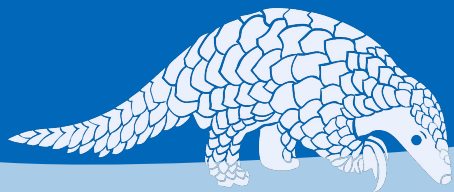


WILD MEAT TOOLKIT

for Integrated Design, Monitoring, and Adaptive Management

August 2024





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CONTRACT INFORMATION

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DISCLAIMER OR ACKNOWLEDGEMENT

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Navigating This Toolkit

What is this?

Textboxes that provide framing and background information

How can I use this?

Textboxes that provide guidance as to when and how to use elements of the toolkit

Consider this!

Textboxes that provide additional information to help apply elements of the toolkit

Some pages will have a shape in the upper right corner to indicate to which part of the situation model or results chain they refer. See the shapes below for details.

Driver

Direct Threat

Intermediate Result

Strategic Approach

Biodiversity Focal Interest

Human Well-being Focal Interest

The home icon will take you back to the table of contents (page 4).

These buttons outline the subsections of each section. Clicking on the different buttons will take you to the corresponding subsection. **Dark blue** indicates the current subsection, where **light blue** indicates the other subsections.

Where applicable, this toolkit provides links to external resources. **This book icon** at the bottom will link you to additional resources.

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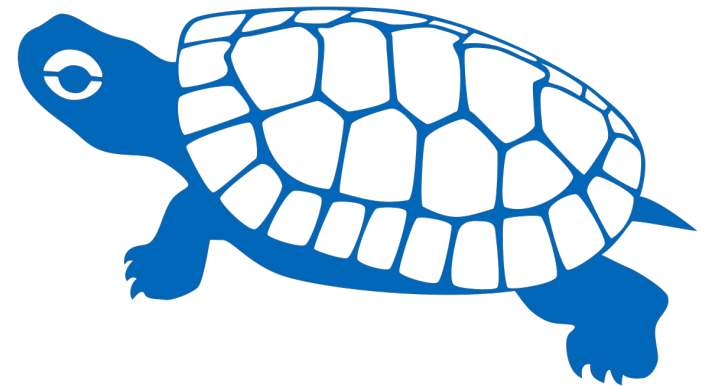
Urban and Rural LQs

Cross-Cutting LQs



Overview

Objectives and How to Use the Toolkit



Introduction

About this toolkit





Wild meat, also known as “bushmeat,” refers to the meat of wildlife species hunted or collected for human consumption. Wild meat has long served as a principal source of protein and a primary contributor to the food security of people across the world. However, surging global populations and the emergence of a thriving commercial wild meat trade have resulted in unsustainable harvest rates and dwindling wild sources of food and nutrition ([Food Res Int., 2015](#)).

Additionally, risks associated with human-wildlife interactions are reinforced by the cross-border and transboundary transport of people, animals, plants, and agricultural products and illegal wildlife trade ([Nature Sustainability, 2019](#)). This mobility increases the risk of disease-causing pathogens to make the leap to humans from other animals ([PLoS Pathog, 2016](#)). More than 70 percent of emerging infectious diseases that occurred between 1940 and 2004 originated from wildlife and the incidence of these outbreaks has significantly increased over time ([Nature, 2008](#)).

Definitions in this toolkit

- **Bushmeat:** is considered illegally and/or unsustainably obtained wildlife meat from unauthorized hunting methods, species, or areas, intended for commercial trade ([IUCN 2002](#)).
- **Game meat:** describes legally obtained meat from regulated, monitored wildlife populations in controlled commercial operations (private or community managed)([IUCN 2002](#)).
- **Wild meat:** describes any meat that is harvested from wild populations.

“Bushmeat” often refers to meat from wild animals hunted in tropical forests or savannas, especially in Africa. However, because the Wild Meat Learning group is not restricted to a specific region, the group uses the term “wild meat.”



The U.S. Agency for International Development's (USAID) [Wild Meat Learning Group](#) is one of six learning groups within [USAID's Biodiversity Cross-Mission Learning Program](#). Learning groups increase the effectiveness of USAID biodiversity conservation programming by finding out what works, what does not, why, and under what conditions across the Agency.

Efforts to address wild meat-related issues can contribute to critical development goals of conserving biodiversity, improving livelihoods, achieving food security, and protecting the health of human communities. These strategies therefore require innovative ways of thinking and working across sectors in an integrated One Health approach.

The Wild Meat Learning Group serves as a platform for cross-sectoral learning exchanges to support evidence-based decision making for improved USAID programming.

Looking for more information on the One Health approach?

The [One Health High Level Expert Panel](#) defines One Health as “an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems. It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and interdependent.” Check out the [One Health evidence collection](#) on [Biodiversity Links](#).



Figure 1: One Health graphic representing the interdependence of human health, animal health, and environmental health.



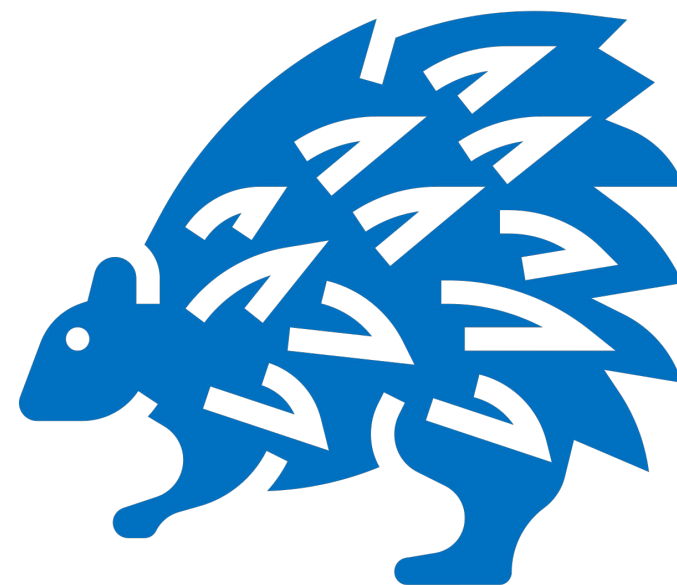
With this toolkit and other learning group resources, the Wild Meat Learning Group aims to share and elevate the understanding of wild meat issues, to foster engagement and integrated learning on these issues, and to improve the effectiveness of USAID programming that addresses wild meat.

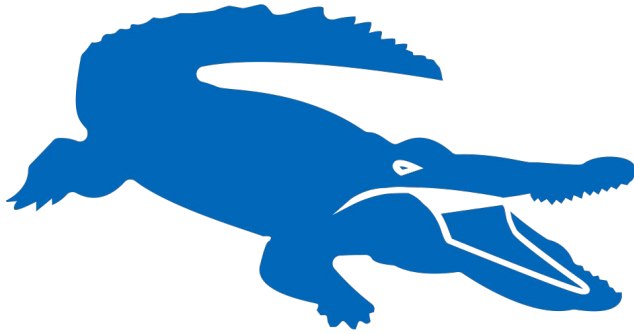
More specifically, the purpose of this toolkit is to collect and share learning on wild meat-related programming and its links to food security, health, and biodiversity. The aim is to showcase the different cross-sectoral strategic approaches to address wild meat issues and indicators to understand the effectiveness of these strategic approaches.

This toolkit provides guidance and tools for conservation and cross-sectoral practitioners to:

1. Design activities or projects aimed at addressing wild meat issues.
2. Monitor, evaluate, and learn about the effectiveness of common wild meat-related strategic approaches.

Applying this toolkit will help USAID and implementing partners apply a One Health approach in designing, implementing, and monitoring and evaluating wild meat activities.





Generic Situation Model for Wild Meat

Analyzing the Wild Meat Problem



About

Focal Interests

Direct Threats

Drivers





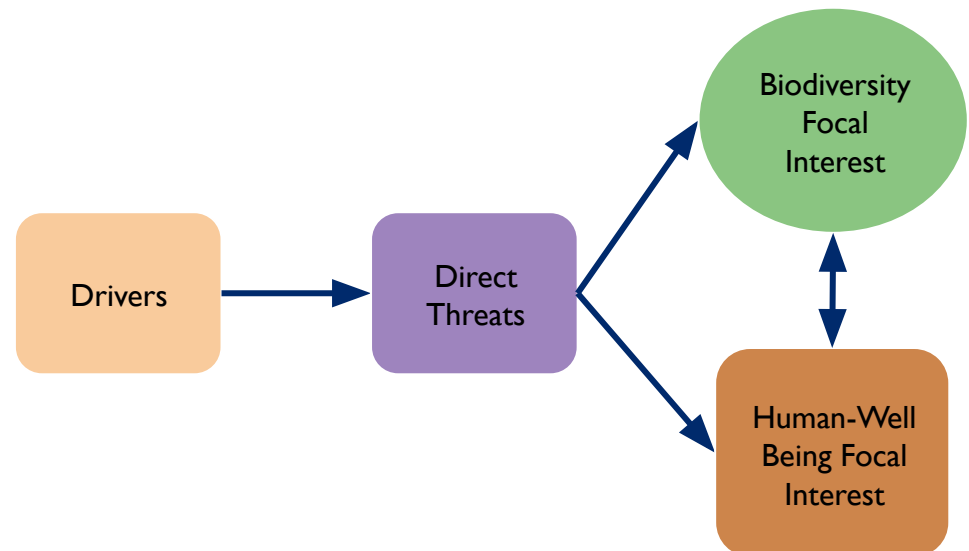
What is this?

The following slides build out a generic situation model for wild meat, starting with the focal interests, then direct threats, and finally the main drivers of wild meat challenges.

The development of this generic situation model drew from a review of wild meat-related USAID programming. It provides a high-level overview of the main drivers and threats related to wild meat and its linkages to food security, health, and biodiversity. The model is generalized, but includes factors that might be applicable for any regional, national, or local context.

How can I use this?

Consider using this generic situation model as a starting point for your problem analysis. Tailor it as much as needed to accurately reflect the context in which you are working. When tailoring, remember situation models should be informed by existing data, including assessments, evaluations, and research and the expertise of the design team members. Refer to [Biodiversity How-To Guide I](#) for more information on constructing a situation model.



Generic Situation Model

Biodiversity Focal Interests

What is this?

The **biodiversity focal interests** (BFIs, green circle) identified for wild meat-related programs are those wildlife species within your geographic scope that are hunted and/or traded for consumption in remote, peri-urban, urban, and international contexts. The species can be found in terrestrial, freshwater, and marine ecosystems. Common species or taxa targeted for wild meat include primates, turtles, pangolins, and antelopes.

How can I use this?

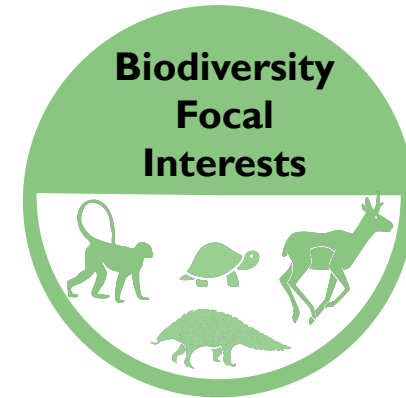
Use the species taxa listed here to help you define the species most targeted for its meat in your region. Consider how and where these species are sourced, transported, and consumed when defining the geographic scope of your program.

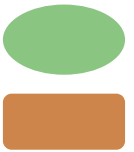
Consider this!

Extraction, transport, and consumption of wild meat species can be complex. Wild meat can be:

- *sourced and consumed within a country;*
- *sourced within a country and exported;*
- *sourced outside of a country and imported;*
- *sourced outside of a country and transported through a country en route to its final destination.*

Remember to check the endangered, threatened, or protected status of the wild meat species and their habitats.





What is this?

The **human well-being focal interests** (HWB, brown square) of the people living in and around your geographic scope are derived from the associated ecosystem services provided by healthy BFIs. These include:

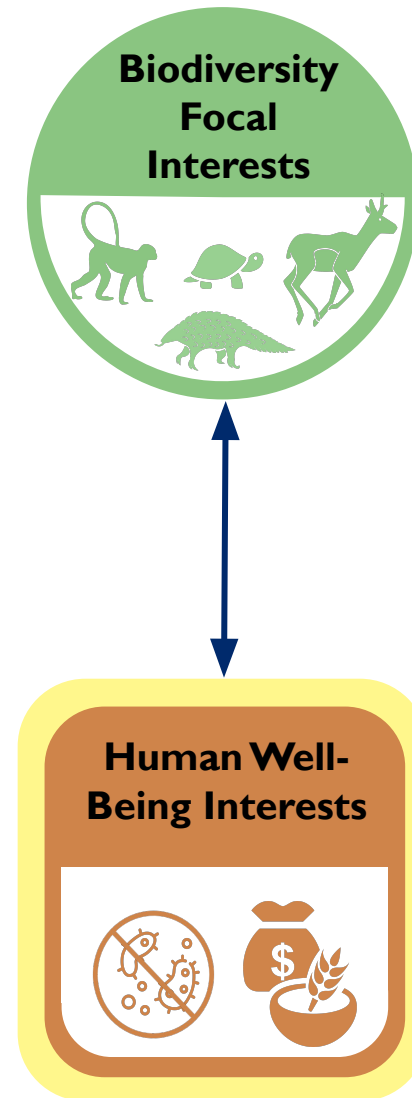
- food security and nutrition,
- household income and livelihood, and
- risks to zoonotic diseases.

How can I use this?

To identify your HWB focal interests, think about which components of human well-being are directly affected by the status of your BFIs.

Consider this!

Recent events have highlighted the global risk of zoonotic disease spillover and the many ways that people and wildlife are connected all along the wild meat value chain. Holistic approaches address not just conservation, but also nutrition, food security, human health, and livelihoods.





What is this?

The **main direct threats** (purple square) identified for focal interest species are unsustainable and illegal hunting of wild meat for:

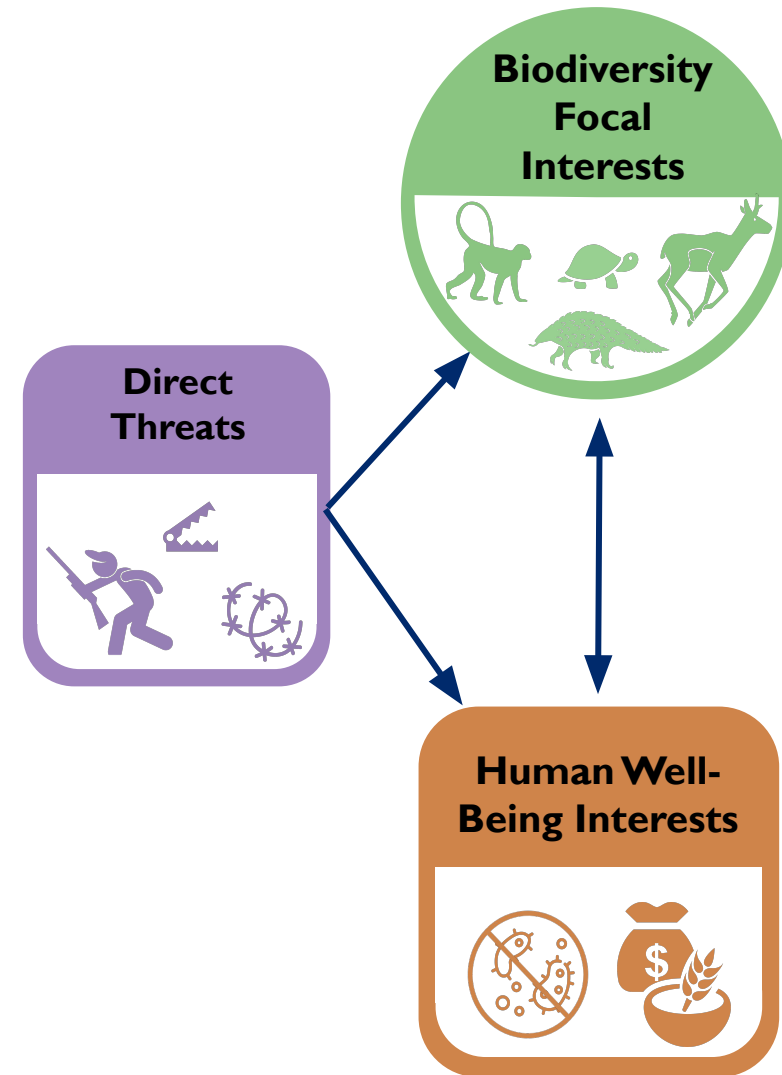
- international trade,
- commercial urban consumption, and
- subsistence-based consumption.

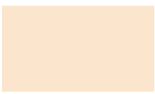
How can I use this?

Use the direct threats listed here as a prompt to assist your design team in identifying what actions are directly degrading your focal interests and adapting the situation model for a particular context. If you find you have multiple threats and want to prioritize, consider rating your direct threats using [Supplemental Guide 2: Rating Direct Threats in USAID Biodiversity Programming](#).

Consider this!

Target 5 of the Kunming-Montreal Global Biodiversity Framework states that interventions aimed at reducing wild meat consumption and trade also must “respect and protect customary sustainable use by indigenous peoples and local communities.”



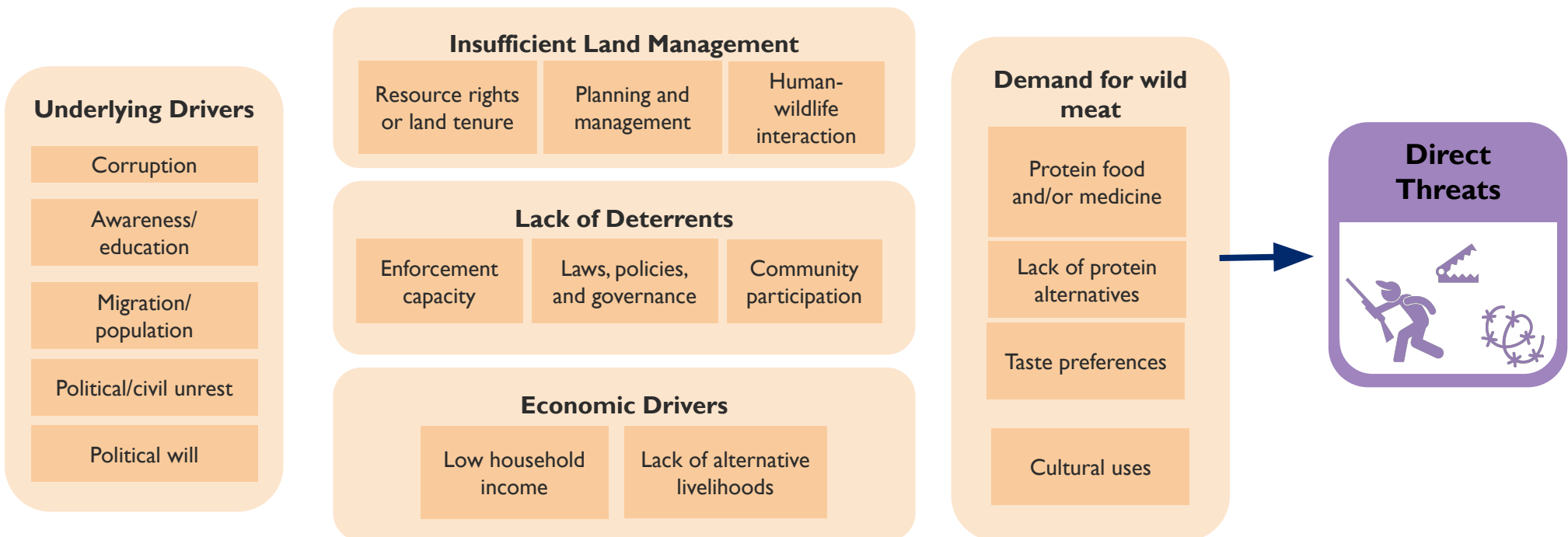


What is this?

The underlying drivers of unsustainable and illegal hunting of wild meat for trade and consumption vary significantly based on geographical context, consumer preference (taste, health, attitudes, etc.), culture, and human-wildlife conflict. In generic terms, the main drivers (orange boxes) can be grouped into five different categories in the situation model.

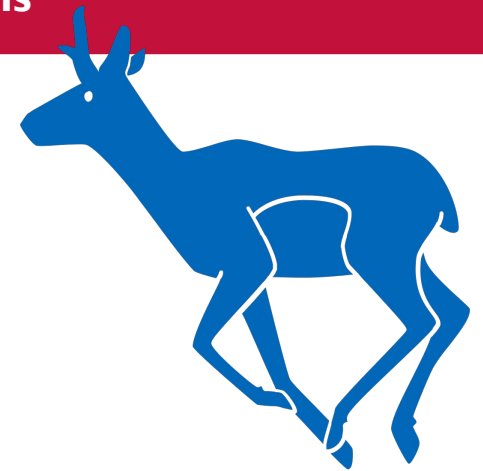
How can I use this?

Use the generic drivers identified in this section to guide you in your own problem analysis. When identifying the key drivers in your context, it will be important to think about the political context and the actors involved. Doing so will make the next steps of selecting strategic approaches more focused on what needs to change and who must be involved. Document your assumptions and evidence in relation to these drivers and its associated actors, as this will further inform any stakeholder analyses you plan to do.



Common Strategic Approaches

Identifying the Right Interventions



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Link to Drivers

Definitions



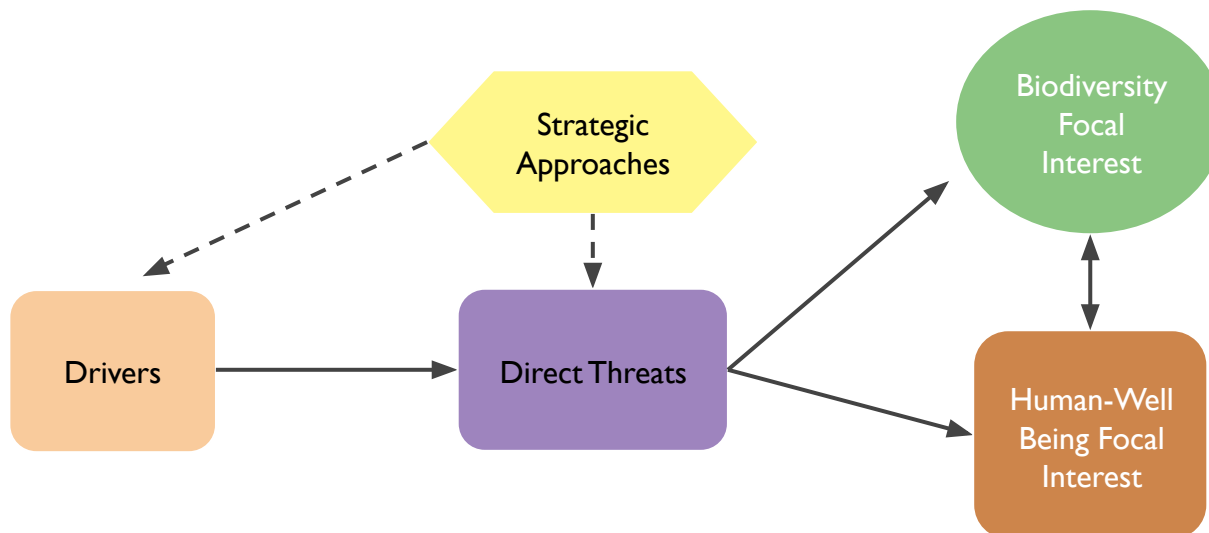


What is this?

The strategic approaches (yellow hexagons) presented in this section were derived from a literature review and an inventory of current and past biodiversity programs with an explicit focus on wild meat. In essence, these are the interventions that teams most commonly use to address the suite of drivers that lead to unsustainable and illegal hunting. In most cases, these strategic approaches also support other development goals, including food security, livelihoods, public health, and land management.

How can I use this?

Depending on the drivers that are most applicable to your context, you may wish to include the strategic approaches listed here as part of your team's discussion on leverage points and opportunities for intervention.



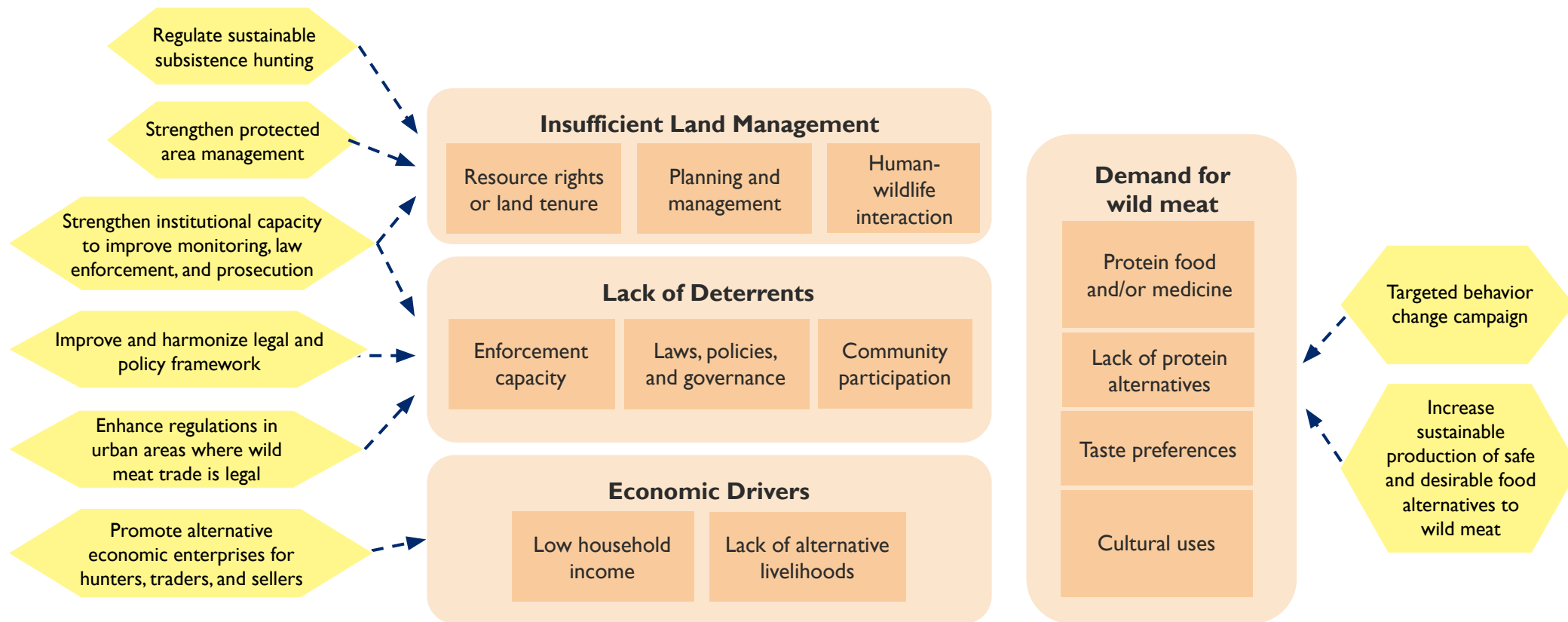
Consider this!

Remember that no single strategic approach is a “silver bullet” that can efficiently mitigate unsustainable and illegal hunting on its own. Consider a combination of strategic approaches, based on your situation model.



How can I use this?

This diagram shows the link between common strategic approaches and the main categories of drivers. To decide which strategic approaches your activity should focus on, first consider which drivers in your specific context are key leverage points your team can meaningfully influence. Once you know which drivers to target, list the relevant strategic approaches that address these drivers (as shown below). You should also consider the key actors associated with certain drivers in your situation model to select appropriate approaches to your specific context. The following slides define each strategic approach in more detail.





STRATEGIC APPROACHES

DEFINITIONS

Regulate **sustainable subsistence** hunting

Actions to set, monitor, and enforce appropriate take limits for sustainable wild meat hunting for subsistence, in conjunction with stronger protected area management

Strengthen **protected area** management

Actions to better support planning and management of protected areas in order to effectively reduce illegal hunting of protected species while maintaining sustainable resource use rights for target audiences

Strengthen **institutional capacity** to improve monitoring, law enforcement, and prosecution for **illegal** wild meat hunting and trade

Provision of financial or technical assistance to improve the capacity of local governments and law enforcement authorities to detect, prosecute, and penalize illegal wild meat hunting and trade

Improve and harmonize **legal and policy frameworks**

Development, alignment, and promotion of laws, policies, and agreements related to wild meat consumption and trade to directly reduce illegal hunting or enable other strategic approaches



STRATEGIC APPROACHES

DEFINITIONS

Enhance **regulations** in urban areas where wild meat trade is **legal**

Actions monitoring and enforcing compliance with existing regulations at all levels to ensure wild meat consumption and trade is legal and to reduce illegal and unsustainable hunting

Promote **alternative economic enterprises** for hunters, traders, and sellers

Provision of alternative economic enterprises or livelihoods to generate economic and social benefits that increase self-reliance and motivate communities to reduce wild meat hunting and trade

Targeted **behavior change** campaign

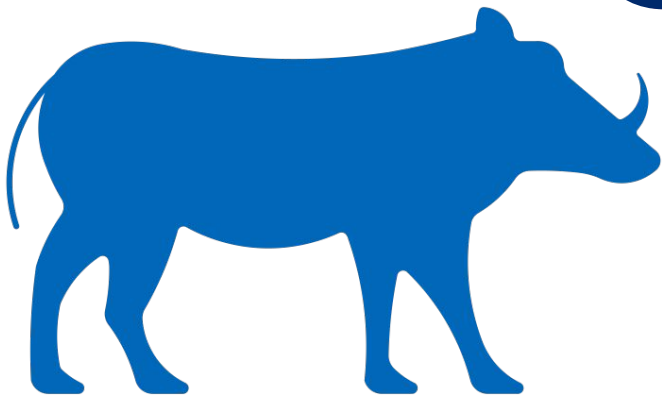
Use of social marketing and other methodologies to raise awareness and change the behavior of target audiences in the wild meat value chain (hunters, traders, consumers)

Increase sustainable production of safe and desirable **food alternatives** to wild meat

Provision of food or protein alternatives to reduce reliance on wild meat for subsistence consumption or taste preference

USAID Wild Meat Learning Group Theory of Change

Articulating Expected Outcomes and Assumptions



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Key Outcomes

Learning Questions



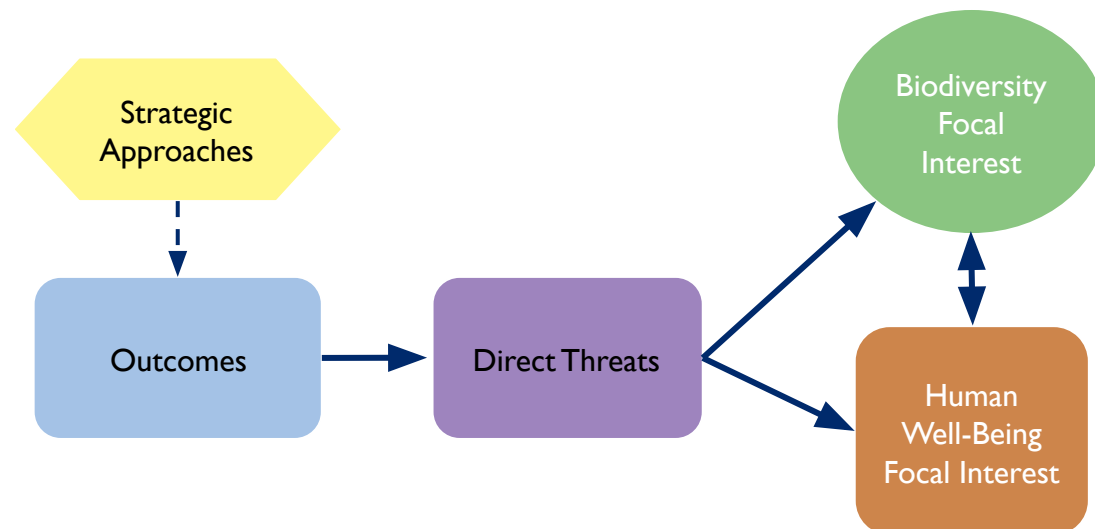
What is this?

The following slides describe the generalized, summary wild meat theory of change which was developed based on a review of USAID-funded projects, published and grey literature, and input from USAID staff. A more detailed version of this summary theory of change can be found in the [Wild Meat Learning Agenda](#).

While a situation model summarizes the context within which you are working, a theory of change outlines assumed if-then relationships that link a strategic approach (yellow hexagons) to key outcomes (blue boxes) and the final desired impact on focal interests. This generalized theory of change depicts the assumptions behind how strategic approaches (previous section) commonly employed to address wild meat issues are expected to mitigate illegal and unsustainable hunting and ultimately improve biodiversity and human well-being focal interests.

How can I use this?

Once you have selected which strategic approaches to implement, use the generalized theory of change or the [more detailed theory of change](#) as an outline for the types of outcomes you intend to achieve. Refer to the [Biodiversity How-To-Guide 2: Using Results Chains to Depict Theories of Change in USAID Biodiversity Programming](#) for more information.



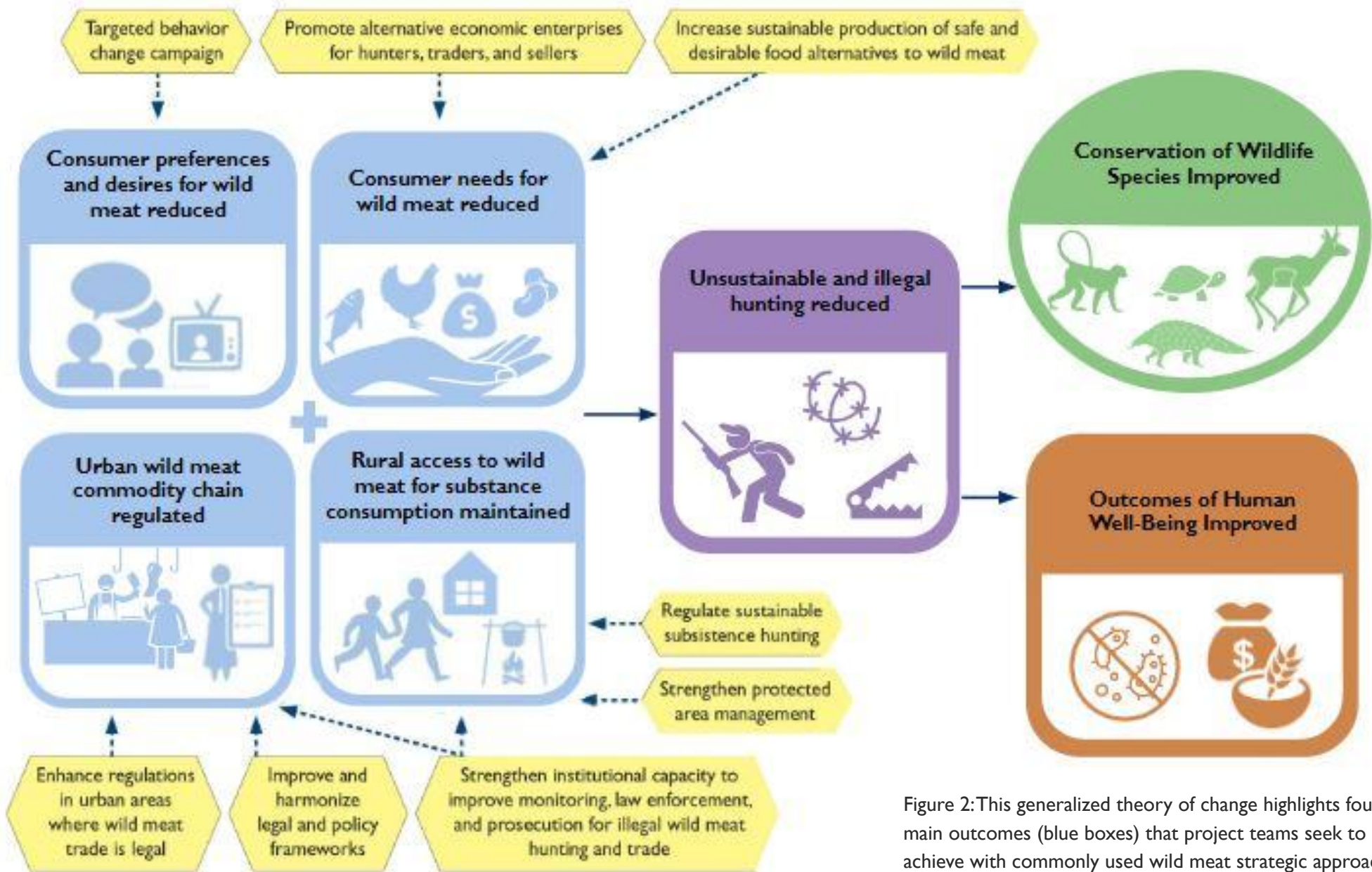


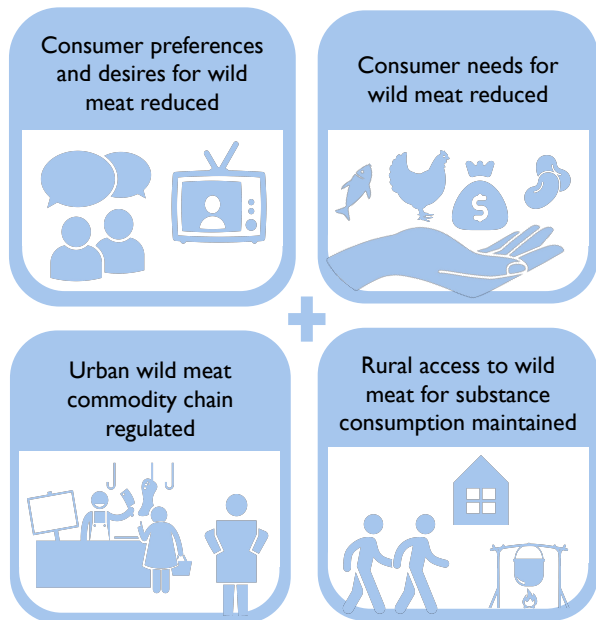
Figure 2: This generalized theory of change highlights four main outcomes (blue boxes) that project teams seek to achieve with commonly used wild meat strategic approaches (yellow hexagons), in order to improve human well-being (brown box) and wildlife conservation (green circle). [See a more detailed theory of change here.](#)

What is this?

This wild meat theory of change shows that IF four key outcomes are achieved (consumer preferences and desires for wild meat are reduced; consumer needs for wild meat are reduced; the urban wild meat commodity chain is regulated; and rural access to wild meat for subsistence consumption is maintained), THEN unsustainable and illegal hunting of wild species will be reduced, benefiting both biodiversity and human well-being. The following slides discuss the four key outcomes in more detail.

How can I use this?

As this is a high-level theory of change, it serves as a helpful starting point, which you will need to tailor and augment to clearly articulate your assumptions. To the extent possible, check where your assumptions are sound and evidence-based versus where your assumptions might be more tenuous and therefore require focused monitoring, evaluation, research, or learning.



Consider this!

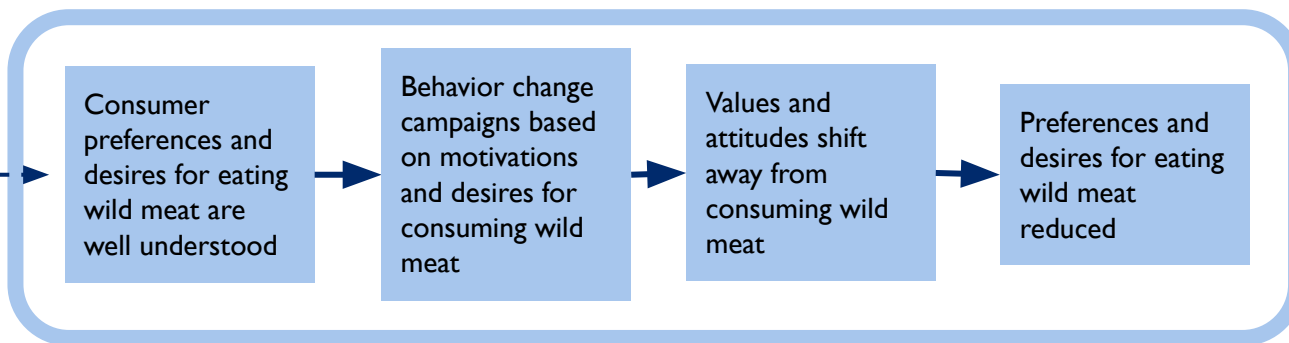
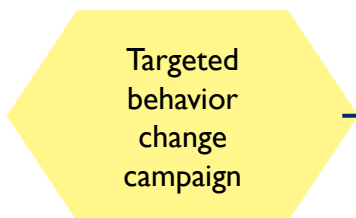
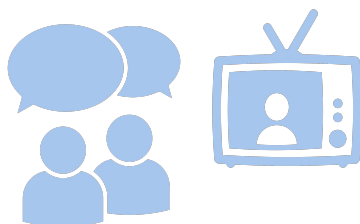
Remember that no one approach is able to achieve sustainable wild meat consumption. Consider a multi-pronged and multi-sectoral approach to holistically address wild meat issues.



What is this?

This key result of the theory of change is built out in more detail below. The preferences and desires for *non-subsistence* wild meat consumers must be well understood. This can be availability or affordability of wild meat, taste, particular species preferences including health reasons, and culture. Adopting behavior change initiatives with target consumers to shift their preference and desire for wild meat will lead to reduced sales of wild meat products and illegal hunting.

Consumer preferences and desires for wild meat reduced



Theory of Change

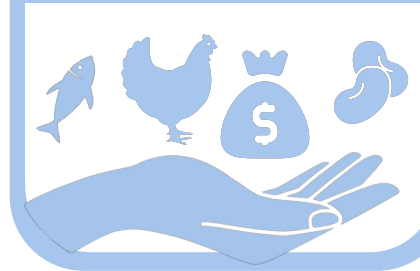
Key Outcomes: Consumer Needs



What is this?

This key result of the theory of change aims to reduce the need for local communities to rely on wild meat hunting and consumption through two strategic approaches: (1) by increasing availability of safe and desirable food alternatives to wild meat and (2) by promoting alternative conservation enterprises.

Consumer needs for wild meat reduced



Increase sustainable production of safe and desirable food alternatives to wild meat

Increase diversity and availability of desirable food alternatives to wild meat

Alternatives to wild meat become more affordable than wild meat

Access to safe, affordable, and tasty alternatives to wild meat improved

Less reliance on wild meat for food security

Promote alternative economic enterprises for hunters, traders, and sellers

Sustainable protein-based enterprises identified and established with local communities

Sustainable agriculture and access to markets improved

Sustainable harvesting of non-timber forest products (e.g. beekeeping) improved

Increase income generated from alternative enterprises

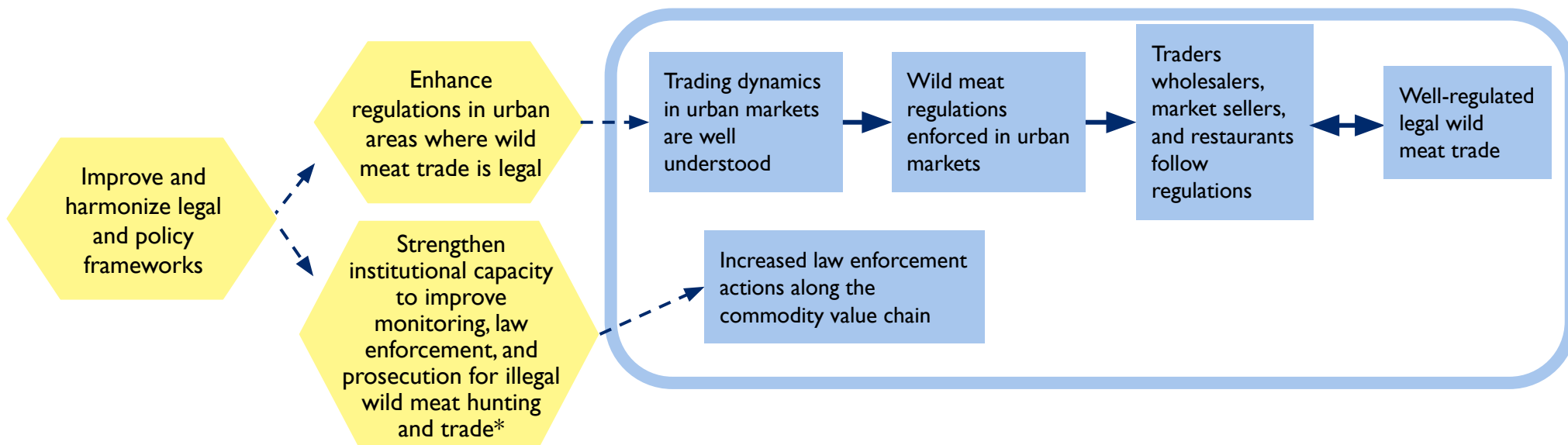
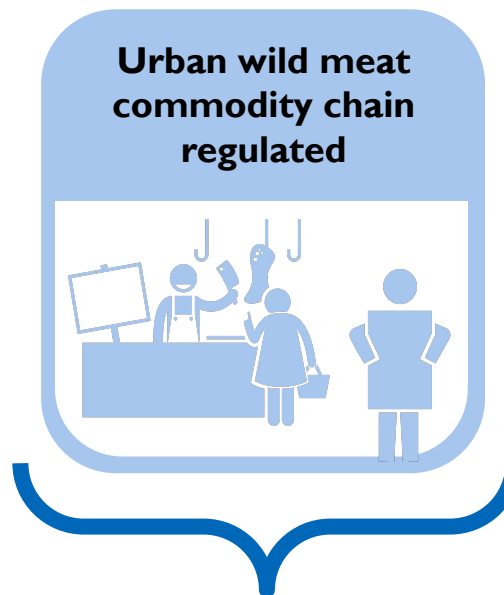
Less reliance on wild meat hunting for income





What is this?

This key result of the theory of change is built out in more detail below. Improving legal and policy frameworks to enhance regulations of wild meat commodity chain through strong institutional capacity and effective enforcement actions is expected to reduce the wild meat hunting and trade, as well as risks to emergence of zoonotic diseases.



* Indicates Strategic Approach associated with two key outcomes

Theory of Change

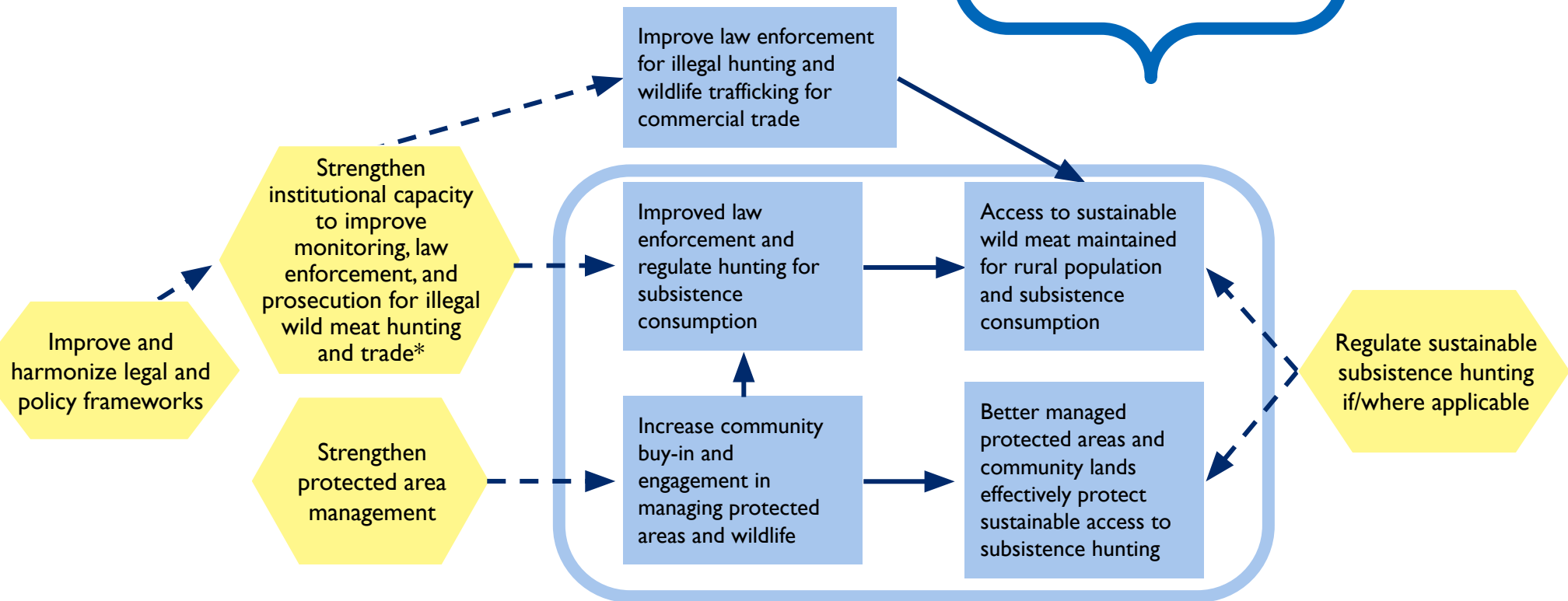
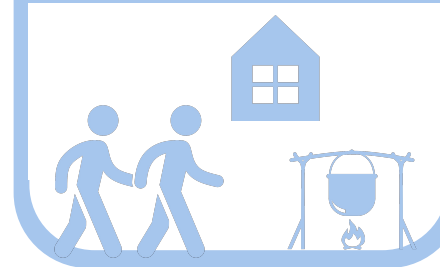
Key Outcomes: Rural Access



What is this?

In addition to achieving the three above outcomes, strengthening community participation and management in protected areas by regulating sustainable subsistence hunting will help ensure that local vulnerable communities still have access to wild meat resources for nutrition and cultures. This is also expected to prevent illegal and unsustainable huntings from outside communities.

Rural access to wild meat for substance consumption maintained



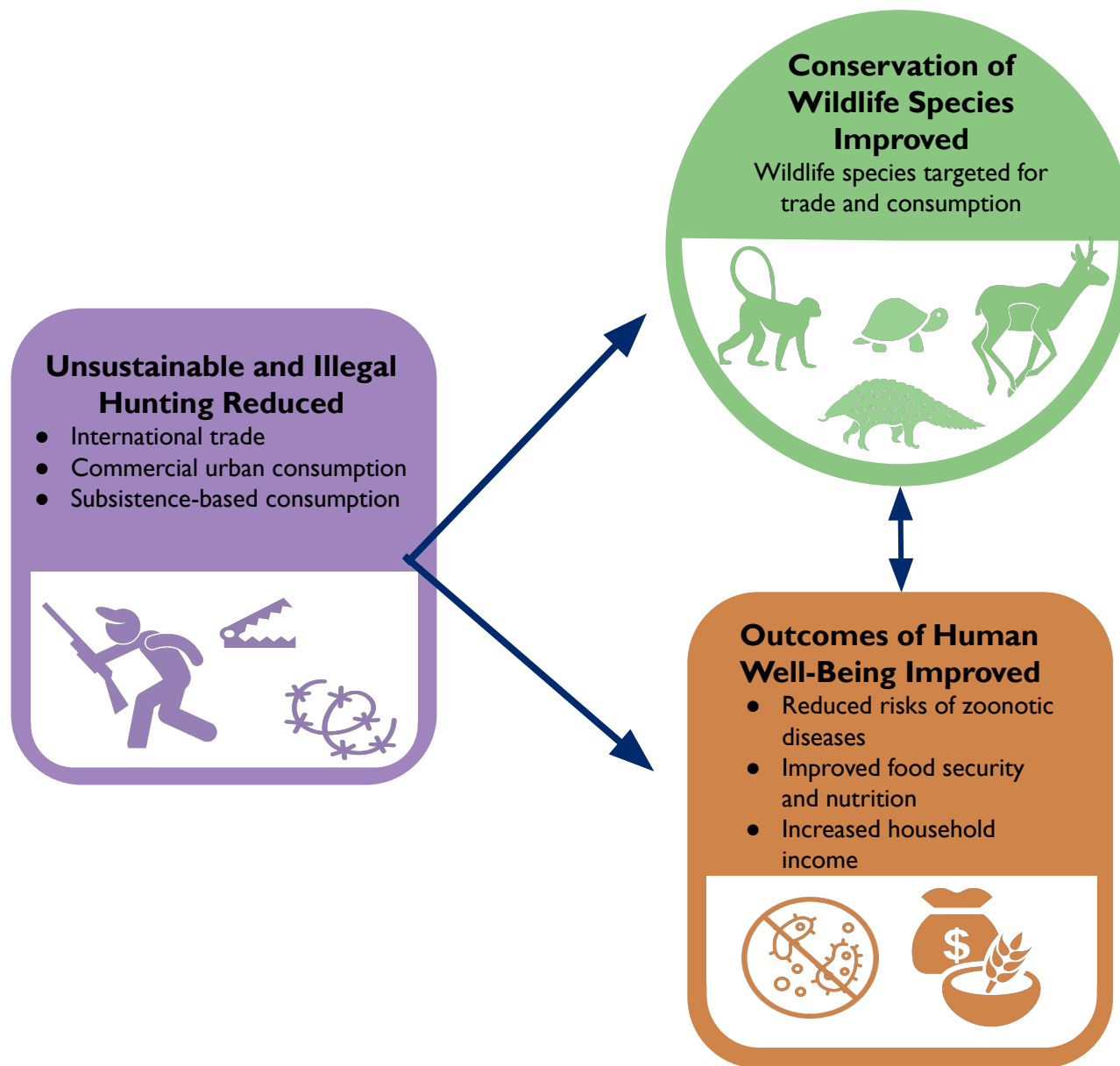
* Indicates Strategic Approach associated with two key outcomes





What is this?

The combination of the four key outcomes and associated strategic approaches is expected to reduce the direct threat of unsustainable and illegal hunting, ultimately leading to the conservation of wildlife species commonly targeted for trade and consumption and improved human well-being.





What is this?

The theory of change and its associated learning questions are a framework to help teams plan for, learn about, and adapt their wild meat, health, and food security programming.





The learning questions focus on four main outcomes and the relationships between the expected reductions in threat and the ultimate outcomes in biodiversity conservation and improved well-being interests.

The learning questions were developed through consultation with the Wild Meat Learning Group members and map to the generic theory of change. They are the basis of the learning activities carried out by the Wild Meat Learning Group.

How can I use this?

Use these questions to examine the assumptions and gather evidence on whether the chosen strategic approach is achieving the desired outcomes. Next, analyze the context, test these assumptions, and define and track the expected results. This will help you plan, learn about, and adjust your wild meat program effectively.



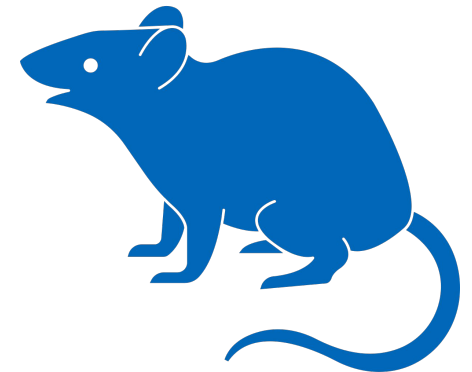
Main Outcomes	Learning Questions	Main Outcomes	Learning Questions
<p>Consumer preferences and desires for wild meat reduced</p> 	<p>LQ1a: What are the <u>barriers and incentives</u> that motivate urban, peri-urban, and non-subsistence demand for and consumption of wild meat?</p> <p>LQ1b: What <u>behavior change approaches</u> are effective in overcoming barriers or leveraging incentives for changing wild meat demand and consumption behavior?</p>	<p>Consumer needs for wild meat reduced</p> 	<p>LQ2: How effective is <u>alternative protein substitution</u> for subsistence-level consumption of wild meat?</p>
<p>Urban wild meat commodity chain regulated</p> 	<p>LQ3a: Where wild meat sales are legal, how effectively are <u>regulations</u> monitored and enforced?</p> <p>LQ3b: How effective are <u>regulations</u> at reducing illegal and unsustainable sale of wildlife?</p>	<p>Rural access to wild meat for subsistence consumption maintained</p> 	<p>LQ4: What <u>management systems</u> for land and protected areas can support sustainable subsistence hunting for local communities without contributing to commercial hunting?</p>



Main Outcomes	Learning Questions
<div data-bbox="241 391 533 662"> <p>Direct Threats</p> </div> <div data-bbox="231 711 543 1024"> <p>Biodiversity Focal Interests</p> </div> <div data-bbox="241 1065 533 1360"> <p>Human Well-Being Interests</p> </div>	<p>LQ5: Where are the <i>synergies</i> between wild meat interventions and those focused on zoonotic disease, food security, and household income in USAID programming?</p> <hr/> <p>LQ6: What combination, if any, of <i>strategic approaches</i> are effective in achieving threat reduction and improving human well-being, and under what conditions?</p>

Recommended Indicators

Monitoring Progress and Effectiveness





What is this?

This section presents a **menu of recommended indicators** across each outcome in the generalized Wild Meat theory of change and the biodiversity and human well being focal interests. The indicators can be used to develop the Activity Monitoring, Evaluation, and Learning (MERL) Plan. The indicators in this toolkit are intended to be used to standardize reporting for for wild meat activities or those with a wild meat component.

Refer to the [USAID Monitoring Toolkit](#) for information on [Selecting Performance Indicators](#) and monitoring approaches.

How can I use this?

A theory of change monitoring approach facilitates the identification of indicators to track activity results beyond just outputs, but before activity impact. You should choose indicators based on the activity theory of change. The indicators in this section are generalized indicators and should be adapted to reflect the context of the activity, such as specific species or landscapes.

You are not expected to use all of the indicators in this section, but should select the indicators that are relevant to your activity theory of change. Additionally, there might be activity-specific outcomes or cross-cutting priorities such as gender, youth, or indigenous peoples engagement, not included in this toolkit and you should include additional indicators as needed.



The Wild Meat Learning Group initially created a bank of over 100 indicators from various sources, including USAID activities, and mapped those indicators to the results in the generic theory of change. Looking across the set of indicators for each result, we grouped and created a generic versions of the indicators that are applicable to a large range of activities working in wild meat. For example, percent of the population believing that shark fins grow back became percent of target population who demonstrate knowledge of the messages on the negative impact of wild meat consumption or trade.

This curated list of generic indicators was shared with a group of cross-sectoral experts from USAID (Global Health, Humanitarian Assistance, and Resilience, Environment, and Food Security Bureaus), other U.S. Government agencies, and other organizations involved in wild meat issues to fill in gaps, and determine the menu of recommended indicators presented in this toolkit.

Many of the indicators in this toolkit are adapted from several sources to create a generalized indicator or pulled directly from the source listed. If you choose to use an indicator, we suggest exploring the linked source because it may provide additional information such as how to tailor it to your activity or collect data for the indicator.



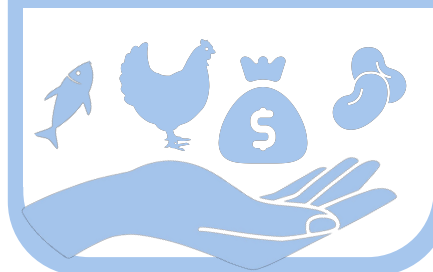
Consumer preferences and desires for wild meat reduced

Outcomes	Potential Indicators
1. Consumer preferences and desires for eating wild meat are well understood	Rate/frequency of consumption of wild meat species among target population (USAID HEARTH Monitoring & Evaluation Toolkit)
2. Behavior change campaigns based on motivations and desires for consuming wild meat	Number and distribution of behavior change messages on the negative impacts of wild meat consumption/trade (USAID Cambodia Green Future MEL Plan)
	Percent of target population receiving behavior change messages on the negative impacts of wild meat consumption/trade (USAID Combating Wildlife Crime Toolkit)
3. Values and attitudes shift away from consuming wild meat	Percent of target population with attitudes/beliefs consistent with behavior change messages on the negative impacts of wild meat consumption/trade (USAID Cambodia Green Future MEL Plan)
	Percent of target population who understand/demonstrate knowledge of the messages on the negative impacts of wild meat consumption/trade (USAID Summary of Indicators for CWT)
4. Preferences and desires for eating wild meat reduced	Percent of target population who report using the messages to inform their practices (USAID Cambodia Green Future MEL Plan)
	Percent of target population who uses desired practices regarding wild meat consumption or trade (USFWS Standard Measures)
	Frequency of wild meat consumption by target audience



Increase sustainable production of safe and desirable food alternatives to wild meat

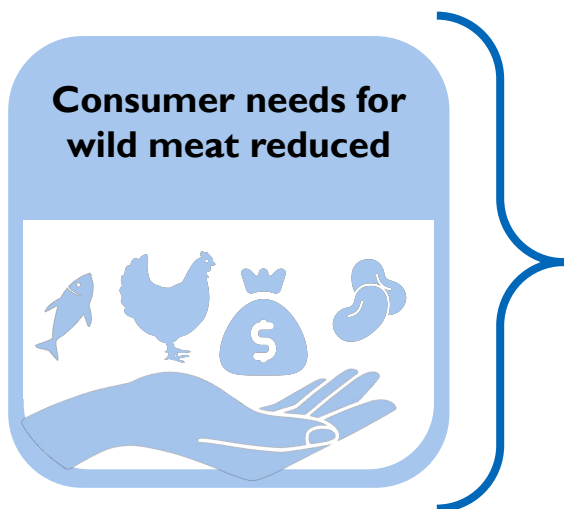
Consumer needs for wild meat reduced



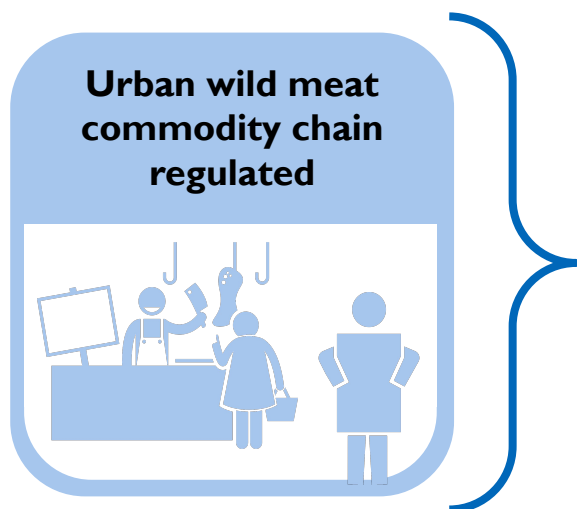
Outcomes	Potential Indicators
1. Increased diversity and availability of desirable food alternatives to wild meat	Percent of local markets that sell foods (e.g., protein sources) that are considered viable alternatives to wild meat (expert input)
	Mean number of desirable wild meat alternatives available at local markets (expert input)
2. Alternatives to wild meat become more affordable than wild meat	Average price ratio in local markets of wild meat to wild meat alternatives (expert input)
3. Access to safe, affordable, and tasty alternatives to wild meat improved	Percent of target population consuming high-risk wild meat in the past year (HEARTH Monitoring & Evaluation Toolkit)
4. Less reliance on wild meat for food security	Percentage of target population reporting good access to farmed meat (expert input)
	Percentage of women of reproductive age consuming a diet of minimum diversity (MDD-W) (HEARTH Monitoring & Evaluation Toolkit)



Outcomes	Potential Indicators
1. Sustainable protein-based enterprises identified and established with local communities	Number of sustainable protein-based enterprises established with local communities
	Percent of enterprise population practicing desired conservation behaviors (e.g, consuming or selling alternative protein) (USAID's A Framework for Monitoring, Evaluating, and Learning from Conservation Enterprises)
2. Sustainable agriculture and access to markets improved	Number of agricultural hectares under improved management practices or technologies (USAID Standard Indicator EG 3.2-25)
	Percent of households participating in farmer groups for sustainable alternatives (HEARTH toolkit)
3. Sustainable harvesting of non-timber forest products (e.g., beekeeping) improved	Number of hectares of biologically significant areas under improved natural resource management as a result of USG assistance (USAID Standard Indicator EG 10.2-2)
4. Increased income generated from alternative enterprises	Average percent change in earnings following participation in USG-assisted alternative enterprises programs (Adapted Standard Foreign Assistance indicator EG. 6-11)
	Average household income from environment products (CIFOR Measuring forest and wild product contributions to household welfare: Testing a scalable household survey instrument in Indonesia)
5. Less reliance on wild meat hunting for income	Percent of income from hunting, wild meat trade (expert input)
	Percent of target population with positive attitudes and practices on wild meat consumption/trade (expert input)



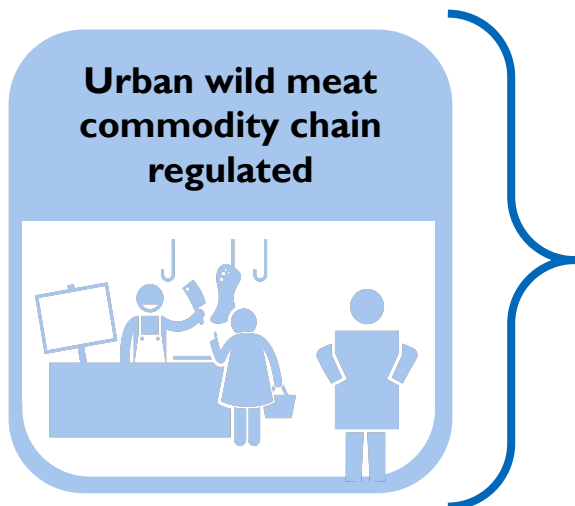
Promote alternative economic enterprises for hunters, traders, and sellers



Consider this!

Many of these indicators can also help measure outcomes related to rural access. Indicators with an asterisk (*) can be used in commodity chain and rural access outcomes.

Outcomes	Potential Indicators
1. Trading dynamics in urban markets are well understood	Number and percent of legal efforts to enforce wild meat related regulations that are undermined by corruption (USFWS Standard Measures)
	Direct measure of illegal or unsustainable hunting (For more specific indicators see WILDMEAT Ecological Indicators Toolkit)
	Measure of public commitments made by policy makers to better regulation of wild meat consumption and trade (CI Hunting to Extinction Final Project Completion Report)
2. Wild meat regulations enforced in urban markets	Number and percent of data-based recommendations for more sustainable wild meat consumption and trade that are adopted* (USFWS Standard Measures)
	Number of policies and regulations that are established or improved in support of sustainable wild meat consumption and trade (CI Hunting to Extinction Final Project Completion Report)
	Number and percent of instances where evidence of large-scale wildlife trafficking is admitted for court use (USFWS Standard Measures)
	Percent of patrols adequately trained, equipped, and operating as scheduled (USFWS Standard Measures)



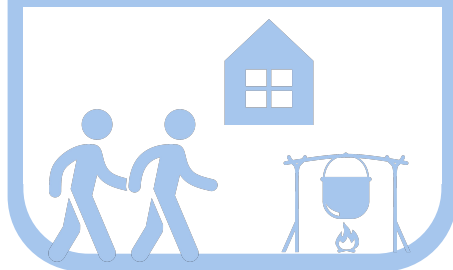
Consider this!

Many of these indicators can also help measure outcomes related to rural access. Indicators with an asterisk (*) can be used in commodity chain and rural access outcomes.

Outcomes	Potential Indicators
2. (Cont.) Wild meat regulations enforced in urban markets	Number and percent of wildlife traffickers who have been arrested that are successfully prosecuted, appropriately sentenced, and serve or complete jail terms and/or pay fines (<u>USFWS Standard Measures</u>)
	Number of CITES species encountered in markets
	Number of arrests of large-scale wildlife traffickers resulting from project's investigations and/or operations support (<u>USFWS Standard Measures</u>)*
3. Traders wholesalers, market sellers, and restaurants follow regulations	Number and percent of individuals selected that complete training (<u>USFWS Standard Measures</u>)*
	Number and percent of trainees that demonstrate desired knowledge, skills, and attitudes*
	Number and percent of trainees successfully carrying out desired practices at least once to appropriate problems (<u>USFWS Standard Measures</u>) *
4. Well-regulated legal wild meat trade	Number and percent of legal vendors following relevant food safety rules Percent of households consuming high-risk wild meat in the past week (<u>HEARTH toolkit</u>)



Rural access to wild meat for substance consumption maintained



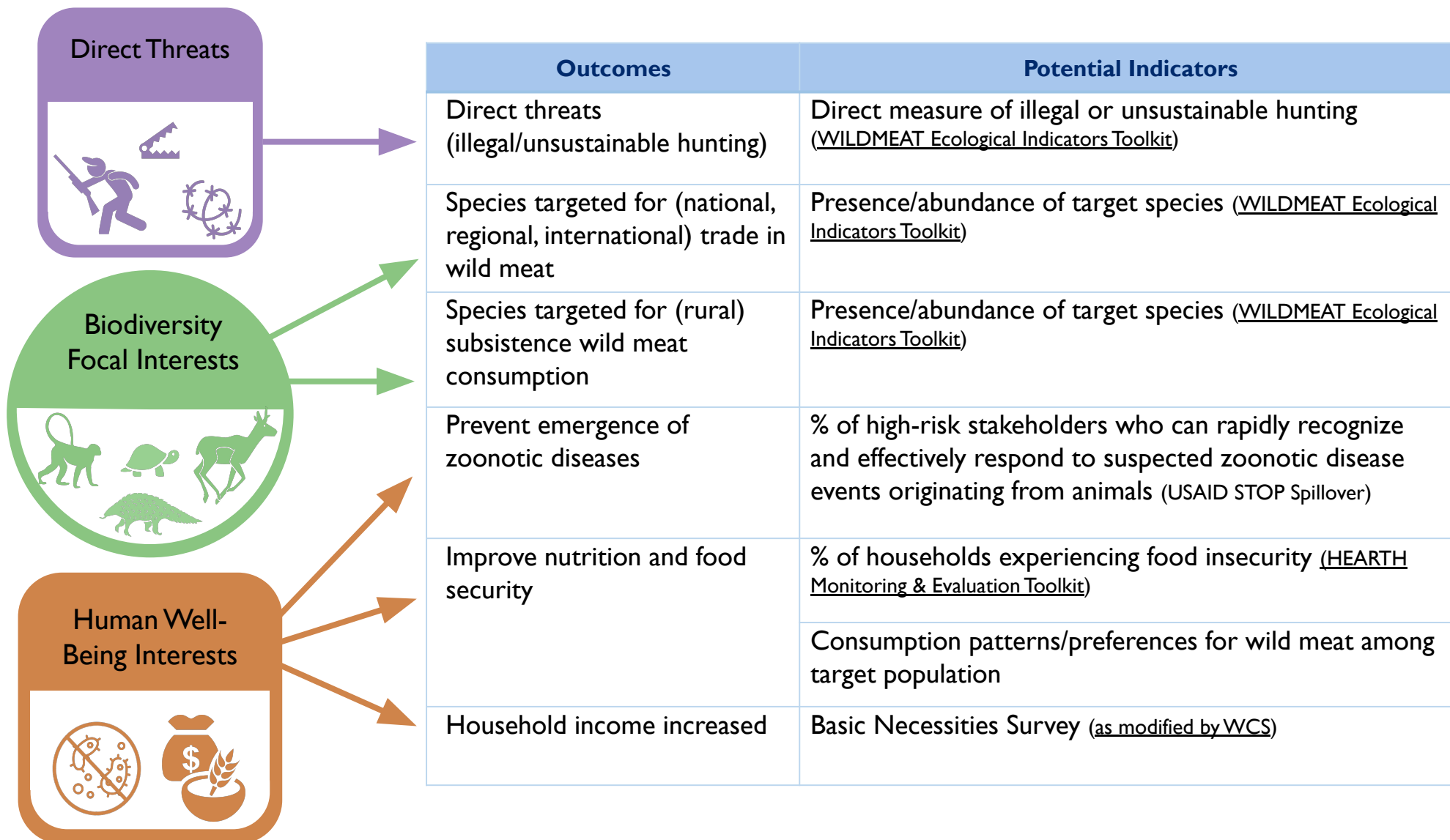
Consider this!

Many of these indicators can also help measure outcomes related to commodity chains. Indicators with an asterisk () can be used in commodity chain and rural access outcomes.*

Outcomes	Potential Indicators
1. Improved law enforcement for illegal hunting and wildlife trafficking for commercial trade	Percent and number of needed reforms, laws, and policies that are implemented
2. Improved law enforcement and regulated hunting for subsistence consumption	Number of monitoring tools that are in place
	Number of skilled personnel in enforcement
	Number and type of species seized
3. Access to sustainable wild meat maintained for rural population subsistence consumption	Percent of actions to maintain rural access to wild meat for subsistence hunting that are being implemented
	Direct measure of illegal or unsustainable hunting (<u>WILDMEAT Ecological Indicators Toolkit</u>)
4. Increased community buy-in and engagement in managing protected areas and wildlife	Extent of involvement of traditional/local authorities in the enforcement of wildlife conservation laws and regulations*
5. Better managed protected areas and community lands effectively protect sustainable access to subsistence hunting	Percent of funds needed for effective protected area management obtained by protected area authority
	Percent of protected area boundary that is appropriately marked or delineated
	Number and type (e.g., species restrictions, harvest limits, etc) of provisions for rural access to wild meat for subsistence use in protected area management

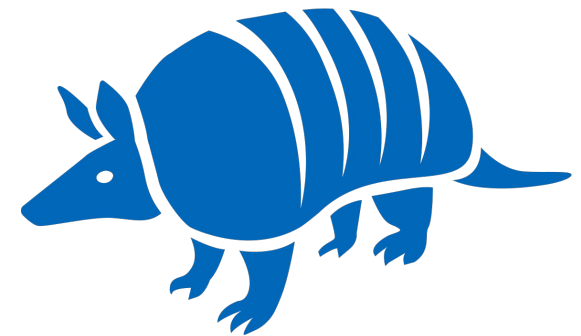
Recommended Indicators

Impact: Direct Threats and Focal Interests



Emerging Lessons Learned

Emerging Lessons from the Wild Meat Learning Group



About

Consumer focused

Urban and Rural

Cross-Cutting





What is this?

This section outlines the lessons learned over the past few years by the Wild Meat Learning Group. These insights have been gathered from various sources, including webinars, case studies, and the Wild Meat Learning Exchange. The lessons are organized according to each question in the [Wild Meat Learning Agenda](#).

How can I use this?

By applying these lessons, you can adjust your strategies to better fit your specific context, anticipate potential challenges, and improve the effectiveness of your initiatives. This ensures that past experiences shape current practices, leading to more informed decisions and better outcomes. For example, when designing a new activity or modifying an existing one, use the lessons learned to choose appropriate strategic approaches and identify relevant indicators.

Additionally, share your own lessons learned with the Wild Meat Learning Group to contribute to the collective evidence base.





LQ 1a: What are the barriers and incentives that motivate urban, peri-urban, and non-subsistence demand for and consumption of wild meat?

- **Taste is the most commonly cited reason to consume wild meat.**
 - Research across Nigeria, Cameroon, the Democratic Republic of Congo, Vietnam, and Thailand all found taste as a primary driver for consumption. [[Wild Meat Compilation](#)]
 - An urban consumer study in Vietnam showed that while taste was frequently noted as the reason that consumers ate wild meat, nearly half of those surveyed rated their wild meat meals as only “okay.” Interventions that provide more satisfying alternatives may help shift consumers away from wild meat. [[Alegria, et al., 2021](#); [Webinar: Consumers in Ho Chi Minh City](#)]
- **Wild meat is often not a government priority, so it can be difficult for projects to engage government colleagues and to get their buy-in.**
 - Governments are accustomed to priorities of countering wildlife trafficking to protect high-value species and do not prioritize species that are commonly consumed, such as ungulates and rodents. [[Case study: CONNECT](#)]
 - Careful messaging around wild meat is critical for ensuring government engagement. In East Africa, USAID partners emphasized the alarming extraction rates of species such as zebra, giraffe, and marine species and the urgent attention needed to conserve them. In addition, the project targeted “kingpins” along the wild meat value chain rather than local-level subsistence hunters. [[Case study: CONNECT](#)]



LQ1b: What behavior change approaches are effective in overcoming barriers or leveraging incentives for changing wild meat demand and consumption behavior?

- **Understanding audiences and their motivations is essential.**
 - In Cambodia, people who were aware that wild meat consumption has a negative impact on the environment did not change their consumption habits. Additionally, they did not perceive that consumption was illegal, though they thought that poachers, sellers, and restaurant owners were breaking the law. [Case study: Cambodia Green Future]
 - Selecting the right messenger can significantly expand a campaign's reach. Effective messengers (e.g., religious leaders, celebrities, government leaders) must be respected and influential among the target audience. [Wild Meat Learning Exchange]
 - Messages must target decision-makers. In urban areas, men often decide where to dine, but in rural areas, women typically make decisions about meals. Messaging should align with their needs and values. [Webinar: Consumers in Ho Chi Minh City]
 - Successful messages linking wild meat to zoonotic disease spillover and other human health risks may be challenging. Individuals vary in their acceptance of these links. Where consumers perceived wild meat to be healthier than domestic meat, messages about health risks are not credible. Tailoring messages to address these varying perceptions is key. [Wild Meat Compilation; Webinar: Poultry Production Northern Republic of Congo]



LQ1b (cont.): What behavior change approaches are effective in overcoming barriers or leveraging incentives for changing wild meat demand and consumption behavior?

- **Multi-pronged social and behavior change approaches that reach many audiences are more likely to be effective.**
 - Multi-pronged social and behavior change approaches that reach many audiences are more likely to be effective. [Wild Meat Learning Exchange]
 - Comprehensive social and behavior change strategies require a multi-faceted approach that effectively engages diverse audiences. A single intervention, such as a radio campaign, is often insufficient to reach a broad audience. Human-centered approaches can help ensure that messages and delivery methods resonate with the target audience. [Case studies: CONNECT and Cambodia Green Future]
 - The USAID CONNECT activity engaged journalists and media organizations to amplify their message. Engaging journalists through workshops and other capacity-building activities enhanced the journalists' understanding of wild meat issues, and empowered journalists to continue to write articles on wild meat well into the future. [Case study: CONNECT]



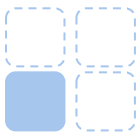
LQ2: How effective is alternative protein substitution for subsistence-level consumption of wild meat?

- **Alternative protein substitution efforts should be informed by understanding audiences and essential needs:**
 - Alternatives should offer comparable or superior **dietary and nutritional benefits**. Consider factors such as seasonal availability, protein content, iron levels, and vitamin B12 content. [[Webinar: Why eat wild meat](#), [Webinar: Importance of Wild Meat and Fish for Children's Nutritional Intake in the Congo Basin](#)]
 - People's food choices are often influenced by sensory factors like **taste, smell, and appearance**. Alternatives should align with preferences to encourage adoption and acceptance within communities. [[Wild Meat Compilation](#), [Webinar: Why eat wild meat](#)]
 - Long-term sustainability of alternatives must consider financial and labor costs (both production and purchasing) as compared to wild meat. **Alternatives have to be easy to produce and affordable to purchase**. [[Wild Meat Learning Exchange](#)]
- **Pairing alternative protein production with complementary services can enhance its effectiveness.**
 - Replacing wild meat with alternative proteins requires a holistic approach. In Congo, a poultry production activity identified needed complementary services such as support for feed production, veterinary services, and access to banking/loan services for aspiring producers. [[Case study: Soso Pona Moto Nyonso](#)]



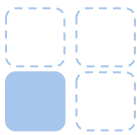
LQ2 (cont.): How effective is alternative protein substitution for subsistence-level consumption of wild meat?

- Small scale operations may supply additional income for a few people, but replacing wild meat in diets will require models that can **scale up**. [Wild Meat Learning Exchange]
- **Follow-up** with alternative protein projects is needed to better understand long-term sustainability following the end of funding support. [Wild Meat Learning Exchange]
- In communities whose nutritional needs are met by alternative protein, **law enforcement for protected areas and species** can deter unsustainable offtake for the urban, commercial trade. [Wild Meat Learning Exchange]
- Multiple actors must **collaborate and coordinate** for effective alternatives to gain in market share, particularly to ensure that different actors are not working at cross-purposes. [Wild Meat Learning Exchange]



LQ3a: Where wild meat sales are legal, how effectively are regulations monitored and enforced?

- **Traceability and legality verification of wild meat are challenges for effective monitoring.** Determining the legal origin of wild meat can be daunting once it is no longer in the hunter's possession. After butchering, it becomes increasingly challenging to identify the species of meat in markets. Without clear species and origin identification, monitoring and law enforcement efforts are hampered. [Case studies: [Wildlife TRAPS Vietnam](#) and [Tuhifadhi Maliasili](#), [Webinar: Wild Meat and One Health](#)]
- **Good data is essential.** This includes data on wildlife populations, the health of protected areas, dietary and nutritional needs of communities, and the health risks along the wildlife value chain. [Wild Meat Learning Exchange]
- **Good governance of natural resources** is critical to success of regulations and effective enforcement. Political will for shifting demand away from unsustainable offtake may be present at some levels of government and not at others. [Wild Meat Learning Exchange]



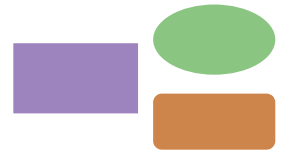
LQ3b: How effective are regulations at reducing illegal and unsustainable sale of wildlife?

- **Regulations must be enforced to be meaningful. Without appropriate training, human resources, and funding to carry out enforcement, regulations alone are unlikely to be successful.**
 - Legalization of wild meat has been found to increase illegal offtake in Tanzania. [Case study: Tuhifadhi Maliasili]
 - TRAFFIC found that at least 70% of the respondents acknowledged that the established game meat selling points could increase poaching if the game meat supply is not well-managed. [Case study: Wildlife TRAPS Tanzania]
- Because borders are often porous, enforcement of wildlife laws must be transboundary to be impactful. [Wild Meat Learning Exchange]



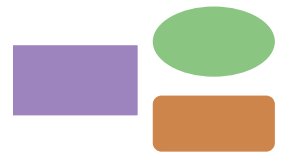
LQ4: What management systems for land and protected areas can support sustainable subsistence hunting for local communities without contributing to commercial hunting?

- **Key conditions are necessary for a sustainable, legal trade** including
 - Good governance and existing laws to regulate trade.
 - Good data on wildlife populations and transparent hunting quota setting systems.
 - Well-functioning monitoring and enforcement systems along the wildlife value chain.
 - Potential profits from legal, sustainable systems must be higher than those from hunting and/or selling illegal wild meat.
- **Communities play critical roles.**
 - Meaningful community engagement in project design and data collection aligns conservation efforts with the specific needs and aspirations of the communities involved, fostering a sense of ownership and cooperation. [[Webinar: Sustainable Wildlife Management; Case Study: Zambia Luangwa Livelihood and Conservation Activity](#)]
 - Community hunter associations empower communities to actively participate in data collection and management. [[Webinar: Sustainable Wildlife Management](#)]
- **Research suggests that some communities prefer household-level projects.** This is due to community-level conflict, family trust issues, distrust of NGOs, and historically poor benefit sharing. [[Webinar: Why eat wild meat](#)]
- **Local subsistence use can be entangled with commercial sale, and separating commercial trade from subsistence can be complex.** [Wild Meat Learning Exchange]



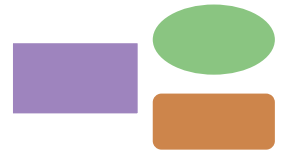
LQ5: Where are the synergies between wild meat interventions and those focused on zoonotic disease, food security, and household income in USAID programming?

- **Dually address food and income.** Wild meat is often a source of income as well as a food source. Research with communities around the Dja Faunal Reserve in Cameroon suggested that alternative protein is more likely to reduce wild meat consumption and sales when projects addressed food security and household income. [[Webinar: Why eat wild meat](#)]
- **Collaboration and coordination across institutions and sectors can be beneficial, especially in a resource-constrained environment. This includes:**
 - Information sharing to bridge critical data gaps across stakeholders and decision-makers.
 - Optimizing resource use to avoid duplication, address gaps, and maximizing the impact of initiatives. [[Case studies: Wildlife TRAPS Tanzania and Wildlife TRAPS Vietnam](#)]
 - Understand and address jurisdictional issues, such as different government ministries responsible for wildlife and environment, food safety, public health, economic growth, and transportation. [[Case study: Wildlife TRAPS Vietnam](#)]
 - Collaboration across sectors requires time, effort, and good communication. [[Wild Meat Learning Exchange](#)]



LQ5 (cont.): Where are the synergies between wild meat interventions and those focused on zoonotic disease, food security, and household income in USAID programming?

- Recent events have brought global attention to the linkages between wild meat markets and zoonotic disease spillover, but interventions that focus solely on closing markets ignores **potential spillover risks along the entire value chain, from source to consumer.** [Wild Meat Learning Exchange]
 - Messaging regarding zoonotic diseases and wild meat trade should not vilify wildlife hosts/reservoirs (e.g. bats).
 - Messages to target audiences should address audience concerns. Global risk of zoonotic diseases may not be an effective message for local behavior change.
 - Health workers and conservationists can collaborate for prevention of disease risks, not just response. Health workers are often trusted sources for information and may be able to convey conservation messages also.
- **Climate change** is a factor that is influencing wildlife migration and movements and has important health and zoonotic disease implications. [Wild Meat Learning Exchange]



LQ6: What combination of strategic approaches are effective in reducing unsustainable and illegal hunting and under what conditions?

No single strategic approach can shift all of the factors underpinning unsustainable demand for wild meat. The following factors were identified by the Wild Meat Learning Exchange as fundamental to successful efforts:

- **Understanding the local context:** activities must be customized rather than one-size-fits-all solutions. The local context includes demographics, governance, economies, ecology, incentives and barriers to change, and local beliefs and culture.
- **Governance** of natural resources, land tenure, protected area management, and law enforcement are critical factors for enabling environments for change.
- **Building a constituency for conservation and biodiversity**, to include support for community resource rights and/or ownership, education and sensitization, support for appropriate behavior change, and meaningful inclusion of marginalized peoples and youth. Both government leadership and community buy-in are necessary for such a constituency.
- **Supporting environmentally sustainable rural economies**, with attention to the needs of people living in and around protected areas. This includes access to employment opportunities and alternative livelihoods. Connecting to private sector alternatives to wild meat is also important
- **Collecting and sharing evidence** on wildlife, rural economies, food safety and security, and public health can reinforce the above efforts and contribute to long-term support for shifts away from wild meat.

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