Data Management Plan – Experiences from the LICCI project

International Open Access Week 2022. The preparation of the Data Management Plan. The experience of three UAB projects
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Local Indicators of Climate Change Impacts (LICCI) project – an overview

Main topic: Indigenous and local knowledge related to climate change impacts in atmospheric, physical, biological and socio-economic/ cultural systems

"We strive to deepen our understandings of perceived climate change impacts, and endeavor to bring indigenous and local knowledge into policy-making processes and influence international climate change negotiations."

Sub-topics: climate change adaptation, crop and landrace diversity and seed networks, gendered knowledge, childrens' knowledge, knowledge on wild edible plants

Reyes-Garcia et al. 2015, 2019

A global approach – collaborations & networks

The Core Team

Development of data collection protocol and data management strategies

The Researchers' network

Global cooperation with approx. 40 external researchers
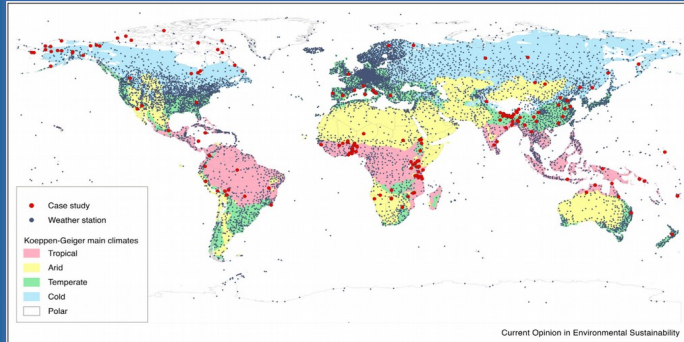

Citizen Science OpenTEK

Web-based non-scientific based documentation of perceived climate change impacts
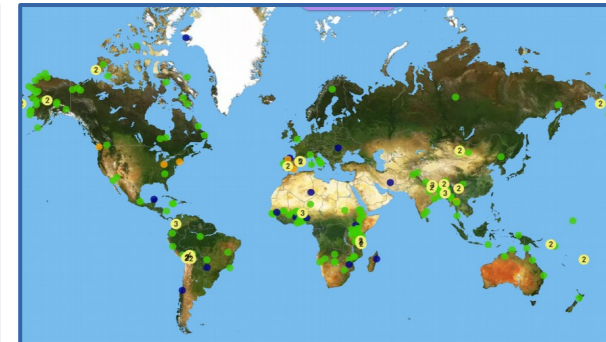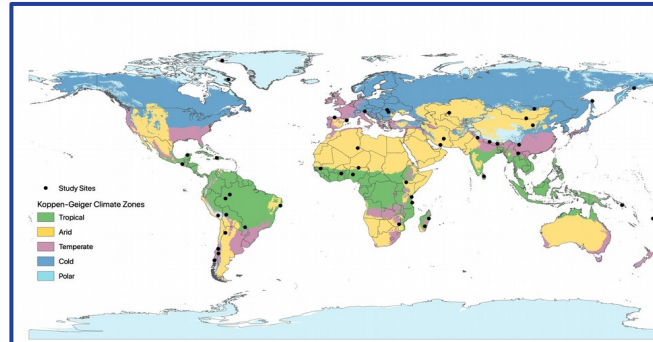
Global data collection – an overview

global citizen science platform (OpenTEK)

global field data:
semi-structured interviews, focus group discussion, survey

global literature review

+ time series of weather data

time

Primary data collection

PRIMARY

Semi-structured interviews Focus group discussion Survey	➔ general information ➔ **perception of local climate change impacts**; ➔ applied **adaptation strategies**; ➔ **socio-economic** household and individual information, including estimates on **financial, physical, social, human and natural capitals**; main livelihood activities; food and water security; well-being ➔ additional data, e.g., **local knowledge** on plants and crop species and landraces

Approx. **45 sites**

Semi-structured interviews: 25 per site

Focus group discussion: approx. 2-3 per site with approx 4-12 participants

Surveys: approx. **125 individual and 175 household surveys** per site

GPS data	➔ **GPS location** of studied villages and area; protected areas; closest road connection, airport, port, market town, administrative centres

Primary data collection

PRIMARY

Citizen science platform – OpenTEK

➔ local perception of climate change impacts and their drivers;
➔ applied adaptation strategies;
➔ **GPS location**
➔ **photos**
➔ network with other users

'unlimited' and growing

Detecting risks, potential conflicts and challenges for data management

Working with **marginalized communities** in a context of colonial history, discrimination, inequalities, lack of acknowledgement

Global data collection and research **network**: cooperation with researchers around the globe and cross-border data transfer

Institutional barriers

Working with marginalized communities – risks, potential conflicts and challenges

Ethical considerations:

➔ long-term relationship with community before starting research

➔ Ethical clearance from home institution (UAB) before starting field trip

➔ **Free Prior and Informed Consent (FPIC)**

➔ from the local authorities, incl. village chiefs (following local power dynamics), and each interviewed person

➔ FREE: "The consent is free, given vountarily and without coercion, intimidation or manipulation."

➔ PRIOR: The consent is sought sufficiently in advance of any authorization or commmencement of activities.

➔ INFORMED: The engagement and type of information that should be provided prior to seeking consent (incl. aim and purpose of project, type of data, duration of data collection)

➔ CONSENT: A collective decision made by the right holders and reached through a customary decision-making process of the communities.

Working with marginalized communities – risks, potential conflicts and challenges

Personal and sensitive data:

➔ working with **local field assistance** for trust building and introduction into local customs, norms and inappropraite behavior

➔ rephrasing question / **don't ask context-specific inappropriate question**

➔ organizing data collection according to **local social norms** (e.g., separate focus group discussion according to gender)

➔ **secured data storage** in the field (e.g., password on computer, locker)

➔ **anonymisation** → both inside and outside the community

➔ **falsify GPS locations** by adding an error if required

➔ don't make certain data open: **as closed as necessary, as open as possible**

Global data collection and research cooperations and networks

Global network with researchers:

➔ giving priority to **Indigenous** and local **researchers** in our global network

➔ only contract researchers with **long-term relationship** with community before the star of the research

➔ **training** cooperating researchers on ethical requirements in the project and to harmonize data collection

➔ data ownership (LICCI keeps ownership over global and aggregated datasets, e.g., full global data set, while researcher keep ownership over their individual field site data) → conflicting with **Indigenous Data Sovereignty**

➔ data **embargo** to give right to publish first to cooperating researchers

➔ clarify publications policies (e.g., invite all cooperating researchers who provided data)

Cross-border data flow:

➔ currently usage of servers that are located in Europe

➔ Check countries restrictions on international data transfer, especially for personal and sensitive data

Detecting risks, potential conflicts and challenges for data management

Indigenous Data Sovereignty:

"Indigenous data sovereignty is the **right of a nation to govern the collection, ownership, and application of its own data**. It derives from tribes' inherent right to govern their peoples, lands, and resources."

The University of Arizona, Native Nations Institute[2]

United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)

Article 31.1 Right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions…

IP also have the **right to maintain, control, protect and develop their intellectual property over such cultural heritage, traditional knowledge**, and traditional cultural expressions.

2
https://nni.arizona.edu/programs-projects/policy-analysis-research/indigenous-data-sovereignty-and-governance

Detecting risks, potential conflicts and challenges for data management

The CARE Principles:

"The current movement toward open data and open science does not fully engage with Indigenous Peoples rights and interests. Existing principles within the open data movement (e.g. **FAIR**: findable, accessible, interoperable, reusable) **primarily focus on** characteristics of data that will facilitate **increased data sharing** among entities while **ignoring power differentials and historical contexts**. The emphasis on greater data sharing alone creates a **tension for Indigenous Peoples** who are also asserting greater control over the application and use of Indigenous data and Indigenous Knowledge for collective benefit."

"The CARE Principles for Indigenous Data Governance are **people and purpose-oriented**, reflecting the crucial role of data in advancing **Indigenous innovation and self-determination**. These principles complement the existing FAIR principles encouraging open and other data movements to consider both people and purpose in their advocacy and pursuits."

GIDA – Global Indigenous Data Alliance[2]

Data storage in line with FAIR principles

FAIR (findable, accessible, interoperable, re-usable)

➔ our data exceed the data limit of 25GB of the DDD of the UAB

➔ **The Dataverse Project**: Open source research data repository software

➔ *'The Dataverse Project is an **open source web application** to share, preserve, cite, explore, and analyze research data. It facilitates making data available to others, and allows you to replicate others' work more easily.'*

➔ developed at Harvard's Institute for Quantitative Social Science (IQSS)

➔ being open-source allows higher flexibility and control regarding open access and according to our requirements

• prospects: hand over the management of the LICCI dataverse to GIDA (Global Indigenous Data Alliance)

➔ anonymous and partly aggregated data: 'as closed as necessary, as open as possible'

➔ add Indigenous licences to the OpenTEK platform

The **Dataverse**® Project

https://dataverse.org/

Learning from the past – making it better in the future

Reflections and future work

➔ acknowledging that or data were FAIR but not CARE

➔ starting following up projects to improve data management in the future

- **LICCION - LICCI Observation Network**:

    ➔ Extention of our citizen science platform OpenTEK accroding to Indigenous and local concerns and world views

- **RIDAGOP - Research on Indigenous Data Governance Protocols**

    ➔ Analyse ERC-funded projects how they comply with Indigenous data sovereignty principles (e.g. CARE Principles)

    ➔ *"As Indigenous peoples and local communities' knowledge systems and culturally sensitive information become increasingly digitized, this research project aims to better understand the gap between customary protocols and existing data management practices, in order to **develop a toolkit that contributes to better data governance and upholds principles of Indigenous data sovereignty in the context of open-data research**."*

LICCION

	OpenTEK (opentek.eu)	**LICCION Oblo** (licci.eu/liccion/oblo/)
Focus	Global	Local
Goal	Research-driven (open-knowledge)	Policy representation (rights-based)
Platform	One	Multiple (Oblo-Nepal, Oblo-Vietnam, by community, organisation, etc.)
Survey type	Standard: LICCI classification	Context-specific: LICCI classification + community preferences (e.g. can include local CBM systems)
Data source	Literature reviews, field researchers, citizen scientists	Community users, community organisation staff
Access	Public	Flexible (public, private, open to certain organisations, etc.)
Data principles	**FAIR** (TK Notice, BC Notice, Attribution Incomplete, Open to collaborate)	**CARE** & **FAIR** (as closed as necessary, as open as possible) (TK Notice, BC Notice, Attribution Incomplete, Collaborate)
Data ownership	Users and research institutions	Users
Data storage	EU	Flexible (EU, local servers, national repositories)

Thank you!

https://licci.eu

licci.communication@uab.cat