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DRAFT RANGE-WIDE ACTION PLAN FOR THE ASIATIC WILD ASS

Draft Range-wide Action Plan was prepared for the CMS Secretariat by Ms. Petra Kaczensky, professor at the Inland Norway University of Applied Sciences and member of the IUCN Species Survival Commission Equid Specialist Group with input from experts from Wild Ass Range States. This work was funded in the framework of the cooperation between the CMS Secretariat and the International Academy for Nature Conservation of the German Federal Agency for Nature Conservation (BfN INA) by the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection. The views expressed herein are those of the author and do not necessarily reflect official opinions of the involved institutions.

The Meeting is invited to review and adopt the action plan.

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DRAFT RANGE-WIDE ACTION PLAN FOR THE ASIATIC WILD ASS

Introduction

The global Asiatic Wild Ass population is estimated to number around 84,000 individuals in 10 populations and 14 occurrences in the eight Range States. An estimate 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 Background document 1).

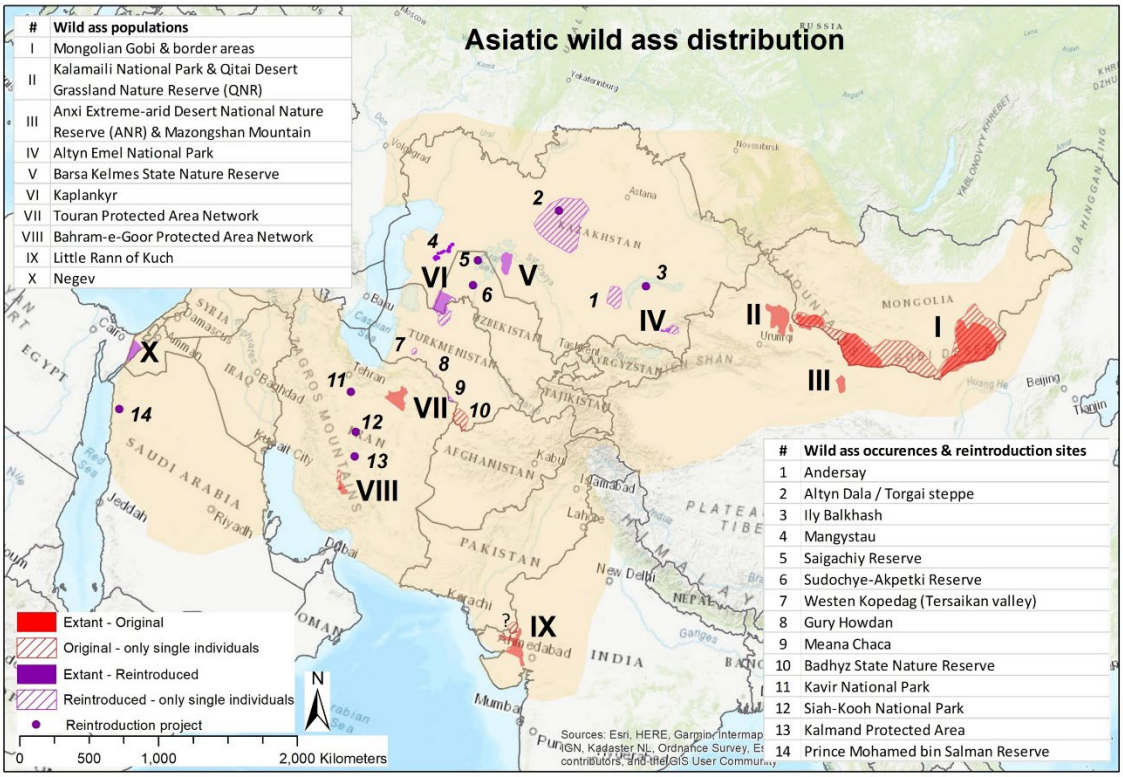

Fig. 1: Distribution of the Asiatic Wild Ass past (beige) and present (red and purple).

Asiatic Wild Ass is one of 13 ungulates covered by CMS's Central Asian Mammals Initiative. What sets Asiatic Wild Ass apart from other species under CAMI is the combination of the following live history and behavioural traits:

- **Exceptional large movements** – requiring landscape level conservation at a very large scale 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 off-spring per litter, with a maximum of one born per year. The lower recovery potential is counterbalanced by the species long-levity 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 Draft Action Plan

Under the Programme of Work (PoW) for CAMI 2021-2026 (UNEP/CMS 2020), a vision and goal has been developed by the Range States for the conservation and management of migratory species, which can be refined to Asiatic Wild Ass specifically. Furthermore, virtually all the Cross-cutting measures 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).

For this draft of the Range-wide Asiatic Wild Ass Action Plan, we organised the actions by threats (see Threat document 2), copying the actions most relevant for Asiatic Wild Ass from the PoW for CAMI 2021-2026 first and supplementing them with additional species-specific threats second. The latter were derived during the process of drafting and reviewing the background and threat document, past discussions with species experts, and one zoom discussion with a limited number of species and range experts. We additionally introduced a cross-cutting section, which deals with the general need for national and regional action plans, monitoring and capacity building, necessary to identify population level threats and address them.

Range-wide Action Plan for the Asiatic Wild Ass

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

Goal: To ensure coordinated action for the conservation of the Asiatic Wild Ass and its habitats across its historic range by strengthening coordination and cross-border cooperation, sustainable development, sustainable use of natural resources, and coexistence with people.

Suggested Time frame: 2024-2033, with mid-term evaluation after 5 years (in 2028)

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.** We did not attempt to make budget calculations because 1) these are country and site specific and 2) the general actions need to be broken down into smaller, operational actions, which then allow for budget calculations. However, this level of detail is not possible for a range-wide plan.

CAMI PoW refers to the numbers of Activities in the PoW for CAMI 2021-2026 (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 **Timeline** and **Priority** are left blank to be filled during the WS on Vilm. **AWA** = Asiatic Wild Ass is used in all columns except results to save space.

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
Cross-cutting actions							
Objective: Provide the scientific, administrative, institutional, and capacity support to conserve and manage Asiatic Wild Ass populations.							
Result 0.1. The Asiatic Wild Ass is understood and valued as a flagship species for the conservation and functional connectivity of steppe and desert-	**A 0.1.1.** Promote AWA as a flagship species for the conservation and functional connectivity of steppe and desert-steppe	CMS, NGOs, GOs, Scientific organisations, Social scientists, zoos, museums	Number of: campaigns, information material, zoo exhibits, news feeds, documentaries, museum exhibits		11.8, 30	All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
steppe ecosystems in Central Asia.	ecosystems in Central Asia.						
	A 0.1.2. Communicate the special needs of AWA as compared to other CMS/CAMI species.	CMS, NGOs, GOs, Scientific organisations, Social scientists, zoos, museums	Action plans, land use planning, and EIAs specifically address the importance of large space & access to water, and the inability to cross fences & recover quickly.		30	All	
Result 0.2. Improved assessment of occurrence and conservation status of Asiatic Wild Ass populations.	**A 0.2.1.** Clarify population status of AWA in data deficient areas through rapid assessments and targeted monitoring.	GOs, Scientific Institutions, NGOs,	Status reports produced for: - CHN: Inner Mongolia (incl. Urad National Nature Reserve (UNR)) - MNG: whole Gobi - KAZ: Andassay - UZB: Reintroduced populations - IND: Rajasthan - PAK: Rann of Kutch			See indicators	
	A 0.2.**2**. Develop and implement national action plans for AWA in all Range States addressing the specific needs of individual populations and occurrences building on CAMI POW and the Range-wide Action Plan in the	Scientific Institutions, NGOs	- CHN: Action plan for AWA for the entire AWA range - IND: Action plan for AWA in the Wild ass sanctuary expanded to national level - MON: Draft national action plan for AWA endorsed and implemented - IRN: Action plan for AWA in Iran updated and implemented - KAZ, TKM, UZB: Action plans developed and implemented			All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	specific national context.						
	A 0.2.3. Develop guidance for AWA monitoring in general and design monitoring protocols for specific populations based on existing experience.	CMS, Scientific Institutions, NGOs	Best practise monitoring guidelines for AWA compiled and accessible.			All	
	A 0.2.4. Update IUCN Red List status for AWA.	CMS/CAMI, IUCN Equid Specialist Group	Red List updated.			All	
Result 0.3. Available and accessible habitat in the Range States is known.	**A 0.3.1.** Conduct habitat modelling to identify suitable AWA habitat and water availability.	Scientific Institutions, NGOs, GOs, experts	Report and map of suitable AWA habitat. Scientific publication.			All	
	A 0.3.2. Analyse connectivity between suitable protected and unprotected AWA habitat to identify corridors, bottlenecks, and barriers as a basis for conservation	Scientific Institutions, NGOs, GOs, experts	Maps of national and transboundary connectivity and barriers are available and linked to the updated CMS/GIUM Global Migration Atlas.			All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	planning and recovery efforts.						
	A 0.3.3. Conduct a species climate vulnerability assessment based on the climate change predictions and the information from **A 0.2.1.** & **A 0.2.2** and include the resulting climate change considerations into all activities, where necessary. Link to CMS Working Group on Climate Change	NGOs, Scientific Institutions, GOs, experts	Vulnerability Assessment report, including predictive maps available.			All	
	A 0.3.4. Strengthen national cooperation over internal administrative boundaries (e.g., provinces, districts) to coordinate AWA conservation at the population level based on **A 0.2.1. – A 0.2.3.**	National GOs, local GOs, PAs	Inter-provincial working groups for the monitoring and conservation of AWA and other CMS/CAMI species are established and annual meetings are conducted.			China, India, Mongolia, Iran	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
Result 0.4. Strengthened cooperation with local administrations and communities	**A 0.4.1.** 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 Link to (link to IUCN ECARO goals)	The potential benefits of AWA are identified and are included in CAMI programs within the AWA range.		5.7	All	
	A 0.4.2. 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.	National GOs, local GOs, community leaders, Scientific Institutions	Community based management and pasture use plans within the AWA range are in line with AWA Action plans developed under **A 0.2.2**.		5.8	All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	A 0.4.3. Collect experiences with ecotourism focussing on AWA.	CMS, NGOs, Tourism companies, community leaders, PAs	Overview report on ecotourism concerning AWA and other wild equid species globally and regionally is compiled.			All	
	A 0.4.4. Develop best practice guidelines together with local communities based on **A 0.4.3.**		Best practice guidelines are compiled which: - Minimise disturbance potential for AWA - Allow for a satisfying ecotourist experience - Detail necessary investment in training (e.g., guides) and infrastructure (e.g., observation towers) - Include costs benefit calculations			All	
	A 0.4.4. Promote non-extractive use, especially community-based ecotourism within the CAMI region and develop sustainable ecotourism programmes based on results from **A 0.4.1.-A 0.4.3**	NGOs, Tourism companies, community leaders, PAs	- Number of available programs. - Annual business reports.		5.9	All	
Result 0.5. Implement the recommendations outlined in the CMS/CAMI Transboundary Hotspots study for Asiatic Wild Ass in the Gobi, Ustyurt,	**A 0.5.1.** Identify stakeholders and crucial actors for all identified hotspots.	CMS, IUCN, GOs, NGOs	List of stakeholders and key individuals with contacts.		1.3b	Gobi, Ustyurt, Kopedag	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
and Kopedag hotspots.							
	A 0.5.2. Identify if additional transboundary hotspots should be included in the CAMI PoW.	CMS, IUCN, NGOs	Report on potential for transboundary cooperation: - between India and Pakistan for AWA in the Rann of Kutch is clarified - between Iran, Turkmenistan, and Afghanistan is clarified			Kopedag Rann of Kutch	
	A 0.5.3. Increase awareness about the benefits of transboundary cooperation among governments and stakeholders.	CMS, IUCN, GOs, NGOs, Social scientists	Awareness of Stakeholders and key individuals is documented via appropriate social science approaches.		1.5	All	
	A 0.5.4. Establish working groups for each of the proposed priority sites to elaborate work streams for establishing transboundary cooperation as appropriate based on **A 0.5.1. – A 0.5.3.**	CMS, IUCN, GOs, NGOs	- Chinese-Mongolian transboundary working group established for the Dzungarian basin (to strengthen transboundary monitoring and explore the possibility of a transboundary network of PAs connecting GGB, GGA, and Kalamaili NP via the border security zone). - Chinese-Mongolian transboundary working group established for the Eastern Alashan Gobi (to coordinate openings in the border fence to facilitate wildlife movements across the		1.3c	Gobi, Ustyurt, Kopedag	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
			international border and where transboundary AWA habitat exists). - Kazakh-Uzbek-Turkmen transboundary working group established (to address the 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). - Iranian-Turkmen transboundary working group established (to develop plans for recovery of lost transboundary AWA populations).				
	A 0.5.5. Encourage countries to set up Memoranda of Understanding or Agreements for the conservation of those priority sites	CMS, IUCN, GOs, NGOs	Number of MoUs signed.		1.3e	Gobi, Ustyurt, Kopedag	
	A 0.5.5. 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.		1.4a	Gobi, Ustyurt, Kopedag, Rann of Kutch	
	A 0.5.6. Encourage cooperation at field and working level on survey,	CMS, IUCN, GOs, NGOs	Number of exchange visits, MoUs, joint scientific publications.		1.4b	All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	research, monitoring and management as well as for study tours and exchange visits.						
	A 0.5.7. Encourage CAMI Range State China to become a Party to CMS.	CMS, NGOs, key individuals	China is a Party to CMS.			China	
T1: Pasture degradation							
Objective 1: Maintain pasture biodiversity, productivity, and carbon storage capacity through sustainable use of AWA habitat.							
Result 1.1. Livestock numbers are managed at sustainable levels.	**A 1.1.1.** Assess and model long-term carrying capacity of rangelands and determine sustainable stocking rates in suitable AWA range identified under **A 0.3.1. – A 0.3.3**).	Scientific Institutions, Rangeland experts, NGOs, GOs	Regional reports with sustainable stocking rate estimates. Make sure reports contain: - Camels in Touran - Feral cows in the Rann of Kutch - “Excess” domestic horses in the Gobi		4.1	Gobi, Andassay, Rann of Kutch, Touran, Bahram-e-Goor, Sunt Hazardag (incl. Tersakan valley)	
	A 1.1.2. Review and modify existing grazing norms (both legal and customary) based on carrying capacity (**A 1.1.1.**) and throughout the AWA range.	Scientific Institutions, Rangeland experts, Environmental lawyers, NGOs, GOs	Review report and recommendations.		4.2	Gobi, Andassay, Rann of Kutch, Touran, Bahram-e-Goor	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	A 1.1.3. Design grazing rangeland management plans based on scientific research and with involvement of local communities outside of protected areas based on **A 0.4.1. and A 0.4.1.**	GOs, NGOs, Rangeland experts, Community leaders	Pasture community management plans.		4.14		
	A 1.1.4. Terminate policies indiscriminately rewarding large livestock herds and promoting unlimited livestock growth.	National and regional GOs	Policies changed to not reward or promote large livestock herds.			Turkmenistan, (Mongolia)	
	A 1.1.5. 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	NGOs, GOs	Number of alternative strategies available and implemented in herding communities in the AWA range.		4.5		

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	asset. Link to **A 0.4.4.**						
	A 1.1.6. Identify ways to enact mechanisms that will encourage livestock owners to invest in quality (breeds promotion, herd health, added-value livestock products, productivity) rather than quantity	NGOs, GOs, Agricultural experts, Scientific Institutions	- Number of novel mechanisms which encourage quality over quantity. - Percentage of livestock owners implementing these measures. - Level of satisfaction with new mechanism by livestock owners.		4.3		
	A 1.1.7. 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.		4.10		
	A 1.1.8. Discourage maintaining high numbers of excess or semi-feral livestock,	National and regional GOs, NGOs, Community leaders	- “Excess” livestock is understood as a treat to commonly shared rangeland and solutions exist for their management - “Excess” horses in the Dzungarian Gobi are gone			Badhyz, Dzungarian Gobi, Rann of Kutch	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	especially in protected areas.		- A solution is found for the management of feral cattle in the Rann of Kutch - Feral domestic horses are removed from Badhyz				
	A 1.1.9. Promote community-based pasture management to increase ownership and responsibility for the protection of pastures by local communities. Link to **A 0.4.2.**	National and regional GOs, NGOs, Community leaders	Number of pasture communities operating within frameworks developed in A 1.1.3., 1.1.6., and 1.1.8.		4.15	Gobi, Andassay, Rann of Kutch, Touran, Bahram-e-Goor, Sunt Hazardag (incl. Tersakan valley)	
T2: Competition for pasture							
Objective 2: Reduce pasture competition of Asiatic Wild Ass with livestock.							
Result 2.1. More pasture is primarily available for wild grazers such as Asiatic Wild Ass.	**A 2.2.1.** Minimize livestock grazing in protected areas and enforce restriction to multi-use zones only.	GOs, PAs, NGOs	- Livestock is no longer grazing in core zone of PAs. - Livestock numbers in multi-use zones are in accordance with PA regulations.			Mongolian Gobi, Turkmenistan, Rann of Kutch	
	A 2.2.2. Change the policy of using strictly protected areas for livestock grazing during times of extreme weather events (e.g., droughts, harsh winter, etc.)	GOs	- Strictly protected areas are no longer perceived as reserve areas for livestock grazing in case of climate extremes. - Legislation does not allow opening of SPAs for livestock in case of extreme events.			Mongolia (GGB, GGA, SGA, SGB)	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	A 2.2.3. Increase ranger wages to discourage them from keeping livestock in protected areas.	GOs	- Ranger wages are in line with income from of other state employees. - Rangers are not allowed to graze their livestock in PAs.			Turkmenistan, (Mongolia)	
	A 2.2.4. Introduce herder contracts for livestock owners grazing in protected areas clearly stating their rights and responsibilities (incl. vaccination requirements, gun ownership and use, dogs etc.)	GOs	- Herder contracts established and enforced. - Annual reports include information on herder household locations and livestock numbers.			Mongolian Gobi, Turkmenistan	
	A 2.2.5. Develop compensation or pastureland exchange schemes for livestock owners grazing on critical AWA habitat, especially in protected areas.	National and regional GOs, NGOs	- Reduction in livestock owners and livestock present in PAs. - Number of pastures exchanged or purchased.			Touran & Bahram-e-Goor, Mongolia (e.g., GGB), Turkmenistan	
T3: Fenced pastures							
Objective 3: Maintain Central Asia grasslands largely unfenced within the range of migrator ungulates.							

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
Result 3.1. Distribution and trend of fencing pastures and agricultural plots within the CAMI range is understood.	**A 3.1.1.** Map existing pasture fences throughout the AWA range and assess fence status (also relevant for **A 0.3.2.**)	CMS, GOs, NGOs, Local communities	Overview map of fences within the AWA range.			China, Mongolia, India, Iran	
Result 2.2. Maintain permeable/unfenced landscapes throughout the CAMI range, where possible.	**A 3.2.1.** Ban fencing of pasture in protected areas and remove old fences in protected areas.	GOs, PAs, NGOs	- PA legislation includes ban on fencing pastureland. - Number of old fences removed			All	
	A 3.2.2. Develop policies to avoid or strictly limit fencing in important wildlife habitat and on migratory paths together with local stakeholders outside of protected areas (also includes fences along linear infrastructure).	National GOs, supported by CMS, if resources are available	- No-fencing policy in important wildlife habitat and on migratory paths is implemented. - Number of fences removed on AWA range.			China, India	
T4: Commercial harvest of "wild hay"							
Objective 4: Commercial harvest of "wild hay" is regulated so it is sustainable and does not threaten biodiversity.							

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
Result 4.1. Impact and scale of commercial "wild hay" harvest in steppe ecosystems on biodiversity and ecosystem services is understood.	**A 4.1.1.** Review the location, scale, and history of commercial “wild hay” production within the AWA range and assess the economic and ecological impact.	GOs, NGOs, Scientific Institutions	Review report.		18.4	Mongolia, Kazakhstan	
	A 4.1.2. Develop recommendations based on the outcomes of **A 4.1.1.**	GOs, NGOs, Scientific Institutions	Recommendation report.			Mongolia, Kazakhstan	
T5: Disease transmission							
Objective 5: The risk of disease transmission at the livestock - wildlife interface is minimised.							
Result 5.1. The potential for disease transmission from domestic livestock to Asiatic Wild Asses and vice versa is minimised.	**A 5.1.1.** Support the vaccination of livestock and herder dogs against transmissible diseases to wildlife sharing the same landscape. Link into the UN’s ONE Health Initiative and UNEP/CMS new Working Group on Migratory	GOs, NGOs, global health organisations	- Guidance document for AWA Range States about recommended livestock vaccinations within the AWA range. - Percentage of livestock inside and outside of PAs vaccinated against wildlife diseases relevant for AWA.		4.11	All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	Species and Health						
	A 5.1.2. Identify important wildlife water points.	NGOs, PAs, local communities, Scientific Institutions	Maps of important wildlife water points in the AWA range.			All	
	A 5.1.3. Discourage use of important wildlife water points by livestock based on info from **A 5.1.2.** and link to **A 0.3.1.** and **A 0.4.1.**	NGOs, PAs, local communities	Agreements with local communities about use and monitoring of important wildlife water points.			All	
Result 5.2. 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.	**A 5.2.1.** Establish surveillance for emergence or re-emergence of infectious diseases through environmental monitoring (e.g., at water points) and sampling of livestock and wildlife populations. Link into existing programs such as	GOs, national and global health programs, NGOs	Surveillance of AWA relevant diseases is part of livestock and environmental surveillance programs.			All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	CMS expert working group on migratory species and health, ECARO, and UN's ONE Health, WHO, WHAO, FAO programs						
	A 5.2.2. Build up the capacity for a rapid response team to document, examine and sample carcasses of wildlife such as AWA when increased mortality is observed. Link to existing programs listed above.	GOs, national and global health programs, NGOs	- Local people and protected area staff know whom to call in case of increased wildlife mortality. - Rapid response team is trained and available and has protocols for documentation, post-mortem, and sampling.			All	
T6: Habitat loss							
Objective 6: Stop the loss of Asiatic Wild Ass habitat.							
Result 6.1. Habitat loss of critical Asiatic Wild Ass habitat is stopped.	**A 6.1.1.** Reduce the risk for degazetting parts of protected areas for resource extraction, through upgrading their	National and regional GOs, NGOs	- MON: The Greater Gobi Landscapes, since 2014 on the tentative list for World Heritage Nomination, have been nominated a World Heritage site. - IRN: Qatrouiyeh NP is enlarged to include suitable AWA habitat in Bahram-e-Goor and along corridors to adjacent PAs			Mongolia, Iran, India	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	protection status and giving them international recognition.		- TKM: The Tersakan valley is given protection status, ideally including it into the Sunt Hasardag Reserve as key AWA habitat.				
	A 6.1.2. Improve the connectivity between the national protected areas (link **A 0.3.2.**)	GOs, NGOs, Scientific Institutions	Wildlife corridors between protected areas are identified and maintained to allow movements: - MNG: Gobi – Eastern Steppe - CHN: ANR – Gobi; KNP – QNR - KZ: Altyn Emel – Andassay – Ily Balkhash - IRN: Bahram-e-Goor and surrounding PAs; Touran and surrounding PAs - IND: Wild ass sanctuary, Kutch desert sanctuary			Mongolia, China, Iran, Kazakhstan, Uzbekistan, India, Transboundary hotspots	
	A 6.1.3. Include important wild ass habitat outside protected areas into landscape level land use plans (link **A 0.3.1. – A 0.3.3.**)	National and regional GOs, NGOs	Important AWA habitat outside PAs is flagged in as important wildlife habitat in land use plans data bases.				
	A 6.1.4. Require environmental impact assessment for the development of renewable energy sources such as wind and solar parks. Link to CMS Energy Task Force	National and regional GOs, Development banks	Guidelines for EIA of green energy development in the AWA range developed and implemented.			Rann of Kutch	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	A 6.1.5. Assess the habitat loss caused by off-road driving due to resource extraction, trade, domestic travel, or recreation.	NGOs, Scientific Institutions, local communities	National assessment reports.			Rann of Kutch, Gobi	
	A 6.1.5. Develop policies to reduce habitat loss caused by off-road driving due to resource extraction, trade, travel, or recreation.	GOs, Land planning agencies, law enforcement	Best practise recommendations to minimise off-road driving developed for the extraction industry, trade, local communities, and tourism.			- Rann of Kutch: Salt mining - Mongolia / China: Coal and mineral mining, domestic travel	
T7: Invasive plants							
Objective 7: Understand the threat of invasive plants in Asiatic Wild Ass habitat and limit their spread.							
Result 7.1. The threat invasive species pose to pastures throughout the CAMI range is understood.	**A 7.1.1.** 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 IUCN Invasive	NGOs, Scientific Institutions, Rangeland experts	Review report with risk assessment for the CAMI region.			All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	Species Specialist Group						
	A 7.1.2. Develop policy recommendations based on **A 7.1.1.**	GOs, Scientific Institutions,	Policy recommendations.			All	
Result 7.2. The spread of *Prosopis juliflora* onto the grasslands of the Little Rann of Kutch is stopped.	**A 7.2.1.** Review and evaluate the situation with the spread of *Prosopis juliflora* in the Little Rann of Kutch and develop strategies to cost efficiently combat the spread of *Prosopis juliflora.*	Scientific Institutions, NGOs, GOs	Review report with cost-benefit calculations and recommendations for strategies to maintain the grassland in the Rann of Kutch.			Rann of Kutch	
T8: Habitat fragmentation							
Objective 8: Suitable habitat and key resources for Asiatic Wild Ass remain accessible and continuous enough to allows for large-scale migratory and nomadic movements.							
Result 8.1. Knowledge base on the impact of linear infrastructure and possible mitigation for Asiatic Wild Ass is increased as a basis for future planning.	**A 8.1.1.** Assess the impact of linear infrastructure and its cumulative effects on Asiatic Wild Ass and develop and implement mitigation measures, including wildlife-friendly	National GOs, building on CAMI Guidelines and with support of CMS, if resources become available			3.3, 11.3, 27.3	China, Mongolia, India, Iran	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	infrastructure standards. Link to CMS Intersessional Working Group on Linear Infrastructure						
	A 8.1.2. Compile all existing experiences with mitigation measures for AWA along linear infrastructure in the CAMI range and develop a best practise document	CMS Secretariat, Scientific Institutions	Review report and best practise guidelines.		11.4	China, India, Mongolia	
	A 8.1.3. Monitor the effectiveness of existing crossing structures to facilitate AWA crossings using automatic cameras.	GOs, Infrastructure provider, NGOs, Scientific Institutions	Report and scientific publications on the effectiveness of different crossing structures for AWA and other CAMI species.			China, Mongolia, India, Iran	
	A 8.1.4. Document the behaviour of Asiatic Wild Ass along linear infrastructure (incl. fences) through direct	NGOs, Scientific Institutions	Report and scientific publications on the behaviour of AWA along linear infrastructure.				

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	observations and remote monitoring (e.g., GPS satellite collars).						
	A 8.1.4. Establish a platform of all interested and invited scientists to scale up species specific actions and to encourage collaboration on monitoring the impacts of infrastructure and effectiveness of mitigation measures. Link to **A 0.5.5.** and **A 0.5.6.**	NGOs, Scientific Institutions, CMS/CAMI	Platform established.			All	
Result 8.2. 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.	**A 8.2.1.** Review and improve the regulatory framework concerning linear infrastructure. Link to CMS Intersessional Working Group on Linear Infrastructure.	GOs, NGOs, Legal experts	Review document produced building on the CMS "Guidelines for Addressing the Impact of Linear Infrastructure on Large Migratory Mammals in Central Asia" from 2015.		11.4	All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	A 8.2.2. Establish an "Environmental Mitigation Fund" aiming at 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.	GOs, NGOs, Legal experts & Financial experts, Development banks	Fund established.		27.4	Gobi	
	A 8.2.3. Integrate migratory species conservation into national EIA regulations and implementation as well as into the requirements of international financing institutions. Link	GOs, Legal experts	National regulations changed or specified accordingly.		3.6d	All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	to **A 8.3.2., A 8.3.4., A 8.3.5.**						
	A 8.2.4. Develop or refine and implement national infrastructure mitigation standards using the CMS infrastructure guidelines for Central Asia and link to **A 8.1.2. and A 8.1.3.**	GOs, NGOs, Transportation agencies	Standards developed and included in national legislation.		3.6a	All	
	A 8.2.5. Restrict fencing of railways to urban areas and livestock hotspots, or else provide wildlife crossing structures.	GOs	- Legal requirement for fencing railways is revised. - Fencing railways remains the exception.			Mongolia, China	
	A 8.2.6. Lift planning for wildlife movements to the landscape level, making it a national responsibility rather than dealing with it at local or project	GOs				Mongolia, China, India, Iran	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	level. Link to **A 0.3.1., A 0.3.2., A 8.2.2.** Link to IUCN Guidelines for Connectivity Conservation.						
Result 8.3. 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.	**A 8.3.1.** Continually update and further develop the Central Asian Mammals Migration and Linear Infrastructure Atlas.	CMS, Scientific Institutions Link to CMS / Global Initiative for Ungulate Migration (GIUM) Global Atlas of Ungulate Migrations	Atlas updated and online.		3.1	All	
	A 8.3.2. Initiate systematic awareness raising in the private sector (e.g., Corporate Social Responsibility funds).	Link to CMS Intersessional Working Group on Linear Infrastructure.			30.4		
	A 8.3.3. Develop horizon scanning approaches to enable CAMI partners to look at trends in investment and determine where future infrastructure	GOs, Scientific institutions, NGOs Link to CMS Intersessional Working Group on Linear Infrastructure	CMS is understood as a partner to achieve sustainable development goals. Migratory species are considered in the planning stage of large development projects.		3.3	All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	development is likely to occur, in order to be able to tackle it at the early planning stage, specifically.						
	A 8.3.4. 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 CMS Intersessional Working Group on Linear Infrastructure	CAMI/CMS-species friendly infrastructure is part of the funding criteria for lender / finance organisations.		3.6e	All	
	A 8.3.5. Build on the work of the CMS Scientific Council IWG on Infrastructure, involving Chinese lenders to encourage them	GOs, NGOs Link to CMS Intersessional Working Group on Linear Infrastructure	Chinese lenders are participating in **A 8.3.4.**			All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	to avoid/mitigate impacts on Central Asian Mammals.						
Result 8.4. Existing linear infrastructure no longer is a serious barrier to Asiatic Wild Ass movements.	**A 8.4.1.** 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 has suitable wildlife crossings for AWA every 10 kilometres within the AWA range.			Mongolia, China, India, Iran, Israel	
Result 8.5. Existing linear infrastructure no longer poses a serious mortality risk for Asiatic Wild Asses.	**A 8.5.1.** Implement wildlife fences in combination with wildlife crossing structures in AWA – vehicle collisions hotspots and monitor their effectiveness.	GOs, relevant Railway and Road authorities	Fences and crossing structures are installed and are monitored with remote cameras.			Bahram-e-Goor, Rann of Kutch, Negev	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
T9: Border fences							
Objective 8: Reduce the barrier effect of border fences for transboundary conservation of Asiatic Wild Asses in transboundary hotspots.							
Result 9.1. Border fences are mitigated and no longer block transboundary movements of Asiatic Wild Asses.	**A 9.1.1.** Foster the development of transboundary solutions to facilitate the removal and / or mitigation of border fences. Link to IUCN Transboundary Specialist Group.	GOs, Border security units, PAs, Private sector	Possible solutions are being tested and evaluated		1.7	Transboundary hotspots	
	A 9.1.4. 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, Privat sector	Number of consultations.		3.6b	Transboundary hotspots	
T10: Reduced access to water							
Objective 10: Raise awareness for the range defining importance of water for Asiatic Wild Ass and secure protection and access to this key resource.							

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
Result 10.1. Unobstructed and undisturbed access to sufficient waterpoints is secured for Asiatic Wild Asses.	**A 10.1.1.** 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 **A 0.1.2., A 5.1.2.**	NGOs, Scientific Institutions, Community leaders	- Information signs at important AWA waterpoints are erected and inform about wildlife compatible human behavor. - Wildlife and AWA needs are included in information brochures on water conservation. - Infrastructure is re-routed away from important AWA waterpoints to reduce disturbance.		11.7	All	
	A 10.1.2. Promote the regulation of water use by livestock in places with limited water resources in order to allow wildlife access to the water. Link to **A 5.1.3.**	GOs, NGOs, Community leaders	- The need of wildlife to access water points is included into national and local water use and management plans. - Legislation is in place that requires that Herder camps, camp and rest sites, and other human infrastructure has to be at least 300m always from water points.		5.4		

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	A 10.1.3. Provide artificial water sources in important AWA habitat where natural water sources have ceased to flow.	GOs, PAs, NGOs	Artificial water sources are maintained in key AWA habitat where natural water sources are no longer sufficient to support a viable AWA population.			IRN: Bahram-e-Goor TKM: Badhyz KAZ: Barsa Kelmes Israel	
	A 10.1.4. Identify mechanisms to ensure long-term funding for maintaining continuous water availability at artificial water sources.	NGOs, Trust funds	Financial safeguards established.			Iran, Turkmenistan, Israel	
T11: Small and isolated populations							
Objective 11: Increase and reconnect small populations to improve resilience towards loss of genetic variability and local extinction.							
Result 11.1. Small occurrences are strengthened to reach a minimum size of at least 100 individuals to avoid local extinctions.	**A 11.1.1**. Assess the possibility for natural recovery in small populations and address the factors hindering population growth and expansion. Link to **A 0.2.1.**	Scientific Institutions	Risk assessment reports for each small population.		11.5	Small occurrences in: Turkmenistan, Uzbekistan, Iran, and Kazakhstan	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	A 11.1.2. Strengthen protection measures for the remaining Asiatic Wild Ass in Sun Hazardag (Tersakan valley) by increasing manpower for monitoring, patrolling, and community outreach.	GOs, NGOs, international doners	Funding secured to finance activities.			Tersakan valley, Turkmenistan	
	A 11.1.3. Re-evaluate the situation of the remaining Asiatic Wild Asses in Gury Howdan and assess whether it is feasible to transfer these animals to Sunt Hazardag to increase the overall breeding pool and prevent further inbreeding.	Scientific Institutions, NGOs	Evaluation report available.			Gury Howdan, Tersakan valley Turkmenistan	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
Result 11.2. Reintroduction of Asiatic Wild Asses is coordinated.	**A 11.2.1.** Assess the possibility for reintroductions where needed and where suitable habitat exists, e.g., in Uzbekistan, Turkmenistan and Kazakhstan, and possibly Pakistan. Link to **A 0.2.1.**	GOs, Scientific Institutions, NGOs	Assessment report available.		11.6	Iran, Uzbekistan, Kazakhstan, Turkmenistan Transboundary hotspot: Kopedag	
	A 11.2.2. Evaluate and summarize the experience from ongoing reintroduction initiatives of AWA and develop best practise recommendations for capture, transport, and post-release monitoring. Link to IUCN Conservation Translocation Specialist Group.	Scientific Institutions, NGOs	Best practise handbook for AWA compiled.				
	A 11.2.3. Develop national reintroduction plans for Asiatic Wild Ass based	GOs, Scientific Institutions, NGOs	A national reintroduction action plan coordinates and guides initiatives.			Kazakhstan, Uzbekistan, Turkmenistan, Iran	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	on best practises and recommendations in **A 11.2.2.**						
	A 11.2.4. Strengthen cooperation with EEPs for knowledge exchange on captive breeding and to safeguard the species gene pool *in situ* and *ex situ*. Link to *Ex situ* community, e.g., Equid Taxon Advisory Groups (TAG), IUCN Equid Specialist Group, EEPs, EAZA, WAZA	NGOs, EEPs, IUCN Equid Specialist Group, Zoo community	Updated captive breeding manual for AWA based on experience with breeding of AWA in Global or regional *Ex situ* Conservation programs and captive breeding and acclimatisation facilities in the Range States.			Kazakhstan, Uzbekistan, Turkmenistan, Iran	
Result 11.3. Plans and capacity for emergency interventions are in place.	**A 11.3.1.** Develop emergency plans (e.g., water and hay provision, protection against predation) for very small populations as temporary solutions to avert imminent	NGOs, PAs	Emergency plans are available.			Kazakhstan, Uzbekistan, Turkmenistan, Iran	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	extinctions. Link to **A 11.1.1**.						
T12: Illegal killing							
Objective 12: Illegal killing is eliminated as a threat for Asiatic Wild Ass conservation.							
Result 12.1. Reduction in the number of Asiatic Wild Asses killed in retaliation for damage (crop raiding, pasture competition) to minimal levels	**A 12.1.1.** Implement and promote the use of conflict reduction methods to reduce or avoid wildlife-livestock conflicts (building on IUCN SSC guidelines on human-wildlife conflict and coexistence)	NGOs, Scientific Institutions, Community leaders	Damage to cropland is minimised via well planned, robust fences, which don't block off AWA movement corridors.		4.13, 5.6	Bahram-e-Goor, India, Israel	
	A 12.1.2. Reduce pasture competition by creating more areas free of livestock (e.g., PAs, important AWA waterpoints) and by reducing barriers to migration to allow	GOs, NGOs, Scientific Institutions, Herding communities, Social scientists	Interviews and focal group discussions show that AWA is no longer perceived as a pasture competitor by the large majority of herders. Little evidence for killing of AWA by local herders based on ranger patrolling (carcasses encountered) and population trend.			Mongolia, Iran	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	AWA to use their entire range. Link to activities under **T1 Pasture degradation** and **T2 Competition for pasture.**						
Result 12.2. Reduction in the number of Asiatic Wild Ass illegally killed for subsistence, body parts, or sport to minimal levels.	**A 12.1.3.** 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	Number of trainings, patrolling personnel, and patrolling effort. Recovery of ungulate populations, including AWA.		2.2, 3.3 & 7.2, 7.4	Turkmenistan, Kazakhstan, Iran	
	A 12.1.6. Strengthen law enforcement by combatting corruption.	GOs	Number of poachers convicted according to law.			Turkmenistan, Kazakhstan	
	A 12.1.7. Secure support by local communities for addressing illegal hunting, possession and trade through outreach and	NGOs	Citizen / informant network established.		2.6	All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	development of "citizen/informant networks" Link to **A 0.4.1.**						
T13: Illegal trade							
Objective 13: Illegal trade will not become an issue for Asiatic Wild Ass.							
Result 13. 1. Early detection of new trends in illegal wildlife trade relevant for Asiatic Wild Ass is possible.	**A 13.1.1.** Monitor domestic markets and social media feeds for trends in AWA products and new demands for Asiatic Wild Ass body parts.	NGOs, GOs	Social media feeds offering AWA products.			All	
	A 13.1.2. Establish an open information channel to institutions and law enforcement personnel involved in measures in the combatting Illegal Trade (which currently is no issue for AWA). Link to CITES illegal trade reports and CMS expertise on Impacts of	GOs, NGOs	CITES illegal trade reports.			All	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	Taking, Trade, and Consumption of Terrestrial Migratory Species for Wild Meat						
	A 13.1.3. Review available protocols for rapid testing of body parts to distinguish AWA body parts from domestic equid body parts.	Scientific Institutions, NGOs	Review report.			All	
T14: Harassment und disturbance							
Object 14: Reduce harassment and unintentional disturbance of Asiatic Wild Asses.							
Result 14.1. Asiatic Wild Asses are no longer chased for fun or disturbed at water out of ignorance.	**A 14.1.1.** Raise awareness for the negative effects of chasing AWA by car, motorbike, and snowmobile for fun and disturbing them at water points.	GOs, Private sector, NGOs, Education institutions (schools, universities)	No wildlife harassment policies enforced by 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.			Mongolia, Kazakhstan, India	
	A 14.1.2. Explore methods to control and reduce numbers of free-ranging livestock guarding dogs and feral dogs and their impact	NGOs, Community leaders	Number of dogs known and controlled.		4.12	Mongolia, Turkmenistan, India	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	on wildlife populations. Link into global, national, and regional dog control and vaccination programs and Livestock guarding dog programs.						
T15: Mass mortality during extreme events							
Objective 15: Increase resilience to mass mortality events triggered by climate extremes such as droughts, extreme winters, or fires.							
Result 15: By safeguarding large - scale mobility of Asiatic Wild Asses the severity of extreme events of Asiatic Wild Ass mortality is buffered.	**A 15.1.1.** All measures already mentioned under Objective 8, 9 and 11.	CMS, GOs, NGOs, Scientific Institutions	Wild ass can reach suitable habitat and subpopulations are connected.		3.	All	
	A 15.1.2. Raise awareness for a risk which may not happen for many years to come but when it happens will have a huge negative impact or could even eradicate entire populations.	GOs, NGOs, Scientific Institutions	Risk is understood and results in the preparation of an emergency plan.			Mongolia	

Result	Activity	Actor	Indicator	Timeline	CAMI PoW	Population	Priority
	A 15.1.3. Develop emergency plans which will allow 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	Emergency plans are available and known.			Gobi	

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