# IPBES IAS assessment, data management report for cross-chapter literature review on indigenous peoples and local communities and invasive alien species

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# **Description**

In order to respond to the IPBES mandate on indigenous and local knowledge (ILK), and to the scoping document for the IPBES thematic assessment of invasive alien species (IAS) and their control, the expert group conducted a cross-chapter literature review on the relationships between invasive alien species

(IAS) and indigenous peoples and local communities (IPLC). This literature review provides evidence on IPLC perception, and indigenous and local knowledge on trends, drivers, impacts, management and governance of invasive alien species.

#### **Process overview**

Developmen t of a framework • The framework contains the variables and causal relations of interest. It guides the literature review.

Selection of literature

• This included the specification of selection criteria for literature case studies and reviews; a search for literature case studies and supporting material; and documentation of the search and selection process and outcomes

Data extraction (2 steps)

- Extraction of qualitative and other information from the selected literature in Word using a Template that contains all of the main variables and documents the extracted information;
- Summary and insertion of main findings in an Excel database developed for this purpose that will be used for analysis and case study development across the different chapters of the assessment.

Analysis

• Coding into frequencies and analysis of coded data to develop figures and tables as required; analytical qualitative summaries presented as global findings or case studies (e.g. on specific species, topics, or IPLC case clusters).

Integration in the chapters and SPM & more • Incorporation of the findings throughout the text or in boxes (case studies), in the executive summaries, and in the Summary for Policy Makers (SPM)

#### **Protocol**

#### **Development of a framework**

The indigenous and local knowledge (ILK) liaison group developed a framework that contains the variables and causal relations of interest, which were derived from a previous meta-analysis of case studies on invasive alien species and indigenous peoples and local communities (Howard 2019), as well as the two IPBES ILK dialogue workshops (see A. Framework)

#### Selection of literature

- Type of analysis/search/review: systematic literature review
- Search language(s): English
- Search terms:

(("indigeneous people\*" OR "indigenous group\*" OR aborigine\* OR traditional OR biocult\*) OR ("first nation\*" OR "first people\*" OR amerindian\* OR "fourth world") OR ("forest dependent" OR forest-dependent OR "forest people\*" OR gatherer\*) OR (hunter-gatherer\* OR "hunter gatherer\*" OR "hunting-gathering" OR "hunting gathering") OR (subsistence OR smallholder\* OR "small-holder" OR "small holder") OR (fisher\* OR fisherfolk OR fishermen OR fishing OR ntfp OR "non-timber forest product\*") OR (tribal OR tribe\* OR chiefdom)) AND (("ecological invasion\*" OR "biological invasion\*" OR "invasion biology" OR "invasion ecology") OR ("invasive species" OR "invasive alien\*" OR "alien invasive\*") OR (bioinvasion\*) OR ("non-native species" OR "nonnative species")) AND (LIMIT-TO (SUBJAREA, "SOCI") OR LIMIT-TO (SUBJAREA, "ARTS") OR LIMIT-TO (SUBJAREA, "MULT"))

Searches were also carried out on the above terms combined with specific species including: Fall Armyworm (*Spodoptera frugiperda*), *Lantana camara*, *Mikania micrantha*, *Chromolaena odorata*, Golden Apple Snail (*Pomacea canaliculata*), *Imperata cylindrica*, *Opuntia* spp., and *Prosopis* spp., which are known to have major impacts for IPLC in different parts of the world.

- Search engine: Scopus
- Date: February-April 2021
- Overview of the search results and selection criteria: B. Results Citations

#### **Review phase**

See C. Guidance document and templates

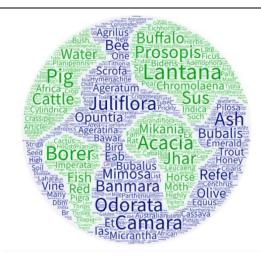
**Step by step analysis** (methodology, categories, etc.):

See D. Methodological guidance (PPT)

Integration to each chapters:

#### Chapter 3:

Indigenous peoples and local communities around the world have many different languages, livelihoods, cultures, and they also live in various environments, experiencing distinct climates, geography, topography, and biodiversity. Indigenous peoples and local communities therefore have diverse and local perceptions, knowledge and interactions with invasive alien species. Their knowledge on invasive alien species drivers can support the monitoring of species and field-based changes and their management (chapter 2 and 5).



# Figure Invasive alien species identified by indigenous peoples and local communities in 105 case studies.

Using the WordArt online program, the Latin and English names of the invasive species were converted into a word cloud online. The size of the words in the diagram represents the frequency of the word (genus or species epithet) is in case studies

#### Chapter 4:

131 papers were reviewed about indigenous and local knowledge and invasive alien species, of which 124 papers contained evidence for impacts of invasive alien species. Of these, 79 papers had direct information including survey data, interviews and quotations from indigenous peoples and local communities themselves about the impacts of invasive alien species on nature, nature's contributions to people and good quality of life.

For impacts on nature and nature's contributions to people, only those sources with direct data from indigenous peoples and local communities themselves were included in this section of the analysis. For assessing the impacts to good quality of life, three levels of good quality of life were assessed: 1) a summary of impacts to five constituents of well-being (the same categories as used in all of chapter 4); a summary of data into more detailed categories of livelihoods and good quality of life as reported in sources by indigenous peoples and local communities themselves; and 3) an assessment of impacts to good quality of life at a broader society level. In line with with how good quality of life has been assessed over the entire chapter 4, impacts to good quality of life were only reported if the source provided evidence for how people were affected (for example, income, labour, health, relationships, safety, income savings, livelihoods). Where changes to resources such as food or materials were reported without those above measures, this was reported as nature's contributions to people.

#### Chapter 6:

Authors did a qualitative synthesis on the data available by reading through all the comments and identifying themes on additional knowledge acquisition and the kind of knowledge sought after. (Only 20% of the data available clearly indicated that indigenous peoples and local communities seek additional Knowledge on the control and management of invasive alien species). Identified themes were: #1. Indigenous and local knowledge – identified through words like 'passed down', 'traditional practices', 'old men teaching' and 'indigenous and local knowledge bearers directive'. #2. Scientific –

identified by words like 'training', 'campaigns' and 'capacity building'. #3. Self – identified based on words like 'experiment', 'notice', 'watching' and 'identifying'.

#### Files:

- A. Framework
- B. Results\_Citations
- C. Guidance document and templates for literature review
- D. Methodological guidance for data analysis
- E. Compiled database