



Convention on the Conservation of Migratory Species of Wild Animals

Secretariat provided by the United Nations Environment Programme



THIRD MEETING OF THE SIGNATORIES OF THE MEMORANDUM OF UNDERSTANDING ON THE CONSERVATION AND MANAGEMENT OF THE MIDDLE-EUROPEAN POPULATION OF THE GREAT BUSTARD (*Otis tarda*)

8-12 April 2013, Szarvas, Hungary

CMS/GB/MoS3/Doc.7.4.4

Agenda Item 7.4.4

GREAT BUSTARD JOINT RESEARCH PROGRAM

(Prepared by Torsten Langgemach)

[Excerpt]

Introduction

1. Pursuant to paragraph 8 of the Memorandum of Understanding (MoU), the Signatories shall endeavour a medium term international work program for the Great Bustard including subjects for co-operative research (see box 1).
2. The Action Plan as a part of the MoU requires the promotion of research which is of direct application to the conservation of the Great Bustard (box 2).
3. Referring to action 6.2.1 of the Action Plan, the Medium Term International Work Program (MTIWP) 2009-12 includes objective 1.2 being of “high priority”: “Comparative studies on habitat requirements, effects of habitat changes (including infrastructure such as powerlines and windfarms) and causes of decline in different range states are available.” Two measures have to be taken:
 - Elaborate a Joint Research Program
 - Promote a Joint Research Program
4. Being aware that paragraph 6.2 of the Action Plan calls in general for “Promotion of research which is of direct application to the conservation of the Great Bustard” (box 2), and recognizing relationship and overlap of the four sub-topics of paragraph 6.2, the Joint Research Program will be set in a broader context.
5. The purpose of the Joint Research Program is to co-ordinate international research activities among the range states of the MoU. The program focuses on issues of high international conservation importance, especially if they require international co-operation or funding support. It is also expected to provide the basis for targeted fundraising campaigns nationally and internationally.
6. The Joint Research Program is primarily focussing on states with regular breeding or wintering populations of the Great Bustard as this is the basis for any systematic approach. All other states – mainly target countries of winter flights or countries with uncertain breeding status - are requested to verify and document all observations or other indications such as prey remains as precise as possible and to collect all relevant data at one designated institution.

7. Monitoring may be considered as a fundamental basis for research, however, it is not subject of this Joint Research Program as there are separate monitoring guidelines existing*.

8. The primary responsibility for implementing the listed research activities will rest with the state governments, as well as each country's non-governmental community and its individual Great Bustard experts. Relevant intergovernmental, international and national organisations would be invited to consider collaborating on the research projects.

9. The Joint Research Program will be updated at each meeting of the signatory states, hence it is expected to cover a period of four years. The first period will be from 2012 to 2016.

10. Basic information is available on the web-based Great Bustard bibliography maintained by AT(MoU Para. 7, MTIWP 1.7: Information on the ecology and conservation of Great Bustard effectively managed and shared within the conservation and research communities).

Action requested:

The Meeting is invited to:

- a) Review the Great Bustard Joint Research Program and provide comments till 31 May on how it could be improved; and
- b) Endorse the program at the next MoU meeting and urge interested governmental and non-governmental organisations to consider financially supporting the activities listed.

*) Raab, R., E. Julius, P. Spakovszky & S. Nagy (2009): Guidelines for monitoring of population parameters of Great Bustard and of the effects of management measures. BirdLife International

BirdLife International
European Division

Great Bustard Joint Research Program



Prepared for the Memorandum of Understanding on the Conservation and Management of
the Middle-European Population of the Great Bustard (*Otis tarda*)
under the Convention on Migratory Species (CMS)

by

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Photo: D. Nill

Introduction

1. Pursuant to paragraph 8 of the Memorandum of Understanding (MoU), the Signatories shall endeavour a medium term international work program for the Great Bustard including subjects for co-operative research (box 1).

Box 1: Memorandum of Understanding, Paragraph 8

The Signatories shall endeavour to adopt, within two years of the date of entry into force of this Memorandum of Understanding, a medium term international work programme for the Great Bustard taking account of, inter alia, the Agricultural and Grasslands Habitat Strategy of BirdLife International and all national work programmes. This programme should include subjects for co-operative research and monitoring, measures to implement this Memorandum of Understanding and its Action Plan as well as items for which guidelines for the further development and improvement of the measures listed in this Memorandum of Understanding and in international and national work programmes should be developed

2. The Action Plan as a part of the MoU requires the promotion of research which is of direct application to the conservation of the Great Bustard (box 2).

Box 2: MoU Action Plan (Part 1, General):

6.2 Promotion of research which is of direct application to the conservation of the Great Bustard [Action Plan 1996: 3.2]

6.2.1 Comparative ecological studies [3.2.1]

A comparative analysis of existing data on population dynamics, habitat requirements, effects of habitat changes and causes of decline between the populations in different Range States should be conducted in order to redefine conservation strategies in the future.

6.2.2 Promotion of studies on mortality factors [3.2.2]

All individuals found dead should be examined for the causes of mortality. This, together with field studies and monitoring of marked individuals, should help to identify the direct or indirect impact of land use on Great Bustard mortality.

6.2.3 Investigation of factors limiting breeding success [3.2.3]

The ecology of core Great Bustard populations in extensive agro-pasture systems should be studied, giving priority to the analysis of those factors which may have influence on breeding success. These should include the use of habitat and space, home range and dispersal patterns.

6.2.4 Studies on migration [3.2.4]

Studies should be made better to identify the migration routes and resting habitats of the Great Bustard and especially of key sites along such routes and in wintering areas. Ringing and studies involving satellite telemetry should be planned and implemented for those purposes.

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**Joint Research Program to support implementation of the
Memorandum of Understanding on the conservation and management of the
Middle-European population of the Great Bustard and Action Plan (as at 22 February 2012)**

No.	Research Topic	Rationale	Countries involved	Priority	Comments
6.2.1 Comparative ecological studies					
	Effects of current habitat changes.	Whereas habitat requirements are more or less known, current habitat changes such as the drift towards energy crops may cause new threats. Cause-effect-relations are necessary.	Range states with breeding populations and changing habitats: HU, AU, DE, (UA, SK, CZ?)	High	First losses of winter habitats due to large-scale maize-growing in DE.
	Influence of wind farms on Great Bustards.	Open step habitats and arable areas are preferred wind-energy areas. Large-scale wind-energy development urgently requires sound scientific results on habitat loss, barrier effects and collision risk in breeding areas, wintering grounds and on relevant flyways.	Range states with regular breeding and wintering populations.	High	First results on avoidance (AU, DE), nothing about barrier effects on regular flyways, and little knowledge on collision risk. Cf. 6.2.2.
	Investigation of population dynamics: limitations / causes of decline, and favouring factors.	Limiting parameters for population stability and/or growth are not yet sufficiently understood. On the other side, there is a need to better understanding key factors making conservation projects successful. Comparison of different populations may contribute to better understanding of relevant factors.	All range states with regular breeding or wintering populations	Medium	Limitations may occur in breeding and wintering areas. Including of less investigated populations may provide better knowledge on these for focussed conservation measures. Existing monitoring guidelines may be helpful (RAAB et al. 2009).
	Genetic structure of vital populations.	How does a vital population look like (sex ratio, age structure)? How many males contribute to reproduction? Are there differences between "natural" and re-introduced (or re-stocked) populations? Conclusions for conservation and re-introduction projects.	Countries with breeding populations: HU, AU, DE, UA, UK, (CZ, SK)	Medium	UK has the only re-introduced population and should be included with regard to other re-introductions in Middle-Europe.

	Key factors for space use in the course of the year.	Non-migrating populations traditionally use certain areas and habitats differing in the course of the year. Understanding these might provide better insight into the species' requirements leading to more sophisticated management.	Range states with usually non-migrating populations: HU, AU, DE, UA, (CZ, SK)	Medium	Habitat use includes special questions such as the role of organic farming and different agricultural schemes up to special "bustard-friendly" management.
6.2.2 Promotion of studies on mortality factors					
	Mortality due to power-lines and mitigation measures.	Conflict and main mitigation measures are well understood. However, which of the existing marking systems is most efficient? Inappropriate marking systems would waste valuable resources without effect.	All range states.	High	Results of LIFE-projects in the Pannonian region are available.
	Do wind turbines cause direct Great Bustard mortality by collision?	Massive planning pressure in Great Bustard areas requires reliable data on risks and threats.	DE, AU, HU?, UA?, ...	High	So far, there is only one German collision study in a Great Bustard area known: 4 years of search in a 20 turbine wind farm in the SPA Fiener Bruch – among 45 birds and 39 bats no killed bustards were found. Cf. 6.2.1
	Mortality due to agricultural management and mitigation measures.	Modern agricultural practices cause high mortality risk to clutches, juveniles and breeding females. A systematic approach to mitigation measures is still lacking.	Range states with breeding populations.	High	Desired are field trials of different mowing regimes and set-aside schemes as well as technical devices.
	Clearing up of summer losses of adult female Great Bustards.	German experience suggests loss of adult females during the breeding season. So far, the difference between spring and late summer numbers is the only symptom.	DE, others if there are similar problems	Medium	Farming practices and predation are supposed to be main factors.
	Data collection on mortality factors.	Collection and analysis of available literature would improve scientific basis and argumentation for management implementation.	All range states	Low	

	Diseases as a risk factor for Great Bustards.	So far there is little knowledge on infectious, metabolic and other diseases in Great Bustards. Mainly in translocation projects associated questions are relevant.	Range States with breeding populations; non-range states as partners for comparison		Cf. IUCN guidelines for re-introductions and other conservation translocations (2012)!
6.2.3 Investigation of factors limiting breeding success					
	Comparative studies of factors influencing breeding success in order to identify key habitat parameters.	Breeding success differs between populations ranging from quite good (AU → ?) to nearly zero outside fenced areas (DE). Comparative analyses seem to be crucial to understand the key parameters.	AU, HU, DE, UA	High	
	Influence of predation on the breeding success of Great Bustards. Ecological background of high abundance of predatory mammals.	The symptoms – loss of eggs and juveniles – are known, the main actors – predatory mammals - as well. However, the reasons of high abundance of these species are not yet fully understood. Correspondingly, appropriate strategies beyond the predator control approach are lacking.	DE, ...	High	Cf. MTIWP 1.4: Effectiveness of different predator control strategies monitored and experience shared amongst experts. Produce a synthesis report based on studies. Responsible: HU (2009-11).
6.2.4 Studies on migration					
	Analysis of regular and irregular (winter flights, juvenile dispersal) migration routes by means of satellite telemetry.	Power line and wind-energy development require hard data which is – at least for some populations – lacking.	Range States with breeding populations.	High	Time pressure due to new energy strategies in many countries leading to massive planning pressure. Cf. 6.2.1, 6.2.2.
	Comparative analysis of ringing / marking data.	So far no comprehensive analysis exists.	All range states where bustards have been marked.	Medium	
	Comparison of different marking methods	Methods used have different advantages and disadvantages.	Range States with breeding populations.	Low	