COMBATING THE UNREGULATED USE OF POISONS AND TOXINS IN AFRICA

IUCN SSC Leaders’ meeting Abu Dhabi
17th September 2015
Richard Kock - IUCN SSC Wildlife Health Specialist Group
Andre Botha - IUCN SSC Vulture Specialist Group
Leo Niskanen - IUCN Eastern and Southern Africa
Presentation outline

1. GLOBAL OVERVIEW
2. VULTURES – AN EXAMPLE OF IMPACTS OF UNREGULATED USE OF POISONS
3. REGIONAL EFFORTS TO ADDRESS POISONING (IUCN ESARO)
4. NEXT STEPS AND IDEAS FOR COLLABORATION
Primary & Secondary Poisoning of Wildlife

- Poisoning can be deliberate using specific poisons for poaching or conflict reasons or accidental and usually involves:
  - Rodenticides,
  - Herbicides,
  - Pesticides,
  - Environmental contamination
  - with metals and hydrocarbons
  - And some special cases
  - pharmaceuticals such as
diclofenac poisoning of vultures.

Secondary poisons are usually persistent, bioaccumulating and toxic substances
It is a global growing issue.
Impacts

- Impacts with targeted poisoning are obvious and can be documented.
- Secondary poisoning is extremely difficult to measure where the levels are low (but high levels usually are associated with a die-off event).
Humans

- With respect to chemicals, concentrations of POPS in milk still indicate that chemical exposure is a concern.
- Exposures to chemical mixtures may not be adequately addressed by current policies, low dose may produce e.g. carcinogenic synergies.
- 1.8 million children in the EU are born with levels of methylmercury that affect their cerebral development and cognitive performance later in life.
Main concerns

DDT (?), organophosphate acaricides, organochlorines, pesticides (carbamates), sodium monofluoroacetate, rodenticides, lead, mercury, oestrogenic molecules, diclofenac & NSAIDs, ……..

Don’t forget natural poisonings – botulism and algal toxicosis for example

• But numbers of chemicals on the market is increasing exponentially…..

Modern chemistry high detection sensitivity to products in the environment – too sensitive e.g. pharmaceuticals?
Local Response

• If a poacher or conflict farmer is determined to use poaching they will find a way of developing a cocktail whatever the controls.

• Think about the cost of forensic diagnosis compared to community dialogue.

• Some deterrence is good but ask yourself the question - how many humans are killed by elephants and how many elephants killed by poison…?
National Regional Response

Very few countries are tackling this issue directly but there are a few and some effort is made to identify potential sources

- EU Directive 2004/28/EC,
- Registration, Evaluation, Authorisation & restriction of Chemicals
- Environmental and Effects Testing for chemicals and crop protection products (see EMEA website)
- Variation by region – e.g. volume of hazardous waste generation differs with 3 orders of magnitude between central Asia and EU countries (UNEP 2013)
- Amounts of obsolete pesticides per country can be checked. [Data source: IHPA (International HCH and pesticide association), study from 2009 on obsolete pesticide stocks.]
- Some National registers of poisoning exist.
International Response

- CMS poisons working group
- National implementation of the Globally Harmonized System of classification and labelling of chemicals
- Prevalence of business initiatives such as responsible care. CEFIC information on Responsible Care participation
VULTURES
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cape Griffon</td>
<td>VU</td>
<td>Rare</td>
<td>Rare</td>
<td>VU</td>
<td>VU</td>
<td>VU</td>
<td>CE?</td>
<td></td>
</tr>
<tr>
<td>Ruppell’s Griffon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eurasian Griffon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African W-b Vulture</td>
<td>NT</td>
<td>EN</td>
<td>EN</td>
<td>EN</td>
<td>EN</td>
<td>EN</td>
<td>CE?</td>
<td></td>
</tr>
<tr>
<td>Hooded Vulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lappet-faced Vulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White-headed Vulture</td>
<td>VU</td>
<td>VU</td>
<td>VU</td>
<td>VU</td>
<td>VU</td>
<td>VU</td>
<td>CE?</td>
<td></td>
</tr>
<tr>
<td>Cinereous Vulture</td>
<td>VU</td>
<td>NT</td>
<td>NT</td>
<td>NT</td>
<td>NT</td>
<td>NT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bearded Vulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LC</td>
<td>Africa?</td>
</tr>
<tr>
<td>Egyptian Vulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>EN</td>
<td>CE?</td>
</tr>
<tr>
<td>Palm-nut Vulture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>LC</td>
<td></td>
</tr>
</tbody>
</table>

1. Rare - "small world population...not at present EN or VU, but are at risk"
African Poisoning Database

- Established 2012
- D. Ogada, R. Buij & A. Botha
- Contains data from 1961 - present
- All available records from known incidents
- Historically published incidents
- Shared data from various sources

**Vulture losses recorded** –
- 1961 – 2003 - **2035**
  2004 – 2014 – **4065**
- Total known vulture mortalities – **6100**

- Other scavenging birds – **96**
- Mammalian predators – **488**

**Recorded animal mortalities**

- Vultures
- Other raptors
- Other birds
- Scavenging mammals
Data from 14 Countries (No of records)

- South Africa: 21
- Namibia: 2
- Zimbabwe: 3
- Kenya: 1
- Zambia: 1
- Botswana: 1
- Mozambique: 1
- DRC: 1
- Malawi: 1
- Tanzania: 1
- Cape Verde: 1

No of mortalities per Country

- South Africa: 1245
- Namibia: 536
- Zimbabwe: 966
- Kenya: 394
- Zambia: 30
- Botswana: 5
- Mozambique: 12
- DRC: 2
- Malawi: 16
- Tanzania: 10
- Cape Verde: 154

Huge gaps – especially West Africa
Vulture poisoning – A re-emerging Threat?
African Database (183 entries)
1995-2015
Mortalities per Species

Mortalities

AWBV  CG  RG  WHV  HV  LFV  BV  PNV  EV  Unknown

Mortalities

0  500  1000  1500  2000  2500  3000
Substances used

- Sampling often inadequate
- Samples poorly preserved
- Advanced decomposition
- Transportation and permits
- Equipment and skill lacking
- Laboratory facilities
- Customs regulations
  - harmful chemicals
  - biological material
- Appropriate analytical tools
- Cost factor
- Can be critical to prosecution
Recent incidents in southern Africa:

- Mozambique – 76 birds (June 2011)
- Zimbabwe – 174 birds (August 2012)
- Mkhuze, South Africa – 41 birds (Nov 2012)
- Mozambique – 84 birds (May 2013)
- Namibia – 400-500 birds June 2013
- Zambia – 302 birds (Oct 2013)
- Zimbabwe – 219 birds (Oct 2013)
- Imfolozi, South Africa – 37 birds (Nov 2013)
- Hoedspruit, Limpopo – 65 birds (May 2015)
- Mozambique – 42 birds (July 2015)
Muthi Trade
Protected Areas
Vulture nests in Swaziland

(Monadjem & Garcelon 2005)
UNREGULATED POISON IS DEVASTATING WILDLIFE IN EASTERN AND SOUTHERN AFRICA

- Rapid acceleration in use of poisons
- Poisoning for wildlife products (ivory, rhino horn, skins, etc.)
- Retaliation for human-wildlife conflict
- Multiple species impacted
- Human health impacts

Widespread problem
Very low awareness
- Only large poisoning incidents noticed, chronic low level poisoning goes on under the radar
UNREGULATED POISON IS DEVASTATING WILDLIFE IN EASTERN AND SOUTHERN AFRICA

Some key challenges:

- Generic chemicals widely available
- Corruption and lack of enforcement of regulations
- Low level donor interest
Calls on governments and environmental authorities to:

- Develop and enforce appropriate legislation to control, ban or restrict the sale, storage, distribution, use and disposal
- Introduce and enforce penalties
- Training and logistical support
- Enhance analytical capacity & increase sampling, testing and monitoring efforts
- Increase grassroots educational initiatives

Find sustainable solutions to HWC
IUCN ESARO NEW PROGRAMME OF WORK ON POISONS AND TOXINS

• Focus on Southern Africa (data availability, SADC technical committee, Biodiversity action plan)
• Transboundary nature of problem requires regional approach

Activities:
• Fill in gaps, assess scale and impact on species (human health?)
• Map major hotspots of concern
• Identify supply chains & engage w. producers, distributors, wholesalers, retailers
• Identify & address weaknesses in current regulatory and enforcement frameworks
• Support proper capture, analysis and dissemination of data
IUCN ESARO NEW PROGRAMME OF WORK ON POISONS AND TOXINS

• Support and guidance to Law Enforcement
• Proper investigation and prosecution procedures
• Assess economic impacts of loss of species
• Convene to raise awareness and catalyze action (incl. awareness of Public Health Risks)
• Regional and country/site-specific action plans

Without Governmental support and intervention: No chance of success
We need your feedback:

• Relevance to your group?
• Link to other existing initiatives e.g. CMS Poisons working group
• Comments on proposed approach & activities
• Roles (IUCN Secretariat, IUCN/SSC SG’s & members)

??????
THANK YOU!