

Technical Workshop on the Reintroduction of Scimitar-horned Oryx to the Ouadi Rimé- Ouadi Achim Game Reserve, Chad

2 – 4 May 2012
N'Djamena, Chad

Workshop Report



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Cover photo: Scimitar-horned oryx in Sidi Toui National Park, Tunisia (© Renata Molcanova)

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Workshop participants during a working group session



Group photo at the end of the workshop

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OPENING ADDRESS

***Honorable Deputies;
Secretaries General and Inspectors General;
President of Sahara Conservation Fund;
Directors General and Directors Technical;
Distinguished Experts and Guests;***

It is my particular pleasure to speak on the occasion of the opening of the technical workshop for the reintroduction of the scimitar-horned oryx to the Ouadi Rimé-Ouadi Achim Game Reserve, and to welcome to Chad, country of Toumai, our partners having come from afar, and to give you my best wishes for success.

The presence here of a number of established wildlife conservation experts is, in our view, a recognition of the efforts that the Government, and in particular the President of the Republic, deploy for the protection of the environment in general and the conservation of biodiversity in particular.

Distinguished Guests, Ladies and Gentlemen

Allow me to remind you that Chad currently has eleven protected areas consisting of three national parks, a Biosphere reserve and seven game reserves, including Ouadi Rimé-Ouadi Achim with an area of eight million hectares and situated in an arid zone. The Ouadi Rimé-Ouadi Achim Game Reserve, by its unique biodiversity, has attracted for several years our partners from Sahara Conservation Fund, who have carried out several missions there, of which the last was at the end of April 2012.

Distinguished Guests, Ladies and Gentlemen

Humanity is increasingly aware that the conservation of nature and human development are not antinomic but symbiotic. We must, therefore, ensure their genuine integration.

Your participation shows the interest that each of you gives to this workshop to reintroduce a species extinct in the wild by the negative effects of poaching and constitutes an important milestone in favor of the conservation of biodiversity.

I am assured from the start of the quality of the anticipated results and of your work during these three days by the quality of participants that I see. The results will, without a doubt, contribute to the reintroduction and improvement of the well-being of the scimitar-horned oryx in Chad.

Knowing that this work constitutes a decisive step towards implementing a reintroduction program for wildlife species extinct in the wild, I wish you much success in your work and I declare open the technical workshop for the reintroduction of the scimitar-horned oryx in Chad.

Thank you.

**Mahamet Bechir Okormi
His Excellency the Minister of Environment and Water Resources**

***Your Excellency the Minister;
Honourable Members of Parliament;
Distinguished Secretary Generals and Directors;
Dear Experts;
Ladies and Gentlemen;***

Forty years ago, almost to the day, I had the great honour and pleasure of arriving in Chad to work in your National Parks Service as a wildlife biologist on the incredibly rich biodiversity of this great nation in the heart of Africa.

During a stay that would last more than eight years, I learned not only to appreciate the incredible faunal and floral diversity of this wonderful country but also the legendary hospitality and friendship of the Chadian people.

In July 1972 I found myself for the first time in northern Chad, specifically in the town of Arada. I was there to work with the staff of one of Africa's largest protected areas, the Ouadi Rimé-Ouadi Achim Game Reserve. Created in 1969, the 78,000 km² reserve was established to protect some of the planet's most rare and spectacular creatures. The addax, dama gazelle, ostrich, Saharan cheetah and especially the scimitar-horned oryx were all present in significant numbers and represented for Chad and the entire world a unique assemblage of wonderful species.

Sadly, the calm of the 1970s was to be brutally disrupted by the events we all know too well. In no time at all oryx, addax and dama gazelles were being hunted to death and virtual extinction. For the oryx, more than the other species, the shock was irreversible because today it can be considered extinct in the wild.

Distinguished Guests, Ladies and Gentlemen

After a long absence of almost twenty years I had the chance in 2001 to return to Chad to work alongside colleagues of the National Parks Service on a wildlife inventory; something that allowed me to launch, with the support of the Ministry for the Environment, a research-training project with the support of the newly-established Sahara Conservation Fund, an international NGO established specifically for the conservation of Sahelo-Saharan wildlife.

Since 2010 this programme has allowed us to work with the National Parks Service in the Ouadi Rimé-Ouadi Achim Game Reserve, in which the last visit ended just two days ago. Fieldwork has confirmed the enormous potential of this vast protected area, including the possibility of restoring its large mammal fauna and especially the reintroduction of the scimitar-horned oryx. A project with such ambitious goals and on such a large scale would be a major asset for Chad and a world-first for the conservation movement.

It is clear that such an undertaking and the restoration of a species extinct in the wild from captive stock in part descended from animals captured in Chad more than fifty years ago will not be easy and will require enormous effort, reflexion, resources and cooperation but I am personally convinced it is possible.

The workshop in which we are all participating today represents a major step in the life of this project since it allows us to work together to assess the conditions and prerequisites to begin such an ambitious project. And in this context I would like to underline the constant help and encouragement of the Chadian authorities and especially the support of the Ministry of the Environment that we have enjoyed since the very beginning. Thanks to the efforts undertaken by the government of Chad and in particular those of His Excellency the President of the Republic in

favour of Chad's wildlife and natural environment in both policy and development frameworks, I am convinced that working together we will succeed.

John Newby
Executive Director
Sahara Conservation Fund

EXECUTIVE SUMMARY

On May 2nd, 2012, 32 delegates from 16 international organisations and government agencies gathered at the Novotel Hotel “La Tchadienne” in N’Djamena, Chad, for a three-day workshop focused on the reintroduction of scimitar-horned oryx to the Ouadi Rimé-Ouadi Achim Game Reserve in central Chad. The principal sponsors of the initiative were: the Sahara Conservation Fund (SCF), the Mohamed bin Zayed Species Conservation Fund, the Convention on Migratory Species (CMS), St Louis Zoo, the Addax and Oryx Foundation, and Al Ain Zoo. The workshop was opened by the Minister of Environment and Water Resources, His Excellency Mahamat Bechir Okormi, and was facilitated by the IUCN SSC Conservation Breeding Specialist Group.

The goals of the initiative were:

- To raise awareness and support amongst key Chadian stakeholders for the international project to reintroduce the scimitar-horned oryx in Chad;
- To assess the Ouadi Rimé-Ouadi Achim Game Reserve (OROAGR) as a priority site for oryx restoration, using information collected in the field and from workshop participants, and using criteria jointly defined previously;
- To gain a common understanding of what is needed in order to restore oryx to Chad;
- To explore and take advantage of opportunities for this project, in order to deliver broader impact on the conservation of biodiversity in Chad, and in particular those opportunities prioritised in the National Biodiversity Conservation Strategy.

Participants worked collaboratively to build a vision for the return of oryx to Chad, in order to identify the challenges involved and to define broad directions for future action. Significant outputs of the workshop are described below.

THE VISION

The following long-term vision for the return of oryx to Chad was developed and approved by workshop participants:

POPULATIONS OF SCIMITAR-HORNED ORYX, A CULTURAL SYMBOL, ARE VIABLE AND FREE TO ROAM THROUGHOUT THEIR ANCESTRAL RANGE, IN RESTORED AND PRODUCTIVE ECOSYSTEMS THAT MEET THE NEEDS OF BOTH WILDLIFE AND LOCAL COMMUNITIES. IN THIS WAY, THE PROTECTION OF THE SCIMITAR HORNED ORYX AND ITS HABITAT CONTRIBUTES TO THE SOCIO-ECONOMIC AND CULTURAL DEVELOPMENT OF THE LOCAL PEOPLE LIVING IN HARMONY IN THE OUADI RIMÉ – OUADI ACHIM GAME RESERVE. THE RESERVE INCREASES NATIONAL CAPACITY AND EXPERTISE AND IS A RECOGNIZED MODEL OF SUSTAINABLE DEVELOPMENT AND CONSERVATION IN THE SAHELO-SAHARA ZONE.

RECOMMENDED PRIORITY ACTIONS

General goals were developed by participants to direct future action. These were prioritised according to their perceived importance to the successful reintroduction of oryx to Chad. The top five priorities were:

DEVELOPMENT OF A MANAGEMENT PLAN REVISING THE TERMS OF USE OF THE OUADI RIME-OUADI ACHIM GAME RESERVE AND ENFORCING EXISTING LAWS FOR APPLICATION OF THE MANAGEMENT PLAN.

INVOLVEMENT OF THE LOCAL POPULATION IN DECISION MAKING AND MANAGEMENT OF THE RESERVE (THE IMPORTANCE OF INVOLVING TRADITIONAL LEADERS)

UNDERSTANDING THE SOCIO-ECOLOGICAL DYNAMICS AND CAUSES OF CHANGES IN THE LOCAL ABUNDANCE OF WILDLIFE AND MANAGEMENT OF THE RESERVE.

REINFORCEMENT OF ANTI-POACHING EFFORTS.

DEVELOPMENT OF ENVIRONMENTAL EDUCATION AND CONSERVATION AWARENESS AMONG LOCAL POPULATIONS.

A DECLARATION FROM WORKSHOP PARTICIPANTS

A declaration was developed and approved by participants, calling on the Government of Chad and its international partners to mobilise their collective resources in pursuit of oryx reintroduction. The principal international partner identified is the Sahara Conservation Fund (SCF).

.....
CONSIDERING THAT THE SCIMITAR-HORNED ORYX (*ORYX DAMMAH*) FORMERLY OCCURRED IN CHAD IN LARGE NUMBERS, AND IN PARTICULAR IN THE OUADI RIMÉ-OUADI ACHIM GAME RESERVE, WHERE THE LAST ANIMALS WERE SEEN TOWARDS THE END OF THE 1980S;

KNOWING THAT THE SCIMITAR-HORNED ORYX HAS NOT BEEN SEEN IN THE WILD IN AFRICA SINCE THE 1990S AND AS A RESULT IS CONSIDERED TO BE EXTINCT IN THE WILD BY IUCN;

NOTING THAT THERE ARE SEVERAL THOUSAND ORYX IN CAPTIVITY WORLDWIDE WHICH ARE AVAILABLE FOR CONSERVATION EFFORTS AND THE RESTORATION OF THE SPECIES IN THE SAHEL;

EXPRESSING OUR DESIRE TO RE-ESTABLISH VIABLE, FREE-ROAMING AND SELF-SUFFICIENT POPULATIONS OF THE SCIMITAR-HORNED ORYX AND OTHER LARGE MAMMAL AND BIRD SPECIES IN THE OUADI RIMÉ-OUADI ACHIM GAME RESERVE;

.....

RECOGNIZING THAT THE REINTRODUCTION AND CONSERVATION OF THE SCIMITAR-HORNED ORYX IN SUFFICIENTLY LARGE NUMBERS WILL BE A SIGNIFICANT CHALLENGE OF GREAT IMPORTANCE TO FUTURE GENERATIONS AND A WORLD LEADER OF ITS TYPE;

APPRECIATING THE COLLECTIVE EFFORTS OF THE INTERNATIONAL COMMUNITY IN PROTECTING AND MAINTAINING THE GENETIC DIVERSITY OF THE SCIMITAR-HORNED ORYX IN CAPTIVITY TO ENABLE THE RESTORATION OF THE SPECIES;

SALUTING THE EFFORTS UNDERTAKEN BY THE CHADIAN AUTHORITIES TO PROTECT THE NATION'S WILDLIFE AND ITS CRITICAL HABITATS;

UNDERLINING THE IMPORTANCE OF SOUND GOVERNANCE, COOPERATION AND INTEGRATED MANAGEMENT IN THE SUCCESSFUL REINTRODUCTION AND CONSERVATION OF THE SCIMITAR-HORNED ORYX FOR THE BENEFIT OF ALL HUMANITY;

WE, THE WORKSHOP PARTICIPANTS, CALL UPON:

THE GOVERNMENT OF THE REPUBLIC OF CHAD TO TAKE ALL NECESSARY ACTION TO REINTRODUCE THE SCIMITAR-HORNED ORYX AND TO REHABILITATE THE OUADI RIMÉ-OUADI ACHIM GAME RESERVE;

THE SAHARA CONSERVATION FUND (SCF) AND ITS PARTNERS TO ELABORATE, WITH THE STAKEHOLDERS CONCERNED, THE PREREQUISITES AND STEPS NECESSARY FOR THE SUCCESSFUL REINTRODUCTION OF THIS SPECIES;

THE DEVELOPMENT COMMUNITY TO MOBILIZE THE FUNDING NECESSARY FOR THE IMPLEMENTATION OF THE PROJECT TO REINTRODUCE THE ORYX AND CONSERVE ITS HABITAT IN CHAD.

N'DJAMÉNA, 4 MAY 2012

THE PARTICIPANTS

PRESIDENTIAL SUPPORT

On the final day of the workshop, and on the recommendation of His Excellency the Minister of Environment and Water Resources, the President of Chad, His Excellency Mr. Idriss Deby Itno, met with workshop representatives John Newby and Steve Monfort. The President is personally committed to conserving Chad's wildlife and in recent years laws have been enacted to support this. The President has expressed strong support for the eradication of poaching, coupled with the full application of the law towards offenders. This has had a significant impact on desert wildlife, with many sources confirming an expansion of wildlife numbers and range in recent times. SCF research has been able to confirm this with regard to Dorcas gazelles.

The goals of the mission and the workshop in Chad were discussed with the President during the meeting. In particular the desire of workshop participants to see the oryx returned to the Ouadi Rimé-Ouadi Achim Game Reserve, and to see stronger protection for existing wildlife as well as the rehabilitation of the reserve. The President committed his full agreement and support for the ideas presented, indicating the need for more resources for park management and better scientific understanding of needs and solutions. This high-level endorsement of project goals is critical to success and was welcomed by workshop participants.

WORKSHOP REPORT

On May 2nd, 2012, 32 delegates from 16 international organisations and government agencies gathered at the Novotel Hotel “La Tchadienne” in N’Djamena, Chad, for a three-day workshop focused on the reintroduction of scimitar-horned oryx to the Ouadi Rimé-Ouadi Achim Game Reserve in central Chad. The principle sponsors of the initiative were: the Sahara Conservation Fund (SCF), the Mohamed bin Zayed Species Conservation Fund, the Convention on Migratory Species (CMS), St Louis Zoo, the Addax and Oryx Foundation, and Al Ain Zoo. The workshop was opened by the Minister of Environment and Water Resources, His Excellency Mahamat Bechir Okormi, and was facilitated by the IUCN SSC Conservation Breeding Specialist Group.

The goals of the initiative were:

- To raise awareness and support amongst key Chadian stakeholders for the international project to reintroduce the scimitar-horned oryx in Chad;
- To assess the Ouadi Rimé-Ouadi Achim Game Reserve (OROAGR) as a priority site for oryx restoration, using information collected in the field and from workshop participants, and using criteria jointly defined previously;
- To gain a common understanding of what is needed in order to restore oryx to Chad;
- To explore and take advantage of opportunities for this project, in order to deliver broader impact on the conservation of biodiversity in Chad, and in particular those opportunities prioritised in the National Biodiversity Conservation Strategy.

Participants worked collaboratively to build a vision for the return of oryx to Chad, in order to identify the challenges involved and to define broad directions for future action. Significant outputs of the workshop are described below.

- A long-term vision for the scimitar-horned oryx in Chad.
- A series of recommendations for immediate action that should be taken to prepare the ground for a successful reintroduction.
- A statement by workshop participants, calling on the Chadian Government and international partners, to take the measures necessary to support the return of the oryx to the Ouadi Rimé-Ouadi Achim Game Reserve.

PARTICIPANT INTRODUCTIONS

After introductions, participants were invited to respond to the following questions:

Question 1: What is your personal goal for the workshop? What would you like to see accomplished in the workshop?

Question 2: What, in your view, is the primary challenge for the reintroduction of the oryx in Chad in the next 10 years?

Question 3: What do you hope to bring to the workshop?

Overall, participants were very enthusiastic about their participation in the workshop. Most cited a personal goal of learning more about this initiative and hoped that the workshop would set out a clear plan for the reintroduction of the oryx. However, participants were also aware of the numerous challenges: competition with people for land and resources; climate change and other factors that might increase desertification and reduce suitable habitat; and the challenge of communicating with and gaining support from key stakeholders – in particular local traditional leaders and the army.

A full list of the challenges identified by participants is as follows:

- That this species be re-introduced and multiplies through the efforts of the Government;
- Habitat management and creation of a scenario where both wildlife and local people are winners;
- Raise awareness of the region's local communities;
- Have a management plan available for the reserve;
- To raise awareness and enforce the law 14 of 2008 on the protection of wildlife;
- Human and financial means are provided;
- The advancement of Chad through the reintroduction of scimitar-horned oryx;
- Effective management of the reserve;
- Monitoring and control;
- Climate and desertification;
- The practice of hunting and the consumption of oryx;
- The challenge will be global, the more one seeks to preserve the oryx, the more we fight; against degradation of nature, so we must get everyone involved (Government, local)
- In addition to poaching, climate change will be a major challenge;
- Adaptation of the oryx as it moves from captivity to the natural environment;
- The main challenge is climate change, followed by poaching. To be successful, the reintroduction must also involve local people;
- Take into account the interest of wildlife and local people;
- Ensure the political, socio-economic and financial means for reintroduction: political goodwill, support of locals thanks to a balance between the needs of man and wildlife, mobilization of considerable resources;
- Putting in place the ideal conditions for the reintroduction;
- One major challenge will be the support of various stakeholders and the management of human activities, in particular the digging of wells in the wildlife reserve;
- The total support of key stakeholders; and
- The application of the workshop: measurable objectives and results.

DAY 1 PRESENTATIONS

A series of presentations was given aimed at bringing participants to a shared understanding of the history of oryx in Chad, the reasons for its disappearance, the proposed restoration project, and its relevance to broader Chadian biodiversity goals:

1. Introduction to the workshop - **Arnaud Desbiez**
2. Overview of the National Biodiversity Strategy for Chad - **Kadiom Amidou**
3. Overview of the conservation policies for protected areas in Chad - **N'Gakoutou Etienne**
4. Scimitar-horned oryx, ecology and distribution in Chad – **John Newby**
5. Summary and update of the scimitar-horned oryx reintroduction: Al Ain, Algiers, etc - **Steve Monfort**
6. The Ouadi Rimé – Ouadi Achim Faunal Reserve as a reintroduction site – **Tim Wachter**
7. Biological and social considerations in reintroduction planning – **Mark Stanley-Price**

TASK 1: THE VISION

After initial scene-setting, participants began to develop a shared vision for the future of oryx in Chad. Participants created an idealized description of the outcomes of reintroducing scimitar-horned oryx to Chad in the next 25-50 years. This statement created the context for all later planning activities.

A global vision for the return of oryx to its ancestral territories across North Africa, developed at a previous workshop in UAE, was presented for reference. To ensure the full participation of all participants, four small groups each discussed major themes or phrases that they wanted to see incorporated in the vision.

Each group then presented its work in plenary and a small working group formed to synthesise the outputs into a single statement. Outputs from the four groups are given below.

GROUP 1

Populations of scimitar-horned oryx are secure, viable, free, in their interconnected ecological ranges living in perfect harmony with local communities, in a restored ecosystem leading to sustainable economic and cultural development and building specific national capacities.

GROUP 2

- Functional with safe oryx and other wildlife populations
 - in large numbers as formerly
 - ecotourism (economic and agricultural activities)
- Restoration of the flora
- Providing development
- Productivity
- Fight against desertification
- Support and in harmony with locals
- Symbiosis between actors and users
- Model for other countries
- World Heritage of Humanity

- Viability in the wild and in dispersion, the reserve is a source of wildlife
- Maintenance of the cultural importance of the oryx

GROUP 3 – LOCAL COMMUNITIES GROUP

- Improving the environment as a whole
- Wildlife = life
- Large populations
- Throughout the reserve
- Restocking
- Revenue generating activities = tourism
- Involvement of the local community
- The reserve becomes a National Park

GROUP 4

- Demographically viable population of oryx representing all the genetic diversity of the species
- Introduction into an undisturbed landscape
- Fully protected areas for wildlife
- Contribution to a productive healthy ecosystem that meets the needs of wildlife and local people
- Restore fauna and flora
- Areas without infrastructure and without wells

Participants continued to work on the vision over the next two days to incorporate comments from the plenary and the following final version was approved on the last day.

A VISION FOR ORYX IN CHAD

Populations of scimitar-horned oryx, a cultural symbol, are viable and free to roam throughout their ancestral range, in restored and productive ecosystems that meet the needs of both wildlife and local communities. In this way, the protection of scimitar-horned oryx and its habitat contributes to the socio-economic and cultural development of the local people who live in harmony in the Ouadi Rimé – Ouadi Achim Game Reserve. The Reserve increases the national capacity and expertise and is a recognized model of sustainable development and conservation in the Sahel-Sahara zone.

DAY 2 PRESENTATIONS

The morning session began with the following presentations:

1. Case Study: Founding Populations of Scimitar-Horned Oryx in Tunisian National Parks – **Marie Petretto**
2. Scimitar-horned oryx at the Environment Agency Abu Dhabi – **Justin Chuvén**
3. Applying the site evaluation matrix – **Caroline Lees**

Following these presentations participants moved on to Task 2.

TASK 2: IDENTIFYING STRENGTHS AND CHALLENGES OF OROAGR AS A SITE FOR ORYX REINTRODUCTION

At a previous oryx workshop in Algeria, participants had developed a suite of biological, social, political and economic factors considered to be either a) essential for a successful oryx reintroduction or b) likely to enhance its conservation impact (see Appendix I – Site Evaluation Matrix). The matrix provides a useful framework for discussing and addressing those activities required to advance the vision for oryx restoration in Chad.

Participants were divided into working groups to consider the situation in OROAGR with respect to each of the elements discussed in the matrix. The aim was to develop a profile of the strengths and challenges of the site.

The four working groups formed to complete the task were:

Group 1: Species Biology and Ecology

Group 2: Threats

Group 3: Strategic Issues

Group 4: Capacity

The strengths and challenges of the OROAGR, based on the matrix analysis, were presented in plenary and are shown in Table 1.

TASK 3: SETTING PLANNING GOALS FOR ORYX REINTRODUCTION IN OROAGR

In the context of the workshop, goals should describe broad activities that, if implemented successfully, would address the challenges identified in Task 2 and, in doing so, advance the vision for oryx in Chad.

Working groups developed goals and presented them in plenary on Day 3. The *Species Biology and Ecology* group joined the *Threats* group, as the primary challenges to oryx restoration were considered to be less related to oryx biology or to the ecology of the area, but more to land-use, competition and hunting issues.

Due to time constraints, detailed actions were not pursued during the workshop. The goals developed are detailed in Table 1.

Table 1. Status of OROAGR as an oryx reintroduction site and goals for future actions

Note that the text accompanying each criterion has been simplified in this version to reduce size and to emphasise the outputs of workshop discussions. The full text is contained in Appendix I.

Pre-requisites here are those site characteristics considered essential to a successful reintroduction. Conservation Impact criteria are those characteristics which, whilst not considered essential to success, will increase the conservation impact of a successfully delivered project.

Factor	Good conditions	Fair conditions	Inadequate conditions
Factors enhancing conservation impact			
<p><i>Site suitability</i> This considers the degree to which the site could or could not be made suitable for oryx.</p>	<p>The site is appropriate for oryx with respect to all the key factors</p>		
<p>Goals: Goals developed by this group are included under “Threats”.</p> <p>Notes: Good conditions</p> <p><u>Rainfall – Good</u> Site is well within the identified rainfall band considered to be suitable for oryx. But this is specific to the reserve geography: the northern part of the reserve is dry while the southern region is “greening”. This has enormous implications for future reserve planning.</p> <p><u>Space for seasonal movement – Good</u> The amount of space is not the issue, but the use of that space is. Currently there is a good opportunity within the heart of the reserve for coexistence between oryx and humans.</p> <p><u>Pasture availability – Good</u> Good under current conditions. This is also very dependent on future land uses.</p> <p><u>Habitat structure – Good</u> Shade habitat is the critical factor for oryx, especially during the hot season. Shade is not a limiting factor now, but this statement is based on the assumption that there will be no significant changes to current land use practices that would reduce the amount of shade habitat, and this may be likely to change.</p>			

Factor	Good conditions	Fair conditions	Inadequate conditions
<p>Target population size and inter-connectivity <i>This considers the ability of the site to sustain a demographically and genetically viable population of oryx, or to form a significant component of a viable meta-population (a group of populations between which movement is possible). It considers both the capacity of the site itself and also how well the site is positioned geographically in relation to other current or potential release sites. (K=site capacity)</i></p>		<p><i>K=200+ AND movement to or from neighbouring sites to secure a K=500+ is possible and could be achieved through practical, feasible transportation.</i></p>	
<p>Goals: Goals developed by members of this group are included under “Threats”.</p> <p>Notes: Fair conditions The target population size has not yet been determined through analysis (using habitat suitability and demographic modelling), but the current suggestion is that the reserve would be able to support at least 200 adult oryx, and possibly up to 4,000-5,000 animals. Therefore, we score this factor as “Fair” based on the fact that inclusion of the OROAGR population into a larger metapopulation would most likely require managed transportation of individuals. Can OROAGR be linked to other reintroduction sites outside of Chad? This is theoretically possible, with dispersal to the west, but it is considered to be unlikely due to the long distances involved. So OROAGR would likely stand alone as a reintroduction site. There is definitely an opportunity for oryx to successfully disperse away from their original release site to other suitable areas within OROAGR.</p>			
<p>Threats – pre-requisites</p>			
<p>Status of extinction factors <i>Updated by CMS (2006), a wide range of risk factors for oryx extinction include: degradation and decline of habitat; direct exploitation by hunting; competition between livestock and wildlife for space or grazing; multiplication of deep wells (or a subset of the previous point); transformation by man of the last remaining habitats or key areas, such as areas of shade or grazing areas during the hot season.</i></p>	<p><i>Factors leading to initial extinction are known and either resolved or successfully managed.</i></p>	<p><i>Factors leading to initial extinction are known. Protective measures are planned or underway to address them.</i></p>	
<p>Goals:</p> <ul style="list-style-type: none"> - Understand the socio-ecological dynamics and causes of change; - Understand the advantages and disadvantages of reintroduction; 			

Factor	Good conditions	Fair conditions	Inadequate conditions
<ul style="list-style-type: none"> - Ensure the social acceptability of the reintroduction and the involvement of local people; - Promote intersectoral and interdepartmental collaboration; - Plan and delineate the area with zones dedicated to the protection of the oryx (without wells); - Change the status of the reserve, for example, into a National Park to ensure an adequate degree of protection; - Fight poaching <p>Notes: Conditions are somewhere between good and fair</p> <ol style="list-style-type: none"> 1. The principal extinction factor for the scimitar-horned oryx is considered solved: war. 2. Principal unresolved threats: <ol style="list-style-type: none"> a. Vicious circle of increasing population pressure, the number of livestock, and the proliferation of wells and overgrazing: increasing densities create a new imbalance between wildlife and human activities; b. Lack of intersectoral and interdepartmental collaboration (policies for livestock development, regional planning, rural water supply, etc.); c. Poaching 			
<p>Human footprint (excluding direct off-take and related disturbance) <i>This factor considers the impact of human presence and activity on the site's ability to sustain oryx.</i></p>	<p><i>More than 75% of the site is compatible with oryx use.</i></p>		
<p>No goals were considered to be required here.</p> <p>Notes: Good conditions No permanent human settlements on the reserve where current conditions are very difficult.</p>			
<p>Strategic issues – pre-requisites</p>			
<p>Legal framework <i>Oryx protection at a given site should be underpinned by well-enforced laws. Two aspects are considered important:</i></p> <ul style="list-style-type: none"> • <i>National protection for the species;</i> • <i>Protected area laws for former oryx habitat (or for the site under consideration).</i> <p><i>Ideally, the area under consideration will be subject to a plan or strategy that sets out the management aims, objectives, intervention options and</i></p>		<p><i>Legal provisions and a relevant management strategy are only partly in place but activities are underway to resolve this.</i></p>	

Reintroduction of the scimitar-horned oryx to Chad

Factor	Good conditions	Fair conditions	Inadequate conditions
<i>site evaluation results.</i>			
<p>Goals :</p> <ul style="list-style-type: none"> – Review of the status of the Ouadi Rimé - Ouadi Achim Game Reserve (size); – Creation of regulations to implement laws; – Creation of a development plan for the reserve; <p>Note: Conditions are somewhere between good and fair National protection for species and protected area laws are in place and <u>partially</u> implemented. A strategy for the region exists, <u>but as part of its implementation, the specific case of the Ouadi Rimé-Ouadi Achim Game Reserve and the flagship species is not finished.</u></p> <p>Laws exist but the implementing regulations are not developed; lack of a management plan for the reserve; lack of legislation specifically protecting wildlife species; update the status of wildlife in general and specifically for the desert antelopes.</p>			
<p>Government support <i>High-level support exists where, in addition to other recognised benefits, oryx reintroduction is seen as a means to directly or indirectly contribute to the government’s development goals, as well as meeting national obligations to international conventions (e.g., Convention on Biological Diversity).</i></p>		<p><i>There is awareness of and potential for oryx reintroduction to contribute to high-level government goals.</i></p>	
<p>Goals :</p> <ul style="list-style-type: none"> – Strengthening of existing wildlife protection in the reserve; – Revitalization of sectoral monitoring mechanism. 			
<p>Inter-agency cooperation <i>Projects are more likely to succeed when they benefit from the cooperation and support of all relevant government departments and when these departments are willing and able to work cooperatively to achieve viable solutions to identified problems.</i></p>		<p><i>Agencies are not all identified, and, those that are, are not sufficiently involved. It is possible to improve this situation.</i></p>	

Reintroduction of the scimitar-horned oryx to Chad

Factor	Good conditions	Fair conditions	Inadequate conditions
<p>Goals: Revitalization of the consultative committee.</p>			
<p>Public support <i>Public support for the project is vital to success. This support is likely to hinge on perceptions of whether the restoration of oryx to a given site will generate a net benefit to the local people, whose support is key, or at the very least will not encroach on their socio-economic interests.</i></p>		<p><i>There is potential for a net benefit, but no plans to develop the protected area and/or insufficient public awareness.</i></p>	
<p>Goals:</p> <ul style="list-style-type: none"> – Involvement of local people in decision making and management activities of the reserve; – Promote income-generating activities. 			
<p>Security for fieldworkers <i>Before embarking on a restoration project, there should be a reasonable expectation that the political situation will be sufficiently stable and consistently secure enough to allow for baseline research, project development, implementation, and monitoring to be safely conducted.</i></p>		<p><i>The situation is not consistently secure, but protocols are in place for adapting if changes occur.</i></p>	
<p>Goals :</p> <ul style="list-style-type: none"> – Strengthening of capacity of personnel – Provision of necessary resources 			
<p>Transboundary cooperation <i>As a wide-ranging and naturally mobile species, oryx restoration may require the management and protection of a population that straddles two or more national borders. Bi-lateral and/or multi-lateral agreements may be required to address this.</i></p>		<p><i>There are transboundary issues but initiatives are in place to address them.</i></p>	
<p>Goals: Establishment of protocols for collaboration and cross-border management of desert antelopes range.</p>			

Factor	Good conditions	Fair conditions	Inadequate conditions
<p>Notes: Fair conditions This was discussed further in plenary. The movement of oryx across national borders and into less well-protected areas was of less concern than the possibility of people crossing national borders to hunt oryx in the reserve (very unlikely given the distances!).</p>			
<p>Capacity issues – pre-requisites</p>			
<p><i>On-site infrastructure for pre-release animal management</i> <i>Animal management infrastructure will be required to facilitate the initial containment and management of individuals brought to the site for release.</i></p>		<p><i>Does not exist but could be created</i></p>	
<p>Goals: Determine the type of infrastructure appropriate for the period of quarantine:</p> <ul style="list-style-type: none"> – Enclosures (What kind? To be tested beforehand) – Temporary housing for storage and security <p>Explore ways of providing a temporary water supply:</p> <ul style="list-style-type: none"> – Tank – Wells (undesirable) – Green fodder? <p>Explore ways to supplement food supply:</p> <ul style="list-style-type: none"> – Prepare animals for a dietary change before shipment – Provide back-up plan in case there is insufficient forage on site <p>Exploring ways to access the quarantine area:</p> <ul style="list-style-type: none"> – Creation of track? – Use of existing track? – Provide for emergency communications (Radio? Phone? Or moving?) <p>Notes: Fair conditions No permanent structure necessary</p>			
<p><i>Human resources</i> <i>Human resources are essential to the implementation, management and supervision of the operation over the long term, including a cross-section</i></p>		<p><i>Human resources are currently insufficient but there is potential to</i></p>	

Factor	Good conditions	Fair conditions	Inadequate conditions
<p><i>of experts in animal care, range management, scientific monitoring, conflict resolution, livelihood development programming, public education/communications, among other disciplines.</i></p>		<p><i>improve on this.</i></p>	
<p>Goals:</p> <p>Implementation of the project</p> <ul style="list-style-type: none"> – Identify roles and the number of people needed to set up the project – Set up training sessions <p>Management / care of animals</p> <ul style="list-style-type: none"> – Recruit a veterinarian and caregivers to supervise (especially during quarantine phase) – Develop collaboration between sectors (especially after the release) – Set up training sessions <p>Rangeland management / habitat</p> <ul style="list-style-type: none"> – Create a management plan for the release area defining the roles of stakeholders – Train supervisors – Name point people within the Parks delegates <p>Conflict resolution</p> <ul style="list-style-type: none"> – Involve traditional leaders: <ul style="list-style-type: none"> ○ Consultation frameworks ○ Designation of employees ○ Monitoring / observation of animals and report regularly to the point people – Strengthen anti-poaching by hiring more people <p>Programming activities to sustain livelihoods</p> <p>Submit the proposal to the Ministry of Tourism for the establishment of a sound plan for ecotourism.</p> <p>Education / outreach / communication</p> <ul style="list-style-type: none"> – Develop environmental education in collaboration with existing community schools: train teachers and provide the necessary tools (technical, instructional materials) – Develop associations (theater?) to conduct outreach caravans in villages – Develop communications tools: <ul style="list-style-type: none"> ○ Create a logo ○ Produce T-shirts and flyers, posters, etc. ○ Messages on the airwaves (radio, TV?) 			

Factor	Good conditions	Fair conditions	Inadequate conditions
<p>Acceptance by the local population Identify and hire a communicator to meet local communities and discuss the project with them</p> <p>Notes: Fair conditions Need to increase the number of employees and provide ongoing training.</p> <p>Implementation of the project - there is good political will, necessary recruitment capacity</p> <p>Management / care of animals - need for training / specialization.</p> <p>Rangeland management / habitat - need a plan for the area and training. Appoint point people for the area.</p> <p>Conflict Resolution - involvement of traditional leaders, strengthening anti-poaching efforts</p> <p>Scientific monitoring - identify and encourage students and researchers interested in the project and build bridges with international researchers</p> <p>Programming activities to sustain livelihoods - community involvement so that they benefit positively (ecotourism, improving farming conditions, employment). Need to involve stakeholders (tourism, etc.)</p> <p>Education / outreach / communication - exists at the national level. Exists locally, but not in the area; will exist if the capacities are strengthened to meet the other requirements of the project.</p> <p>Acceptance by local people - involvement of traditional authorities and users.</p>			
<p>Health monitoring <i>There should be sufficient capacity to monitor and manage the health of restored populations, including the administration of an appropriate vaccination programme and the treatment of injuries or trauma where necessary. This would require the advice and periodic consultation with animal health experts, including veterinarians, in developing appropriate herd-health programs and surveillance protocols that could be implemented by local staff and regional wildlife authorities.</i></p>		<p><i>There is insufficient capacity but there is potential for developing it.</i></p>	
<p>Goals:</p> <p>Pre-transport</p> <ul style="list-style-type: none"> - Identify animals (transponder, ear tags) - Identify health risks (disease present in the area), means of diagnosis and control - Establish an initial database with preliminary analysis (biochemistry, virology, etc.) <p>Quarantine and monitoring</p> <ul style="list-style-type: none"> - Identify one or more veterinarians and technicians and train them to care for oryx in captivity 			

Factor	Good conditions	Fair conditions	Inadequate conditions
<ul style="list-style-type: none"> - Define the necessary materials and make them available upon arrival of the animals - Establish a network of international veterinary expertise (direct contact with experienced veterinarians to exchange tips) <p>Release Not needed right now</p> <p>Epidemiological Identify indicators of health problems in collaboration with veterinarians</p> <p>Notes: Fair conditions Strengthen the number of personnel, material resources and training, and contributions from external expertise. One should think of:</p> <ul style="list-style-type: none"> - Pre-transport - Quarantine and surveillance - strengthening the number of personnel, material resources and training, and contributions from external expertise - Release - no need - Epidemiological monitoring - exists, requires the involvement of stakeholders 			
<p>Monitoring and evaluation <i>There should be the capacity to set in place a well-designed, adaptive, monitoring and evaluation system at the site. This requires that local staffs are trained in fundamental project management techniques, as well as basic herd monitoring and record keeping. Systematic reporting and periodic meetings between program staff, managers and technical experts should be convened to assess program effectiveness and to make adjustments, as appropriate.</i></p>		<p><i>There is insufficient capacity but there is potential for developing it.</i></p>	
<p>Goals:</p> <p>Monitoring of the species Identify the project phases:</p> <ul style="list-style-type: none"> - Pre-transport (selection, etc.) - Transport - Acclimatization - Release with telemetric monitoring (approx. 2 years) - Monitoring without telemetry 			

Factor	Good conditions	Fair conditions	Inadequate conditions
<p>Identify the teams:</p> <ul style="list-style-type: none"> - Site monitoring (guards) - Telemetry (scientists) - Health (veterinarians + nurses) - Outreach / environmental education <p>Identify key areas for monitoring and train the team to report the data:</p> <ul style="list-style-type: none"> - Group size (birth, death, etc.) - Behavior (group composition, migration, etc.) - Management (particularly quarantine) - Environment and changes in biodiversity satellite (set the radius of the surveillance area: approx. 200km?) <p>Project monitoring</p> <ul style="list-style-type: none"> - Create an operational monitoring committee: <ul style="list-style-type: none"> o Monitor the implementation of recommendations; o Define indicators of success; o Regular reporting; o Offer corrective solutions where necessary. - Participate in exchange networks, international interest groups (SGI, etc.) <p>Notes: Fair conditions To prepare ahead, create a network based on national experience and advice from experts. Take into account the objectives during project phases. Monitoring of the species - need for training on international knowledge for the species. Adapt monitoring to the phase of the project (objectives differ in time) Project monitoring - need to create an adapted operational monitoring (technical-scientific) committee with input from experts</p>			
<p>Financial <i>Funding should be secured for the implementation and management of the project over the next 5-10 years</i></p>	<p><i>Funding should be secured for implementation and management of the project for the next 5-10 years.</i></p>		

Reintroduction of the scimitar-horned oryx to Chad

Factor	Good conditions	Fair conditions	Inadequate conditions
<p>Goals: Define the project budget – By activity – By backers</p> <p>Notes: Fair conditions Expressed support from the government. Initial phase - external funding for the initial phase; government involvement Follow-up phase - government support</p>			

Factors enhancing conservation impact			
Factor	High score	Medium Score	Low score
<p>Herd size Further consideration is given here to herd size to ensure that significant additional priority is given to sites that exceed the minimum targets for population viability described under Target Population Size and Inter-connectivity; larger numbers of animals at any given site enhances the potential for achieving major conservation gains. The bands here are derived as follows:</p> <ul style="list-style-type: none"> • 500 – 2000 – medium-term viability (15+ generations). Ongoing resilience to inbreeding depression (once numbers are established) but vulnerable to catastrophes and long-term genetic deterioration. • 2000 – 5000 – long-term viability (40+ generations). Greater resilience to catastrophes and genetic deterioration. • >5000 - indefinite viability. Ongoing retention of adaptive potential and resilience to catastrophes. 	5000+	2000 - 5000	500 - 2000
<p>Notes: LOW SCORE Historically, there may have been up to 5,000 – 7,000 oryx in the reserve in the 1970s. Could this state be regenerated under current</p>			

Reintroduction of the scimitar-horned oryx to Chad

<p>conditions? Unlikely, given the changes in land use practice over time. We think a number of no more than 2,000 animals is more reasonable.</p>			
<p>Ancestral range <i>Restoration across the species' ancestral range is a key component of the vision for scimitar-horned oryx conservation. Though introductions outside the ancestral range are likely to form an important part of the overall restoration strategy, the conservation value of a site is considered to be enhanced where it is located within ancestral range.</i></p>	<p><i>Site is in within the historic range and in an area where the species is known to have been commonly found.</i></p>		
<p>Notes: HIGH SCORE OROAGR is definitely within the ancestral range of the species. It is also one of the rare spots left on the planet where this type of operation could even be considered.</p>			
<p>Ability to range freely <i>Oryx herds were traditionally mobile. The ability for animals to range freely across large areas is considered an important component of the species' restoration. Limitations on movements are expected to come from one of the following (in decreasing order of conservation value):</i></p> <ul style="list-style-type: none"> <i>natural changes in habitat or natural site boundaries</i> <i>fencing or other human-made boundaries (including human-modified habitat, roads, desertification etc.)</i> 		<p><i>Movements are limited by a combination of natural and human-made boundaries (only on a very large scale).</i></p>	
<p>Notes: MEDIUM SCORE</p>			
<p>Intrinsic value <i>This refers to the cultural or aesthetic value placed on the presence of oryx by local people and is one of the potential restoration values referred to in the vision.</i></p>	<p><i>The species is of high intrinsic value to the people of this area.</i></p>		
<p>Notes: HIGH SCORE</p>			
<p>Value to the wider ecosystem <i>Restoring the oryx to its ancestral range should bring some or all of the following benefits to local ecology:</i></p> <ul style="list-style-type: none"> <i>habitat restoration;</i> <i>increased ecological stability;</i> <i>increased biodiversity;</i> <i>reduction in over-grazing and desertification;</i> <i>enhanced germination of plants; and/or</i> 	<p><i>The site would benefit significantly from most or all of these should restoration take place.</i></p>		

Reintroduction of the scimitar-horned oryx to Chad

- *reduction in trampling and soil compaction.*

This criterion considers the extent to which sites would be expected to benefit from these enhancements.

Notes: HIGH SCORE

Restoration of oryx to OROAGR will be an important component of a larger plan of ecosystem restoration and management across the Sahelian region of Chad, and will be in accord with the country's National Biodiversity Strategy.

TASK 4: PRIORITISING GOALS AND DEVELOPING RECOMMENDATIONS

Working groups presented the goals that they had developed on Day 2. The goals identified were prioritised during plenary in terms of their perceived importance to oryx reintroduction. The five goals achieving the highest scores are presented below:

DEVELOPMENT OF A MANAGEMENT PLAN REVISING THE TERMS OF USE OF THE OUADI RIME-OUADI ACHIM GAME RESERVE AND ENFORCING EXISTING LAWS FOR THE MANAGEMENT PLAN.

INVOLVEMENT OF THE LOCAL POPULATION IN DECISION MAKING AND MANAGEMENT OF THE RESERVE (THE IMPORTANCE OF INVOLVING TRADITIONAL LEADERS)

UNDERSTANDING THE SOCIO-ECOLOGICAL DYNAMICS AND CAUSES OF CHANGES IN THE LOCAL ABUNDANCE OF WILDLIFE AND MANAGEMENT OF THE RESERVE.

REINFORCEMENT OF ANTI-POACHING EFFORTS.

DEVELOPMENT OF ENVIRONMENTAL EDUCATION AND CONSERVATION AWARENESS AMONG LOCAL POPULATIONS.

DISCUSSION OF GOALS

In plenary session a long debate on the need to manage the reserve was held. Participants recognized the need to limit human activities in the area where the scimitar-horned oryx would be released, as well as in the potential distribution area of the future population. However, it is very difficult to predict where the animals will travel and establish themselves in the years following their reintroduction. The possibility of a mobile reserve was raised and discussed. It was also recognized that some of the areas where the oryx might establish itself are important for the local nomadic populations. In-depth discussions took place on the importance of involving local people and of limiting the development of new wells and other potential impacts. Those these difficulties were recognized, no definitive solutions were identified at this time. However, it is important to note that these issues were raised by all participants of the workshop. Hence the fundamental importance of conducting a detailed study on the socio-ecological / socio-economic areas concerned before reintroducing scimitar-horned oryx.

TASK 5. DEVELOPING A STATEMENT BY WORKSHOP PARTICIPANTS

In order to consolidate the outcomes of the workshop, a small working group of participants was convened to develop a statement, calling on the Government of Chad to take the necessary measures, in collaboration with international partners, to re-establish the oryx in Chad. This statement, which was reviewed and revised in plenary, is presented below:

CONSIDERING THAT THE SCIMITAR-HORNED ORYX (*ORYX DAMMAH*) FORMERLY OCCURRED IN CHAD IN LARGE NUMBERS, AND IN PARTICULAR IN THE OUADI RIMÉ-OUADI ACHIM GAME RESERVE, WHERE THE LAST ANIMALS WERE SEEN TOWARDS THE END OF THE 1980S;

KNOWING THAT THE SCIMITAR-HORNED ORYX HAS NOT BEEN SEEN IN THE WILD IN AFRICA SINCE THE 1990S AND AS A RESULT IS CONSIDERED TO BE EXTINCT IN THE WILD BY IUCN;

NOTING THAT THERE ARE SEVERAL THOUSAND ORYX IN CAPTIVITY WORLDWIDE WHICH ARE AVAILABLE FOR CONSERVATION EFFORTS AND THE RESTORATION OF THE SPECIES IN THE SAHEL;

EXPRESSING OUR DESIRE TO RE-ESTABLISH VIABLE, FREE-ROAMING AND SELF-SUFFICIENT POPULATIONS OF THE SCIMITAR-HORNED ORYX AND OTHER LARGE MAMMAL AND BIRD SPECIES IN THE OUADI RIMÉ-OUADI ACHIM GAME RESERVE;

RECOGNIZING THAT THE REINTRODUCTION AND CONSERVATION OF THE SCIMITAR-HORNED ORYX IN SUFFICIENTLY LARGE NUMBERS WILL BE A SIGNIFICANT CHALLENGE OF GREAT IMPORTANCE TO FUTURE GENERATIONS AND A WORLD LEADER OF ITS TYPE;

APPRECIATING THE COLLECTIVE EFFORTS OF THE INTERNATIONAL COMMUNITY IN PROTECTING AND MAINTAINING THE GENETIC DIVERSITY OF THE SCIMITAR-HORNED ORYX IN CAPTIVITY TO ENABLE THE RESTORATION OF THE SPECIES;

SALUTING THE EFFORTS UNDERTAKEN BY THE CHADIAN AUTHORITIES TO PROTECT THE NATION'S WILDLIFE AND ITS CRITICAL HABITATS;

UNDERLINING THE IMPORTANCE OF SOUND GOVERNANCE, COOPERATION AND INTEGRATED MANAGEMENT IN THE SUCCESSFUL REINTRODUCTION AND CONSERVATION OF THE SCIMITAR-HORNED ORYX FOR THE BENEFIT OF ALL HUMANITY;

WE, THE WORKSHOP PARTICIPANTS, CALL UPON:

THE GOVERNMENT OF THE REPUBLIC OF CHAD TO TAKE ALL NECESSARY ACTION TO REINTRODUCE THE SCIMITAR-HORNED ORYX AND TO REHABILITATE THE OUADI RIMÉ-OUADI ACHIM GAME RESERVE;

THE SAHARA CONSERVATION FUND (SCF) AND ITS PARTNERS TO ELABORATE, WITH THE STAKEHOLDERS CONCERNED, THE PREREQUISITES AND STEPS NECESSARY FOR THE SUCCESSFUL REINTRODUCTION OF THIS SPECIES;

THE DEVELOPMENT COMMUNITY TO MOBILIZE THE FUNDING NECESSARY FOR THE IMPLEMENTATION OF THE PROJECT TO REINTRODUCE THE ORYX AND CONSERVE ITS HABITAT IN CHAD.

N'DJAMÉNA, 4 MAY 2012

THE PARTICIPANTS

CLOSING CEREMONY

The closing speech for the workshop was given by Marie Petretto (Marwell Wildlife):

The Honorable Secretary General, Executive Directors, Technical Directors, Distinguished Experts, Participants, and Facilitators,

When such an exceptional event as the one we have just lived together ends, we often have mixed feelings. First, there is relief and happiness for having shared great moments of dialogue and of personal and professional enrichment. There is no room for nostalgia, but rather hope as I dare to believe that this workshop opens the door to many future exchanges.

At this time of the completion of our work, on the behalf of the organization team and my expert colleagues, I am honored and delighted to say some words of acknowledgement and thanks.

I am particularly grateful to every participant for having accepted the invitation and come all this way – a long way for some of you! - to share with us their experiences and knowledge.

You are probably all aware of the huge amount of work that the implementation of this kind of project represents, logistically as well as intellectually. We have been very lucky to have gathered such a competent and generous team, and with this in mind, I would like to warmly thank each of you for your involvement and professionalism.

Last but not least, I would like to express a very deep thanks to:

The Minister of Environment and Water Resources, for his encouragement and support;

The workshop facilitators from IUCN SSC CBSG, for the dynamic way you led our discussions during these three days;

All the workshop sponsors: the Sahara Conservation Fund, the Convention on Migratory Species, Saint Louis Zoo, Al Ain Zoo, the Addax and Oryx Foundation, and the Mohammed Bin Zayed Species Conservation Fund.

I would also like to tell you how much we, as foreign visitors, have enjoyed the time we have spent in your beautiful country.

As it has already been said, we hope that this workshop is YOURS: we hope that you have truly felt this, and that you will go home with new courage and inspiration dedicated to the difficult but fascinating challenge of reintroducing to the wild the scimitar-horned oryx, in order to contribute to the restoration of the treasures that your country sadly lost recently.

Thank you again, thanks for being here with us.

Aslaam Aleykoum

APPENDIX I - SHO SITE EVALUATION MATRIX – CHAD VERSION

[For the purpose of this matrix, a “reintroduced” or “restored” population refers to one that would eventually range freely and become self-sufficient with respect to finding food, water and natural shelter].

CONTEXT

The following matrix, developed by a broad range of stakeholders, is a tool for assessing the comparative suitability of particular sites for the large-scale reintroduction of scimitar-horned oryx. The tool can also be a valuable aid to gathering information about a given site, in the context of developing an effective restoration strategy. Throughout its development, the matrix has been informed by the following vision for the restoration of oryx, which was developed with stakeholders at a previous workshop:

A vision for the international Scimitar-horned oryx community:

VIABLE, SECURE, FREE RANGING POPULATIONS OF SCIMITAR HORNED ORYX MOVING THROUGH A REGIONAL MOSAIC OF INTERCONNECTED AREAS, BOTH STRICTLY PROTECTED AND FOR MULTIPLE USE, DISTRIBUTED WITHIN ANCESTRAL RANGE, IN HARMONY WITH LOCAL PEOPLE, RESTORING PRIDE, CULTURAL AND NATURAL HERITAGE, ECONOMIC AND ECOSYSTEM VALUE.

It is recognised that there are very few sites within the species’ ancestral range of sufficient size, quality and inter-connectivity to support a fully self-sustaining network or “meta-population” of wild scimitar-horned oryx. Consequently, we must include in our overall strategy, the maintenance of smaller, more intensively managed populations of oryx that achieve their demographic and genetic stability through varying degrees of human intervention. Such populations are typically found in zoos, breeding/propagation centers, or closely managed reserves, and can serve as a valuable component of an overall meta-population strategy. These principles are acknowledged and described in the Stakeholder Statement that accompanies the Vision, both of which can be found in the *Scimitar-horned Oryx Conservation Planning Workshop II Report*, available at www.cbsg.org.

PRE-REQUISITES

Pre-requisites in this context are site characteristics which, if absent from a project, will predispose it to failure. The “Inadequate” column describes “absence” in each case.

Factor	Good conditions	Fair conditions	Inadequate conditions
Species and habitat issues – pre-requisites			
<p>Site suitability This considers the degree to which the site is, or could be made, suitable for oryx. Key considerations are:</p> <ul style="list-style-type: none"> • rainfall within the Sahelo-Saharan precipitation range (100-400 mm); • sufficient space to accommodate wet and dry season movements, and to allow room for coexistence with other landuse practices, especially livestock raising and to a lesser extent agriculture; • pasture and vegetation suitable to the oryx’s year round nutritional requirements and preferences; and • habitat structure sufficient to provide for shade, calving areas and peaceful retreat. 	<p>The site is appropriate for oryx with respect to all the key factors</p>	<p>The site is missing one or more of the key factors but has clear potential for restoration.</p>	<p>The site is missing one or more of the key factors and has little or no potential for restoration.</p>
<p>Target population size and inter-connectivity This considers the ability of the site to sustain a demographically and genetically viable population of oryx, or to form a significant component of a viable meta-population (a group of populations between which movement is possible but restricted). It therefore considers both the capacity of the site itself and also how well the site is positioned geographically in relation to other current or potential release sites.</p> <p><u>Site capacity (K):</u></p> <ul style="list-style-type: none"> • 500 is considered the minimum size for a viable population or meta-population*. • 200 is considered the minimum viable sub-population size** 	<p>K=200+ AND movement to or from neighbouring sites to secure a K=500+ is possible and could be achieved through corridor restoration or management.</p>	<p>K=200+ AND movement to or from neighbouring sites to secure a K=500+ is possible and could be achieved through practical, feasible transportation.</p>	<p>K is less than 200 OR K < 500 and movement to or from other neighbouring sites would be challenging.</p>

Factor	Good conditions	Fair conditions	Inadequate conditions
<p>That is, to be considered for reintroduction a site should EITHER be able to sustain 500+ individuals, OR it should be able to sustain at least 200 individuals, with clear potential for a meta-population of at least 500 to be forged through links with other sites (either current or potential).</p> <p><u>Inter-connectivity:</u> Ideally, links to other sites would be through the restoration or management of habitat corridors, so that movements are made by oryx in response to relatively natural drivers. Where human transportation is likely to be the main or only link between sub-populations within a meta-population, it is important that movements are not continually impeded by onerous screening and quarantine protocols, delays relating to inter-governmental processing requirements, and prohibitively expensive or complex transportation methods or routes. These problems are more likely to occur between distant sites and across national boundaries, and these aspects are considered as part of site evaluation. Note that these challenges are likely to be inevitable during the set-up phase.</p> <p><small>*this relates to expected inbreeding resilience ** this is essentially arbitrary and relates to what is considered likely/possible <i>in situ</i>.</small></p>			
Threats – pre-requisites			
<p>Status of extinction factors Modified from CMS (2006), range wide oryx extinction risk factors are considered to be:</p> <p><i>1.Degradation and decline of habitat due to:</i></p> <ul style="list-style-type: none"> • severe droughts (excluded from this criterion assessment); • human occupation and livestock overgrazing that damage pastures and/or hamper pasture re-growth; • displacement by human development into marginal habitat for oryx (e.g. sub-desert zones); <p><i>2.Direct exploitation through hunting:</i></p> <ul style="list-style-type: none"> • traditional subsistence methods; • traps and snares; • firearms discharged from vehicles; 	<p>Factors leading to initial extinction are known and either resolved or successfully managed.</p>	<p>Factors leading to initial extinction are known. Protective measures are planned or underway to address them.</p>	<p>Factors remain and are unlikely to be resolved. Protective measures are not planned.</p>

Factor	Good conditions	Fair conditions	Inadequate conditions
<ul style="list-style-type: none"> • tourism-based trophy hunting; <p>3. <i>Other threats:</i></p> <ul style="list-style-type: none"> • extension of livestock herds, i.e. competition between livestock and wildlife for space or pasture; • multiplication of deep wells (this is really a sub-set of the above bullet); • human transformation of remaining habitats or key areas within these, e.g. shade areas or hot season grazing zones. <p>For SHO, the main direct long-term issues were and are illegal hunting and its control, and the intensification of land use and changes therein.</p>			
<p>Human footprint (excluding direct off-take and related disturbance) This factor considers the impact of human presence and activity on the site's ability to sustain oryx. Ideally, a large proportion of the site, and in particular key areas such as hot season retreats and calving areas, would be distant from permanent settlements and/or fixed agricultural areas. Trends in land use should also be considered here.</p>	<p>More than 75% of the site is compatible with oryx use.</p>	<p>25-75% of the site is compatible with oryx use and enough key areas fall within this.</p>	<p>Less than 25% of the site is compatible with oryx use and few key areas fall within this.</p>
Strategic issues – pre-requisites			
<p>Legal framework Oryx protection at a given site should be underpinned by well-enforced laws. Two aspects are considered important:</p> <ul style="list-style-type: none"> • national protection for the species; • protected area laws for former oryx habitat (or for the site under consideration). <p>Ideally, the area under consideration will be subject to a plan or strategy that sets out the management aims, objectives, intervention options and site evaluation results.</p>	<p>National protection for the species and protected area laws are in place and enforced. A strategy for the area is in place.</p>	<p>Legal provisions and a relevant management strategy are only partly in place but activities are underway to resolve this.</p>	<p>Legal provisions and a relevant strategy are not in place, with no immediate prospect for change.</p>
<p>Government support High-level support may exist or be considered where, in addition to other recognised benefits, oryx restoration is seen as a means for directly or indirectly contributing to a government's human development goals, meeting national obligations to international conventions (e.g., Convention on Biological Diversity).</p>	<p>Oryx restoration has been identified by the government as a potential contributor to</p>	<p>There is awareness of and potential for oryx restoration to contribute to high-level</p>	<p>Restoration runs counter to high-level government goals.</p>

Factor	Good conditions	Fair conditions	Inadequate conditions
	high-level goals.	government goals.	
<p>Inter-agency cooperation Projects are more likely to succeed when they enjoy the cooperation and support of all relevant government departments and these departments are willing and able to work cooperatively to achieve viable solutions to identified problems.</p> <p>This situation is more likely to be secured when all relevant agencies are:</p> <ul style="list-style-type: none"> • clearly identified at the outset; • kept informed of and involved in the development of the project; • comfortable that their sector will not be penalised; • known to have a history of collaboration; • able to achieve a high level and active political support. 	Agencies are identified, involved, and cooperating.	Agencies are identified but either not sufficiently involved, or not cooperating AND there is potential to improve this.	Agencies are EITHER not identified OR are identified but there is neither inter-agency cooperation nor willingness for such.
<p>Public support Public support for the project is a vital contributor to success. This is likely to hinge on perceptions of whether the restoration of oryx to a given site will generate a net benefit to the local people whose support is key, or at the very least will not impinge or exacerbate their actual socio-economic interests. The following potential outcomes from the site are considered:</p> <ul style="list-style-type: none"> • consumptive value (e.g., food, revenue from controlled hunting); • non-consumptive value (e.g., revenue from tourism); • losses (e.g., lost revenue due to reduced land available for cultivation and grazing) and any associated compensation for these; • whether there is an informed awareness of the costs and benefits associated with adopting any proposed project. 	Plans are in place to ensure that restoration would bring a net benefit and local people are aware of this.	There is potential for a net benefit but no plans and/or insufficient awareness.	The project is not expected to bring a net benefit to local people.
<p>Security for fieldworkers Before embarking on a restoration project there should be a reasonable expectation that the political situation will be sufficiently stable and consistently secure to allow for baseline research, project development, implementation, and monitoring to be conducted. There should be a strong government commitment to securing the safety of all individuals involved in program implementation.</p>	The situation is sufficiently secure and protocols are in place to track and adapt to changes in this.	The situation is not consistently secure but protocols in place for adapting as changes occur.	The situation is not consistently secure and protocols for managing this are not in place.

Factor	Good conditions	Fair conditions	Inadequate conditions
In light of the changeable nature of security, there should also be robust protocols in place for monitoring the situation and for adapting to the situation at hand.			
<p>Transboundary cooperation As a wide-ranging and naturally mobile species, oryx restoration may require the management and protection of a population that straddles two or more national borders. Bi-lateral and/or multi-lateral agreements may be required to address this.</p>	All of the necessary agreements are in place OR there are no transboundary issues.	There are transboundary issues but initiatives are in place to address them.	There are immediate and/or challenging transboundary issues and no initiatives exist to address them.
Capacity issues – pre-requisites			
<p>On-site infrastructure for pre-release animal management Animal management infrastructure will be required to facilitate the initial containment and management of individuals brought to the site for release.</p>	Exists and is appropriate or could be modified for the species.	Does not exist but there is potential to create it.	Does not exist and there is little potential for creating it.
<p>Human resources Human resources are essential to the implementation, management and supervision of the operation over the long term, including a cross-section of experts in animal care, range management, scientific monitoring, conflict resolution, livelihood development programming, public education/communications, among other disciplines.</p>	Human resources are sufficient for the long-term.	Human resources are currently insufficient but there is potential to improve on this.	Human resources are currently insufficient with little potential to improve on this.
<p>Health monitoring There should be sufficient capacity to monitor and manage the health of restored populations, including the administration of an appropriate vaccination programme and the treatment of injuries or trauma where necessary. This would require the advice and periodic consultation with animal health experts, including veterinarians, in developing appropriate herd-health programs and surveillance protocols that could be implemented by local staff and regional wildlife authorities.</p>	There is sufficient capacity in place.	There is insufficient capacity but there is potential for developing it.	There is insufficient capacity and little potential for developing it.
<p>Monitoring and evaluation There should be the capacity to set in place a well-designed, adaptive, monitoring and evaluation system at the site. This requires that local staffs are trained in fundamental project management techniques, as well as basic herd monitoring and</p>	There is sufficient capacity for this.	There is insufficient capacity but there is potential for	There is insufficient capacity and little potential for developing it.

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Factor	Good conditions	Fair conditions	Inadequate conditions
record keeping. Systematic reporting and periodic meetings between program staff, managers and technical experts should be convened to assess program effectiveness and to make adjustments, as appropriate.		developing it.	
Finance Funding should be secure for the implementation and management of the project's operation over the next 5-10 years.	Funding is sufficient for 5-10 years.	Funding is insufficient or not secure but there is potential to overcome this.	Funding is insufficient or not secure with little potential to overcome this.

Conservation Impact Factors

Conservation impact factors are considered to be characteristics which add value to a site in terms of its potential contribution to pre-defined conservation goals. In this case those goals are contained in the Vision Statement for oryx reintroduction, developed by project stakeholders, which describes mobile, self-sufficient herds inhabiting ancestral homelands in sustainable numbers and valued by local communities. A low conservation impact score would not prevent a site from being considered for reintroduction but it could reduce its value relative to other sites.

Factors enhancing conservation impact			
Factor	High score	Medium Score	Low score
<p>Herd size Further consideration is given here to herd size to ensure that significant additional priority is given to sites that exceed the minimum targets for population viability described under <i>Target Population Size and Inter-connectivity</i>; larger numbers of animals at any given site enhances the potential for achieving major conservation gains. The bands here are derived as follows:</p> <ul style="list-style-type: none"> • 500 – 2000 – medium-term viability (15+ generations). Ongoing resilience to inbreeding depression (once numbers are established) but vulnerable to catastrophes and long-term genetic deterioration. • 2000 – 5000 – long-term viability (40+ generations). Greater resilience to catastrophes and genetic deterioration. • >5000 - indefinite viability. Ongoing retention of adaptive potential and resilience to catastrophes. 	5000+	2000 - 5000	500 - 2000
<p>Ancestral range Restoration across the species' ancestral range is a key component of the vision for scimitar-horned oryx conservation. Though introductions outside the ancestral range are likely to form an important part of the overall restoration strategy, the conservation value of a site is considered to be enhanced where it is located within ancestral range.</p>	Site is in within the historic range and in an area where the species is known to have been commonly found.	Site is within the historic range but in an area considered marginal for the species.	Site is not in the known historical range of the species.

Factors enhancing conservation impact			
<p>Ability to range freely Oryx herds were traditionally mobile. The ability for animals to range freely across large areas is considered an important component of the species' restoration. Limitations on movements are expected to come from one of the following (in decreasing order of conservation value):</p> <ul style="list-style-type: none"> • natural changes in habitat or natural site boundaries • fencing or other human-made boundaries (including human-modified habitat, roads, desertification etc.) 	<p>Movements are limited only by natural habitat changes.</p>	<p>Movements are limited by a combination of natural and human-made boundaries.</p>	<p>Movements are limited by fencing and other human-made boundaries.</p>
<p>Intrinsic value This refers to the cultural or aesthetic value placed on the presence of oryx by local people and is one of the potential restoration values referred to in the vision.</p>	<p>The species is of high intrinsic value to the people of this area.</p>	<p>The species is of some intrinsic value to the people of this area.</p>	<p>The species is of little or no intrinsic value to the people of this area.</p>
<p>Value to the wider ecosystem Restoring the oryx to its ancestral range should bring some or all of the following benefits to local ecology:</p> <ul style="list-style-type: none"> • habitat restoration; • increased ecological stability; • increased biodiversity; • reduction in over-grazing and desertification; • enhanced germination of plants; and/or • reduction in trampling and soil compaction. <p>This criterion considers the extent to which sites would be expected to benefit from these enhancements.</p>	<p>The site would benefit significantly from most or all of these should restoration take place.</p>	<p>Site would benefit to some extent from most or all of these.</p>	<p>Site would benefit from few or none of these.</p>

APPENDIX II - PARTICIPANT LIST

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