversity in the region (e.g. monitor important habitat, like plants favoured by saigas). Study the feasibility of local residents working with rangers to strengthen relations between them.

5.9 Conclusion

This has been an independent evaluation of stakeholder perceptions towards the imminent re-designated Saigachy Reserve. It has provided a platform for the broad spectrum of knowledge, attitudes and perceptions held across the different stakeholder groups and shown it is possible to align their expectations to benefit the conservation goals of the reserve. It piloted a participatory process to engage with stakeholders of the reserve which was met with mixed outcomes. There does seem to be scope to extend participatory processes but it needs to include the recognition and support of the society involved. Overall, the re-designation of the Saigachy Reserve will have minimal impact on the stakeholders but there are issues such as poaching, park management and enforcement that should feature high on the agenda for the final stages of implementation of the reserve.

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7.0 Appendices

7.1 Focus Group Protocol

Please record:
1) Date 2) Name of village 3) FGD number 4) Facilitator names

Introduction to focus group
[Greet and welcome]

"Thank you for coming today! We are conducting research on behalf of the Saiga Conservation Alliance. We're conducting a study on the opinions and values people have regarding nature on the Ustyurt plateau. We would like to have a group discussion that will take no longer than 2 hours and it will be anonymous. We will not record your name or share your answers with other people in the community or the authorities. Are you happy to take part?"

"Today we will begin with a short questionnaire and then move onto a group discussion relating to the environment. There are no right or wrong answers we are interested in your views and opinions. Please allow everyone to share their views and try not to speak over one another. The discussion will be addressed through the help of group exercises. "

Icebreaker
Ask everyone to briefly introduce themselves. [Start with researchers]

Administer the questionnaire
"Before we start the discussion please could you fill these surveys in individually. It should take around 10-15 minutes to complete"
[collect questionnaires]

Topic 1: the reserve
"Thank you for filling in the questionnaire. Let's start the discussion by deciding as a group if you think animals and their habitat should be protected and if we could come up with the two best reasons as to why."
[Note down their answers]
[Show the reserve map]
"This is a map of an area close to here." (Point out some of the main villages close to it: Jaslyk, Karakalpakia, check they understand where the area is)
"Do you think anybody goes to this area and for what purpose?"
[write down their responses if its yes or no and the reasons people use it or don't use that area]

[show the second map with the saiga distributions]
"This is the same area but this time it shows the locations that saigas migrate to during the winter. If you were responsible for managing this area with the goal

being to restore saiga populations. What kinds of human activities would you limit or prohibit?"
[On A3 paper make two columns; one limited, one prohibited and record extra notes on why they think it should be limited, prohibited or neither of these]

(If the group cannot think of activities, prompt them with the cards provided that have the following activities listed: mining, road construction, plant harvesting, hunting, livestock grazing, oil prospecting and any other activity that comes to their mind - and place in the limited or prohibited column)

[show the reserve map again]
"This map shows the area that is in the process of being re-designated from a regional to a national reserve. The designation of the Saigachy reserve is being led by SCNP. The reserve will consist of six strictly protected areas that will prohibit activities except scientific monitoring, this will provide an undisturbed area for saigas to breed during their winter migration. The reserve will also have a buffer zone, which is the area around the strictly protected areas that allows for limited activities to take place. Some of the proposed limited activities in the buffer area include ecological tourism, plant collection and limited livestock grazing. The overall objective of the reserve is to protect and restore saigas."
[record any thoughts or comments anybody says]

Topic 2: stakeholders
"This designation may affect different people or organisations, in different ways, can you think of any? For clarification, this includes anybody who has an interest in the reserve, either in a positive or negative way."
[Write down on A3 paper for the group to see]

(Do not spend much time on this, you can suggest stakeholders and ask if they agree to add it to the list. Stakeholders should include: local people, national and international public, scientists and conservationists, local administration, national government, oil and gas companies, teachers, SCNP, non-governmental organisations like Saiga Conservation Alliance)

[Bring out the influence-interest matrix]
"As a group please decide where you would place each of these groups onto this matrix. One axis displays an increase in interest levels in the reserve and the other axis shows the influence (or power) that group of people can have on the reserve, from low to high."

(provide an example if required. An easy method is to number the list of stakeholders previously written and ask them to put numbers on the matrix, going through the list one at a time)

Topic 3: potential costs, benefits, challenges and opportunities to stakeholders
"Now let's start to think about some of the ways in which six of these groups may be affected by the reserve. There is a sheet of paper for six of the groups we discussed: local people, national and international public, scientists and

conservationists, local administration, national government and oil and gas companies."

"On the top left hand side of each paper there is a box. Use this space to write potential costs to that particular group. For clarification, this means reasons that the reserve may negatively impact that group of people. Try to write at least three reasons"
[If there are any blank boxes, ask and note down why]

"On the bottom left hand side of each paper, write the potential benefits of the reserve for that group. For clarification this means reasons why the reserve could be important to that group. Try to write at least three reasons for each group."
[If there are any blank boxes, ask and note down why]

"On the top right hand side of each paper, please think of reasons as to how that group of people could have a negative impact on the reserve. For clarification, this means how that group of people could damage or reduce the effectiveness of the reserve. Again try to come up with at least 3 reasons for each group."
[If there are any blank boxes, ask and note down why]
"Lastly, on the bottom right hand side of each paper, try to think of at least 3 positive impacts that group of people could have on the reserve. For clarification, this means how that group of people could have a good influence on the reserve."
[If there are any blank boxes, ask and note down why]

[Then bring everyone together once all 4 cells are complete for all the stakeholder groups. Together look for 3 of the most important benefits, costs and positive and negative impacts <u>across</u> the stakeholder groups and note these down]

Topic 4: mitigating impacts of the reserve
"It's been interesting to hear the potential impacts each of these groups could have on the reserve. I would like to know what you think are the best ways to overcome some of the negative impacts and methods to enhance the positive impacts."

[Group discussion] Working through the negative and positive impacts one by one from the stakeholder groups discuss ways to mitigate negative impacts and how positive impacts could be enhanced.
[Write down all recommendations and reasons]

Closing
"Thank you for participating and sharing your opinions and values. We were happy to hear from everyone and this will be helpful for the research of the Saiga Conservation Alliance. Today we opened up a platform to understand people's concerns and values towards protected areas, in particular the Saigachy reserve. The Saiga Conservation Alliance will continue its environmental education activities in Ustyurt and today's information will help further their work regarding saiga conservation."

"We are happy to answer any questions and welcome any comments anyone has from today. As a thank you for your time, please enjoy some refreshments."

7.2 Semi-structured interview protocol

"Good morning/afternoon. My name is (interviewer's name). We are carrying out research on behalf of the Saiga Conservation Alliance to understand knowledge and attitudes towards the steppe environment and conservation. We would like to ask a few questions and assure you that our discussion today will remain anonymous. Are you happy to continue?"

"Today we will begin with a short questionnaire and then move onto a discussion relating to the environment. There are no right or wrong answers we are interested in your views and opinions. "

Section A) The questionnaire

"Please could you complete this short questionnaire."
[or ask if they prefer the questions to be asked and completed on their behalf by the researcher]

Section B) Saigachy

[Show the reserve map]
"This is a map of an area close to here." (Point out some of the main villages close to it: Jaslyk, Karakalpakia, check they understand where the area is)
"Do you think anybody goes to this area and for what purpose?"
[write down their responses if its yes or no and the reasons people use it or don't use that area]

[show the second map with the saiga distributions]
"This is the same area but this time it shows the locations that saigas migrate to during the winter. If you were responsible for managing this area with the goal being to restore saiga populations. What kinds of human activities would you limit or prohibit?"
[Make a list of limited and prohibited activities; and record extra notes on why they think it should be limited, prohibited or neither of these]

(If they cannot think of activities, prompt them with the following suggestions: mining, road construction, plant harvesting, hunting, livestock grazing, oil prospecting and any other activity that comes to their mind - and record their responses, and if they disagree with an activity then why.)

[show the reserve map again]
"This map shows the area that is in the process of being re-designated from a regional to a national reserve. The designation of the Saigachy reserve is being led by SCNP. The reserve will consist of six strictly protected areas that will prohibit activities except scientific monitoring, this will provide an undisturbed area for saigas to breed during their winter migration. The reserve will also have a buffer zone, which is the area around the strictly protected areas that allows for limited activities to take place. Some of the proposed limited activities in the buffer area

include ecological tourism, plant collection and limited livestock grazing. The overall objective of the reserve is to protect and restore saigas."
[record any thoughts or comments they make]

Section C) Stakeholders: costs, benefits, challenges and opportunities

"This designation may affect different people or organisations, in different ways. For clarification, this includes anybody who has an interest in the reserve, either in a positive or negative way."

"We believe these groups of people have an interest in the reserve: local people, national and international public, scientists and conservationists, local administration, national government and oil and gas companies. "
[Ask if they agree and explain stakeholder roles if they disagree with any and see if that changes their mind.]

"We would like to hear your views on about some of the ways these groups may be affected by the reserve."

"Thinking about local people…

1) Can you think of any costs they may incur with the designation of the reserve? For clarification, this means reasons that the reserve may negatively impact them.
2) Can you think of any potential benefits of the reserve for local people? For clarification this means reasons why the reserve could potentially be important to local people.
3) Do you think there is any way local people could have a negative impact on the reserve?
4) Do you have any thoughts on how local people could have a positive impact on the reserve?"

[Take notes on all these responses and if he can't think of any ask why]

Mitigating and enhancing impacts
"How do you think these negative impacts [mentioned above] could be reduced?"
"In what ways do you think these positive impacts [mentioned above] could be enhanced?"
[Record these answers]

"Thinking about the national and international public…

1) Can you think of any costs they may incur with the designation of the reserve.?
2) Can you think of any potential benefits of the reserve for them?
3) Do you think there is any way the national and international public could have a negative impact on the reserve?
4) Do you have any thoughts on how they could have a positive impact on the reserve?"

Mitigating and enhancing impacts

5) "How do you think these negative impacts [mentioned above] could be reduced?"
6) "In what ways do you think these positive impacts [mentioned above] could be enhanced?"
7) [Record these answers]

"Thinking about the local administration…

1) Can you think of any costs they may incur with the designation of the reserve?
2) Can you think of any potential benefits of the reserve for them?
3) Do you think there is any way the local administration could have a negative impact on the reserve?
4) Do you have any thoughts on how they could have a positive impact on the reserve?"

Mitigating and enhancing impacts

5) "How do you think these negative impacts [mentioned above] could be reduced?"
6) "In what ways do you think these positive impacts [mentioned above] could be enhanced?"
7) [Record these answers]

Close

"Thank you for your time today and sharing your knowledge and views. This helps us to understand concerns and values of protected areas, in particular towards the Saigachy reserve. The Saiga Conservation Alliance will continue its environmental education activities in Ustyurt and today's information will help further their work in saiga conservation. We are happy to answer any questions and welcome any comments you may have."

7.3 Questionnaire – English version

Welcome to the focus group!

Thank you for coming today! We would like to start with a short survey, the information will be used to help collect demographic information and includes a few questions to help with our discussion today regarding nature on the Ustyurt plateau. It is important you complete this individually as the rest of the time will be spent as a group discussion.

Section 1: About You

1) Age (*tick as appropriate*)
   a. 15 – 17 ☐
   b. 18 – 30 ☐
   c. 31 – 50 ☐
   d. 51 or over ☐

2) Gender (*tick as appropriate*)
   a. Female ☐
   b. Male ☐

3) What is your occupation (*tick as appropriate*)
   a. Working ☐ Please specify…….
   b. Unemployed ☐
   c. State pension ☐
   d. Student ☐
   e. Homemaker ☐
   f. Other ☐ Please specify……..

Section 2: Nature Knowledge

4) Can you name these Steppe animals?




a)…… b)…… c)…… d)……..

5) In which countries are saiga antelope found (*tick all that apply)?*

a) Russia ☐
b) Uzbekistan ☐
c) Afghanistan ☐
d) Kazakhstan ☐
e) Tajikistan ☐
f) Mongolia ☐
g) China ☐
h) Georgia ☐

6) Can you tell me if (tick one only):

a) Both males and females have horns ☐
b) Only males have horns ☐
c) Only females have horns ☐
d) I am not sure ☐

7a) Do you know if saiga change colour during their lives (tick one only)?

a) Yes they change ☐
b) No they stay the same ☐
c) I'm not sure ☐

7b) If yes, are they:

a) A different colour when they are born ☐
b) White in the winter or fawn in the summer ☐
c) Other (describe)_____ ☐

8) From what you understand about your local wildlife regulations (tick one only)?

a) It is always illegal to hunt saigas ☐
b) It is legal to hunt saigas ☐
c) It is sometimes legal to hunt saigas ☐
d) I don't know ☐

9) In your opinion, what is the greatest threat to the saiga in your oblast (tick one only)?

a. Extreme weather ☐
b. Development and infrastructure ☐
c. Hunting by people ☐
d. Predation (e.g. by wolves) ☐
e. Lack of Grass ☐
f. Border Fence ☐
g. Disease ☐
h. Other (please state)……

Section 3: Animal conservation

10) Do you think animals and their habitats should be protected in Uzbekistan?

a) Yes ☐
b) No ☐
c) Don't know ☐

11) Please explain your answer from 10……..

……

……

……

12) Do you agree with the following statement?

"It is important to have a geographically defined area that is designated and managed to protect animals and their habitat." (*Circle your response*)

Strongly disagree Disagree Neutral Agree Strongly Agree Don't Know

13) Do you think some areas should be more strictly protected than other areas in Uzbekistan?

a) Yes ☐
b) No ☐
c) Don't know ☐

14) Please explain your answer from 13……..

……

……

……

15) Are you aware of the existence of Saigachy reserve in Ustyurt?

a) Yes ☐
b) No ☐
c) Don't know ☐

---*Thank you for completing this*---

7.4 Focus group and interview reference codes

Reference	Person/Group	Location	Age Range	No. of people	Gender
I1	Department of Sports Union for Hunting & Fishing Employees	Nukus	51+	2	M
I2	Gosbiokontrol Employee	Tashkent	51+	1	M
I3	Gosbiokontrol Employee	Tashkent	51+	1	M
I4	Gosbiokontrol Employee	Tashkent	51+	1	M
I5	SCNP Employee	Nukus	51+	1	M
I6	UNDP Employee	Tashkent	51+	1	M
I7	UNDP Employee	Tashkent	51+	1	M
I8	Village Inhabitant	Kubla Ustyurt	51+	1	M
I9	Village Inhabitant	Kubla Ustyurt	51+	1	M
I10	Village Inhabitant	Kyr-Kyz	51+	1	M
I11	Village Inhabitant	Kyr-Kyz	51+	1	M
I12	Archaeologist	Nukus	30-50	1	M
I13	Archaeologist	Nukus	51+	1	M
FG1	Gosbiokontrol Employees	Tashkent	18-51+	4	M
FG2	Gosbiokontrol Rangers	Nukus	30-60	3	M
FG3	SCNP Rangers	Nukus	30-50	8	2F, 6M
FG4	Village Group	Kyr-Kyz	15-17, 31-50	8	3F, 5M
FG5	Village Group	Kyr-Kyz	18-50	4	F
FG6	Village Group	Kyr-Kyz	15-17, 31-50	3	2M, 1F
FG7	Village Group	Kyr-Kyz	18-50	6	4F, 2M
FG8	Village Group	Kubla Ustyurt	18-50	5	3F, 2M
FG9	Village Group	Kubla Ustyurt	30-51+	4	2M,2F
FG10	Scientists	Nukus	30-50	6	3F, 3M
FG11	Teachers	Nukus	18-50	7	F

7.5 Cost-benefit tables

Table 7.5a: Local residents perceived cost-benefit of re-designated reserve for stakeholders

Benefits	Positive Impacts
Local People • Improvement in ecosystem gives health benefits (i.e. clean air) • Source of employment at the reserve (i.e. employment as rangers) • New educational resource • If the saigas are restored then saiga will return as a game animal and the meat will be cheap	**Local People** • The remoteness of the reserve makes it difficult for local people to do anything positive for it
National and International Public • If the saigas are restored then they can enjoy hunting and tourism in the area	**National and International Public** • Some are happy to help but they don't know how – propagandising is important
Regional Government • If saigas are restored they will be able to hunt saigas and gain profit	**Regional Government** • Can enhance visitor experience by providing guides and promote the reserve • Provide resources for the reserve (i.e. transport and fuel)
Scientists • Research opportunities in the area	**National Government** • Can help save the saiga which will benefit the country
Costs	**Negative Impacts**
Oil and Gas Companies • Lack of prospecting opportunities	**Local People** • Hunting for saiga horns and meat
	National and International Public • Hunting of steppe wildlife

Table 7.5b: Official Organisations perceived cost-benefit of re-designated reserve for stakeholders

Benefits	Positive Impacts
Local People • Provide employment (i.e. rangers) • If the saigas are restored they could eat the meat again • New acquaintances for local people (i.e. new rangers move to the area)	**Local People** • Providing jobs for them would help decrease poaching
National and International Public • Good for the future generation to preserve steppe wildlife	**Oil and Gas Companies** • If biodiversity offsetting is successful it will be good for providing income for nature protection • The reserve will receive more financial and technical support from the offsetting scheme
Regional Government • Could attract tourists and additional income to the region • Gaining a new protected area • If the saigas are restored then they can shoot the saigas in the future	
Scientists • Research opportunities in the area	
National Government • Restore saiga and fulfil international conservation goals	
Costs	**Negative Impacts**
Local People • They may mind that their land is being taken away from them if they think they own it • Having limited access to natural resources (i.e. livestock pastures)	**Local People** • They do not have a big effect as not many people are living there
	Oil and Gas Companies • If further development occurs in the area then a negative impact on biodiversity • With more work opportunities provided in rural territories they are increasing the pressure on pastures as more livestock is needed

Table 7.5c: Interested parties' perceived cost-benefit of re-designated reserve for stakeholders

Benefits	Positive Impacts
Local People • Provide employment (i.e. eco-tourism)	**Local People** • Utilise local knowledge (i.e. employ as guides, biodiversity monitoring) • Could help with construction work at the reserve (i.e. guesthouses)
Teachers • Good for education school trips • New educational materials	**Teachers** • Work with rangers to organise ecological lessons for students • Expand saiga education activities
Scientists • New research projects	**Scientists** • Contribute research results of new findings from research expeditions
Regional Government • Improved biodiversity and environmental conditions in the region • New laws adopted for nature protection	**Regional Government** • Provide additional protection at the state level and supply materials to the Saigachy base
National and International Public • Preservation of natural heritage	**Oil and Gas Companies** • Improve infrastructure in the territory, better for reserve management (i.e. building of asphalt roads • The reserve will receive more financial and technical support from the offsetting scheme
Oil and Gas Companies • Will have a respectable reputation for cooperating with the reserve	
Costs	**Negative Impacts**
Local People • Reduced income from hunting activities (i.e. poaching for horns) • Less pastures available for their livestock	**Local People** • Decrease biodiversity through poaching, livestock pasturing and creation of earth roads
Oil and Gas Companies • Reduced prospecting in the territory and perhaps causing economic loss	**Oil and Gas Companies** • Anthropogenic disturbance (i.e. noise, dust, stress) • Reduction of food base for steppe wildlife with further development
National Government • Reduced economic activity due to reduced development allowed in the territory	

7.6 – Mitigating negative effects and enhancing positive effects

Table 7.6a: Local residents' ideas for management of the reserve

Enhancing Positive Effects	Mitigating Negative Effects
Install yurts in the buffer zone and promote eco-tourism	Enforcing the law on saiga poaching
Promotion of the reserve either through school field trips and the children will pass information onto their parents and other children about the reserve	Allow limited development activity from the oil and gas sector and ensure they are inspected
Use the mass media to inform the public and make them aware of the issues	Provide extra protection for saigas during the calving season, enlist military support if needed
	Have a mixed team of rangers some local and some outsiders so there is no bias
	Education for oil and gas workers

Table 7.6b: Official organisations' ideas for management of the reserve

Mitigating Negative Effects
Additional rangers and financial support to control poaching
Allow herders to allow their livestock to feed in certain zones to ensure grazing is kept under control
Have a mixed team of rangers some local and some outsiders so there is no bias
Improvement of local attitudes through environmental education
The government should offer alternative income sources into the area

Table 7.6c: Interested parties' ideas for management of the reserve

Enhancing Positive Effects	Mitigating Negative Effects
Provide education materials to the schools	Enforcing the law on saiga poaching
The reserve should hire nature conservation specialists to train local people and they can employ local people as drivers, rangers, monitors, ecotourism, seasonal work and building guesthouses	Allow limited development activity from the oil and gas sector and ensure they are inspected
Use the mass media to inform the public and make them aware of the issues	Enforce oil and gas companies to compensate for any environmental damage
	Provide alternative income to the area like sustainable medicinal plant harvesting