

AAA Prioritisation Report

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This is a decision-relevant report explaining our methodology in deciding which group of animals to prioritise in our work. Our other reports on the animal advocacy landscape in Africa can be found here.

For questions about the content of this research, please contact Lynn Tan at lynn@animaladvocacyafrica.org.

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Animal Advocacy Africa

AAA is a capacity-building program which aims to develop a collaborative and effective animal advocacy movement in Africa by assisting and empowering other animal advocacy organisations and advocates to be as impactful as possible in their advocacy efforts.

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Abstract

There are a wide variety of animals and animal populations that African animal advocacy groups aiming to improve animal welfare can focus their efforts on. Given a scarcity of resources, it is essential to narrow our focus to those areas where we expect to do the most good. This analysis demonstrates why we prioritise farmed animals over wild, companion and working animals. We believe now is an optimal time to help farmed animals, a neglected group whose welfare can be improved cost-effectively.

Our evaluation is based on nine criteria, aggregated in a weighted factor model to measure our potential to improve welfare in each animal category. The criteria were weighted subjectively based on their estimated importance for impact, and the likelihood that each criterion will result in the failure of our project or interventions. Following our research, animal categories were scored on a scale of 1 to 5 for each criterion, with 1 always representing the least and 5 the most favourable outcome for prioritisation. An overview of our final scoring can be found in the table below.

Next to its primary function for strategic prioritisation, the analysis highlights crucial aspects that need to be considered in communications and practical implementation of interventions. It also points to potential uncertainties and open questions that can inspire further research.

| Criteria | Farmed Animals | Wild Animals | Companion Animals | Working Animals |
|--|-------------------|-----------------|----------------------|--------------------|
| Scale - (5%) | 3 | 5 | 1 | 1 |
| Evidence base - (10%) | 3 | 2 | 4 | 3 |
| Cost-effectiveness - (15%) | 5 | 4 | 1 | 2 |
| Neglectedness - (15%) | 5 | 5 | 1 | 3 |
| Timing - (7.5%) | 5 | 4 | 3 | 2 |
| Risk of negative/no impact - (7.5%) | 4 | 3 | 5 | 5 |
| Cultural and political receptivity - (17%) | 2 | 4 | 4 | 2 |
| Funding availability - (8%) | 2 | 3 | 5 | 1 |
| Talent availability - (15%) | 4 | 2 | 5 | 3 |
| Final Score | 3.73 | 3.55 | 3.18 | 2.50 |



Introduction

Animal Advocacy Africa is a capacity-building project which aims to help advocates and organisations develop and grow the animal advocacy movement in Africa. This write-up is part of our research phase to inform our pilot implementation of possible interventions to help African animal advocacy organisations overcome obstacles in their advocacy efforts.

Improving animal welfare is at the core of our work. However, there is a large number and variety of animals and organisations that could be the focus of our support. It is therefore crucial to prioritise our efforts and decide which (groups of) animals we would like to help first. This report evaluates four major categories:

| Category | Definition | Examples ¹ |
|-------------------|---|-----------------------------|
| Farmed animals | Animals raised or kept primarily for consumption | Cows, chickens |
| Wild animals | Animals living in a natural and undomesticated state | Elephants, rabbits, birds |
| Companion animals | Domesticated or domestic-bred animals that are usually kept for companionship | Stray dogs, cats |
| Working animals | Usually domesticated animals kept and trained to perform tasks | Draft horses, oxen, donkeys |

Aside from using this analysis for our own strategic decision-making, we hope our findings can be useful to those who are interested in working in the animal advocacy movement in Africa, including:

- New and/or existing African/international animal advocacy organisations deciding on a program/intervention
- Funders looking for promising funding opportunities
- Individual advocates thinking about which area to dedicate their resources (time/effort/money) towards helping animals

¹ The listed species do not necessarily exclusively belong to the category they are mentioned in. This is only meant to illustrate the different categories by showing some typical examples. For instance, elephants can be categorised as working animals if kept in a circus; horses are also often kept as companions and not as working animals. An especially relevant case for animal advocacy are fish species which are both farmed and captured in the wild in large numbers. We acknowledge that this cursory analysis cannot address the subtleties associated with such topics. However, the level of detail should be sufficient for our purposes.



Methodology

To determine which of the animal categories to focus our efforts on, we employed a weighted factor model (WFM) approach. A WFM scores each possible option along a variety of differently weighted criteria. It is very useful in situations where a large number of quantitative and qualitative factors need to be consolidated. (1) This is especially important in the animal space, as hard evidence is often limited and multiple sources and angles need to be considered in order to take the issues' full scope into account. (2) WFMs also help identify factors that decisively influence the final scores, and thus support clear communication and understanding. (1)

Our evaluation features nine criteria that we deem most useful and important in prioritising animal categories. They are inspired by common approaches within the Effective Altruism (EA) community and associated organisations, with adjustments made to fit our particular decision context. (1,3) The nine factors were aggregated into two scores, one evaluating the potential impact in working on the respective animal category and the other representing a limiting factor that makes it hard to scale our work. Each criterion for 'potential impact' was weighed based on our subjective intuition of its estimated importance, and by deferring to the weights typically used by other organisations using WFMs (e.g. Charity Entrepreneurship (CE)). The weights for factors considered under 'limiting factor' were calculated based on our estimates of the likelihood that each factor will result in the failure of our project or interventions. The two scores — potential impact and limiting factor — were then joined into a final overall score for each animal category. The weights given to each of the scores and the related criteria can be seen below.

| | Scale (5%) |
|-----------------------|--|
| | Evidence base (10%) |
| Overall Impact | Cost-effectiveness (15%) |
| (60%) | Neglectedness (15%) |
| | Timing (7.5%) |
| | Risk of negative/no impact (7.5%) |
| | Cultural and political receptivity (17%) |
| Limiting Factor (40%) | Funding availability (8%) |
| | Talent availability (15%) |

² See the <u>spreadsheet</u> that was used as a basis for this analysis for details on these calculations.



Details of each of the criteria and how they were analysed can be found in the <u>evaluation</u> section below. Animal categories were scored on a scale of 1 to 5 for each criterion, with 1 always representing the least and 5 the most favourable outcome for prioritisation.³ We used a five-point scale, as it is granular enough to capture nuances and differences (compared to e.g. a three-point scale) whilst not offering too many specific options that would make it hard to delineate the differences between one point and the other (e.g. a ten-point scale). In order to keep the scope of this evaluation manageable, we initially planned to restrict time investment to two hours of research per dimension. However, this limit was later softened, as additional research seemed necessary and refinements proved valuable. As a result, this analysis is cursory in nature but robust enough to arrive at a reasonable and informed decision.

Limitations

Our analysis examines the African continent as a whole and not at the country level. This approach seems reasonable, given that it is meant to inform high-level strategic prioritisation. However, we acknowledge that our approach cannot adequately address national or regional variations.

Information on the African context was often scarce. We therefore had to frequently rely on research relevant to other parts of the world (mostly the global North) and make logical assumptions to extrapolate to the situation in Africa. While this limitation is hardly avoidable given the lack of information, we tried our best to base our assumptions on available data and research.

Additionally, we acknowledge general limitations associated with our chosen method. Weaknesses of WFMs include their lack of flexibility and their pretense of objectivity due to numerical ratings. As criteria and weights were defined in advance, the analysis might fail to adequately take into account important considerations that were only discovered after the start of the research process. (1) We tried to mitigate these limitations by keeping categories and weights flexible and making adjustments during the process if needed.

We focused on quantitative analysis to the extent possible and relied on qualitative research and expert views⁴ where quantitative information was scarce. As such, some findings are self-reported and anecdotal, thus subject to a number of limitations, including memory and social desirability biases which may affect the accuracy of the results.⁵ We do not claim that these views are sufficient. However, they added substantial

³ For instance, a low risk of negative impact would imply a strong rating, just as large funding availability would.

⁴ These expert views are based on conversations we had with experts for our exploratory landscape <u>research</u>, where we interviewed 10 experts, 7 of whom are based in Africa. We integrated relevant findings reported by these experts, which added to our analyses for this prioritisation report.

⁵ We further elaborate on the limitations of qualitative interviews in our landscape <u>report</u>, which mainly apply to interviews with African animal advocacy organisations and advocates, but are also relevant to expert interviews in general.



value to our understanding within a short timeframe and minimised our risk of neglecting potentially important considerations.

Finally, this combination of weights and criteria we have chosen is only one possible approach to evaluate the animal categories. While this represents our best guess, it is possible that we have weighted some criteria disproportionately compared to others. It also seems plausible that the final scoring of some criteria may change if we spent more time on our analysis. The analysis is also prone to confirmation bias as it is easier to spot data that supports our pre-existing assumptions. We thus acknowledge that the results of this WFM are sensitive to our subjective assessments and that shifts in the scores and weights assigned to each category might change some conclusions of our analysis. Using Guesstimate models might have added robustness to our analysis as they incorporate sensitivity analyses to account for uncertainty. However, this was omitted due to time constraints. Even so, our analysis sheds light on many aspects that are crucial for our work and for other actors in the animal welfare space. The following section describes these research findings in detail and explains our ratings of the different animal groups on each criterion.





Evaluation

Scale

We looked at three different factors to evaluate the scale of each animal category: the number of existing animals, their quality of life, and expected developments in numbers (and associated quality of life) over time.

Wild animals vastly outnumber any other animal category. However, large uncertainties remain when trying to arrive at a rough estimate, especially when considering the enormous difference between species and the problem of which species to "count in". (4) Building on Brian Tomasik's work, (5) we arrived at an order of magnitude estimate of 100 trillion (10¹⁴) wild vertebrate animals in Africa⁶, which fits well with a previous global estimate by Animal Charity Evaluators (ACE). (6) For farmed animals, we calculated around 1.3 billion (10⁹) land animals currently alive in Africa. This estimate might be slightly conservative, given that existing records indicate ~3.2 billion land animals and ~1 billion fish farmed in Africa. (8) We expect the number of companion animals in Africa to be in the low hundred million (10⁸). As no single leading data source was available here, we had to consult different sources and conduct some back-of-the-envelope calculations. However, the order of magnitude we arrived at fits well with figures reported by ACE (6) and Faunalytics. (9) Data was also scarce on the number of working animals in Africa. However, given the global numbers reported by The Brooke (10) and World Animal Net (11), we are 95% certain that working animals make up the smallest group in this comparison, with somewhere around 35 million (10⁷) current animals.

In evaluating the quality of life for different animals, we could build on the work of Charity Entrepreneurship — bearing in mind the above caveats on judging subjective improvements in the lives of animals from a human perspective. (14) We deduce that the lives of (factory) farmed animals are worse than those of wild animals. However, there is reason to believe that farmed animals in Africa lead better lives given the lower prevalence of factory farming. (15) On the other hand, others have argued that the lives of many wild animals might be worse than those of farmed animals, due to natural stress factors like hunger, thirst, fear of predators, extreme temperatures and others. (16) Additionally, there is a significant amount of suffering

⁶ See our <u>spreadsheet</u> for details on each of the calculations in this section.

⁷ We based our calculations on data from the FAO database, the leading source on this topic (7).

⁸ As farmed land animals clearly outnumber farmed fish in Africa, they are the focus of our following analyses for the farmed animal category. However, we believe that our analysis largely applies to farmed fish as well, as the key mechanisms pointed out in the upcoming sections are very similar for both farmed fish and land animals: increasing demand and intensification of farming, low quality of life, potentially very cost-effective interventions, strong neglectedness, links to consumption and environmental concerns, etc.

⁹ Throughout this analysis, we provide quantitative estimates when communicating uncertainty in important assumptions and conclusions. However, it is important to note that these numbers are not sophisticated estimates that were calculated from a specific framework. These are estimates of our subjective intuitions, based on the evidence available to us. We are using such quantitative estimates to avoid vague and different interpretations of crucial aspects of our analysis. They are not used in every situation where uncertainty is an issue. While acknowledging the problem of false precision, we believe that giving such rough quantitative estimates at certain points strongly helps in clarifying our views. (12,13)



inflicted on wild animals by humans directly via practices such as hunting and fishing. However, this pales in comparison to suffering due to "natural" causes or indirect effects of human actions. The lives of non-stray companion animals seem to be genuinely good in most circumstances, while the quality of lives of stray animals might be compared to that of wild animals. Given that household pets should outnumber stray animals in Africa¹², the lives of companion animals should be relatively positive on average. In contrast, working animals seem to lead hard lives and potentially worse than those of farmed animals in Africa. This is similarly due to the lower prevalence of factory farming. (10)

Data from the Food and Agriculture Organization of the United Nations (FAO) shows that the number of farmed animals in Africa will grow significantly over the next ten years, given long-term growth trends in land animal farming and aquaculture as well as the continent's expected population growth and economic development. (7,18) A proliferation of factory farming due to rising living standards would also deteriorate the quality of lives of farmed animals. Future developments for wild animals are harder to foresee, given the inherent uncertainty in this area. It seems reasonable to assume that climate change could lead to lower populations and more suffering for wild animals. (19,20) However, we are only 70% certain of this rationale, given the many different species and interdependencies in the developments of their populations. For companion animals, we see no reason to expect major changes, although numbers might increase and quality of life improve due to rising incomes. Economic development could also lead to improvements in the lives of working animals, while also decreasing their numbers as technological progress leads to shifts in production and transportation systems. (21) We are therefore 90% confident that the scale of working animal suffering will decrease over the next ten years.

| Category | Rating (out of 5) ¹⁴ | Justification |
|-------------------|------------------------------------|--|
| Farmed Animals | 3 | Significant and increasing numbers with low and decreasing quality of life |
| Wild Animals | 5 | Disproportionately large numbers and low quality of life, with future developments hard to predict |
| Companion Animals | 1 | Relatively low numbers and comparably good lives, with |

¹⁰ While between 0.8 and 2.3 trillion fish are estimated to be caught from the wild globally each year, (17) we estimated the total number of wild vertebrates in Africa alone at roughly 100 trillion. Therefore, the following analyses mainly focus on wild animal suffering not directly caused by humans. We only reference the direct human infliction of harm where it is crucial for our analysis.

¹¹ This is an assumption, as companion animals were not covered in CE's welfare evaluations.

¹² See our <u>spreadsheet</u> for the estimates of pets and stray animals.

¹³ See our <u>spreadsheet</u> for a rough analysis on the correlation between GDP per capita and pet ownership.

¹⁴ While ACE's ten-point scale was used as an indication for evidence base, we adjusted this to a five-point scale to mirror our research context. See the "Methodology" section for details on this scale. As described, a score of 1 represents the least favourable outcome and a score of 5 the most favorable for prioritisation.



| | | potential improvements due to rising incomes |
|-----------------|---|--|
| Working Animals | 1 | Very low numbers and very low quality of life, with foreseeable improvements |

Evidence Base

Next, we tried to understand how much evidence (currently) exists about interventions to improve animal welfare for each category of animals we are considering.

We used previous work by ACE to guide our analysis. ACE's cause prioritisation scoring features a tractability score that closely relates to what we are trying to capture. It measures whether the problems and possible solutions in each animal category are well understood, and how much experience in implementation there is. (6) We used these ratings and adjusted them slightly to account for the African context. Additionally, we conducted a keyword search on Google Scholar to determine the number of academic publications (with a focus on welfare interventions) that exist in each animal category. Due to time constraints, we could not build a more robust analysis, e.g. analysing the quality of studies or the outcome or distribution of effects found. Since our keyword search is a rather weak indicator for evidence base, we did not weigh it heavily when making our final ratings. It was primarily used as a sanity check on our intuitions and research findings.

The farmed animal category is deemed moderately tractable (6/10) by ACE, as "there are some organisations working on helping farmed animals in ways that are plausibly effective, and they have had some successes". (6) Since farmed animals are also one of ACE's priority areas, we can expect research in this area to grow, leading to a more solid evidence base in the future. (22) However, as farmed animal advocacy is less developed in Africa compared to other world regions, (23) the evidence base here is weak. Our Google Scholar analysis indicates a moderate amount of literature on farmed animals when compared to the other categories.¹⁷

¹⁵ We think ACE is a leading organisation in evaluating the most effective ways to help animals, placing strong emphasis on research and transparency. We view their analysis as robust and reliable, and did not think it was necessary to replicate their work.

¹⁶ As a first step, we experimented with different synonyms for the different animal categories and chose the one that yielded the most results (e.g. "farm animals" instead of "farmed animals"). We then combined this phrasing with the keywords "welfare" and "intervention" to get an estimate of the number of academic publications evaluating interventions and their effects on animal welfare in each category.

¹⁷ See our <u>spreadsheet</u> for the specific numbers on the keyword analysis for each category.



Wild animal suffering is rated as very intractable (1/10) by ACE, as it is mostly not caused directly by humans and because a suffering-centred perspective on wild animals is new and uncommon among scholars. (6) Still, we can expect the evidence base in this area to grow, since 'wild animals' is an ACE priority area and have been receiving growing attention from the EA movement. (22,24) We do not have any reason to think this evaluation should be evaluated differently for the African continent specifically. Looking at the wider literature which is not specifically suffering-oriented, we found a large number of academic publications on Google Scholar. This fits ACE's assessment that wild animals as an area is widely researched from a conservationist wildlife perspective, but strongly under researched for suffering-centred views.

Companion animals are the highest-rated category in ACE's tractability scoring (10/10). Interventions in this area are by now largely routine, as there is a lot of evidence over the past decades on how to help these animals. (6) This is supported by the large body of literature found in our Google Scholar search, especially when including the keywords "welfare" and "intervention". However, since research is mostly focused on the developed world, African countries will be comparatively under researched in this area.

For working animals, we conducted a more detailed analysis ourselves, as this category was not covered by ACE. This could in itself be seen as a sign of a weak evidence base. However, the factors that would improve the lives of working animals seem fairly well-known and intuitive, and are addressed by leading organisations in the field. (10) This evaluation does not change for the African context, as most working animals in the world are concentrated in developing countries. However, there are very few academic publications on the effectiveness of different interventions in this area, as indicated by our keyword search.



¹⁸ This perspective needs to be distinguished from standard conservationist views on wildlife. While the latter typically focuses on topics like species extinction and biodiversity with a focus on preserving a "natural" state, the former stresses the welfare of animals as individuals. Following EA principles, we have taken the suffering-centred view as the basis for our evaluation of wild animals throughout this analysis.



| Category | Rating | Justification |
|-------------------|--------|---|
| Farmed Animals | 3 | Moderate tractability, ACE priority area, but limited evidence on the African context specifically |
| Wild Animals | 2 | Very low tractability, but large general literature, and evidence base expected to grow due to prioritisation |
| Companion Animals | 4 | Highly tractable, but lack of evidence in the African context |
| Working Animals | 3 | Seemingly straightforward interventions, but not backed by much research |

Cost-Effectiveness

Next, we looked at how cost-effective it would be to improve animal welfare in each area. This is usually measured as lives spared or years of suffering averted per dollar. (25) However, three major limitations to making such cost estimates need to be acknowledged. First, our analysis is based on global numbers, as Africa-specific evaluations were not available. Second, there are inherent uncertainties when evaluating subjective improvements in the lives of animals from a human perspective. ¹⁹ Third, cost-effectiveness measurements are rarely used for animal welfare interventions. ²⁰ This is even true of veterinary medicine, where evidence is usually stronger than in other animal-related areas. (27) Therefore we used quantitative estimates or did our own back-of-the-envelope calculation where possible, and relied on more qualitative research in other cases. ²¹

Farmed animals are the best-researched category in terms of cost-effectiveness of interventions. While individual estimates for different kinds of interventions vary significantly, it seems reasonable to assume that \$1 can spare the life of at least one farmed animal.²² In most instances, the impact is even substantially higher. For instance, The Humane League's work on corporate policies in 2016 is expected to have spared 1700 animals per invested dollar. (28)

The situation for wild animals is much more uncertain. ACE lists Wild Animal Initiative (WAI) as very cost-effective and this evaluation seems to be largely based on WAI's work in community building and pilot research. (29,30) Work in this area might be very cost-effective, due to the enormous scalability of potential

¹⁹ Most importantly, the use of questionnaires is not possible for animals. Still, it is possible to take educated guesses on such issues. (26)

²⁰ We could not find any relevant papers on Google Scholar. ACE seems to be the only leading organisation here, focusing on farmed animals mostly. This is in line with CE's reasoning on the topic. (2)

²¹ See ACE's advice on techniques for assessing cost-effectiveness under uncertainty. (25)

²² See our <u>spreadsheet</u> for details on the calculations and sources.



interventions, such as pesticide reform. (31) However, we did not find hard evidence on specific interventions as yet, as pilot research is ongoing. (32,33) Furthermore, cost-effectiveness might be inherently limited due to the problems of persistence and reversibility. (32) These issues can be mitigated by working on reducing human-caused suffering of wild animals, which could be as cost-effective as the work on farmed animals. (34)

The costs for improving the lives of companion animals are better known. Our focus here is on stray animals, due to their lower quality of life and the possibility of simple interventions with clear effects. The estimates we found converge at costs in the low hundreds of dollars for saving one animal, considering one-off costs such as for vaccination and neutering, as well as operational costs such as for sheltering and feeding.²³

The evidence for working animals is less clear. The Brooke, one of the few leading working animal organisations worldwide, spends roughly \$17 per animal and reports a cost of \$10 for feeding an equine animal for two months. (10) Another major organisation, SPANA, spent roughly \$13 on average for each veterinary treatment in 2019/20. (35) Experts we interviewed mentioned that such interventions involving direct help towards individual animals (also applying to companion animals, such as veterinary care, rescue, and rehabilitation) are generally less cost-effective than approaches aiming at broader effects (e.g. changing policy). While it is also conceivable to spare working animals' lives by replacing them with technology-based solutions (36), such interventions seem much less cost-efficient and were not evaluated in detail.

| Category | Rating | Justification |
|-------------------|--------|--|
| Farmed Animals | 5 | ~70% confident that this is the most cost-effective category, due to strong evidence of low costs |
| Wild Animals | 4 | Lacking information, but potentially very low costs (estimate ~30% probability that this could be more cost-effective than farmed animals) |
| Companion Animals | 1 | Highest costs per animal, with strong evidence |
| Working Animals | 2 | Moderate costs, with some quantitative evidence |

Neglectedness

We applied a similar approach when evaluating neglectedness as we did for 'evidence base'. Building on previous work by ACE, we took their neglectedness score for each animal category and adjusted it to account for the African context we are operating in. This was complemented by a keyword search on Google,

²³ See our <u>spreadsheet</u> for details on the calculations and sources.



to gain a broad understanding of how much charitable attention each category receives.²⁴ As with our evaluations in 'evidence base', this keyword search is a rather weak indicator. We thus did not weigh it heavily in our ratings. It was primarily used as a sanity check on our intuitions and research findings.

While being far from optimal, this top-down approach seemed to be reasonable, given the scarcity of information and the cursory nature of our analyses. Hence, our evaluation of neglectedness does not go into detail about the amount of resources distributed to each category, but provides a rough sense of the landscape. The other two criteria we evaluated—<u>funding</u> and <u>talent availability</u>—will address these points in more detail and provide additional information.²⁵

ACE rates farmed animals as very neglected (8/10), "because although it is relatively large scale and also reasonably tractable, only a small share of the resources devoted to helping animals is devoted to helping farmed animals". (6,37) Research by Animal Advocacy Careers (AAC) suggests that farmed animal welfare is even more neglected in African countries and the developing world in general. (23) Our keyword analysis confirmed the relative neglectedness of farmed animals compared to other categories, yielding far fewer results than wild and companion animals but clearly outscoring working animals.²⁶

Wild animals are seen by ACE as being more strongly neglected, receiving the highest possible score (10/10). (6) This might seem counterintuitive at first glance, as our keyword search confirmed our intuition that there is generally strong charity attention to wild animals compared to other categories. However, ACE's scoring takes into account the suffering-centred perspective alluded to before. From an EA perspective, wild animal suffering is highly neglected, since consequentialist (suffering-based) approaches are not very common. (16,38) Even though "many organizations work to help wild animals in a general sense, few operate from a perspective that primarily values individual experience and that values members of all species appropriately". (6) We are 99% confident that this reasoning also applies to the specific African context, as this discrepancy is reported as a global one. EA presence is relatively weak in Africa and our research did not yield any findings for us to assume differently.

In contrast, ACE deems companion animals as not neglected at all. This category is given the lowest possible rating (1/10), as it receives a lot of attention and resources despite its rather limited scale. (6) However, there are some reasons to believe that companion animals are more neglected in Africa, compared to ACE's global evaluation. This mainly relates to economic development, as lower income levels can be associated with less pet ownership, less care for pets, and a higher proportion of stray animals compared to pets. 27

²⁴ We used the keywords identified in 'evidence base' and combined them with the keywords "charity" and "Africa".

²⁵ Neglectedness can be seen as contradictory to funding and talent availability, but perhaps not entirely. A cause can be highly neglected while at the same time having strong funding and talent availability. This might be because a cause can draw from previously untapped resources or because it is gaining momentum with strong talent and funding inflow over the past years.

²⁶ See our <u>spreadsheet</u> for the specific numbers on the keyword analysis for each category.

²⁷ See the <u>scale</u> section of this report and its associated calculations in our <u>spreadsheet</u>.



Nevertheless, our analysis of the number of organisations in South Africa focusing on each animal category still revealed a very disproportionate focus on companion animals.²⁸

ACE does not provide an evaluation for working animals. However, our keyword search indicated that working animals receive fewer resources and attention compared to the other categories.²⁹ Most working animals are concentrated in low-income countries. As a result of poverty, animal welfare considerations tend to fall behind.³⁰ (15) However, this indicates that alleviating poverty at the same time can help working animals. Enormous resources are devoted to alleviating global poverty and significant progress can be seen. (41,42) Therefore, working animals seem highly neglected "directly", but not neglected at all "indirectly".³¹

| Category | Rating | Justification |
|-------------------|--------|--|
| Farmed Animals | 5 | Very neglected globally and even more so in Africa |
| Wild Animals | 5 | Extremely neglected from a suffering-centred perspective |
| Companion Animals | 1 | Not neglected at all |
| Working Animals | 3 | Highly neglected "directly", but not at all "indirectly" |



²⁸ See the <u>talent availability</u> section of this report and our <u>spreadsheet</u>.

²⁹ Detailed analyses in <u>funding</u> and <u>talent availability</u> further confirmed this point.

³⁰ Note that when it comes to directing resources to Africa, the rationale within the EA community is also heavily focused on human suffering. (39, 40) This can be seen as an indicator that animal suffering is often neglected when it is accompanied by human suffering.

³¹ This is an interesting example for the logic mentioned above, where a case is not highly neglected even though it receives very little resources.



Timing

We considered two key components when looking at the timing of our actions. First, we evaluated whether now is a pivotal time to work on a specific area. Second, we considered current, opportunistic events that we could leverage for our work. Where applicable, we also looked at these issues from the perspective of positive externalities that could result from our work.

The case for intervening now is very strong for farmed animals. Economic development and population growth drive increasing demands for animal products and a proliferation of industrial farming in developing countries. (43,44) At the current stage, it seems possible to prevent the vast animal suffering that would arise from a large-scale introduction of industrial animal agriculture in Africa. This argument is especially strong when considering the extensive academic literature on the socioeconomic and psychological forces that render it challenging to change a system once it is in place. (45–48) Furthermore, the farmed animal advocacy movement in many African countries is still fairly weak, (23) but animal welfare considerations seem to be gaining traction. (49) Our work could support the movement in this crucial phase and create multiplier effects in the future.

There are three other factors that we could leverage by focusing on farmed animals. First, the connection between animal agriculture and environmental issues is increasingly relevant to the public. (49) While this is still more of an industrialised-world phenomenon, the momentum of environmental sustainability considerations in public discourse could boost our work. Second, the COVID-19 pandemic, and even previously the Ebola epidemic, have increased public consciousness about the connection between animals and infectious diseases. Both of these issues could be understood from the perspective of positive externalities, indicating that working on farmed animal welfare can create spillover benefits for the environment and public health. Third, welfarist interventions benefit economic productivity, and as such can be an important contributor to food security and livelihoods. (15) African experts we interviewed agreed with these viewpoints on the timing of advocating for animals used for food consumption.

The case for working on wild animal suffering now also seems strong, albeit more complicated. The principal reason for acting now rests on the fact that the field is still under researched. An early start seems crucial due to potential learning value and the long-term nature of the project. (29) Additionally, there may be positive long-term effects resulting from a focus on wild animals through moral circle expansion.³⁴ Helping wild animals is also seen as a gateway or catalyst to advocating for other animals, as wild animals are thought to be central to the economy, culture and heritage of Africa.³⁵ Advocacy for wild animals could also benefit from the momentum around environmental sustainability topics mentioned above. (20,52) However,

 $^{^{32}}$ To emphasise this point, it is helpful to look at the development of the number of chickens farmed in China. This number rose from 540,850 in 1961 to 5,246,980 in 2019, which represents an almost tenfold increase in less than 60 years. (7)

³³ The FAO reported that "more than 70% of the infectious diseases that have emerged in humans since the 1940s can be traced to animals". (50) Many organisations have leveraged this topic for their work, such as The Human League. (51)

³⁴ This rationale is supported by an expert we interviewed.

³⁵ This point was mentioned by some of our experts we interviewed.



as the movement is still in its initial stages, it is unclear whether branching out into multiple, regionally distinctive organisations would be productive.

Regarding companion animals, it was difficult to find similarly strong reasons for acting now as the other categories above. However, as described in 'evidence base', it is fairly well-known what needs to be done to help pets and stray animals, so implementation of such interventions would be straightforward. There is thus no good reason to postpone these interventions. Additionally, the COVID-19 pandemic seems to have heightened concerns for disease-related problems in stray animal populations. Thus, reducing stray populations could have positive externalities on public health. (53–55) A further point that was supported by experts is that the growing wealth and growing middle class population in most African countries (which drive the custom of pet ownership) provide good reasons to act now.

The COVID effect is also present in discussions about working animals. (56) Similar to farmed animals, the topic might also be gaining traction as a result of the Animal Welfare Strategy for Africa (49). Apart from that, we could not identify any major reasons for the urgency to intervene now. A point to consider here is that interventions on working animals can have positive externalities in terms of economic productivity and can therefore contribute to poverty alleviation. This is true of both abolitionist (e.g. replacing animals with machines) and welfarist (e.g. improving nutrition and strength of animals) approaches (21). However, considering the counterfactual of not intervening, the situation of working animals is likely to improve regardless, as modernisation improves the living conditions of these animals and leads to automation and better transportation systems such that reliance on working animals is likely to decrease.

| Category | Rating | Justification |
|-------------------|--------|---|
| Farmed Animals | 5 | Strong counterfactual case and strong additional levers |
| Wild Animals | 4 | Long-term gains, but doubts about branching out |
| Companion Animals | 3 | No urgency, but no reason to wait |
| Working Animals | 2 | No urgency and potentially self-solving problem |

Risk of Negative/No Impact

Next, we evaluated whether our work in a certain area might result in negative impacts or no impact at all. Analogous to the timing criterion where we investigated potential positive externalities, the factors identified here can often be framed as negative externalities.

A general point applies to most, if not all, animal categories that needs to be addressed from the outset. As previously mentioned, there is a possibility that we are mistaken about the sentience of different animal species. (4,26) This could result in having no impact or net negative impact. However, this risk seems



negligible for the purposes of our analysis, as advocacy work in Africa is unlikely to involve controversial cases such as crustaceans or insects at this stage.³⁶ If at all, this factor applies mostly to wild animals (due to the wide range of species considered), and to a lesser extent, farmed and companion animals (if we consider, for instance, fish or reptiles). Nevertheless, this risk should be minor as we feel 99% certain that the animals we are considering are capable of experiencing positive and negative emotions.

Turning to more specific risks, we mainly identified two aspects for farmed animals. First, the importance of livestock for the rural population in many African countries (57) might lead to our interventions having negative impacts on economic development and productivity. In its reports, the FAO stressed the importance of animal agriculture for economic development. (50,58,59) However, this viewpoint is strongly contested, with other actors pointing to the adverse consequences of animal agriculture on land use and other dimensions. (60,61) Furthermore, as argued above, this risk can be mitigated by pursuing welfarist instead of abolitionist interventions that can have positive effects on productivity. Second, improvements in animal welfare standards always carry the risk of humane washing. Consumers might purchase more animal products if they believe that farming conditions have improved. (62) However, this seems more relevant to industrialised countries, where animal welfare issues receive higher attention from consumers.

As the effects of interventions on wild animals are very uncertain, negative externalities are of extreme concern.³⁷ (16,32) Seeing nature as a complex system where the effects of interventions are difficult to foresee and control can be instructive. (63,64) This risk should be mitigated by the current focus on research and movement building, as to our knowledge, WAI has not planned any direct interventions, and ACE estimates the impact of research to be very positive. (29) The risk can also be mitigated by focusing on preventing harm caused directly by humans, such as fishing. Additionally, we can foresee a risk in messaging, as the suffering-oriented EA approach to wild animals might alienate classical conservationists. We further elaborate on this point in the section on <u>cultural and political receptivity</u>.

Apart from the risk that may result from interventions aiming to export stray animals to developed countries where they are taken care of, (65) we did not identify significant risks for working on companion animals. However, as this is not an intervention we are considering, this risk factor seems negligible.

The risks for working animals are similarly weak. A potential problem is one previously raised for farmed animals: as working animals are often crucial contributors to the livelihoods of poor households, interventions that replace them might unintendedly worsen prospects for economic development and poverty reduction. This argument, however, seems weak, given that it appears far more likely (95% to 5%) for interventions to have positive externalities (as argued in the <u>previous</u> section). Therefore, the risks seem negligible.

³⁶ See the distinctions made in the <u>scale</u> section.

³⁷ An expert we interviewed mentioned that we can generally be more confident about the positive expected value of interventions preventing harm caused by humans, compared to broader interventions aiming at the relief of suffering not caused by humans.



| Category | Rating | Justification |
|-------------------|--------|---|
| Farmed Animals | 4 | Two risks identified which seem minor due to counterarguments and mitigation strategies |
| Wild Animals | 3 | Largest risk of all categories, but could be mitigated |
| Companion Animals | 5 | No risks identified |
| Working Animals | 5 | No risks identified |

Cultural and Political Receptivity

We then considered different factors underlying the logistical or execution difficulty of doing work in each area. Regarding the receptivity of relevant stakeholders to our work, we looked at two main dimensions: political and legislative support, and public attitudes.

For political receptivity, we built on comprehensive work by World Animal Protection. The Animal Protection Index (API) features evaluations of nine major African countries in terms of their legislative protection on the animal categories analysed here.³⁸ (66,67) Converting their ratings to a numerical scale allowed us to calculate a numeric score (1-7) for the different animal categories across Africa.³⁹ Farmed and working animals receive the least legislative protection in the evaluated African countries (scores of 1.7 and 2.0 respectively), while companion animals fare slightly better (2.7).⁴⁰ Working animals are prone to suffer through being overworked, underfed, denied proper healthcare, and other harm incidental to the work they are subjected to. Legislation is by far strongest for wild animals (3.9), with countries like Kenya and Tanzania leading the animal protection efforts. All countries in Africa except South Sudan and Western Sahara have ratified or signed the Convention on International Trade in Endangered Species (CITES), a multilateral treaty to protect endangered plants and animals, which has led to the increased implementation of wild animal protection laws to ensure conformity with treaty obligations. (68)

Cultural attitudes towards improving wild animal welfare also seem to be positive. There is evidence that support for wildlife and conservation in African countries has been substantial over the last decades. (69,70) For instance, an expert we interviewed mentioned there is a strong economic incentive to ensure the

- Recognition of animal sentience and prohibition of animal suffering
- Presence of animal welfare legislation
- Establishment of supportive government bodies
- Support for international animal welfare standards

In our analysis, we focused on the legislation dimension, as it is the only one that distinguishes between animal categories and is thus instructive for our comparison.

³⁸ The API considers four different goals in its evaluation:

³⁹ See our <u>spreadsheet</u> for details on the calculation.

⁴⁰ This finding was also reaffirmed by an expert we spoke to from Uganda.



survival of endangered species for tourism purposes. Additionally, globally rising concerns about environmental issues imply strong cultural receptivity. (71) However, we are uncertain whether a focus on wild animal suffering would receive equally substantial support. Most people hold a conservationist stance that differs greatly from the perspective considered in this analysis, and suffering-centred approaches to wildlife are frequently met with resistance by the public. (16,72) While this could severely limit receptivity towards work on wild animal welfare, it also seems possible to adapt the messaging of interventions to increase acceptability.

Regarding companion animals, it seems that care for pets and stray animals is more significant than that for other animal categories. Companion animals are generally not kept or hunted for meat, skin, and other products, and are therefore less likely to be exploited than farmed or working animals. Although there are some indicators that care for companion animals may be weaker in the African context, (73–75) we are 90% confident that cultural receptivity to work in this area is higher than in all the other categories.

Concerns surrounding the welfare of farmed animals have increased significantly over the past years. (76,77) However, as consumers' care for farmed animal welfare tends to increase with income, (78) we are 85% confident that farmed animal welfare is less of a priority in most African countries than in the developed world. There is also the risk that interventions might collide with cultural traditions, as livestock is a crucial component for many rural African populations. (79) Nevertheless, we see some indicators for progress in this area, such as the recently adopted Animal Welfare Strategy for Africa. (49) Furthermore, increased concerns around this issue could spill over from other parts of the world where those are more pronounced.

A similar picture emerged when looking at working animals. On one hand, the welfare of working animals is largely neglected in public discourse (21). There might also be cultural resistance towards transitioning away from the traditional use of working animals due to its historical precedence in many African countries. (80) On the other hand, the importance of working animals for traditional farming might suggest strong receptivity towards welfarist interventions. (81) There are promising signs that the general public is becoming aware of working animal welfare. (49,82,83) Furthermore, some experts pointed out that, for example, the illegal trade of donkey meat is widely condemned by the public as the practice of consuming donkey meat does not fit with the culture of many African communities.





| Category | Rating | Justification |
|-------------------|--------|--|
| Farmed Animals | 2 | Very weak legislative protection and low priority in public discourse, but signs of progress |
| Wild Animals | 4 | Very strong support for wildlife and conservation, but fewer suffering-centered views |
| Companion Animals | 4 | Relatively strong governmental support and high cultural receptivity, but limitations in the African context |
| Working Animals | 2 | Very weak legislative protection and low priority in public discourse, but signs of progress |

Funding Availability

Funding allocation relates to aspects such as the amount of current and potential funding in each area, and the marketability or appeal of interventions in each area to funders. Our evaluation of funding availability faced two complications. First, most statistics on this topic do not distinguish between different animal categories and often conflate animals with general environmental issues. (84,85) Second, information about grants being channelled to African countries is very limited. The first of these complications was addressed by conducting a cursory analysis of the grant landscape ourselves, estimating the share of organisations issuing grants to each of the animal causes. (86) In line with the second complication mentioned above, this information was only available for the United States. While acknowledging that evaluating this information is far from optimal, we believe it has some merit in the absence of alternatives. To make the analysis more robust, we also discuss nuances that emerged in our research for each animal category below.

Our analysis of animal and wildlife grants in the United States indicates that companion animals receive by far the largest amount of funding among the different categories.⁴¹ Even though this might be different in many African countries due to the link between pet care and economic development explained earlier, the sizeable gap between this and the second most-funded category makes us 95% confident that focusing on companion animals would maximise grant opportunities.

The second most-funded category in our evaluation was conservation and wild animals. However, this type of funding is usually not focused on suffering-centred wild animal interventions, but rather supports more conventional conservationist or anti-poaching/trafficking projects. Funding going directly to suffering-centred projects seems mostly limited to the EA movement. (29,87) This finding was supported by an expert working on wild animal suffering, who estimated that global funding for suffering-centred organisations is currently at around \$1 million per year. However, it is very well possible to adapt the

⁴¹ See our <u>spreadsheet</u> for details on the list of grantmaking organisations and the animal categories they focus on.



messaging of these interventions so they are more acceptable in the conventional wildlife and conservation context. This should provide substantial opportunities for funding, due to the large pool of resources available to wild animals in general.

Only three out of the sixty organisations evaluated in our cursory analysis of the grant landscape in the U.S. focus on farmed animals. In addition, the entire continent of Africa is estimated to receive only roughly 0.6% of all financial resources granted to farmed animal advocacy worldwide (\$1 out of \$165 million). (8) However, funding for farmed animals has grown significantly over the last years and this growth is expected to continue, for instance, due to substantial support and involvement from the EA movement and groups such the Open Wing Alliance. (87,88)

Working animals are not the focus of any grant-making organisations identified in our analysis. Evaluating the financial reports of two large organisations working in this area, The Brooke and SPANA, we are 90% confident that total grants to working animals worldwide does not exceed £50 million. (35,89) This puts funding for working animals below the amount for farmed animals globally. Even though funding in Africa might be higher due to the focus of working animal organisations on developing and emerging countries, there is no expectation for significant growth in resources flowing into this area.

| Category | Rating | Justification |
|-------------------|--------|--|
| Farmed Animals | 2 | Low funding availability in Africa, but moderate funding availability globally and growth to be expected |
| Wild Animals | 3 | Second-largest funding availability, but limitations due to suffering-centred perspective |
| Companion Animals | 5 | Largest funding availability with no major limitations |
| Working Animals | 1 | Low funding availability globally and somewhat similar to farmed animals in Africa, with no expectation for growth |

Talent Availability

Another important factor influencing the logistical or execution difficulty of doing work in each area is talent availability, as it determines our potential for recruiting the right people for our work. This relates not only to the number of potential recruits available, but also to their skills and qualifications.

Estimating talent availability in each of the four categories was complicated. As information was lacking for many countries and Africa as a whole, we had to base our analysis disproportionately on those countries where data was available (e.g. South Africa). In general, we tried to compensate for the sparse availability of



data by combining quantitative and qualitative insights and applying various angles on the topic. We used direct estimates of the number of existing advocates, inferred from the number of organisations in each area, gathered feedback from experts, and checked whether each area is expected to receive a significant amount of talent from the EA movement. While the first three approaches focus on the quantitative aspect of this factor, the fourth was introduced to account for the quality and future availability of talent.

For farmed animals, we built on previous work by Animal Advocacy Careers who report estimates of 15-30 advocates in Kenya and Nigeria each, as well as 30-50 advocates in South Africa. (23) With companion animals, we did not find any comprehensive estimates. However, we used the membership directory of the South African Board of Companion Animal Professionals to get a sense of its order of magnitude. The directory lists around 50 companion animal professionals in South Africa. (90) Given that this list will be far from complete, the number of advocates for companion animals should be substantially higher than for farmed animals. We did not find any estimates on the number of advocates working on wild animals and working animals.

Therefore, we attempted to gain further insights by inferring from the number of organisations in each animal category. An analysis of the most comprehensive directory we could find on animal welfare organisations in South Africa confirmed our intuition that companion animals have the greatest number of advocates, as the vast majority of organisations focus on this category. (91) This is followed by working animals. We also identified four international organisations with a strong presence in Africa focusing on working animals. (92–95) For wild and farmed animals, the South African animal welfare directory indicates a very small number of organisations.

The primacy of companion animals was later confirmed by one of our interviewed experts. In their evaluation, wild animals claimed the second spot in terms of talent availability⁴⁴, followed by working animals, and lastly farmed animals. While this leaves us with uncertainty about the rating of wild animals, it confirms our findings in terms of companion, working and farmed animals.

Nevertheless, the case for wild animals needs to be considered separately, as we are adopting a suffering-centred approach. Here, talent availability is naturally restricted, as this is a narrow and nascent field at the moment with no focus on Africa. To our knowledge, there is only one major organisation working in this area, with only six staff listed—none of them in Africa. (96)

⁴² See our <u>spreadsheet</u> for details on the list of organisations and the animal categories they focus on.

⁴³ Another data point we considered is the organisations we reached out to during our <u>landscape research</u>. Out of 22 organisations, 13 focus on farmed animals, 7 on wild animals and 15 on companion and working animals each (note that many organisations work on behalf of more than one animal population). However, we did not ascribe high importance to this consideration, as our sample size is limited and likely biased due to our research and outreach focus.

⁴⁴ This finding about wild animals aligns with our <u>prior view</u> that from a purely quantitative perspective, there are more advocates working in this area. It also aligns with expert views that wild animals are often seen as a gateway for helping animals given the cultural and economical role that wild animals play in Africa.



However, the wild animal category benefits from support from the EA movement. (22,97,98) This point is more important than one might initially think: as the level of talent in the nonprofit sector is generally relatively low, the inflow of (often highly educated) people from the EA movement could be a crucial advantage in terms of talent availability. (99) This argument is even stronger for the category of farmed animals, as it has received very strong support from the EA movement and has a career advice organisation (Animal Advocacy Careers) dedicated specifically to it. (97,100)

| Category | Rating | Justification |
|-------------------|--------|--|
| Farmed Animals | 4 | Low number of advocates, but very strong inflow of talent ⁴⁵ |
| Wild Animals | 2 | Very low number of advocates for suffering-centred approach, with some inflow of talent |
| Companion Animals | 5 | By far the largest number of advocates working in this area, limited talent inflow |
| Working Animals | 3 | Slightly more advocates than farmed animals, but far less than companion animals, limited inflow of talent |



⁴⁵ We discuss the inflow of talent mainly from an EA perspective given the nature of our work and organisational values. However, we fully acknowledge the wide range of talent beyond the EA movement.



Conclusion

Farmed animals emerged as the top priority for our work at Animal Advocacy Africa. This group scored highly across many criteria, with cultural and political receptivity as the weakest factor. We believe now is an optimal time to help farmed animals, which are a neglected group, and can potentially be supported cost-effectively.

Helping wild animals also seems to be a high-impact cause. However, this category scored lower than farmed animals, due to a lack of understanding and resources.

Companion animals exist on a smaller scale, receive a disproportionate amount of resources, and interventions seem less cost-effective as many focus on individual animals. The case for prioritising companion animals stems from the established nature of the cause—a proven track record, strong receptivity and large resource availability.

Working animals scored lowest in our WFM, as we did not identify a sufficiently strong reason to prioritise this group relative to other animals. This area does not receive a lot of resources and is simultaneously not as neglected, tractable, or large in scale to justify prioritisation.

These results suggest that our primary focus should be on farmed animals. Nevertheless, the final ratings for the four animal populations are arguably close enough that these differences may warrant further in-depth investigation. It seems plausible that the final ranking may change if we spent more time on our analysis or changed the weights of the different criteria. Given this sensitivity, a case could be made for distributing efforts across two or more animal groups, rather than prioritising only farmed animals. However, as we are an early stage project with limited capacity, this is unlikely to be practical.

We also acknowledge that this is a broad analysis and that its outcomes might not be generalisable. For instance, it seems very well possible that there are areas and interventions where work on wild animals can be more productive than work on farmed animals. However, for our high-level strategic direction, it seems most likely that we will find such productive areas by focusing on farmed animals first.

The evaluation on each criterion and the final scoring is listed in the table below.

| Criteria | | Wild Animals | | Working Animals |
|---------------------|---|-----------------|---|--------------------|
| Scale (5%) | 3 | 5 | 1 | 1 |
| Evidence base (10%) | 3 | 2 | 4 | 3 |



| Cost-effectiveness (15%) | 5 | 4 | 1 | 2 |
|--|------|------|------|------|
| Neglectedness (15%) | 5 | 5 | 1 | 3 |
| Timing (7.5%) | 5 | 4 | 3 | 2 |
| Risk of negative/no impact (7.5%) | 4 | 3 | 5 | 5 |
| Cultural and political receptivity (17%) | 2 | 4 | 4 | 2 |
| Funding availability (8%) | 2 | 3 | 5 | 1 |
| Talent availability (15%) | 4 | 2 | 5 | 3 |
| Final Score | 3.73 | 3.55 | 3.18 | 2.50 |

We encourage readers who are interested in providing feedback, comments, or questions to $\underline{\text{reach out}}$ to us.



Bibliography

- 1. Charity Entrepreneurship. Weighted factor model [Internet]. [cited 2021 Mar 12]. Available from: https://www.charityentrepreneurship.com/weighted-factor-model.html
- 2. Charity Entrepreneurship. Prioritizing ideas [Internet]. [cited 2021 Feb 22]. Available from: https://www.charityentrepreneurship.com/prioritizing-ideas-report.html
- Effective Altruism Concepts. Importance, tractability, neglectedness framework [Internet]. [cited 2021 Mar 12]. Available from: https://concepts.effectivealtruism.org/concepts/importance-neglectedness-tractability/
- Open Philanthropy. 2017 report on consciousness and moral patienthood [Internet]. 2018 [cited 2021 Feb 22]. Available from: https://www.openphilanthropy.org/2017-report-consciousness-and-moral-patienthood
- 5. Tomasik B. How many wild animals are there? [Internet]. 2019 [cited 2021 Feb 22]. Available from: https://reducing-suffering.org/how-many-wild-animals-are-there/
- 6. Animal Charity Evaluators. Prioritizing causes [Internet]. 2017 [cited 2021 Feb 22]. Available from: https://animalcharityevaluators.org/advocacy-interventions/prioritizing-causes/#detailed
- 7. Food and Agriculture Organization of the United Nations. FAOSTAT [Internet]. 2021 [cited 2021 Feb 22]. Available from: http://www.fao.org/faostat/en/#data
- 8. Bollard L. Lessons learned in farm animal welfare [Internet]. 2020 [cited 2021 Feb 22]. Available from: https://www.effectivealtruism.org/articles/lewis-bollard-lessons-learned-in-farm-animal-welfare/
- 9. Green C. Animal advocacy by numbers [Internet]. 2015 [cited 2021 Feb 22]. Available from: https://faunalytics.org/animal-advocacy-by-numbers/
- 10. The Brooke. Improving the lives of working animals in the world's poorest communities: Annual report and accounts 2011/12. The Brooke; 2012.
- 11. World Animal Net. Working animals [Internet]. [cited 2021 Feb 22]. Available from: http://worldanimal.net/documents/6_Working_Animals.pdf
- 12. Lewis G. Use resilience, instead of imprecision, to communicate uncertainty [Internet]. 2020 [cited 2021 Mar 21]. Available from: https://forum.effectivealtruism.org/posts/m65R6pAAvd99BNEZL/use-resilience-instead-of-imprecision-to-communicate
- 13. Animal Charity Evaluators. Subjective confidence intervals [Internet]. 2018 [cited 2021 Mar 21]. Available from:

 https://animalcharityevaluators.org/research/methodology/subjective-confidence-interval/
- 14. Charity Entrepreneurship. Is it better to be a wild rat or a factory farmed cow? A systematic method for comparing animal welfare [Internet]. 2018 [cited 2021 Feb 22]. Available from: https://www.charityentrepreneurship.com/blog/is-it-better-to-be-a-wild-rat-or-a-factory-farmed-cow-a-systematic-method-for-comparing-animal-welfare



- 15. Devereux S. Livestock and livelihoods in Africa: Maximising animal welfare and human well-being. IDS Working Paper. 2014 Dec 1;(451).
- 16. Moen OM. The ethics of wild animal suffering. Etikk Praksis Nord J Appl Ethics. 2016 May 9;10(1):91.
- 17. Fishcount.org.uk. Numbers of fish caught from the wild each year [Internet]. 2019 [cited 2021 Apr 16]. Available from: http://fishcount.org.uk/fish-count-estimates-2/numbers-of-fish-caught-from-the-wild-each-year
- 18. FAO. The state of world fisheries and aquaculture 2020. FAO; 2020.
- 19. World Wildlife Fund. Living planet report 2020 [Internet]. [cited 2021 Feb 22]. Available from: https://livingplanet.panda.org/en-us/
- 20. Kolbert E. The sixth extinction: An unnatural history. 1st ed. New York: Henry Holt and Co.; 2014.
- 21. The Brooke. Invisible workers: The economic contributions of working donkeys, horses and mules to livelihoods. The Brooke; 2015 Oct.
- 22. Animal Charity Evaluators. Cause area priorities for animal advocacy [Internet]. 2020 [cited 2021 Feb 26]. Available from:

 https://animalcharityevaluators.org/advocacy-interventions/prioritizing-causes/causes-we-conside r/
- 23. Animal Advocacy Careers. Growing the animal advocacy community in countries where it is small or new skills profile calculations [Internet]. [cited 2021 Feb 22]. Available from: https://docs.google.com/spreadsheets/d/1THyCNWNSaLw_aIPJQmMjuwm9OTV2YExyi-EiTEwaDhU/edit#gid=1020402751
- 24. Effective Altruism Foundation. The relevance of wild animal suffering [Internet]. 2017 [cited 2021 Feb 26]. Available from: https://ea-foundation.org/blog/the-relevance-of-wild-animal-suffering-2/
- 25. Animal Charity Evaluators. Our use of cost-effectiveness estimates [Internet]. 2018 [cited 2021 Feb 22]. Available from: https://animalcharityevaluators.org/research/methodology/our-use-of-cost-effectiveness-estimate s/
- 26. Persad G. Cost-effectiveness in animal health: An ethical analysis. In: Fischer B, editor. Routledge Handbook of Animal Ethics. New York: Routledge; 2019.
- 27. Babo Martins S, Rushton J. Cost-effectiveness analysis: adding value to assessment of animal health welfare and production. Rev Off Int Epizoot. 2014 Dec;33(3):681–9.
- 28. Guesstimate. The Humane League 2016 cost effectiveness estimate [Internet]. [cited 2021 May 2]. Available from:

 https://www.getguesstimate.com/models/7371?token=kbo6OAtzh3vHqhgMLFUDtqPtQ6tB3CdPapTJK38x2zi3jcuaiuNenqfASSz5VKcWofgSJEp8NXJg24JnpQ5PtA
- 29. Animal Charity Evaluators. Wild Animal Initiative review [Internet]. [cited 2021 Feb 22]. Available from: https://animalcharityevaluators.org/charity-review/wild-animal-initiative/#c3
- 30. Animal Charity Evaluators. Menu of outcomes for animal advocacy [Internet]. 2020 [cited 2021 Feb



- 22]. Available from:
- https://animalcharityevaluators.org/research/methodology/menu-of-outcomes/
- 31. Wild Animal Initiative. Improving pest management for wild insect welfare [Internet]. 2019 [cited 2021 Mar 19]. Available from: https://www.wildanimalinitiative.org/blog/humane-insecticides
- 32. Eckerström Liedholm S. Persistence and reversibility: Long-term design considerations for wild animal welfare [Internet]. Wild Animal Initiative; 2019 Dec [cited 2021 Feb 22]. Available from: https://www.wildanimalinitiative.org/blog/persistenceandreversibility
- 33. Wild Animal Initiative. Our strategic plan, 2019-2020 [Internet]. 2019 [cited 2021 Feb 22]. Available from: https://www.wildanimalinitiative.org/blog/strategic-plan
- 34. Tomasik B. Donating toward Efficient Online Veg Ads [Internet]. 2018 [cited 2021 Apr 23]. Available from: https://reducing-suffering.org/donating-toward-efficient-online-veg-ads/
- 35. SPANA. Treat, train, teach: Annual review 2019/20. SPANA; 2020.
- 36. Animal Ethics. Animals used as workers [Internet]. [cited 2021 Feb 22]. Available from: https://www.animal-ethics.org/animal-exploitation-section/animals-workers-introduction/animals-used-workers/
- 37. Animal Charity Evaluators. Why farmed animals? [Internet]. 2016 [cited 2021 Mar 5]. Available from: https://animalcharityevaluators.org/donation-advice/why-farmed-animals/
- 38. Tomasik B. The importance of wild animal suffering. Relations. 2015 Nov;(3.2):133–52.
- 39. GiveWell. Charities working in Africa [Internet]. 2015 [cited 2021 Mar 5]. Available from: https://www.givewell.org/africa-charities
- 40. The Life You Can Save. Why donate internationally? [Internet]. [cited 2021 Mar 5]. Available from: https://www.thelifeyoucansave.org/why-give-internationally/
- 41. Gapminder. Gapminder tools [Internet]. [cited 2021 Mar 5]. Available from: https://www.gapminder.org/tools/#\$chart-type=linechart
- 42. World Bank. World Bank open data [Internet]. 2021 [cited 2021 Mar 5]. Available from: https://data.worldbank.org/
- 43. Thornton PK. Livestock production: recent trends, future prospects. Philos Trans R Soc Lond B Biol Sci. 2010 Sep 27;365(1554):2853–67.
- 44. Lam Y, Fry JP, Hu E, Kim BF, Nachman KE. Industrial food animal production in low- and middle-income countries: A landscape assessment. Johns Hopkins Center for a Liveable Future; 2016 Mar.
- 45. Kahneman D, Knetsch JL, Thaler RH. Anomalies: the endowment effect, loss aversion, and status quo bias. Journal of Economic Perspectives. 1991 Feb;5(1):193–206.
- 46. Baumgartner FR, Berry JM, Hojnacki M, Leech BL, Kimball DC. Lobbying and policy change: Who wins, who loses, and why. University of Chicago Press; 2009.
- 47. Pierson P. Increasing returns, path dependence, and the study of politics. Am Polit Sci Rev. 2000 Jun;94(02):251–67.



- 48. Zantvoort B. Political inertia and social acceleration. Philosophy & Social Criticism. 2017 Sep;43(7):707–23.
- 49. Interafrican Bureau for Animal Resources. Animal welfare strategy for Africa: Integrating the welfare interests of human and animals in Africa. Interafrican Bureau for Animal Resources; 2019.
- 50. Food and Agriculture Organization of the United Nations. Transforming the livestock sector through the Sustainable Development Goals. Food and Agriculture Organization of the United Nations; 2018.
- 51. The Humane League. Our food system is broken [Internet]. [cited 2021 Feb 22]. Available from: https://thehumaneleague.org/broken-food-system
- 52. Root TL, Price JT, Hall KR, Schneider SH, Rosenzweig C, Pounds JA. Fingerprints of global warming on wild animals and plants. Nature. 2003 Jan 2;421(6918):57–60.
- 53. Eurogroup for Animals. Protecting strays during COVID-19 [Internet]. 2015 [cited 2021 Feb 22]. Available from: https://www.eurogroupforanimals.org/news/protecting-strays-during-covid-19
- 54. Lakshmin D. Amid the world's strictest lockdown, people who feed stray dogs are now deemed essential [Internet]. 2020 [cited 2021 Feb 22]. Available from: https://www.nationalgeographic.com/animals/article/worlds-strictest-lockdown-people-feed-stray-dogs-essential
- 55. Four Paws International. COVID-19 and stray animals: What a pandemic means for stray cats and dogs [Internet]. 2021 [cited 2021 Feb 22]. Available from: https://www.four-paws.org/our-stories/blog-news/covid-19-and-stray-animals
- 56. SPANA. Help working animals survive the COVID-19 pandemic [Internet]. [cited 2021 Feb 22]. Available from: https://spana.org/appeals/help-working-animals-survive-the-covid-19-pandemic-4/
- 57. Farm Africa. Our work with livestock [Internet]. [cited 2021 Feb 22]. Available from: https://www.farmafrica.org/agriculture/livestock
- 58. Food and Agriculture Organization of the United Nations. Decent rural employment: Livestock [Internet]. [cited 2021 Feb 22]. Available from: http://www.fao.org/rural-employment/agricultural-sub-sectors/livestock/en/
- 59. Food and Agriculture Organization of the United Nations. Livestock and income generation [Internet]. [cited 2021 Feb 22]. Available from: http://www.fao.org/ag/againfo/themes/en/income_generation.html
- 60. Capps A. Why we need plant-based approaches to global hunger [Internet]. [cited 2021 Feb 22]. Available from: https://awellfedworld.org/issues/hunger/why-we-need-plant-based-approaches/
- 61. Idel A, Fehlenberg V, Reichert T. Livestock production and food security in a context of climate change, and environmental and health challenges. Germanwatch; 2013 Dec.
- 62. Sentience Institute. A summary of evidence for foundational questions in effective animal advocacy [Internet]. 2020 [cited 2021 Feb 22]. Available from:

 https://www.sentienceinstitute.org/foundational-questions-summaries#momentum-vs.-complacen cy-from-welfare-reforms



- 63. Graham W. Nature is both ordered and chaotic [Internet]. 2014 [cited 2021 Feb 22]. Available from: http://www.freshvista.com/2014/natures-tangled-web-is-both-ordered-and-chaotic/
- 64. Complex systems. Nature. 2001 Mar;410(6825):241-241.
- 65. Brookland J. Rescuing dogs from abroad does it make sense? [Internet]. 2018 [cited 2021 Feb 22]. Available from: https://animalrightsandwrongs.uk/2018/09/rescuing-dogs-from-abroad/
- 66. World Animal Protection. Animal Protection Index [Internet]. [cited 2021 Feb 26]. Available from: https://api.worldanimalprotection.org/#
- 67. World Animal Protection. Methodology [Internet]. [cited 2021 Feb 26]. Available from: https://api.worldanimalprotection.org/methodology#presence-of-animal-welfare-legislation
- 68. Convention on International Trade in Endangered Species of Wild Fauna and Flora. List of contracting parties [Internet]. [cited 2021 Apr 9]. Available from: https://cites.org/eng/disc/parties/chronolo.php
- 69. Harcourt AH, Pennington H, Weber AW. Public attitudes to wildlife and conservation in the Third World. Oryx. 1986 Jul;20(3):152–4.
- 70. Infield M. Attitudes of a rural community towards conservation and a local conservation area in Natal, South Africa. Biological Conservation. 1988;45(1):21–46.
- 71. Funk C, Tyson A, Kennedy B, Johnson C. Science and scientists held in high esteem across global publics: Yet there is ambivalence in many publics over developments in AI, workplace automation, food science. Pew Research Center; 2020 Sep p. 133.
- 72. Meyer Shorb C. Our definition of welfare [Internet]. 2020 [cited 2021 Feb 22]. Available from: https://www.wildanimalinitiative.org/blog/definition-of-welfare
- 73. Frerking E. Poverty and methods to control stray dogs [Internet]. The Borgen Project. [cited 2021 Feb 26]. Available from: https://borgenproject.org/poverty-and-methods-to-control-stray-dogs/
- 74. Michigan Humane. Suffering in slums: The global stray dog problem [Internet]. [cited 2021 Feb 26]. Available from:
 http://support.michiganhumane.org/site/News2?page=NewsArticle&id=11701&news_iv_ctrl=226
 1
- 75. PetSecure. A guide to worldwide pet ownership [Internet]. [cited 2021 Feb 26]. Available from: https://www.petsecure.com.au/pet-care/a-guide-to-worldwide-pet-ownership/
- 76. Clark B, Stewart GB, Panzone LA, Kyriazakis I, Frewer LJ. A systematic review of public attitudes, perceptions and behaviours towards production diseases associated with farm animal welfare. J Agric Environ Ethics. 2016 Jun;29(3):455–78.
- 77. Alonso ME, González-Montaña JR, Lomillos JM. Consumers' concerns and perceptions of farm animal welfare. Animals (Basel). 2020 Feb 27;10(3).
- 78. Vermeulen H, Biénabe E. The quality turn in South Africa: insights from a comprehensive investigation into the food quality behaviours, perceptions and knowledge of South African consumers with a focus on middle and upper socioeconomic groups. 2010.
- 79. Qekwana DN, McCrindle CME, Cenci-Goga B, Grace D. Animal welfare in Africa: strength of



- cultural traditions, challenges and perspectives. In: Hild S, Schweitzer L, editors. Animal Welfare: From Science to Law. 2019.
- 80. Starkey P. The history of working animals in Africa. In: Blench R, MacDonald K, editors. The origins and development of african livestock: Archaeology, genetics, linguistics and ethnography. Routledge; 2006. p. 498–522.
- 81. Dlamini AM. Welfare and use of livestock for draught in Swaziland. 2000.
- 82. World Organisation for Animal Health, editor. Terrestrial animal health code. 2019.
- 83. James M, Krecek RC. Management of draught animals: A welfare and health perspective in South Africa. 2000.
- 84. National Philanthropic Trust UK. Charitable giving statistics [Internet]. [cited 2021 Mar 12]. Available from: https://www.nptuk.org/philanthropic-resources/uk-charitable-giving-statistics/
- 85. Balancing Everything. Charitable giving statistics & facts for 2021 [Internet]. 2021 [cited 2021 Mar 12]. Available from: https://balancingeverything.com/charitable-giving-statistics/
- 86. Society for Nonprofits. Funding alert: Animals & wildlife [Internet]. [cited 2021 Mar 12]. Available from: https://www.snpo.org/publications/fundingalert_bycategory.php?cs=WILD
- 87. Effective Altruism. Animal welfare fund [Internet]. [cited 2021 Mar 12]. Available from: https://app.effectivealtruism.org/funds/animal-welfare
- 88. Open Wing Alliance. Grants [Internet]. [cited 2021 Mar 12]. Available from: https://www.openwingalliance.org/grants
- 89. The Brooke. Annual report & accounts: 2019/20. The Brooke; 2020.
- 90. South African Board of Companion Animal Professionals. Membership Directory [Internet]. [cited 2021 May 1]. Available from: http://www.sabcap.org.za/sabcapwp/business-directory/
- 91. Rescue Rehab SA. Animal Welfare Organisations South Africa [Internet]. [cited 2021 May 1]. Available from: https://rrsa.org.za/animal-welfare-organisations/
- 92. The Brooke. Where We Work [Internet]. [cited 2021 May 1]. Available from: https://www.thebrooke.org/our-work/where-we-work
- 93. The Donkey Sanctuary. Our locations worldwide: Africa [Internet]. [cited 2021 May 1]. Available from: https://www.thedonkeysanctuary.org.uk/about-us/our-international-work/africa
- 94. World Horse Welfare. Worldwide collaborations [Internet]. [cited 2021 May 1]. Available from: https://www.worldhorsewelfare.org/what-we-do/around-the-world/worldwide-collaborations
- 95. SPANA. Our Work [Internet]. [cited 2021 May 1]. Available from: https://spana.org/about-us/our-work/#our_impact
- 96. Wild Animal Initiative. About us [Internet]. [cited 2021 May 1]. Available from: https://www.wildanimalinitiative.org/about-us
- 97. Animal Advocacy Careers. About Animal Advocacy Careers [Internet]. [cited 2021 May 1]. Available from: https://www.animaladvocacycareers.org/about-aac
- 98. Charity Entrepreneurship. Top Animal Charity Ideas We're Researching In 2020 (Idea Prioritization



Report) [Internet]. 2020 [cited 2021 May 1]. Available from: https://www.charityentrepreneurship.com/blog/top-animal-charity-ideas-were-researching-in-20 20-idea-prioritization-report

- 99. Animal Charity Evaluators. Work Effectively [Internet]. [cited 2021 May 1]. Available from: https://animalcharityevaluators.org/advocacy-interventions/advocacy-advice/work-effectively/
- 100. Effective Altruism. Introduction to Effective Altruism [Internet]. 2020 [cited 2021 May 1]. Available from: https://www.effectivealtruism.org/articles/introduction-to-effective-altruism/