



# Convention on the Conservation of Migratory Species of Wild Animals



Technical Workshop for the Asiatic Wild Ass

*Vilm, Germany, 26 June – 1 July 2023*

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UNEP/CMS/AWATW/Outcome 1

## RANGE-WIDE ACTION PLAN FOR THE ASIATIC WILD ASS

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### Introduction

In historic times the Asiatic Wild Ass (*Equus hemionus*) ranged throughout the steppes and desert steppes of Russia, Mongolia, northern China, northwestern India, Central Asia, the Middle East, including Iran, the Arabian Peninsula and Asia Minor (Bannikov 1981, Heptner et al. 1988, Denzau and Denzau 1999).

Currently, the global Asiatic Wild Ass population is estimated to number around 87,000 individuals in 10 populations and 14 occurrences in eight Range States, namely China, India, Islamic Republic of Iran, Israel, Kazakhstan, Mongolia, Turkmenistan and Uzbekistan. An estimated 70,000 Asiatic Wild Ass (>80% of the global population) are found in the Mongolian Gobi. All other remaining populations are much smaller and largely isolated from each other (Fig. 1; see Overview Report [UNEP/CMS/AWATW/Doc.3](#)).

There is only one species of Asiatic Wild Ass which has five generally recognized sub-species:

- *Equus hemionus hemionus* - the Mongolian khulan (in southern Mongolia and northern China), formerly also referred to as *E. h. luteus* or *dziggetai*;
- *E. h. khur* – the khur (India);
- *E. h. kulan* – the Turkmen kulan (in Turkmenistan and northern Iran, re-introduced in Kazakhstan, Uzbekistan);
- *E. h. onager* - the onager (southern Iran; mixed *E. h. onager* x *E. h. kulan* in northern Iran and re-introduced in Israel);
- *E. h. hemippus* – the Syrian Wild Ass (Extinct since 1927, formerly from the eastern shore of the Mediterranean Sea south into the Arabian Peninsula).

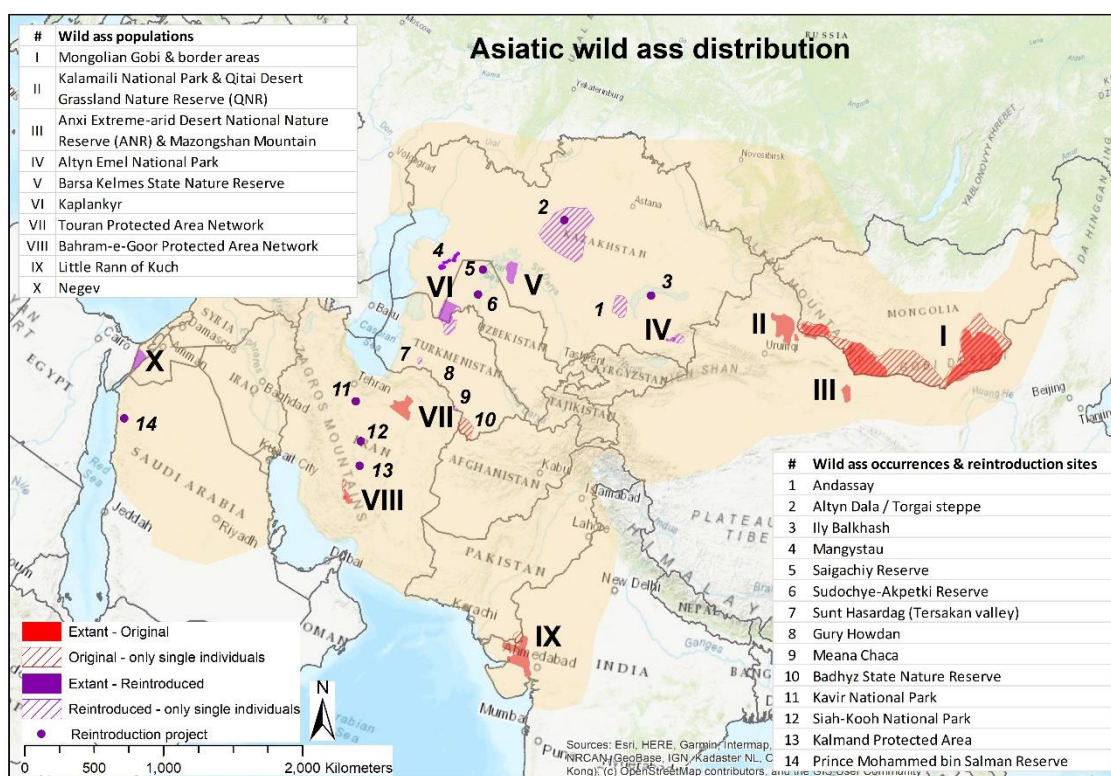


Fig. 1: Distribution of the Asiatic Wild Ass past (beige) and present (red and purple).

Asiatic Wild Ass is one of the ungulate species covered by CMS's Central Asian Mammals Initiative (CAMI), Resolution 11.24 (Rev.Cop13). What sets Asiatic Wild Ass apart from other species under CAMI is the combination of the following life history and behavioural traits:

- **Exceptionally large movements** – requiring landscape level conservation at a very large scale, especially for the species stronghold in the Gobi-Steppe-Ecosystem.
- **Nomadic nature of their movements** – which makes it necessary to maintain landscape connectivity throughout the range, rather than focus conservation on predictable movement corridors.
- **Water dependency** – making water availability a non-negotiable key resource determining habitat use and movements.
- **Inability to cross fences** – making it necessary to provide fence openings (rather than only fence modifications), which may require additional safeguards where fences are needed to stop livestock and human movements.

In addition, compared to the smaller dryland ungulates, Asiatic Wild Asses have a lower recovery potential as age at first reproduction is later and reproduction is limited to one offspring per litter, with a maximum of one born per year. The lower recovery potential is counterbalanced by the relatively long lifespan and generally high survival rates of adults. This life history strategy makes Asiatic Wild Asses well suited to learn and adapt to change but reduces their potential for rapid re-colonisation or quick recovery after periods of mass mortality.

### Development of the Action Plan

The draft Range-wide Asiatic Wild Ass Action Plan was developed under the lead of Professor Petra Kaczensky with participation of national experts from Wild Ass Range States via online workshops and was further refined at the technical Workshop for the Asiatic Wild Ass taking place on the Isle of Vilm on 26 June-1 July 2023. It was finally reviewed and endorsed by all CMS Parties in the Asiatic Wild Ass range by correspondence. The Action Plan builds on the Programme of Work for the Central Asian Mammals Initiative annexed to the Resolution 11.24 Rev.COP13 (CAMI POW) and species-specific threats identified by Asiatic Wild Ass experts (summarized in [UNEP/CMS/AWATW/Doc.5](#)).

The CAMI POW includes a set of activities, a vision and goal as developed and adopted by the Range States for the conservation and management of migratory mammals, which can be refined to Asiatic Wild Ass specifically. Virtually all the Cross-cutting measures from CAMI POW are relevant for Asiatic Wild Ass (Part I: 1.1.-8.6), as are the Species-specific measures (Part II: 11.1-11.8), the Landscape-level measures for the Gobi-Steppe-Ecosystem (Part III: 27.1-27.4), and the Implementation support (Part IV: 29.1-32.4).

The Action Plan therefore starts with a cross-cutting section, which deals with the general need for national and regional action plans, monitoring and capacity building, necessity to identify population level threats and to address them. Thus Objective 0 includes cross-cutting activities from CAMI POW and includes indicators that are specific to Asiatic Wild Ass; Objectives 1-12 of the Action Plan are developed in accordance with the threats 1-15, as described in the table below.

Number	Threat	Objective of the Action Plan to address the threat
1	Pasture Degradation	Maintain pasture biodiversity, productivity, and carbon storage capacity through sustainable use of Asiatic Wild Ass habitat.
2	Pasture Competition	Reduce pasture competition of Asiatic Wild Ass with livestock.
3	Fencing Pastures	Maintain Central Asian grasslands largely unfenced within the range of migratory ungulates.
4	Commercial Harvest of Wild Hay	Regulate commercial harvest of "wild hay" so it is sustainable and does not threaten biodiversity.
5	Disease Transmission	Minimise the risk of disease transmission at the livestock - wildlife interface is minimised.
6	Habitat Loss	Stop the loss of Asiatic Wild Ass habitat.
7	Invasive Plants	Understand the threat of invasive plants in Asiatic Wild Ass habitat and limit their spread.
8	Habitat Fragmentation	Maintain accessibility to suitable habitat and key resources for Asiatic Wild Ass to allow for large-scale migratory and nomadic movements.
9	Border Fences	Reduce the barrier effect of border fences for transboundary conservation of Asiatic Wild Asses in transboundary hotspots.
10	Reduced Access to Water	Raise awareness for the range defining importance of water for Asiatic Wild Ass and secure protection and access to this key resource.
11	Small And Isolated Populations	Increase and reconnect small populations to improve resilience towards loss of genetic variability and local extinction.
12	Illegal Killing	Eliminate illegal killing as a threat for Asiatic Wild Ass conservation.
13	Illegal Trade	Monitor and prevent the illegal trade in Asiatic Wild Ass.
14	Harassment And Disturbance	Reduce harassment and unintentional disturbance of Asiatic Wild Asses.
15	Mass Mortality	Increase resilience to mass mortality events triggered by climate extremes such as droughts, extreme winters, or fires.

## Range-wide Action Plan for the Asiatic Wild Ass

**Vision:** Viable and genetically diverse populations of Asiatic Wild Ass are ranging across healthy and interconnected ecosystems, coexisting with and valued by people.

**Goal:** To ensure range-wide action for the conservation of the Asiatic Wild Ass and its habitats including its historic range, in the context of climate change and the species' ecological role, by strengthening coordination and cross-border cooperation, sustainable development and rational use of natural resources, while mitigating human-wildlife conflict.

**Suggested Time frame:** 2024-2033, with mid-term evaluation after 5 years (in 2028) – tbc by decision makers

### Terms used in the log-frame:

**Objectives** support reaching the Goal and directly address important threats and drivers; **Results** are the concrete achievements or direct outcomes needed to reach every Objective. Results are the direct outcome of the implementation of a Logical Framework (LogFrame) and should be SMART (Specific, Measurable, Achievable, Relevant and Time-bound); **Activities = Actions** achieve each Result, including a **Timeline**, **Actor**, and **Indicator**.

**CAMI POW** column refers to the numbers of Activities in the Programme of Work for the Central Asian Mammals Initiative 2021-2026 (CMS Resolution 11.24 ( Rev.Cop13), UNEP/CMS 2020). **Population** refers to countries or populations for which the activities are most relevant. **Priority** refers to how important these activities are for Asiatic Wild Ass conservation. The **Priority** is left blank to be filled out by Range state representatives. **AWA** = Asiatic Wild Ass is used in all columns except results to save space.

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
Objective 0: Provide the scientific, administrative, institutional, and capacity support to conserve and manage Asiatic Wild Ass populations.							
<b>Result 0.1.</b> The Asiatic Wild Ass is understood and valued as a flagship species for the conservation and functional connectivity of arid and semi-arid ecosystems in its Range.	<b>A 0.1.1.</b> Promote AWA as a flagship species for the conservation and functional connectivity of arid and semi-arid ecosystems through advocacy and campaigning.	NGOs, GOs, Scientific organisations, social scientists, zoos, museums, IUCN Equid SG, CMS as a platform	Number of scientific publications campaigns, information material, zoo exhibits, news feeds, documentaries, museum exhibits, side events conducted.	Continuous	11.8, 30	All	High
	<b>A 0.1.2.</b> Communicate the special needs of AWA as compared to other species in the same landscape.	NGOs, GOs, Scientific organisations, social scientists, zoos, museums, IUCN Equid SG and other concerned IUCN SGs, CMS as a platform.	Action plans, including joint action plans, transboundary and integrated management plans, land use plans, and EIAs specifically addressing the importance of large, interconnected landscapes, access to water, the inability of AWA to cross fences & to recover quickly from high mortality events.	Continuous	30	All	
<b>Result 0.2.</b> Improved assessment of occurrence and conservation status of Asiatic Wild Ass populations.	<b>A 0.2.1.</b> Evaluate population status of AWA in data deficient areas through rapid assessments and targeted monitoring.	GOs, Scientific Institutions, NGOs, IUCN Equid SG	Status reports for: - CHN: Inner MNG (incl. Urad National Nature Reserve (UNR)) - MNG: areas between Dzungarian and Transaltai Gobi, and between Transaltai Gobi and South Gobi Region. - KAZ: Andassay - UZB: Southern Ustyurt and newly established populations	Short-term		See indicators	High

<sup>1</sup> Country names are abbreviated as follows: CHN-China, IND-India, Islamic Republic of Iran-IRN; ISR-Israel, KAZ-Kazakhstan, MNG-Mongolia, TKM- Turkmenistan, UZB-Uzbekistan.

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
			<ul style="list-style-type: none"> <li>- IND: west Rajasthan bordering Gujarat State</li> <li>- Pakistan: Rann of Kutch</li> <li>- ISR: Negev</li> <li>- TKM: remaining range</li> </ul>				
	<b>A 0.2.2.</b> Develop guidance for AWA monitoring in general and monitoring protocols for specific populations.	GOs, Scientific Institutions, NGOs, IUCN Equid SG and other relevant SGs, CMS as a platform	Best practise guidelines based on existing experience for monitoring AWA compiled and accessible.	Short-term		All	
	<b>A 0.2.3.</b> Develop and start implementing national action plans for AWA in all Range States, addressing the specific needs of individual populations building on CAMI POW and the Range-wide Action Plan.	GOs, Scientific Institutions, NGOs, IUCN Equid SG, industry for implementing, development organizations, land users or land user groups	<ul style="list-style-type: none"> <li>- CHN: Action plan for AWA for the entire AWA range.</li> <li>- MON: The existing draft national action plan for AWA endorsed and implemented.</li> <li>- IRN: Existing action plan for AWA in IRN updated and implemented.</li> <li>- KAZ, TKM, UZB, ISR: Action plans developed and implemented.</li> </ul>	Medium-term		All, except IND, where an integrated Action plan for AWA is in place.	High
	<b>A 0.2.4.</b> Update IUCN Red List and Green List status for AWA.	CMS/CAMI, BfN, IUCN Equid SG, national experts from all Range States	IUCN Red List and Green List status updated (before CAMI reporting deadline).	Short-term		All	High
<b>Result 0.3.</b> Available and accessible habitat in the Range States is known.	<b>A 0.3.1.</b> Conduct habitat modelling to identify suitable AWA habitat and water availability.	Scientific Institutions, NGOs, GOs, experts, IUCN Equid SG	<ul style="list-style-type: none"> <li>- Report and map of suitable AWA habitat and available water sources produced.</li> <li>- Scientific publication.</li> </ul>	Medium-term		All	Medium
	<b>A 0.3.2.</b> Analyse connectivity between suitable protected and unprotected AWA habitat to	Scientific Institutions, NGOs, GOs, experts, CMS and the Global Initiative for Ungulate	Maps of national and transboundary connectivity and barriers are available and linked to the updated	Medium-term		All	High



Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	identify bottlenecks, and barriers to movement as a basis for conservation planning and recovery efforts.	Migrations (GIUM), IUCN Equid SG	Central Asian Mammals Migration and Linear Infrastructure Atlas.				
	<b>A 0.3.3.</b> Carry out climate vulnerability assessment of AWA based on the climate change predictions and the information from <b>A 0.3.1</b> & <b>A 0.3.2</b> and include the resulting climate change considerations into all activities, where necessary. Link to <a href="#">CMS Working Group on Climate Change</a>	NGOs, Scientific Institutions, GOs, experts, IUCN Equid SG, development agencies	Vulnerability Assessment report (methodology to be adapted from the IKI CAMCA project, relevant UNFCCC tools), including predictive maps available. Scientific publication.	Long-term		All	Medium
<b>Result 0.4.</b> Strengthened cooperation between and with local administrations and communities	<b>A 0.4.1.</b> Strengthen national-level cooperation beyond internal administrative boundaries (e.g., provinces, districts) to coordinate AWA conservation at the population level based on <b>A 0.2.1. – A 0.2.3.</b>	National GOs, local GOs, PAs	Inter-provincial working groups for the monitoring and conservation of AWA and other CMS/CAMI species are established and regular meetings are conducted.	Continuous		All (annual working group meetings in MNG already take place)	High
	<b>A 0.4.2.</b> Build functional associations within and between communities within the CAMI range, under the mandate of national governments, to facilitate communication and cooperation as well as benefit-sharing from eco-tourism and other wildlife-related activities.	National GOs, local GOs, community leaders, NGOs, Tourism companies,	- Functional associations between local communities are established and respective agreements are formalized for CAMI species to involve local people in wildlife management processes. - The opportunities to receive benefits for local people are identified and	Long-term	5.7	All	Medium



Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
			are respective mechanisms included in national conservation strategies and conservation activities to implement Activity 5.7 of CAMI POW.				
	<b>A 0.4.3.</b> Promote and support the use of local knowledge and skills in community-based management plans, participatory research, and reporting outcomes, in a suitable language and format.	Community leaders Local GOs National GOs, Scientific Institutions, social scientists, hunting associations (where applicable), NGOs, land user groups	Community based management and pasture use plans within the AWA range are in line with National Action Plans developed under A 0.2.2.	Depending on each country's context	5.8	All, where applicable	Medium
	<b>A 0.4.4.</b> Collect lessons learned from ecotourism focussing on dryland ungulates including AWA and its habitat and develop country-specific best practice guidelines to set up ecotourism initiatives, involving local communities.	GOs, tourism associations, IUCN sustainable tourism guidelines, local governments, NGOs, development organizations, resorts around protected areas, local GOs, PAs	Feasibility study of ecotourism based on dryland ungulates and their habitat including AWA globally and regionally compiled;  Best practice guidelines for policy-makers compiled, which include the following aspects: - Minimal disturbance potential for AWA - Allow for a satisfying ecotourism experience - Detail necessary investment in training (e.g., guides) and infrastructure (e.g., observation towers)	Medium-term		All	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
			- Include cost benefit calculations, including net benefits for local communities.				
	<b>A 0.4.5.</b> Promote non-extractive use, especially community-based ecotourism within the CAMI region (dryland ungulates) and develop sustainable ecotourism programmes based on results from <b>A 0.4.2.-A 0.4.5.</b>	NGOs, Tourism companies, community leaders, Pas,	- Number of community-based eco-tourism programmes inside and outside of protected areas. - Annual business reports from community-based ecotourism companies.	Medium-term	5.9	All	High
<b>Result 0.5.</b> Implement the recommendations outlined in the CMS/CAMI Transboundary Hotspots study for Asiatic Wild Ass in the Gobi, Ustyurt, and Kopedag hotspots.	<b>A 0.5.1.</b> Identify stakeholders and crucial actors for all identified hotspots.	CMS, IUCN, GOs, NGOs	List of stakeholders and key individuals with contacts.	Short-term	1.3b	Gobi, Ustyurt, Kopedag, Andassay	Medium
	<b>A 0.5.2.</b> Identify if additional transboundary hotspots should be included in the CAMI PoW or if the hotspots should include additional areas.	CMS, IUCN, NGOs	Report on potential for transboundary cooperation produced, clarifying potential for cooperation: - between IND and Pakistan for AWA in the Rann of Kutch - between IRN, TKM, and Afghanistan -between UZB and TKM	Medium-term		See Indicator.	Medium
	<b>A 0.5.3.</b> Increase awareness about the benefits of transboundary cooperation among	CMS, IUCN, GOs, NGOs, Social scientists	Awareness of stakeholders is documented via appropriate social science approaches.	Continuous	1.5	All	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	governments and stakeholders.						
	<b>A 0.5.4.</b> Establish working groups for each of the proposed priority sites to elaborate work streams for establishing transboundary cooperation as appropriate based on <b>A 0.5.1. – A 0.5.3.</b>	CMS, IUCN, GOs, NGOs	<p>CHN-MNG: transboundary working group established for the Dzungarian basin (explore transboundary monitoring and the possibility of a transboundary network of PAs connecting GGB, GGA, and Kalamaili NP via the border security zone).</p> <p>CHN-MNG: transboundary working group established for the Eastern Alashan Gobi (facilitate wildlife movements across the international border and where transboundary AWA habitat exists).</p> <p>KAZ-UZB-TMN: transboundary working group established (address mismatch of openings in the border fence for AWA between KAZ and TKM and find solutions for providing openings between KAZ and UZB without compromising national security goals).</p>	Medium-term	1.3c	See indicators	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
			IRN-TMN: transboundary working group established (plan recovery of lost transboundary AWA populations). IND-PAK Rann of Kutch with support of CMS to propose establishing a transboundary working group				
	<b>A 0.5.5.</b> Encourage countries to set up Memoranda of Understanding (MOUs) or Agreements for the conservation of those priority sites.	CMS, IUCN, GOs, NGOs	Number of MOUs signed.	Continuous	1.3e	Gobi, Ustyurt, Kopedag	High
	<b>A 0.5.6.</b> Continue promoting formal and informal collaboration through scientific working groups and conferences.	CMS, IUCN, GOs, NGOs	Number of meetings and conferences and reports or proceedings of those.	Continuous	1.4a	Gobi, Ustyurt, Kopedag, Rann of Kutch(IND)	Medium
	<b>A 0.5.7.</b> Encourage cooperation at field and working level on survey, research, monitoring, and management as well as for study tours and exchange visits.	CMS, IUCN, GOs, NGOs	Number of exchange visits, MOUs, joint scientific publications.	Start activities in short term	1.4b	All	High
	<b>A 0.5.8.</b> Encourage CAMI Range State CHN to become a Party to CMS.	CMS, NGOs, key individuals	CHN is a Party to CMS.	Long-term		CHN	Medium
Objective 1: Maintain pasture biodiversity, productivity, and carbon storage capacity through sustainable use of Asiatic Wild Ass habitat.							

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
<b>Result 1.1.</b> Livestock numbers are managed at sustainable levels.	<b>A 1.1.1.</b> Assess pasture condition and biodiversity in AWA habitat and establish regular monitoring.	Scientific Institutions, Rangeland experts, NGOs, GOs	- Baseline studies carried out. - Necessary regulations developed and introduced to conduct monitoring.	Short-term		All	High
	<b>A 1.1.2.</b> Assess and model long-term carrying capacity of rangelands and determine sustainable stocking rates in suitable AWA range identified under <b>A 0.3.1. – A 0.3.3).</b>	Scientific Institutions, Rangeland experts, NGOs, GOs	Regional reports with sustainable stocking rate estimates, particularly for: - Camels in Touran - Feral cows in the Rann of Kutch (IND) - Domestic horses in the Gobi - Camels and feral horses in eastern Ustyurt	Short-term	4.1	Gobi, Andassay, Rann of Kutch (IND),, Touran, Bahram-e-Goor, Sunt Hazardag (incl. Tersakan valley)	High
	<b>A 1.1.3.</b> Review and modify existing grazing norms (both legal and customary) based on carrying capacity ( <b>A 1.1.2.</b> ) and throughout the AWA range.	Scientific Institutions, range land experts, Environmental lawyers, NGOs, GOs	- Review report and policy recommendations. - Termination of policies indiscriminately rewarding large livestock herds and promoting unlimited livestock growth.	Medium-term	4.2	Gobi, Andassay, Rann of Kutch, Touran, Bahram-e-Goor	Medium
	<b>A 1.1.4.</b> Design grazing rangeland management plans based on scientific research and with involvement of local communities outside of protected areas based on <b>A 0.4.1. and A 0.4.2.</b>	GOs, NGOs, Rangeland experts, Community leaders	Pasture community management plans.	Medium-term	4.14	All	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 1.1.5.</b> Promote a range of strategies (e.g., alternative livelihoods, temporary no-grazing, etc.) in herding communities to reduce livestock numbers and the focus on livestock as their main asset. Link to <b>A 0.4.3.- A 0.4.6.</b>	NGOs, GOs	Number of alternative sources of income available and implemented in herding communities in the AWA range.	Start in short-term	4.5	All	High
	<b>A 1.1.6.</b> Identify ways to enact mechanisms that will encourage livestock owners to invest in quality (locally adapted breeds promotion, herd health, added-value livestock products, productivity) rather than quantity.	NGOs, GOs, Agricultural experts, Scientific Institutions, FAO	<ul style="list-style-type: none"> <li>- Number of implemented projects which encourage quality over quantity.</li> <li>- Training for local people</li> <li>- Percentage of livestock owners implementing such measures.</li> <li>- Level of satisfaction with new mechanism by livestock owners.</li> <li>- Level of veterinary care.</li> <li>- Cost/benefit analysis of different herding practices conducted, and results disseminated in national languages.</li> </ul>	Short-term	4.3	All	Medium
	<b>A 1.1.7.</b> Introduce certification schemes for livestock products originating from sustainably managed rangelands.	NGOs, GOs, Agricultural experts, Scientific Institutions	Certification schemes established, which allow tracking of products back to the herder community of origin.	Medium-term	4.10	All	High
	<b>A 1.1.8</b> Develop regulatory norms, which encourage reduction numbers of semi-feral livestock, especially in protected areas.	National and regional GOs, NGOs, Community leaders	- "Excess" livestock is understood as a threat to commonly shared rangeland and solutions exist for their management, particularly for:	Long-term		Badhyz, Dzungarian Gobi, Rann of Kutch	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
			<ul style="list-style-type: none"> <li>- “Excess” horses in the Dzungarian Gobi</li> <li>- Feral cattle and pigs in the Rann of Kutch</li> <li>- Feral domestic horses in Badhyz</li> <li>- Camels and feral horses in eastern Ustyurt</li> </ul>				
	<b>A 1.1.9</b> Promote integrated pasture management including participatory approaches to increase responsibility of stakeholders for the protection of pastures (See <b>A 0.4.2. and A 0.4.2.</b> )	National and regional GOs, NGOs, Community leaders, Pasture users, Scientific Institutions	<ul style="list-style-type: none"> <li>- Participatory stakeholder mapping to ensure representation of all stakeholders conducted.</li> <li>- Proportion of rangeland managed sustainably within frameworks developed in <b>A 1.1.3., 1.1.6., and 1.1.8.</b></li> </ul>	Medium-term	4.15	All	High
<b>Objective 2: Reduce pasture competition of Asiatic Wild Ass with livestock.</b>							
<b>Result 2.1.</b> More forage is available for wild grazers such as Asiatic Wild Ass.	<b>A 2.1.1.</b> Minimize livestock grazing in protected areas and enforce restriction to multi-use zones only.	GOs, PAs, NGOs	<ul style="list-style-type: none"> <li>- Livestock is no longer grazing in core zone of PAs, classified as IUCN Category I except for PAs, where regulated livestock grazing is permitted for nature conservation purposes</li> <li>- Livestock numbers in multi-use zones are in accordance with PA regulations.</li> </ul>	Medium		MNG Gobi, TKM, Rann of Kutch, IRN	High
	<b>A 2.1.2.</b> Develop alternatives to using strictly protected areas for livestock grazing during extreme weather events (e.g., droughts, harsh winter, etc.) and consider	GOs, pasture users’ development agencies	<ul style="list-style-type: none"> <li>- Alternatives, such as pasture reserves to be used in case of climate extremes are established.</li> <li>- Provision of forage from emergency stocks to livestock owners by the</li> </ul>	Medium		MNG (particularly relevant for the Great and Small Gobi Strictly	High



Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	introducing bans on livestock grazing in strictly protected areas during such events.		government during extreme weather events, as practiced in IND is considered. - Legislation does not allow opening of SPAs for livestock of non-registered users in case of extreme events.			Protected Areas)	
	<b>A 2.1.3.</b> Increase ranger wages and prevent them from livestock keeping and grazing in protected areas	GOs	- Ranger wages are in line with income of other state employees. - Rangers are not allowed to graze their livestock in PAs.	Short-term		TKM, (MNG), KAZ	High
	<b>A 2.1.4.</b> Where grazing in protected areas is allowed, introduce herder contracts, including the rights and responsibilities of land users and prioritizing those herders with an optimal number of livestock (see A 1.1.8).	GOs, pasture users, development agencies	- PA pasture use regulations updated or introduced, where relevant. - Herder contracts (incl. vaccination requirements for livestock and herder dogs, gun ownership and use, use of dogs etc.) established and enforced. In IRN through enhanced cooperation between DOE and Natural Resource Department. - Annual reports from PAs include information on herder household locations and livestock numbers	Medium-term		MNG Gobi, TKM, IRN, KAZ	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 2.1.5.</b> Develop compensation or pastureland exchange schemes for livestock owners to not use critical AWA habitat, especially in protected areas.	National and regional GOs, NGOs	<ul style="list-style-type: none"> <li>- Reduction in livestock owners and livestock present in PAs.</li> <li>- Number of pastures within PAs exchanged for pastures outside PAs or purchased for wildlife grazing.</li> </ul>	Medium-term		Touran & Bahram-e-Goor, MNG (e.g., GGB), TKM	High
	<b>A.2.1.6</b> Assess human-wildlife conflict in AWA habitat and develop mitigation schemes.	GOs, NGOs, Scientific Institutions, PAs, pasture users, etc., IUCN Human Wildlife Conflict and Coexistence SG, CMS as a platform	<ul style="list-style-type: none"> <li>- Human-wildlife conflict assessment report prepared.</li> <li>- Mitigation approaches developed and implemented in a participatory way.</li> </ul>	Medium-term		All,	High
<b>Objective 3: Maintain Central Asian grasslands largely unfenced within the range of migratory ungulates.</b>							
<b>Result 3.1.</b> Distribution and trend of fencing pastures and agricultural plots within the CAMI range is understood.	<b>A 3.1.1.</b> Map existing fences around agricultural lands, including cropland and pasture, throughout the AWA range and assess fence status (also relevant for <b>A 0.3.2.</b> )	CMS, GOs, NGOs, Local communities, IUCN WCPA Connectivity Conservation SG	Overview map of fences within the AWA range.	Long-term		CHN, MNG, IND,	High
<b>Result 3.2.</b> Maintain permeable/unfenced landscapes throughout the CAMI range, where possible.	<b>A 3.2.1.</b> In cases, where fencing agricultural land is necessary, develop standards for reducing wildlife casualties, strictly limit or prohibit fencing in important wildlife habitat as well as on migratory routes.	GOs Scientific Institutions, NGOs (WWF MNG ongoing), farmers, IUCN WCPA Connectivity Conservation SG	<ul style="list-style-type: none"> <li>-Standard guidelines for wildlife exclusion fences developed and available in national languages to reduce injuries and mortalities among wildlife.</li> <li>- No-fencing policy in important wildlife habitat and on migratory paths outside protected areas implemented.</li> </ul>	Short-term		All	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 3.2.2.</b> Ban fencing of pastures in protected areas and remove old fences in protected areas.	GOs, PAs, NGOs	- PA legislation includes ban on fencing pastureland. - Proportion of old fences removed.	Long-term		All	High
<b>Objective 4: Regulate commercial harvest of "wild hay" regulated so it is sustainable and does not threaten biodiversity.</b>							
<b>Result 4.1.</b> Impact and scale of commercial "wild hay" harvest in arid and semi-arid ecosystems on biodiversity and ecosystem services is understood.	<b>A 4.1.1.</b> Review the location, scale, and history of commercial "wild hay" production within the AWA range and assess the economic and ecological impact and recommend best practices for sustainable harvest.	GOs, NGOs, Scientific Institutions, pasture users	Review report with recommendations on how to ensure wild hay is harvested sustainably.	Short-term	18.4	MNG, KAZ, UZB	Medium
	<b>A 4.1.2</b> Conduct training for local people based on <b>A 4.1.1.</b>	GOs, NGOs, Scientific Institutions, local communities	- Number of trainings conducted in AWA habitat. - Level of participation in trainings.	Medium-term		MNG, KAZ, UZB	Medium
	<b>A.4.1.3</b> Consider fodder production as an alternative to wild hay collection close to settlements, where water is available and where this can be done in a sustainable way.	GOs, NGOs, Scientific Institutions	Prepare context-specific fodder production guidelines in national languages.	Long-term		UZB, KAZ, TKM	Medium
<b>Objective 5: Minimise the risk of disease transmission at the livestock - wildlife interface.</b>							
<b>Result 5.1.</b> The potential for disease transmission from domestic livestock to Asiatic Wild Asses and vice versa is minimised.	<b>A 5.1.1.</b> Support the targeted vaccination of livestock and herder dogs against transmittible diseases where they are sharing the same landscape with wildlife.	GOs, NGOs, global health organisations, IUCN Wildlife Health Specialist Group, OIE, FAO, potentially WHO, PETA, People For The	- Regulations developed and enforced to vaccinate livestock and herder dogs, including those accessing protected areas. -Guidance document for AWA Range States about recommended livestock	Start in short-term	4.11	All	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	Link into the <a href="#">WHO's One Health Initiative</a> and UNEP/CMS Working Group on Migratory Species and Health.	Ethical Treatment Of Animals	<p>vaccinations within the AWA range.</p> <ul style="list-style-type: none"> <li>- Percentage of livestock inside and outside of PAs vaccinated against wildlife diseases.</li> <li>- Database of livestock vaccines registered and required in the range countries.</li> <li>- Locally focussed vaccination programmes for livestock and herder dogs in areas where highly vulnerable isolated populations of AWA exist.</li> </ul>				
	<b>A 5.1.2.</b> Identify and map important wildlife water points.	NGOs, PAs, local communities, Scientific Institutions	Maps of important wildlife water points in the AWA range.	Short-term		All	High
	<b>A 5.1.3.</b> Discourage use of important wildlife water points by livestock based on info from <b>A 5.1.2.</b> and link to <b>A 0.1.2.</b> , <b>A 0.3.1.</b> and <b>A 0.4.1.</b>	NGOs, PAs, local communities	Agreements with local communities about use and monitoring of important wildlife water points.	Short-term		All	High
<b>Result 5.2.</b> The emergence or re-emergence of infectious diseases for wild and domestic ungulates is detected early, allowing interventions to slow down or stop the spread of these diseases.	<b>A 5.2.1.</b> Establish surveillance for emergence or re-emergence of diseases through environmental monitoring (e.g., at water points) and sampling of livestock and wildlife populations. Link into existing programs such as CMS working group on migratory species and health, <a href="#">ECARO</a> projects,	GOs, national and global health programs, NGOs, IUCN Wildlife Health Specialist Group, World Organization for Animal Health (WOAH), OIE, PETA	<ul style="list-style-type: none"> <li>- Surveillance, analysis, reporting, and result sharing about AWA relevant diseases is part of livestock and environmental surveillance programs.</li> <li>- Integrated database of existing diseases in areas where wildlife habitat and livestock overlap.</li> </ul>	Medium-term		All	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	and UN's ONE Health, WHO, WHAO, FAO programs.						
	<b>A 5.2.2.</b> Establish rapid response teams and build their capacity to document, examine and sample carcasses of wildlife such as AWA when increased mortality is observed.	GOs, national and global health programs, NGOs, WCS (standard operating procedures)	<ul style="list-style-type: none"> <li>- Local people and protected area staff know whom to call in case of increased wildlife mortality.</li> <li>- Rapid response team is trained and available and has protocols for documentation, post-mortem, and sampling.</li> <li>- Standard operating procedures for training, sampling and postmortem are known and available in local languages in the range countries.</li> </ul>	Medium-term		All	High
	<b>A 5.2.3.</b> Set up an emergency fund and plans for crisis intervention to allow rapid sampling, analysis, reporting and sharing.	GOs, national and global health, UNDRR, NGOs, donors, development agencies WCS	Number and volume of existing emergency funds.	Medium-term		All	Medium
	<b>A 5.2.4.</b> Foster relationships between wildlife conservation authorities and agencies which have the mandate for intervention in crisis and	GOs, national and global health, UNDRR, NGOs, WCS, donors, development agencies	Number of MOUs and regular meetings.	Short-term		All	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	the responsibility for animal and human health.						
<b>Objective 6: Stop the loss of Asiatic Wild Ass habitat.</b>							
<b>Result 6.1.</b> Loss of critical Asiatic Wild Ass habitat is stopped.	<b>A 6.1.1.</b> Reduce the risk for degazetting parts of protected areas for development, through upgrading their protection status and giving them international recognition.	National and regional GOs, NGOs, IUCN, UNESCO, development agencies, (CMS)	<ul style="list-style-type: none"> <li>- MON: The Greater Gobi Landscapes</li> <li>- IRN: Qatrouiyeh NP is enlarged to include suitable AWA habitat in Bahram-e-Goor and along corridors to adjacent PAs.</li> <li>- TKM: The Tersakan valley is given protection status, ideally including it into the Sunt Hasardag Reserve as key AWA habitat.</li> <li>- KAZ: Ustyurt reserve cluster bordering UZB &amp; TKM is accepted as a nature reserve.</li> <li>- IND: Little Rann of Kutch is listed under the WHC.</li> </ul>	Medium term		MNG, IRN, IND, TKM, KAZ, UZB	High
	<b>A 6.1.2.</b> Improve the connectivity between the national protected areas (link <b>A 0.3.2.</b> ).	GOs, NGOs, Scientific Institutions	<p>Wildlife habitat between protected areas is identified and maintained to allow movements:</p> <ul style="list-style-type: none"> <li>- MNG: Gobi and Eastern Steppe</li> <li>- CHN: Anxi Extreme-arid Desert NR and Gobi; Kalamaili NP and Qitai Desert Grassland NR</li> <li>- KZ: Altyn Emel and Andassay and Ily Balkhash</li> </ul>	Medium to long term		MNG, CHN, IRN, KAZ, UZB, IND, Transboundary hotspots	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
			<ul style="list-style-type: none"> <li>- IRN: Bahram-e-Goor and surrounding PAs; Touran and surrounding PAs</li> <li>- IND: Wild ass sanctuary, Kutch desert and Rajasthan desert</li> <li>- UZB: corridor between Sudochye-Akpetky and Saigachy</li> </ul>				
	<b>A 6.1.3</b> Limit habitat loss through development (mining, incl. oil industry, linear infrastructure, settlements)	GOs, NGOs, Scientific Institutions	<ul style="list-style-type: none"> <li>- Regulations and offsets are in place.</li> <li>- Statistics on habitat conversion.</li> </ul>	Medium term		All	High
	<b>A 6.1.4.</b> Include important wild ass habitat outside protected areas into landscape level land use plans (link <b>A 0.3.1. – A 0.3.3.</b> )	National and provincial / local GOs, NGOs, local communities	Important AWA habitat outside PAs is flagged in as important wildlife habitat in land use plans data bases.	Medium to long term		All	High
	<b>A 6.1.5.</b> Require environmental impact assessment for development including of renewable energy sources such as wind and solar parks. Link to <a href="#">CMS Energy Task Force.</a>	National and regional GOs, Development banks	Guidelines for EIA of green energy development in the AWA range developed and implemented.	Short term		All	High
	<b>A 6.1.6.</b> Assess the habitat loss caused by off-road driving due to resource extraction, trade, domestic travel, or recreation and develop policies for reduction of habitat loss.	GOs, Land planning agencies, law enforcement, local communities	National assessment reports and best practice recommendations to minimize off-road driving developed for the extraction industry, trade, local communities, and tourism.	Medium to long term		- Rann of Kutch: Salt mining /Extraction & Transportation	Medium



Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
						- MNG / CHN: Coal and mineral mining, domestic travel - UZB: Ustyurt plateau	
	<b>A 6.1.7.</b> Sustain natural hydrological regime.	Relevant GO agencies	Management regulations of overflow and blockages of water from channels and rivers limiting AWA habitat.	Short term		- IND: Rann of Kutch, IND, - MNG: Dzungaria n Gobi	Medium
<b>Objective 7: Understand the threat of invasive plants in Asiatic Wild Ass habitat and limit their spread.</b>							
<b>Result 7.1.</b> The threat invasive species pose to pastures throughout the CAMI range is understood.	<b>A 7.1.1.</b> Compile information on the status and risk of invasive plants in Central Asia and the safeguards against the introduction of invasive plants to arid grasslands based on experience elsewhere. Link to <a href="#">IUCN Invasive Species Specialist Group</a> .	NGOs, Scientific Institutions, Rangeland experts, Rangelands Initiative Global	Review report with risk assessment for the CAMI region.	Medium-term		All	Low
	<b>A 7.1.2.</b> Develop policy recommendations based on <b>A 7.1.1.</b>	GOs, Scientific Institutions	Policy recommendations.	Long-term		All	Low
<b>Result 7.2.</b> The cover of <i>Prosopis juliflora</i> within the grasslands of the	<b>A 7.2.1.</b> Review and implement the prescription given in the PA management plan under	Scientific Institutions, NGOs, GOs	Reduced areas with <i>Prosopis juliflora</i> .	Short-term		Rann of Kutch	High for IND

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
Rann of Kutch is reduced.	the habitat improvement scheme regarding the spread of <i>Prosopis juliflora</i> in the Rann of Kutch and develop strategies to cost efficiently stop its spread.						
<b>Objective 8: Maintain accessibility to suitable habitat and key resources for Asiatic Wild Ass to allow for large-scale migratory and nomadic movements.</b>							
<b>Result 8.1.</b> Knowledge base on the impact of linear infrastructure and possible mitigation for Asiatic Wild Ass is increased as a basis for future planning.	<b>A 8.1.1.</b> Assess the impact of linear infrastructure on AWA and the effectiveness of mitigation measures, develop best practice guidance and respective mitigation policies, including wildlife-friendly infrastructure standards. <a href="#">Link to CMS Intersessional Working Group on Linear Infrastructure.</a>	National GOs, building on CAMI Guidelines and with support of CMS, if resources become available, mining and infrastructure companies, CMS Secretariat, NGOs, scientific institutions, lenders	- Report on the assessment of cumulative impacts of infrastructure on AWA. - Best practice guidelines published.	Short term	3.3, 11.3, 27.3	All	High
	<b>A 8.1.2.</b> Monitor the barrier effect of linear infrastructure and effectiveness of existing crossing structures through direct observation and remote methods (GPS collars, cameras) and take action to facilitate crossing.	GOs, Infrastructure provider, NGOs, Scientific Institutions	- Report and scientific publications on the behaviour of AWA along linear infrastructure. - Report and scientific publications on the effectiveness of different crossing structures for AWA and other CAMI species and on the behaviour of AWA along linear infrastructure.	Continuous		CHN, MNG, IND, IRN	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 8.1.3.</b> Involve interested stakeholders, such as infrastructure planners, those responsible for infrastructure maintenance, donors, invited scientists to collaborate on developing and implementing species-specific action (link to GIUM and the CMS IWG on linear infrastructure.) See <b>A 0.5.6.</b> and <b>A 0.5.7.</b>	GOs, NGOs, Scientific Institutions, CMS/CAMI, mining and infrastructure companies, lenders.	<ul style="list-style-type: none"> <li>- Quantification of wildlife-friendly infrastructure build or refitted to meet the needs of focal migratory species, such as AWA.</li> <li>- Scientists working on wild ass and infrastructure issues are invited to existing international platforms dealing with the impacts of infrastructure.</li> </ul>	Short term		All	High
<b>Result 8.2.</b> Linear infrastructure development in the Asiatic Wild Ass range follows the mitigation hierarchy of avoidance, minimization, restoration, and offsets to reduce impacts on the environment.	<b>A 8.2.1.</b> Develop or amend and implement national infrastructure mitigation standards using the <a href="#">CMS Guidelines for Addressing the Impact of Linear Infrastructure on Large Migratory Mammals in Central Asia</a> and link to <b>A 8.1.2.</b> and <b>A 8.1.3.</b>	GOs, NGOs, Transportation agencies, development agencies	Wildlife standards for linear infrastructure projects developed and included in national legislation.	Medium term	3.6a, 11.4	All	High
	<b>A 8.2.2.</b> Integrate migratory species conservation into national EIA regulations and implementation as well as into the requirements of international financing institutions. Link to <b>A 8.3.2.</b> , <b>A 8.3.4.</b> , <b>A 8.3.5.</b>	GOs, Legal experts, CMS, banks, development agencies	<ul style="list-style-type: none"> <li>- National regulations changed or specified accordingly.</li> <li>- International financing institutions have strengthened requirements regarding migratory species.</li> <li>- CSR reports.</li> <li>- No-go Zones in AWA habitat flagged and available at national level.</li> </ul>	Continuous	3.6d	All	High
	<b>A 8.2.3.</b> Establish an “Environmental Mitigation Fund” aiming at	GOs, NGOs, Legal experts & Financial	Fund established.	Short-term Gobi, long-	27.4	MNG: for the Gobi-Eastern	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	safeguarding the migratory species of the Gobi - Eastern Steppe ecosystem to implement mitigation measures for existing and newly constructed infrastructure, research and monitoring financed by contributions from private sector, government, and donors.	experts, Development banks		term all countries		Steppe ecosystem, potentially All countries	
	<b>A 8.2.4.</b> Restrict fencing of linear infrastructures to urban areas and livestock hotspots, avoiding fencing on migratory routes or else provide suitable wildlife crossing structures.	GO institutions, e.g., on transportation, local communities, scientists.	- Legal requirement for fencing railways is revised. - Fencing railways and other linear infrastructure remain the exception.	Continuous		All	High
<b>Result 8.3.</b> Development banks and international lenders are aware of the needs to avoid, mitigate, and offset linear infrastructure in the Asiatic Wild Ass range and seek advice from CMS / CAMI.	<b>A 8.3.1.</b> Continually update and further develop the Central Asian Mammals Migration and Linear Infrastructure Atlas.	CMS, Scientific Institutions  <a href="#">Link to CMS / Global Initiative for Ungulate Migration (GIUM)</a> Global Atlas of Ungulate Migrations	Atlas updated and online.	Continuous	3.1	All	Medium
	<b>A 8.3.2.</b> Initiate systematic awareness raising in the private sector (e.g., Corporate Social Responsibility funds).	GOs, NGOs, <a href="#">CMS Intersessional Working Group on Linear Infrastructure.</a>	Number of information events or campaigns (include national banks and corporations as targets of campaigns).	Continuous	30.4	All	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 8.3.3.</b> Develop horizon scanning approaches to enable CAMI partners to look at trends in investment and determine where future infrastructure development is likely to occur, in order to be able to tackle it at the early planning stage, specifically.	GOs, Scientific institutions, NGOs.  Link to <a href="#">CMS Intersessional Working Group on Linear Infrastructure</a>	- CMS is understood as a partner to achieve sustainable development goals. - Migratory species are considered in the planning stage of large development projects.	Short term	3.3	All	Medium
	<b>A 8.3.4.</b> Engage with lender / finance organizations and governments and urge them to make CAMI/CMS species friendly infrastructure planning mandatory, and the application of EIAs standard criteria for migratory species for approval of proposed investments obligatory	GOs, Scientific institutions, NGOs  Link to <a href="#">CMS Intersessional Working Group on Linear Infrastructure</a>	CAMI/CMS-species friendly infrastructure is part of the funding criteria for lender / finance organisations.	Continuous	3.6e	All	High
<b>Result 8.4.</b> The mortality from and the barrier effect of existing linear infrastructure to Asiatic Wild Ass movements is mitigated.	<b>A 8.4.1.</b> Retrofit existing linear infrastructure with wildlife crossing structures suitable for AWA at regular intervals and inspect the crossing structures regularly to guarantee they are not obstructed, and the vicinity remains free of human disturbances.	GOs, relevant Railway and Road authorities.	MNG: Trans Mongolian railway and other newly fenced railways have suitable wildlife crossings for AWA every 10 kilometres within the AWA range.	Short to Medium term		MNG, CHN, IND, IRN, ISR	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 8.4.2.</b> Implement wildlife crossing structures in combination with wildlife fences in AWA – vehicle collisions hotspots and monitor their effectiveness.	GOs, relevant Railway and Road authorities	- Fences hindering AWA to cross at vehicle collision hotspots, speed limits, road signs and complementing crossing structures are installed and are monitored with remote cameras. - Mortality of AWA is reduced. - The number of AWA crossing successfully has increased.	Short to Medium term		Bahram-e-Goor, Rann of Kutch, Negev	High
<b>Result 8.6.</b> Local people understand the need for and support efforts to mitigate impacts of linear infrastructure on AWA and other far-ranging wild animals.	<b>A 8.6.1.</b> Conduct public awareness activities targeting local (herder households) communities in the proximity of linear infrastructure.	Local communities, NGOs, development agencies, local GOs including PA administrations	Number of public outreach activities.	Continuous		All	High
	<b>A 8.6.2.</b> Develop measures jointly with local communities to adapt husbandry to reduce the need for fences.	Local communities, NGOs, development agencies, local GOs including PA administrations	Trends in collisions with livestock are understood. Changes in husbandry practices to reduce collisions are enacted.	Medium term		All	Medium
<b>Objective 9: Reduce the barrier effect of border fences for transboundary conservation of Asiatic Wild Asses in transboundary hotspots.</b>							
<b>Result 9.1.</b> Border fences are mitigated and no longer block transboundary movements of Asiatic Wild Asses	<b>A 9.1.1.</b> Encourage national and bilateral multi-agency consultation on border fences (including border security agencies, customs, ministries of foreign affairs, environmental / wildlife agencies, and transboundary protected areas), where feasible.	CMS, GOs, Scientific Institutions, private sector, IUCN WCPA Connectivity Conservation SG	Number of international meetings with adequate participation conducted.	Medium-term	3.6b	CAMI Transboundary hotspots	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
.	<b>A 9.1.2.</b> Foster the development of transboundary solutions to facilitate the removal and / or mitigation of border fences.	GOs, Border security units, PAs, Private sector, CMS, OSCE, GIZ, other UN organizations, <a href="#">IUCN Transboundary Specialist Group</a> .	Possible solutions are being tested and evaluated.	Long-term	1.7	Transboundary hotspots	High
	<b>A 9.1.3</b> Develop guidelines for border guards and military personnel to monitor wildlife near borders.	GOs, NGOs, Scientific Institutions	Guidelines produced.	Short-term		All	High
<b>Objective 10: Raise awareness for the range defining importance of water for Asiatic Wild Ass and secure protection and access to this key resource.</b>							
<b>Result 10.1.</b> Unobstructed and undisturbed access to sufficient waterpoints is secured for Asiatic Wild Asses.	<b>A 10.1.1.</b> Raise awareness for the need of AWA to regularly access water points, identify water points of population level importance and guarantee unobstructed access for AWA by avoiding infrastructure development, human disturbance, and depletion of the water sources for other uses. Link to <b>A 0.1.2.</b> , <b>A 5.1.2.</b>	NGOs, Scientific Institutions, Community leaders, GO water management departments	<ul style="list-style-type: none"> <li>- Information signs at important AWA waterpoints are erected and inform about wildlife compatible human behaviour.</li> <li>- Wildlife and AWA needs are included in information brochures on water conservation.</li> <li>- Infrastructure is re-routed away from important AWA waterpoints to reduce disturbance.</li> <li>- Access to important water points are considered in EIAs.</li> <li>- The need of wildlife to access water points is included into national and local water management plans.</li> <li>- Regulation is in place that requires that herder</li> </ul>	Short to Medium term	11.7	All	High



Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
			<p>camps, camp and rest sites, and other human infrastructure is not located closer than 300m from water points.</p> <ul style="list-style-type: none"> <li>- Loss of water points due to infrastructure development should be compensated.</li> </ul>				
	<b>A 10.1.2.</b> Provide artificial water sources in important AWA habitat where natural water sources have ceased to flow or are not accessible.	GOs, PAs, NGOs	Increased number of artificial water sources which are maintained in key AWA habitat where natural water sources are no longer sufficient to support a viable AWA population.	Short to Medium term		IRN: Bahram-e-Goor TKM: Badhyz KAZ: Barsa Kelmes ISR, UZB	High
	<b>A 10.1.3</b> Protect natural water sources.	GOs, PAs, NGOs, local herders, industry	<ul style="list-style-type: none"> <li>- Increased number of protected springs, e.g., through fencing the head of the spring.</li> <li>- Develop policies for controlling waste driven water pollution, including plastic waste.</li> <li>- Set up monitoring of water quality.</li> </ul>	Short term		All	High
	<b>A 10.1.4.</b> Identify mechanisms to ensure long-term funding for maintaining continuous water availability at artificial water sources.	NGOs, Trust funds, relevant GO departments, CSR	Financial safeguards established.	Short to Medium term		IRN, TKM, UZB	High
<b>Objective 11: Increase and reconnect small populations to improve resilience towards loss of genetic variability and local extinction.</b>							
<b>Result 11.1.</b> Small and isolated	<b>A 11.1.1.</b> Assess the possibility for natural	Scientific Institutions, IUCN Equid SG,	- Risk assessment reports for each small population.	Short-term for	11.5	Small occurrence	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
populations are strengthened, and emergency plans are in place to avoid local extinctions	recovery including genetic diversity in small populations and address the factors hindering population growth and expansion. Link to <b>A 0.2.1</b> .	GOs, NGOs, IUCN WCPA Connectivity Conservation SG	- Genetic assessment of small populations completed. - Measures taken to reach a minimum size of at least 100 individuals.	threatened populations		s in: TKM, UZB, IND, IRN, and KAZ	
	<b>A 11.1.2.</b> Develop emergency plans for very small populations as temporary solutions to avert imminent extinctions. Link to <b>A 11.1.1</b> .	NGOs, Pas, IUCN Equid SG	Emergency plans are available.	Short-term		KAZ, UZB, TKM, IRN	High
	<b>A 11.1.3.</b> Strengthen protection measures for small populations through improving capacities of organizations, responsible for their protection of AWA.	GOs, NGOs, international donors	- Funding secured to finance activities. - Funding staffing and technical equipment.	Start in the short term		KAZ, UZB, IRN, TKM (especially Tersakan valley)	Medium
	<b>A 11.1.4.</b> Evaluate necessity and feasibility of transferring animals between populations to increase the overall breeding pool and prevent further inbreeding.	Scientific Institutions, NGOs, IUCN Equid SG and Conservation translocation SG, PAs, GOs	Evaluation report available.	Short-term		Gury Howdan, Tersakan valley, other populations in TKM	High
<b>Result 11.2.</b> Reintroduction of Asiatic Wild Asses is coordinated.	<b>A 11.2.1.</b> Assess the feasibility of reintroductions where needed and where suitable habitat exists, e.g., in UZB, TKM and KAZ, and possibly Pakistan. Link to <b>A 0.2.1</b> .	GOs, Scientific Institutions, NGOs IUCN Equid SG and Conservation translocation SG, PAs, GOs, captive breeding facilities (EEPs, national breeding facilities)	Assessment report available.	Medium-term	11.6	IRN, UZB, KAZ, TKM  Transboundary hotspot: Kopetdag	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 11.2.2.</b> Evaluate and summarize the experience from ongoing reintroduction initiatives of AWA and develop best practise recommendations for capture, transport, and post-release monitoring.	Scientific Institutions, NGOs, IUCN Equid SG and Conservation translocation SG, PAs, GOs,	Best practise handbook for AWA reintroduction compiled.	Medium-term		KAZ, UZB, TKM, IRN	High
	<b>A 11.2.3.</b> Building on <a href="#">IUCN Conservation Translocation SG Guidelines</a> develop national reintroduction plans for Asiatic Wild Ass based on best practises and recommendations in <b>A 11.2.2.</b>	GOs, Scientific Institutions, NGOs, Conservation translocation SG	Reintroduction plans to coordinate and guide initiatives are incorporated into respective national documents.	Long-term		KAZ, UZB, TKM, IRN, IND	High
	<b>A 11.2.4.</b> Strengthen cooperation with EEPs for knowledge exchange on captive breeding and to safeguard the species gene pool <i>in situ</i> and <i>ex situ</i> .	NGOs, EEPs, Equid Taxon Advisory Groups (TAG), IUCN Equid Specialist Group, EAZA, WAZA	Updated captive breeding manual for AWA based on experience with breeding of AWA in Global or regional <i>Ex situ</i> Conservation programs and captive breeding and acclimatisation facilities in the Range States.	Short-term		All	Medium
<b>Objective 12:</b> Eliminate illegal killing is eliminated as a threat for Asiatic Wild Ass conservation.							
<b>Result 12.1.</b> Decreased number of Asiatic Wild Asses killed in retaliation for damage (crop	<b>A 12.1.1</b> Educate local people in AWA habitat about existing regulations on taking and trade and involve them in enforcement.	Schools, Scientific Institutions, local communities, NGOs, GOs	Number of outreach activities and participants of these activities.	Continuous	Ref. 2.6	All	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
raiding, pasture competition)	<b>A 12.1.2.</b> Implement and promote the use of conflict reduction methods to reduce or avoid wildlife-livestock conflicts (building on <a href="#">IUCN SSC guidelines on human-wildlife conflict and coexistence</a> )	NGOs, Scientific Institutions, Community leaders, GOs, IUCN Human-Wildlife Conflict and Coexistence SG, CMS, PAs	<ul style="list-style-type: none"> <li>- Conflict mitigation schemes, including working with local people are developed in a participatory way, including eco-tourism approaches.</li> <li>- Damage to cropland is minimised via well planned, robust fences, which don't block off AWA movement corridors.</li> </ul>	Short-term	4.13, 5.6	Bahram-e-Goor, IND, ISR, KAZ	High
	<b>A 12.1.3.</b> Reduce pasture competition by creating more areas free of livestock (e.g., PAs, important AWA waterpoints) and by reducing barriers to migration to allow AWA to use their entire range.	GOs, NGOs, Scientific Institutions, Herding communities, Social scientists	<ul style="list-style-type: none"> <li>- Interviews and focal group discussions show that AWA is no longer perceived as a pasture competitor by the large majority of herders.</li> <li>- Decrease in cases of killing of AWA by local herders based on ranger patrolling (carcasses encountered) and social surveys and population trend.</li> </ul>	Short-Medium term		MNG, IRN, KAZ	High
<b>Result 12.2.</b> Reduction in the number of Asiatic Wild Ass illegally killed for subsistence, body parts, or sport to minimal levels.	<b>A 12.2.1.</b> Strengthen the capacity of rangers and other relevant enforcement personnel to counteract illegal hunting and trade and secure necessary funding (i.e., human resources, equipment, training).	GOs, NGOs	<ul style="list-style-type: none"> <li>- Number of trainings, patrolling personnel, and patrolling effort.</li> <li>- Recovery of ungulate populations, including AWA.</li> </ul>	Continuous	2.2, 3.3 & 7.2, 7.4	TKM, KAZ, IRN, UZB	High

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 12.2.2.</b> Strengthen law enforcement by prosecuting poachers in accordance with the law.	GOs	Number of cases brought to the trial and number of poachers convicted in accordance with the law.	Medium-term		TKM, KAZ, UZB	High
<b>Objective 13:</b> Monitor and prevent illegal trade in Asiatic Wild Ass is monitored and prevented.							
<b>Result 13.1.</b> Early detection of new trends in illegal wildlife trade relevant for Asiatic Wild Ass is possible.	<b>A 13.1.1.</b> Monitor domestic and international markets for trends in AWA products and new demands for Asiatic Wild Ass body parts.	NGOs, GOs	- Number of social media feeds offering AWA products (e.g., body parts, skins, and hoofs). - Number of AWA products detected during physical markets surveys or border checks.	Medium-term		All	Medium
	<b>A 13.1.2.</b> Establish an open information channel to institutions and law enforcement personnel involved in measures in combatting Illegal Trade (which currently is no issue for AWA). Link to CITES illegal trade reports and CMS expertise on <a href="#">Impacts of Taking, Trade, and Consumption of Terrestrial Migratory Species for Wild Meat</a> .	GOs, NGOs, CITES, hunting associations (in terms of their wildlife protection function in hunting areas)	CITES illegal trade reports.	Medium-term		All	Low
	<b>A 13.1.3.</b> Review available protocols for rapid testing of body parts to distinguish AWA body parts from domestic equid body parts.	Scientific Institutions, NGOs, IUCN Equid SG	Review report.	Medium-term		All	Low
<b>Objective 14:</b> Reduce harassment and unintentional disturbance of Asiatic Wild Asses.							
<b>Result 14.1.</b> Asiatic Wild Asses are no longer harassed.	<b>A 14.1.1.</b> Raise awareness for the negative effects of chasing AWA by car,	GOs, Private sector, NGOs, Education institutions (schools,	- Policies preventing wildlife harassment are enforced by governments and	Short-term		All	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	motorbike, and snowmobile for fun and disturbing them at water points.	universities), media, local communities	large, influential employers (e.g., large mining companies). - Inclusion into training material for rangers, tour guides, students, and school children. - Information boards at wildlife water points. - Local communities are involved in addressing the problem.				
	<b>A 14.1.2.</b> Explore methods to control and reduce numbers of free-ranging herder and feral dogs and their impact on wildlife populations.	GOs, NGOs, Community leaders	Number of dogs known and controlled.	Start in short-term	4.12	All	High
<b>Objective 15:</b> Increase resilience to mass mortality events triggered by climate extremes such as droughts, extreme winters, or fires.							
<b>Result 15.1.</b> Asiatic Wild Ass are able to move away from areas with extreme weather.	<b>A 15.1.1.</b> Building on maps of AWA habitat ( <b>A. 0.3.1</b> ), implement measures to ensure landscape permeability already mentioned under Objectives 8, 9 and 11.	CMS, GOs, NGOs, Scientific Institutions, IUCN/SSC Equid SG, IUCN WCPA Connectivity Conservation SG	Landscape permeability allows AWA escape areas affected by extreme conditions and to reach suitable habitats.	Long-term	3.	All	High
	<b>A 15.1.2.</b> Raise awareness of rare but expected climatic events which have dramatic negative impacts on wildlife and could eradicate entire populations.	GOs, NGOs, Scientific Institutions	- Risk is understood. - Compile experiences with mass mortality events of equids in the past - The necessity of nomadic movement of the AWA due to irregular environmental events is understood.	Medium-term		All	Medium

Result	Activity	Actor	Indicator	Timeline	CAMI POW	Population <sup>1</sup>	Priority
	<b>A 15.1.3.</b> Develop emergency plans which will allow e.g, for the opening of railway or border fences or will temporarily stop traffic on busy roads to allow AWA herds to escape from areas affected by extreme events.	NGOs, National and regional GOs, PAs, Transportation administration	<ul style="list-style-type: none"> <li>- Emergency action plans are available and known, including definitions of potential emergency situations (e.g. fire, floods, extreme winter, drought).</li> <li>- Plans for risk reduction preparedness and response in such emergencies exist.</li> </ul>	Start in short-term		All	High

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- CMS Working Group on Climate Change: <https://www.cms.int/en/workinggroup/working-group-climate-change>
- CMS Global Initiative on Ungulate Migration (GIUM): <https://www.cms.int/en/gium>
- CMS Intersessional Working Group on Linear Infrastructure: CMS Intersessional Working Group on Linear Infrastructure. <https://www.cms.int/en/meeting/cms-intersessional-working-group-linear-infrastructure>
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