Annex 10.2 Perceived changes in threats to vultures at a country level, as identified by respondents to the MTIR

Regions[#]	Threats identified as Critical on a regional level by MsAP	Threats identified as High Priority on a regional level by MsAP	Perceived changes to the relative priority of regional threats within individual countries*	Threats perceived to be new or emerging at a country level*
North Africa	• Unintentional poisoning (poison baits)	• Collision with energy infrastructure • Electrocution on energy infrastructure • Habitat degradation (incl. loss of nest trees) • Decline of food availability • Direct persecution (non-poison)	Algeria: • poaching and poisoning are the main threats - the poisoning does not target the vultures directly, it is rather used by shepherds against wolves or by farmers against wild boars Fellous and Djardini (2015) note there is little documented data on threats but field data from large parts of Algerian territory prioritise threats thus: • direct persecution and destruction of nesting areas • sampling from the nests of raptor chicks • the loss of habitats • the possibility of poisoning, using rodenticides (treatments against cereal rodents) (in the steppe plains) • some rare cases of electrocution on high voltage lines • mention of drownings in irrigation basins in migration areas in the great South West of Algeria and the Saharan Atlas (Ruppell's and Griffon Vultures)	Algeria: • with the emergence of social networks, many people devote themselves to mountain climbing or searching isolated sites in search of fauna specimens to film or photograph, without respecting the breeding period and the risk of the loss of the brood
East Africa	• Unintentional poisoning (poison baits)	• Electrocution on energy infrastructure • Collision with energy infrastructure • Habitat degradation (incl. loss of nest trees) • Decline of food availability	Ethiopia: • the energy infrastructure grid is growing, including widespread installation of dangerous powerlines and development of several new wind farms • poisoning Rwanda: • new waste management practices at slaughterhouses are leading to a growing scarcity of food for vultures; consequently, vultures are being forced to move to different areas	South Sudan: • the illegal trade in vulture parts Tanzania: • intentional poisoning: sentinel poisoning, mostly tied to bushmeat rather than ivory poaching • intentional poisoning: belief-based killings of vultures Uganda: • intentional poisoning (in Murchison Falls National Park in 2022)
West and Central Africa	• Intentional poisoning (belief-based use)	• Unintentional poisoning (poison baits) • Decline of food availability • Habitat degradation (incl. loss of nest trees)	Burkina Faso: • decreasing food availability is now a higher priority Guinea-Bissau: • unintentional poisoning should be upgraded to Critical - since 2020, there have been small numbers of poisoned vultures and other raptors through conflicts between people (i.e. neighbours poisoning each other's domestic animals or cattle) • habitat degradation has increased to Critical levels, with widespread felling of nesting and roosting trees, especially in the largest cities, where the highest abundances of Hooded vultures have been recorded; even on city outskirts and in rural environments, large roosting and nesting trees are also frequently felled, potentially affecting species like White-backed and White-headed Vultures	Gambia: • Avian influenza

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		• Electrocution on energy infrastructure • Collision with energy infrastructure	• medium to high-voltage electric power line infrastructure is currently being developed and implemented in the whole country, which might constitute an increase in the risk of collision and electrocution for birds, especially for Hooded Vultures in urban areas	
Southern Africa	• Unintentional poisoning (poison baits) • Intentional poisoning (sentinel poisoning)	• Electrocution on energy infrastructure • Collision with energy infrastructure • Unintentional poisoning (lead) • Habitat degradation (incl. loss of nest trees) • Intentional poisoning (belief-based use)	Lesotho: • increasing threats related to proposed wind farm development (although none yet constructed) South Africa: • there is a surge in wind farm development nation-wide, with growing fatalities recorded for White-backed and Cape vultures on operational wind farms; this, together with the volume of new wind farm applications, could have a worrying cumulative impact on vulture populations, especially in areas where developments overlap significantly with the Cape Vulture range • there is a rise in targeted lion poisoning (for traditional medicine), resulting in increased vulture fatalities • there is a rise in shooting of vultures for belief-based use. Zimbabwe: • belief-based use should now be a critical priority	Malawi: • lack of food Mozambique: • climate change - the impact of this potential threat has not yet been assessed, but recent intense, long-lasting tropical cyclones in 2023 are suspected to have contributed to the deaths of at least three satellite-tracked vultures in the Niassa-province of the country
Europe, Central and East Asia	• Unintentional poisoning (poison baits) • Electrocution on energy infrastructure • Decline of food availability	• Collision with energy infrastructure • Unintentional poisoning (NSAIDs) • Unintentional poisoning (lead) • Direct persecution (non-poison)	<u>Europe</u> Cabo Verde: • poisoning still constitutes a major threat: in 2022 the Government approved the use of poison to eradicate stray dogs in all the islands; we are aware that farmers have been using poison in Boa Vista • competition with Brown-necked Ravens for food resources (in the form of carcasses of dead animals) was observed when we tried supplementary feeding stations. Powerlines were confirmed as a threat in Boa Vista and Santo Antao, where dead animals were found. Greece (Greek Vulture Multi-Species Action Plan (2020): • habitat degradation and low genetic diversity are considered high priority threats • direct prosecution (non-poison), unintentional poisoning (lead) and unintentional poisoning (NSAIDs) are considered low priority threats • Italy: threats as unintentional poisoning (lead), direct persecution (non poisoning), collision with energy infrastructures should be considered Critical. Netherlands: • collisions with energy infrastructure occurred recently, which arguably results in a higher priority than before. Serbia: • wind farm development Spain:	<u>Europe</u> Cabo Verde: • it is very likely that the few active nests are being predated by Brown-necked Ravens. Spain: • other types of "Unintentional poisoning" (apart from NSAIDs and lead) are emerging - rodenticides (anti-coagulants) and barbiturates (euthanizing chemicals present in some carcasses abandoned without following the existing regulations) <u>Central Asia</u> Armenia: • forest fires have become increasingly important, as they

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			• in the case of the European region, "Decline of food availability" should be considered now as 'High', while the threat "Collision with energy infrastructure" should be moved to "Critical' • the threat of electrocution is not highly serious for vulture species present in Spain, but it is critical for other large raptor species Switzerland: • the threat from wind turbines is increasing with new and planned wind farms <u>Central Asia</u> Armenia: • Poisoning of vultures by heavy metals where they feed on municipal dumps, as a result of lack of separate garbage collection for electronic devices and batteries Kazakhstan: • there are no data on cases of unintentional poisoning one of the main threats, so the main threat should be food availability (in the southern part of the country where the main breeding areas are) Kyrgyzstan: • Ungulates stable • Domestic livestock increased in last 6 years • HGV is used for feathers in clothes. Not a lot but is used. • Increase in human population in mountains is impacting CV • Increase in tourist disturbance • Wild fires • Vulture caught in marmot trap in hills • No direct persecution • Illegal to use poison bait so probably not an issue. Rarely used although decreas use of guard dogs • 20,000 hunters registered plus 10,000 illegale! • Diclofenac not used as far as aware but no formal info • Carcasses generally put in open pits, only buried if infection • Collison an issue for golden eagle but not vultures • WF planned in NW, probably ok Tajikistan: • very few of these threats are a big problem (there is little human-wildlife conflict, there is plentiful food with wild ungulates increasing and carcasses of dead cattle left out for scavengers, and there is no wind farm development) • electrocution is a potential problem but there are no data, and most energy infrastructure is in the west, away from areas that vultures inhabit Turkmenistan: • Decrease in food availability from wild ungulate decline, and changes in practices for disposing of carcasses (now buried rather than left out for scangers)	mostly happen in juniper woodlands - the habitat of Cinereous Vultures Italy: • data from GPS tracking of Egyptian Vultures suggest that illegal shooting from boats occurs in the Sicily Channel. • recently, the disturbance at nests caused by photographers has increased - this may affect productivity and be a cause of breeding site desertion. Portugal: • human disturbance of nests related to bee-keeping and forest management <u>Central Asia</u> Kazakhstan: • habitat destruction due to mining in breeding areas of Gyps fulvus, Egyptian Vulture and Black Vulture • disturbance due to tourism development and corresponding infrastructure in breeding areas of Gyps himalayensis, Black Vulture and Bearded Vulture • rapid development of wind farms, affecting Gyps fulvus, Egyptian Vulture and Black Vulture <u>East Asia</u> • no changes noted

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			• Habitat degradation due to domestic animals • Big oil production facilities change land use • Some recreational disturbance • Rodenticide poisoning decreasing as need special state permits • Dog/wolf poisoning is not an issue as generally trap rather than poison • Electrical infrastructure is increasing but there are little data on electrocution, although field experience suggests very little • No windfarms • Gun ownership prohibited • Diclofenac not used <u>East Asia</u> China: • food shortages due to changes in the management of carcasses of domestic animals (or for consumption as food by people) • hunting for medicine or food • unintentional poisoning due to heavy metals • electrocution (especially in Tibet and Xinjiang)	
South Asia	• Unintentional poisoning (NSAIDs)	• Unintentional poisoning (poison baits) • Collision with energy infrastructure • Electrocution on energy infrastructure	• poison baits are becoming relatively more important across Bangladesh, Indian, Nepal • the most likely future changes across the region would be increased problems with veterinary drugs	Pakistan: • there is some disturbance due to people foraging in areas near cliffs
South-east Asia	• Unintentional poisoning (poison baits) • Habitat degradation (incl. loss of nest trees Decline of food availability)	• Collision with energy infrastructure • Electrocution on energy infrastructure • Intentional poisoning (belief-based use)	• no changes noted	no changes noted

Regions[#]	Threats identified as Critical on a regional level by MsAP	Threats identified as High Priority on a regional level by MsAP	Perceived changes to the relative priority of regional threats within individual countries*	Threats perceived to be new or emerging at a country level*
West Asia	• Unintentional poisoning (poison baits) • Electrocution on energy infrastructure	• Collision with energy infrastructure • Decline of food availability • Human disturbance • Habitat degradation (incl. loss of nest trees)	Israel: • NSAIDs became the second threat in its severity. Also, human disturbances is more of a threat nowadays than electrocution. Oman: • "Illegal killing, taking and trade" should be added as a 'High' threat (14 Lappet-faced Vultures and 1 Egyptian Vulture were sold online or kept in captivity by private owners in 2022 alone) Palestine: • putting poisons in the bodies of chickens in Golan is a route, and intended target, not heard of previously Türkiye: • habitat degradation is a significant threat and should be rated higher - the breeding grounds of the Griffon Vulture, Egyptian Vulture and Bearded Vulture are in danger of extinction due to mining; dams created in the valleys also destroyed some breeding colonies; excessive forestry activities and cutting down of old trees (Austrian pine) threaten the Cinereous Vulture population; these species need open pasture areas to feed but, due to the conversion of pasture habitats to agricultural lands and urbanization, human pressure is increasing and feeding areas are decreasing	Iraq: • Illegal killing, taking and trade Israel: • diclofenac is not supposed to be used in Israel yet it makes its way into the country from nearby areas where it is produced and sold freely and cheaply Jordan: • unintentional poisoning (NSAIDs) Oman: • the risk of diclofenac now seems low because of the ban, although other toxic NSAIDs may be around Syria: • sport hunting Yemen: • sport hunting

[#]Countries are grouped according to the regions displayed in Figure 18 of MsAP

*Given the limited research on relative threat levels, it is difficult to know whether perceived changes reflect actual changes or simply greater awareness of pre-existing threats