PEOPLE in NATURE

WORKING PAPER #7

# A PROPOSAL FOR ASSESSING SPECIES BENEFITS AT A LANDSCAPE SCALE

## AND AGGREGATING DATA WITHIN THE SPECIES INFORMATION SERVICE OF IUCN

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# A PROPOSAL FOR ASSESSING SPECIES BENEFITS AT A LANDSCAPE SCALE AND AGGREGATING DATA WITHIN THE SPECIES INFORMATION SERVICE AT IUCN

## 1. INTRODUCTION

A workshop was held in Cambridge between March 20-22, 2017, to bring together the PiN team and the Global Species Programme (GSP) and TRAFFIC to discuss the inclusion of data from PiN landscape assessments within the Species Information Services (SIS), building on discussions held over the last four years. The SIS is the repository for data collected in the process of species assessments for the Red List of Threatened Species. The PiN team and GSP agreed to collaborate on the development of a species benefits assessment, at the landscape scale, within SIS to build on previous developments and existing sections, including the trade and use module and the livelihoods tab. The objective of the meeting was to collectively agree on the content and architecture of a PiN benefits assessment within SIS and explore how to apply this assessment from an institutional perspective.

To start, participants discussed desired outputs of the meeting and identified a set of questions that the new module should help address:

- What species have known uses within a specified area?
- What are the species used for?
- What is the impact of losing the species to local livelihoods?
- What is the status of the species within the specified area?
- What is the contribution of the species to local livelihoods?
- Who are the harvesters / processors / users?
- Is the harvest a threat to the species (incl. perceptions of local people)?
- How can livelihoods based on the species be improved?

## 2. CURRENT STRUCTURE AND CONTENT RELATED TO TRADE, USE AND LIVELIHOODS IN SIS

Within SIS, use and trade information is stored in two separate places. Basic information on trade, use and livelihoods linked with individual species is currently stored within a module in the Red List Assessment (see Figure 1). While not compulsory, data on trade, use and livelihoods may be collected through the Red List Assessment process. A separate Use and Trade Assessment (i.e. not within the Red List Assessment) holds both basic information (mirrored in the RL Assessment) and more detailed information on species use and trade. This separate assessment was developed through an expert workshop in 2009 funded by MAVA. The Use and Trade Assessment allows for detailed information to be collected outside of the species Red List Assessment.

The Use and Trade module within the Red List Assessment stores global-level data on known uses of species, indicates whether a species is traded in local, national or international markets, captures the end use(s) of a species, and provides an opportunity to flag whether a species contributes to local livelihoods (Table 1).

**Table 1. General Use and Trade Information within the Red List Assessment**

| Variable | Response format |
|---|---|
| Species not utilized | *On/off* |
| No use/trade information for this species | *On/off* |
| General notes regarding trade and use of this species | *Free text* |
| Local livelihood<br>Subsistence | <br>*Yes / No / Unknown* |
| Rationale | *Free text* |
| Local commercial | *Yes / No / Unknown* |
| Further detail including information on economic value if available | *Free text* |
| National commercial value | *Yes / No / Unknown* |
| International commercial value | *Yes / No / Unknown* |
| Selections for end use<br>Subsistence:<br>National:<br>International: | *End use classification scheme*<br>*Yes / No*<br>*Yes / No*<br>*Yes / No* |
| Is there harvest from captive/cultivated sources of this species? | *Yes / No / Unknown* |
| Trend in level of total offtake from wild sources | *Yes / No / Unknown* |
| Trend in level of total offtake from domesticated sources | *Yes / No / Unknown* |
| Harvest tend comments | *Free text* |

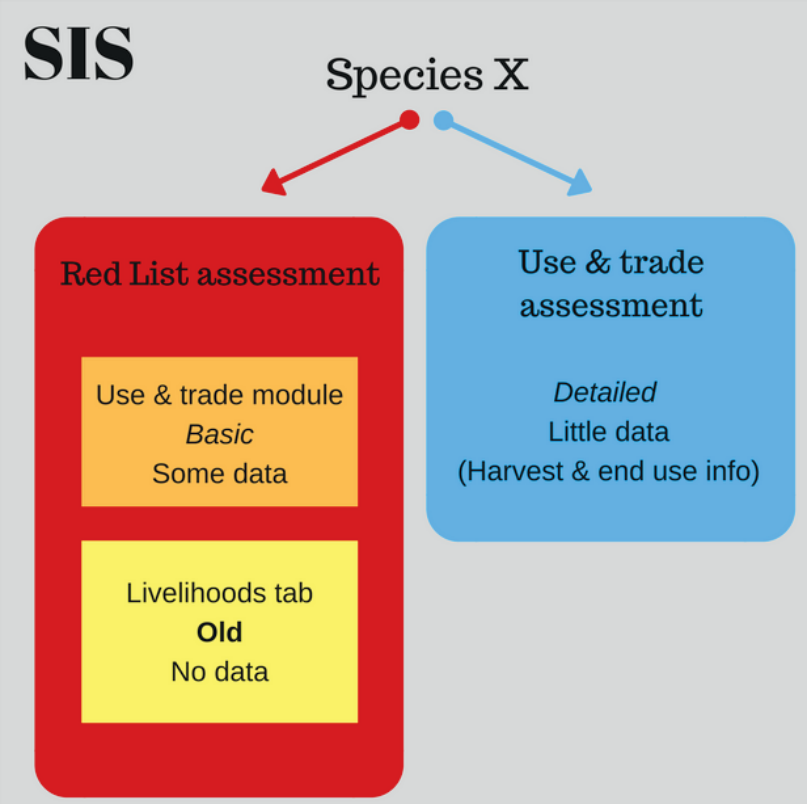


**Figure 1. Current structure related to Use and Trade information in SIS**

The Use and Trade module within the Red List Assessment contains a separate tab where information on non-consumptive use of the species can be captured in addition to information collected regarding use and trade. There is also a separate Livelihoods tab that is used to capture more detailed information on how a species contributes to a specific livelihood. The optional Livelihoods tab contains a set of fields for data entry that make up a livelihoods record, defining the area of analysis, type of product from the species, amount of annual harvest, information on users and their level of reliance on the product, and an indication of livelihoods value to people (Table 2). Multiple livelihoods records may be created to store data on different products associated with a single species and on data from different areas within the range of the species. However, the Livelihoods tab is outdated and hardly used as it is not required for Red List Assessments. Livelihoods variables are only partly covered in the general Use and Trade section of the Red List Assessment and in the external Use and Trade Assessment. Some attempts have been made to collate livelihoods data, such as for some freshwater species, but they have not been entered into the SIS modules.

**Table 2. Livelihoods tab information in the Trade and Use module (part of the Red List Assessment)**

| Heading | Variable | Response format |
|---|---|---|
| | Scale | *Local/National/Regional/Global* |
| | Name of location/country/region (leave blank if Global): | *Free text* |
| | Date | *Free text* |
| | Description of product (e.g. skin, meat, horn, fibre, etc.): | *Free text* |
| For single species harvest | Estimated annual harvest of the product: | *Free text* |
| | Units | *Classification scheme:*<br>*Volume (cubic metres)*<br>*Weight (in kilograms)*<br>*Number of individuals* |
| When part of a multi-species harvest | Estimated annual multi-species harvest: | *Free text* |
| | Units | *Classification scheme:*<br>*Volume (cubic metres)*<br>*Weight (in kilograms)*<br>*Number of individuals* |
| Users | Primary level of human reliance on this product | *Classification scheme:*<br>*Emergency resource*<br>*Optional alternative*<br>*Essential staple*<br>*Geographically variable*<br>*Not known* |
| | Who are the primary harvesters of this resource? | *Classification scheme:*<br>*Men*<br>*Women*<br>*Children*<br>*Multiple*<br>*Not known* |
| | | *Classification scheme:*<br>*Poorer households*<br>*All households*<br>*Richer households*<br>*Other groups (specify in notes)*<br>*Not known* |
| | | *Free text* |

**Table 2 cont'd. Livelihoods tab information in the Trade and Use module (part of the Red List Assessment)**

| | | |
|---|---|---|
| Value to livelihoods | Proportion (as %) of total population benefiting from this product | *Classification scheme:*<br>*0-1%*<br>*2-10%*<br>*11-25%*<br>*26-50%*<br>*51-100%*<br>*Not known* |
| | Proportion (as %) of household consumption (if dietary as a % of protein/carbohydrate): | *Classification scheme:*<br>*0-25%*<br>*26-50%*<br>*51-75%*<br>*76-100%*<br>*Not known* |
| | Proportion (as %) of household income for this product | *Classification scheme:*<br>*0-25%*<br>*26-50%*<br>*51-75%*<br>*76-100%*<br>*Not known* |
| Value to economy | Annual cash income from this product - gross (in US$) | *Free text* |

The Use and Trade Assessment (outside the RL assessment, but within SIS) contains more detailed information related to Use and Trade of the species. The Use and Trade Assessment contains a Global Summary section, which is identical to the general Use and Trade information section in the Red List Assessment, as presented in Table 1. In addition, there is the option to add *wild harvest records*, where detailed Use and Harvest information for a specific time and place can be recorded (Table 3).

**Table 3. Detailed Wild Harvest Record information in the Use and Trade Assessment**

| Variables | Response format |
|---|---|
| Date of harvest information | *Yyyy/mm/dd* |
| Date of harvest | *Free text* |
| This harvest is taking place | *Over entire species range / over part of species range** |
| *% of global range/population (as decimal) | *Free text* |
| Geographic location of harvest (if relevant) | *Free text* |
| Countries of harvest | *Classification scheme* |
| FAO areas of harvest | *Classification scheme* |
| Source of harvest from wild | *Classification scheme:*<br>*Wild*<br>*Augmented-enriched population*<br>*Unknown* |
| Life stage harvested | *Classification scheme:*<br>*All*<br>*All (adults and juveniles) except eggs, fruits and seeds*<br>*Adults only*<br>*Adults (breeding age only)*<br>*Adults (post breeding age only)*<br>*Juveniles only*<br>*Eggs, fruits, seeds only*<br>*Unknown* |
| Sex(es) harvested | *Classification scheme:*<br>*Both sexes (incl. Hermaphrodites)*<br>*Males only*<br>*Females only*<br>*Unknown*<br>*Not Applicable* |
| Proportion harvested (% of life stage and form taken per year within the geographic scope of this harvest) | *Classification scheme:*<br>*Very low (approx 0-9%)*<br>*Low to medium (approx 10-49%)*<br>*Medium to high (approx 50-89%)*<br>*Very high (approx 90-100%)*<br>*Unknown* |
| Annual harvest amount | *Free text* |
| Units | *Classification scheme:*<br>*Volume (cubic metres)*<br>*Weight (kgs)*<br>*Number of individuals*<br>*Other* |
| Free text stating method of calculating amounts and trends, single or multiple harvest, and time periods for harvest data + references | *Free text* |
| References | *Free text* |
| Conservation benefits for this species | *Yes / No / Unknown* |

**Table 3 cont'd. Detailed Wild Harvest Record information in the Use and Trade Assessment**

| | |
|---|---|
| Details for conservation benefits for this species | *Free text* |
| Conservation benefits for other species | *Yes / No / Unknown* |
| Details for conservation benefits for other species | *Free text* |
| Conservation benefits for the habitat | *Yes / No / Unknown* |
| Details for conservation benefits for the habitat/ecosystem | *Free text* |
| Add one or more end use records | *End Use classification scheme* |

Multiple wild harvest records can be created for a species, each containing data pertaining to a specific harvest, as defined by a geographical area, country, region, or other locality at a specific point in time. Data on species use and trade may thus be entered in separate wild harvest records for each locality, providing a means to store records of known uses in different parts of a species' global range at a particular time. Multiple end use records can be created for a wild harvest record, to capture the different uses of the species of that harvest record (Table 4). The different end uses for species as currently contained in the End Use Classification Scheme are presented in Table 5.

**Table 4. End Use Record within the Wild Harvest Record**

| **Variables** | **Response format** |
|---|---|
| End Use | *End Use classification scheme* |
| Primary form harvested from wild | *Classification scheme:*<br>*Whole organism*<br>*Parts non-lethal*<br>*Parts lethal removal*<br>*Eggs, fruits, seeds* |
| Biological part and/or product | *Free text* |
| End use scale | *Classification scheme:*<br>*Local subsistence – direct use by harvesters*<br>*Local markets/barter/exchange/sale*<br>*National*<br>*International* |
| Driver of the harvest | *Classification scheme:* |
| Driver details | *Free text* |
| Is harvest for this end use a significant risk to the species survival? | *Yes / Possibly / No / Unknown* |
| Notes and justification | *Free text* |

**Table 5. End Use Classification Scheme in SIS**

| End Use Classification Scheme |
|---|
| 1. Food – human |
| 2. Food – animal |
| 3. Medicine – human & veterinary |
| 4. Poisons |
| 5. Manufacturing chemicals |
| 6. Other chemicals |
| 7. Fuels |
| 8. Fibre |
| 9. Construction or structural materials |
| 10. Wearing apparel, accessories |
| 11. Other household goods |
| 12. Handicrafts, jewellery, etc. |
| 13. Pets/display animals, horticulture |
| 14. Research |
| 15. Sport hunting /specimen collecting |
| 16. Establishing ex-situ production * |
| 17. Other (free text) |
| 18. Unknown |
| 19. Unset |

## 3. SUMMARY OF WORKSHOP DECISIONS

### 3.1. Focus on benefits of species use rather than on livelihoods

During workshop discussions it was noted that that the term livelihoods, as used within the Red List Assessment and SIS, refers to the benefits derived by people from the use (i.e. consumptive or extractive) and trade of a species. As such, it is a narrower conceptualization of livelihoods than frameworks utilised within the field of development (e.g. sustainable livelihoods). This led to a decision to move away from using the term *livelihoods* within the context of SIS and instead focus on species *benefits*, as this provides a more accurate term for what is being documented. A focus on benefits is also consistent with improving the understanding of the benefits of biodiversity in terms of what people use within a specified area of study, who benefits and how much they benefit. This approach may provide a means to collect and store data, create baselines on use in specific areas, and to aggregate data to scale-up analyses related to use.

### 3.2. Make minor amendments to the Use and Trade module in the Red List Assessment

Participants reviewed the existing sections related to use of species in SIS. It was agreed that 'ceremony' should be added to the End Use classification to standardize data related to the "end-use" of a species making it useful for a variety of IUCN programmes, partners and PiN. In addition, it was agreed that the current Livelihoods tab should be removed from the Use and Trade module within the Red List Assessment. A new 'Benefits Assessment' will be developed; which will be external to the Red List Assessment and parallel (possibly linked) to the Use and Trade Assessment in SIS (see section 3.4). It will be necessary to review and amend some of the terminology used in the questions and classification schemes, e.g. the use of the term 'subsistence' is not consistent with other responses (national, international) for the field on scale of end use (see Table 1).

### 3.3. Make minor amendments to the Use and Trade Assessment

The following amendments emerged from the conversation during the workshop for the wild harvest record within the Use and Trade Assessment (noting that the first one also applies to the Use and Trade module within the Red List Assessment, see above):

- Add 'ceremony' to End Use classification scheme
- Explore how to record different end uses at different scales (local, national and international), similar to the matrix used in the Red List Assessment
- Inclusion of a geospatial reference (point or polygon)
- Bring single harvest or multispecies harvest question from Livelihoods tab to harvest record
- Trend over time needs to capture historic use within End Use classification scheme (value to livelihoods in Livelihoods tab)
- Change term subsistence to local in scale of use (Table 1) and review classification schemes for terminology.

### 3.4. Create a new 'Benefits Assessment' external to the Red List Assessment, but within SIS

The workshop participants propose to replace the current Livelihoods tab within the Red List Assessment with a 'benefits assessment' external to the Red List Assessment, with data to be held within SIS (Figure 2).

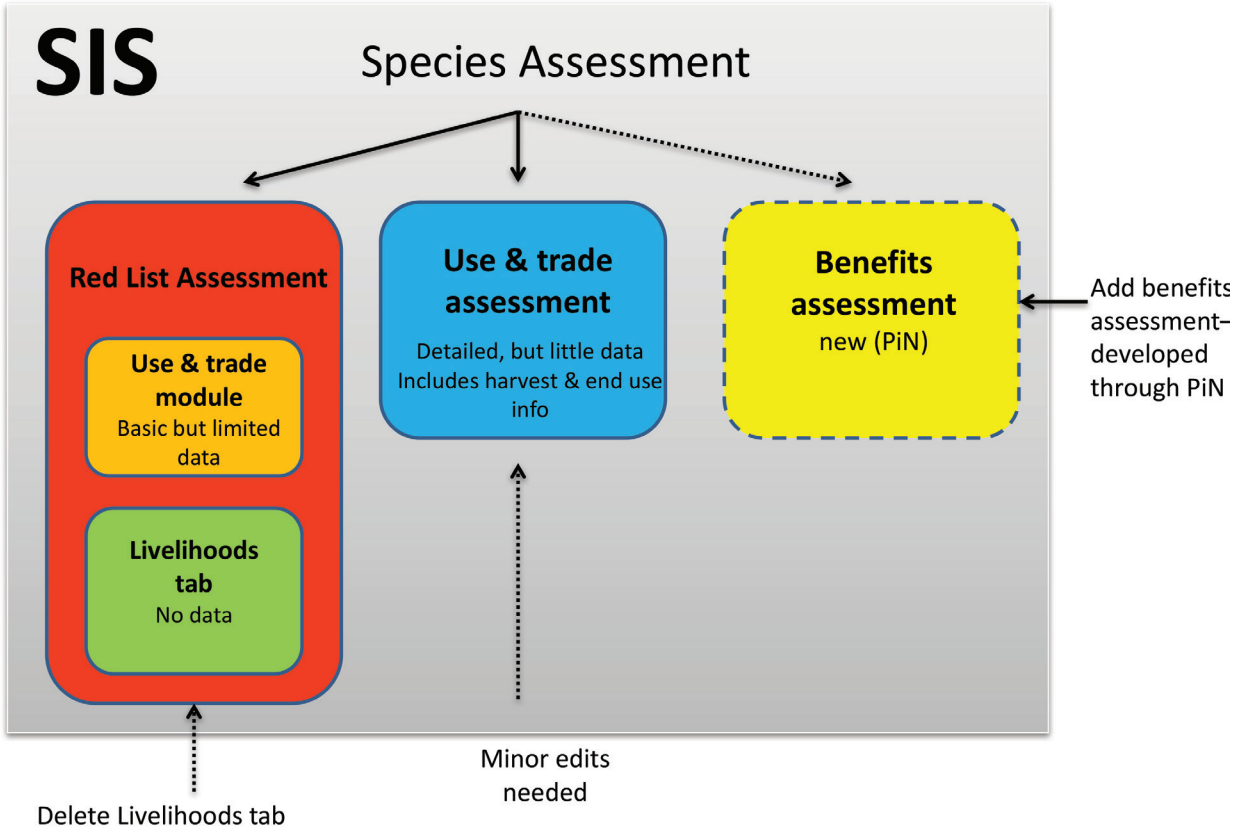


**Figure 2. Proposed changes to the structure and fields in SIS**

## 4. OUTLINE OF A NEW PIN 'BENEFITS ASSESSMENT'

The new Benefits Assessment is based on the PiN model of tracking the flow of biodiversity through the socio-ecological system based on four phases: appropriation of species (e.g. hunting, harvesting, collecting), transformation (e.g. butchering, drying, cooking, etc.), exchange, and consumption (Davidson-Hunt et al. 2016). It was agreed to use the terms harvesting, processing, trade and consumption to describe these four phases. The aim of the assessment is to understand how a species moves through the different phases, who are the harvesters, processors, traders and consumers, and how much they benefit from species use. The starting point of the model is harvesting of a species (Figure 3). After harvest, products derived from the species can be processed or consumed directly by the household that harvested (subsistence use). A product can also be traded, either directly or after processing, and then consumed or further processed by other individuals and households in the community. Alternatively, the product can leave the local site for external consumption, processing and trade. Figures 3a and b provide two possible representations of the flow of benefits. Further discussion will be required to chose that which is preferred.

Based on the approach utilized previously for "harvest records" it was suggested that a Benefits Assessment could create "benefits records" that would be bound in time and space and defined by the activity utilized to generate the information for the record. Benefits would be determined for each end use of a species using the approach detailed below. As each record is generated through a specific activity, a series of records for species included in the study would be generated. Activities by which data are produced can vary from a desk review of secondary sources of information (see Deutsch et al. 2016), workshops that could involve researchers, community members or a mix of the two, or through data collection methods with a higher resolution of data (see Idrobo et al. 2016). The approach presented below uses a coarse resolution in order to allow flexibility in data collection methods yet provide a means to compare harvest records over time and space. This approach is based on the principle that data should be collected at the highest resolution possible given the purpose and resources available to a given project/study while providing a means to generalize more specific data so that a common set of variables and metrics for the variables can be compared at the coarsest resolution permitted by the approach.

### Scale and scope

Assessments can be undertaken at various scales although the approach presented below was developed from the perspective of PiN landscape assessments. As such data will be collected by species for a particular geographic area (i.e. bounded spatially) and will be relevant for a specified time period. Assessments will focus on benefits that accrue locally, i.e. within the territory of study. The module will therefore not include processing, trading or consumption that happens at a larger spatial scale (outside the area of the study; Figure 3). To get an idea of what is driving the flow of a species through the system, the end uses of the species, which may be outside the local site, will be recorded. The scale for data within the assessment will be at the landscape, territory or community level. Benefits that accrue outside the study site can be tracked using other methods, e.g. value chain analysis, but do not fall within the scope of the benefits assessments for the defined site.

### Disaggregating data by gender and wealth status of household

Where possible, data will be disaggregated for the variables of gender and wealth status of households. These two variables would be disaggregated on the basis of two classes: women / men and richer households / poorer households. Given that these data would need to be collected for each species used within a site, such a coarse set of classes would maintain the validity and reliability of the data. It would provide an indication of the benefit derived from the use of species at different phases of its use on the basis of gender and wealth status of households. This does not preclude site studies that would disaggregate data further, but by using coarse classes it provides the ability for data to be collected at different scales (e.g. village, household, individual) that can be assessed across sites and over time.

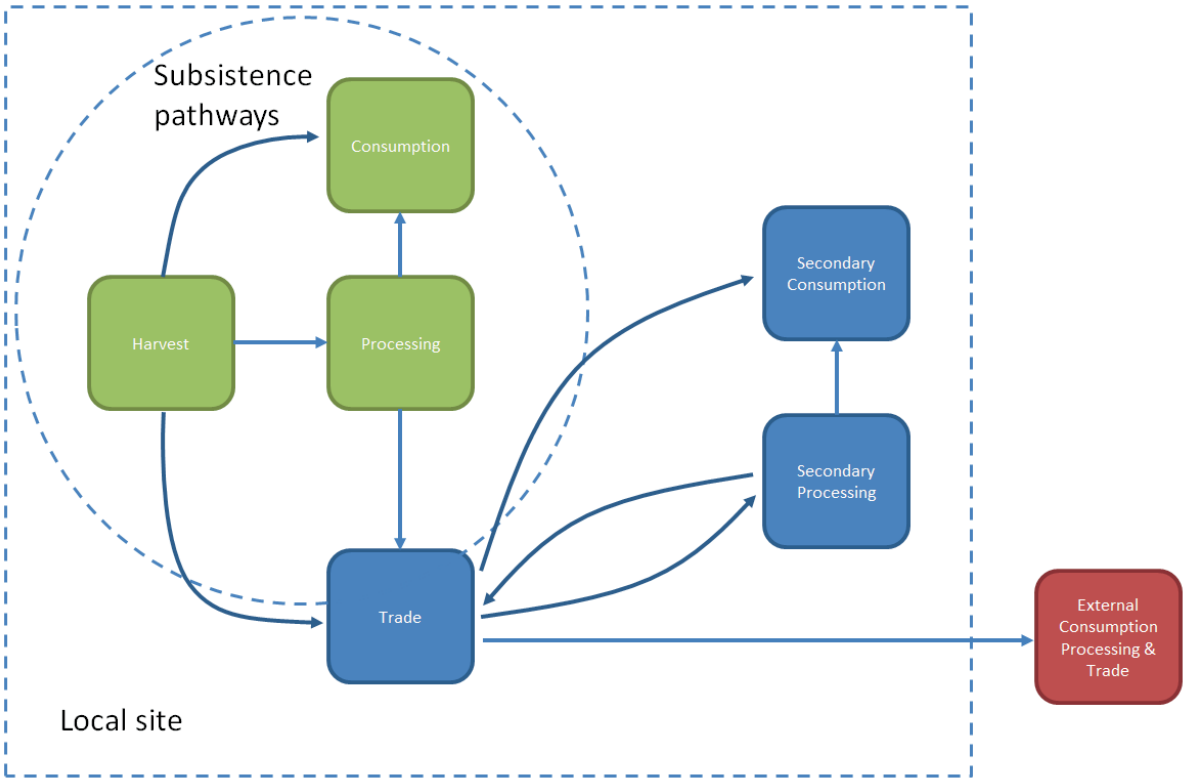


**Figure 3 – Option A**

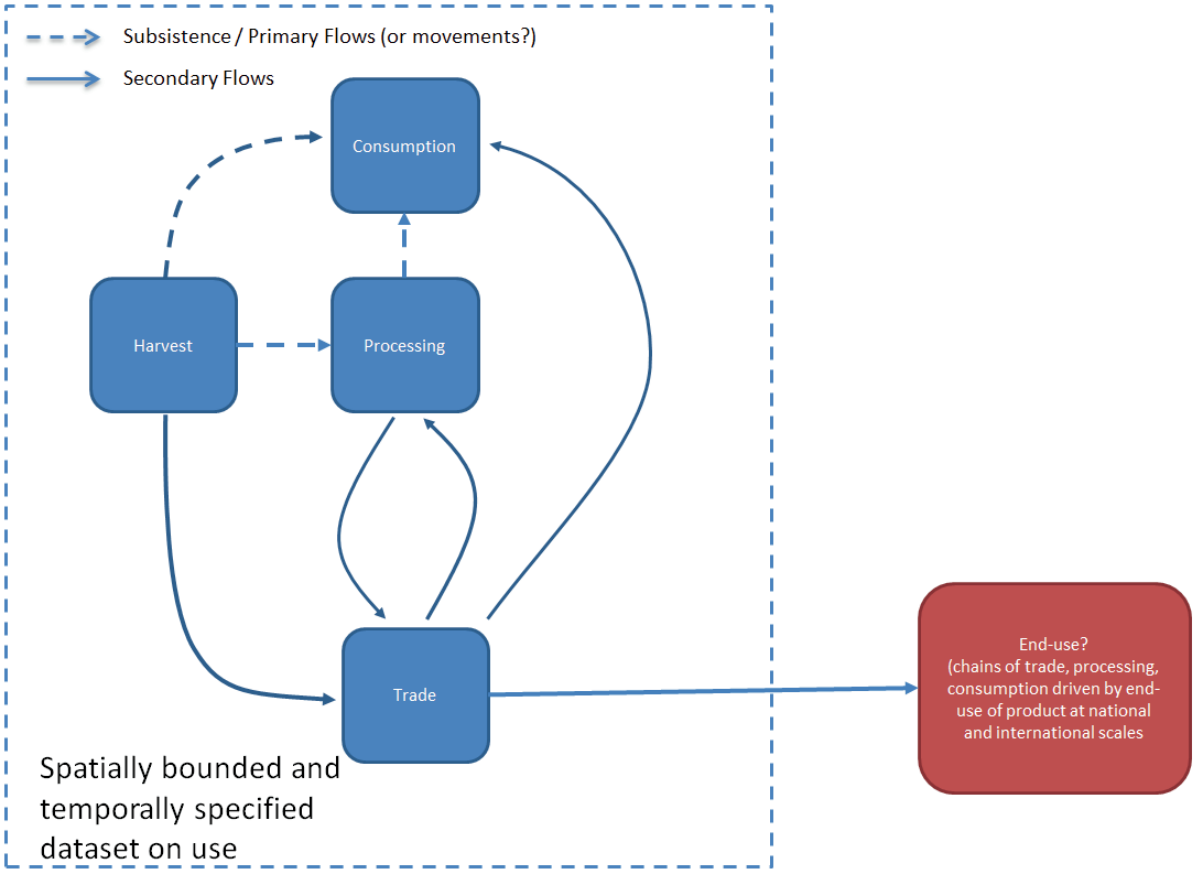


**Figure 3 – Option B**

### 4.1. Harvest of species

A matrix was designed to collect information for each of the four phases of species use. For the harvesting phase, the matrix is simple as the objective is to find out for each group how much they harvest of the species (Table 6).

**Table 6. Information on harvesting of species**

| **Harvesting** | |
|---|---|
| **Group** | **Proportion of harvest by group**<br>*majority*<br>*significant*<br>*minority*<br>*negligible* |
| Men | |
| Women | |
| Richer households | |
| Poorer households | |
| | |

| | |
|---|---|
| Is the species being harvested by people from outside the site? | *Yes*<br>*No* |
| If yes, please add details: | *Free text* |

### 4.2. Consumption of products from species

After a species has been harvested, it can be processed, traded or consumed directly. For consumption, we are interested in collecting information on the products derived from a species, to differentiate between, for example, meat, bones, skin and eggs from animals, and fruits, leaves, bark and roots for plants. For each product, the end use needs to be selected from the existing End Use classification scheme in SIS (Table 7). Table 7 can be filled out for different products and end uses separately, creating multiple benefit records.

After specifying the product and end use, the matrix for the four groups of users needs to be filled out, to indicate how important the consumption of the product is for each group, and whether it can be substituted, how frequently the product is consumed and how much is consumed. Initially, we want to capture how much is used in a qualitative way, with the option to provide more detailed quantitative information obtained through in-depth studies at a later stage in a separate benefits record. The module will also collect information on whether consumption is subsistence or secondary, differentiating between consumption by the household harvesting the species and by secondary consumers, i.e. those that acquire the product in a local market or via trade.

**Table 7. Information on consumption of species**

| **Consumption** | | | |
|---|---|---|---|
| **Product** | *Free text* | | |
| **End use** | *End use classification scheme* | | |
| **Group** | **Type of consumption**<br>*subsistence*<br>*secondary*<br>*both* | **How important**<br>*very important*<br>*important*<br>*slightly important*<br>*not important* | **Substitutability**<br>*essential/staple*<br>*optional/alternative* |
| Men | | | |
| Women | | | |
| Richer households | | | |
| Poorer households | | | |

**Table 7 continued**

| | | Qualitative | Quantitative | | |
|---|---|---|---|---|---|
| **Group** | **Frequency**<br>*occasionally*<br>*seasonally*<br>*monthly*<br>*weekly*<br>*daily* | **How much**<br>*lots*<br>*some*<br>*little* | **How much**<br>*Free text* | **Units**<br>*number*<br>*kg*<br>*volume* | **Time scale**<br>*per day*<br>*per week*<br>*per month*<br>*per year* |
| Men | | | | | |
| Women | | | | | |
| Rich households | | | | | |
| Poor households | | | | | |

### 4.3. Processing

After a species has been harvested, it can be consumed directly, sold or processed locally into a range of products (for local consumption or onward sale). Because the benefits of the processing are captured as either consumption of the product or trade after the product has been processed, the matrix for processing of species captures the benefits directly associated with processing, e.g. income in the case of paid labour for processing or status of occupation in the case of unpaid labour (Table 8).

**Table 8. Information on processing of species**

| **Processing** | | | | | |
|---|---|---|---|---|---|
| **Product** | *Free text* | | | | |
| **End use** | *End use classification scheme* | | | | |
| **Group** | **Type of labour** *paid unpaid* | **How important** *very important important slightly important not important* | **Substitutability** *essential/staple optional/alternative* | **Frequency** *occasionally seasonally monthly weekly daily* | **How much** *lots some little* |
| Men | | | | | |
| Women | | | | | |
| Rich households | | | | | |
| Poor households | | | | | |

### 4.4. Trade of species and products

Trade of a product can take place either directly following harvest or after it has been processed. As for the other phases, information on trade is collected by product and end use, indicating for each user group the type of trade, how important it is, if it can be substituted, how frequently and how much is being traded, with the option to enter qualitative and quantitative information (Table 9).

**Table 9. Information on trade of species**

| **Trade** | | | |
|---|---|---|---|
| **Product** | *Free text* | | |
| **End use** | *End use classification scheme* | | |
| **Group** | **Type of trade** *market barter sharing* | **How important** *very important important slightly important not important* | **Substitutability** *essential/staple optional/alternative* |
| Men | | | |
| Women | | | |
| Rich households | | | |
| Poor households | | | |

**Table 9 continued**

| | | Qualitative | Quantitative | | |
|---|---|---|---|---|---|
| **Group** | **Frequency**<br>*occasionally*<br>*seasonally*<br>*monthly*<br>*weekly*<br>*daily* | **How much**<br>*lots*<br>*some*<br>*little* | **How much**<br>*Free text* | **Units**<br>*number*<br>*kg*<br>*volume* | **Time scale**<br>*per day*<br>*per week*<br>*per month*<br>*per year* |
| Men | | | | | |
| Women | | | | | |
| Rich households | | | | | |
| Poor households | | | | | |

### 4.5. Availability, stability, access and perception of species

During the workshop, a brief discussion was had about incorporating the factors that shape species use as described by PiN (Davidson-Hunt et al. 2016). There was not sufficient time to think through this part of the benefits assessment in detail during the workshop, and as a result this is something that still needs to be developed. A short description on these four variables is provided here, and further details can be found in Davidson-Hunt et al. (2016). The use of a species, or the ability of a person to use a species, is shaped by:

- availability of species
- stability of species populations
- access
- perception

Availability refers to the supply of biodiversity within a defined landscape, i.e. the amount and quality of a species. Stability refers to the reliability of the supply of a species and can be affected by short-term (such as seasonal variations) and long-term influences (such as variations in species abundance). Access refers to the ability to benefit from a species and requires a mapping of access to species and the distribution of benefits from extraction, production, transformation, exchange and consumption. Perception refers to an individual's awareness of a species and affects all four phases of use. Perception is used to address cultural processes, e.g. if a species is associated with poverty or a social taboo prevents its use, despite availability, stability and access.

### 4.6. Issues to be further discussed

As the development of the SIS benefits assessment is a work in progress, this workshop report identifies several issues that need further consideration:

a. The name of the module/assessment. It is currently referred to as the 'benefits assessment', as 'benefits' was more appropriate than 'livelihoods' given what is being documented, and 'assessment' is consistent with the terminology used for the Red List Assessment and Trade and Use Assessment.

b. A review of the terminology and classification schemes used in SIS related to use, trade and livelihoods is needed. For example, in the scale of use classification scheme subsistence should be changed to local.

c. How to best depict the model of tracing the benefits accrued from species harvest, consumption, processing and trade (Figure 3 – option A or B).

d. How to capture harvest (or use) of species by people outside of the community. Who is considered 'local' ('insider versus outsider')?

e. If and how to capture end use outside of the local site as a driver of local harvest, and providing the possibility of adding case studies to capture information on value chains beyond the site.

f. How to capture substitutability of a species and distinguish from something being a staple (both saying something about the level of reliance on a species but in a different way).

g. The selection of variables by which to disaggregate data collected, e.g. what is proposed is to focus on levels of wealth (or poverty) and gender. These variables may require further definition and thought.

h. The questions and fields proposed in Tables 7-9 need to be adapted to better collect information specific to the different phases of harvest, consumption, trade and processing.

i. Which fields and/or sections are compulsory, recommended or optional.

j. For the benefits record, how does one provide more detailed information if it is available, e.g. quantitative as well as qualitative? Would this be a separate benefits record?

## 5. NEXT STEPS

### 5.1. Build out a benefits assessment prototype

This workshop report provides a skeleton of the structure and key sections of a Benefits Assessment. The Benefits Assessment will need significant amounts of further work before a 'prototype' is available for pilot testing. This prototype should:

- Include complete sets of questions about species use throughout the stages of harvest, processing, trade and consumption;
- Be accompanied by brief guidance for users (to provide definitions, units of measure, etc.)
- Be accompanied by guidance on data collection methods / tools
- Be integrated into the SIS, hanging off species, but external to the Red List Assessment itself.

### 5.2. Propose a formal process/standard for Benefits Assessment associated with species use

Once a Benefit Assessment prototype is available, we will need to return to issues around the processes that need to be put into place for application of 'benefit assessment'. Will there be criteria to determine whether benefits assessment is mandatory, recommended or optional? Who oversees the process of benefits assessments, whether it is undertaken, the degree of completion, the quality of the data, etc. The benefit assessment could serve as a pre-cursor to a 'standard' on livelihoods-related assessment work and projects dealing with the use of biodiversity within IUCN. It will be important to understand what institutional processes need to be followed to develop a standard.

### 5.3. Pilot testing

The benefits assessment will need to be built out in an iterative manner, alternating development and pilot testing. However, before pilot testing takes place, it is proposed to first to run through the prototype based on a small number of species for which there already exists good data. This will provide a better indication of the time needed and the difficulty of completing a full assessment and the likelihood of having sufficient data. To pilot application of the benefits assessment, in the early stages, we may want to piggy-back on Red List Assessments and focus on application in a small number of relevant projects.

### 5.4. Fundraising

For all the above, new funding is required. Joint PiN and Species Programme project development will be needed to develop projects in which to build out, adapt and apply the benefits assessment in a range of different contexts. Once the prototype is developed, a possible strategy is to build into new projects at the project concept or design phase provision for benefits assessment to provide a baseline at the start of project implementation. This is consistent with the indicator developed to measure progress against Target 22 of the IUCN Global Results Framework: *Proportion of IUCN projects that systematically assess material benefits and cultural values associated with species and ecosystems according to an overarching IUCN People in Nature framework (PiN).*

## REFERENCES

Davidson-Hunt, I.J., Asselin, H., Berkes, F., Brown, K., Idrobo, C.J., Jones, M.A., McConney, P., O'Flaherty, R.M., Robson, J.P. and Rodriguez, M. (2016). 'The use of biodiversity for responding to globalised change: a People in Nature approach to support the resilience of rural and remote communities.' In: I.J. Davidson-Hunt, H. Suich, S.S. Meijer and N. Olsen (eds) *People in Nature: valuing the diversity of interrelationships between people and nature*. Gland: IUCN.

Deutsch, N. (2016). PiN Landscape Assessment Phase 1: The Interdisciplinary Situation Analysis. People in Nature Working Paper No. 5. Gland, Switzerland: IUCN and CEESP

Idrobo, C.J., Asselin, H., Davidson-Hunt, I.J., McConney, P., Meijer, S.S., Olsen, N. and Suich, H. (2016). 'Mixed methodology for PiN landscape assessments'. In: I.J. Davidson-Hunt, H. Suich, S.S. Meijer and N. Olsen (eds) *People in Nature: valuing the diversity of interrelationships between people and nature.* Gland: IUCN.

Ribot, J.C. and Peluso, N.L. (2003). 'A theory of access'. *Rural Sociology*, 68(2), 153-181.

## APPENDIX

**List of workshop participants**

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|---|---|
| Kevin Smith | Invasive Species Programme Officer, IUCN |
| Thomasina Oldfield | Science, Research and Analysis Coordinator, TRAFFIC |
| Ackbar Joolia | Data Manager, Global Species Programme, IUCN |
| Will Darwall | Head, Freshwater Biodiversity Unit, IUCN |
| Catherine Sayer | Junior Professional Associate, Freshwater Biodiversity Unit, IUCN |
| Craig Hilton-Taylor | Head, Red List Unit, Species Cambridge Unit |
| Iain Davidson-Hunt | Lead on PiN Working Group on data and digital tools, CEESP and University of Manitoba |
| Nathan Deutsch | CEESP and independent consultant |
| Nathalie Olsen | Head, IUCN Economics Unit, Global Economics and Social Science Programme, IUCN |
| Seline Meijer | PiN Programme Officer, Global Economics and Social Science Programme, IUCN |

IUCN is a membership Union composed of both government and civil society organisations. It harnesses the experience, resources and reach of its 1,300 Member organisations and the input of some 15,000 experts. IUCN is the global authority on the status of the natural world and the measures needed to safeguard it.

CEESP, the IUCN Commission on Environmental, Economic and Social Policy, is an inter-disciplinary network of professionals whose mission is to act as a source of advice on the environmental, economic, social and cultural factors that affect natural resources and biological diversity and to provide guidance and support towards effective policies and practices in environmental conservation and sustainable development.

People in Nature (PiN) aims to improve our understanding of how nature contributes to local livelihoods and well-being. It focuses on material use while recognising that use is embedded within worldviews that include deep-seated cultural norms, values, and understandings. It also considers symbolic interrelationships with nature expressed through cultural narratives, language, and traditions. This work contributes to understanding the value of nature to society.