



Deliverable D1.1

# **DATA MANAGEMENT PLAN**

[Version 1.0]

## DOCUMENT DETAILS

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## Version Management

This Data Management Plan should be considered a living document which will be updated and enriched during the project lifetime according to the project's progress and needs. Updated versions of the DMP will be published in months 17 and 36. Additional versions can be released if it is considered necessary throughout the project.

Revision table			
Version	Revision	Date	Description
1.0	CITA and INN	31.01.2025	Initial version
2.0	CITA and INN	(Expected) 31.03.2026	Updated data management plan
3.0	CITA and INN	(Expected) 31.10.2027	Final data management plan

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## List of terms, acronyms, abbreviations

Term / Acronym / Abbreviation	Meaning / Full text
CoCo	Acronym for project 'Co-creating coexistence: Advancing policies, practices, and stakeholder engagement for integrating wildlife and livestock into sustainable multi-functional landscapes in Europe'
DMP	Data Management Plan
DOI	Digital Object Identifier
DPO	Data Protection Officer
DX.X	CoCo Deliverable X.X
FAIR	Findable, Accessible, Interoperable and Re-usable
GA	Grant Agreement
GDPR	General Data Protection Regulation
IPR	Individual Property Rights
MX.X	CoCo Milestone X.X
WPX	CoCo Work Package X

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EUROPEAN FEDERATION OF ANIMAL SCIENCE	
RURAL ECONOMY AND AGRICULTURAL SOCIETY	

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## ABOUT THE PROJECT: CO-CREATING COEXISTENCE

‘Co-creating coexistence: Advancing policies, practices, and stakeholder engagement for integrating wildlife and livestock into sustainable multi-functional landscapes in Europe’ (CoCo) is a research project designed to build the knowledge base necessary to identify future pathways that can reconcile the needs of pastoralists with those of wildlife in shared European landscapes.

Recovering wildlife populations can create challenges for rural professions, including extra costs and workload due to predation and damage mitigation as well as conflicts between stakeholders concerning wildlife management and the contested nature of relevant knowledge. This occurs in addition to existing socio-economic challenges concerning, for example, wealth, social capital, and gender and diversity.

The CoCo project will tackle such challenges and transform the ongoing entrenched conflict to promote human-wildlife and cross-sectoral coexistence in multi-functional landscapes. To this end, a partnership of 17 research and stakeholder institutes and organisations across 12 European countries, will implement a multi-disciplinary and multi-actor approach aimed at co-creating knowledge with high legitimacy. Through eight work packages, a ‘Roadmap to Coexistence’ will be created with policy and practice recommendations.

The project will use methods as diverse as systematic reviews, field inspections, face-to-face interviews, focus groups, questionnaires and modelling. The project’s ambition is to collect original quantitative and qualitative data from at least 1000 pastoralists, 1000 hunters and 1000 landowners and qualitative data from stakeholders deployed in a comparative way across 12 countries. The insights stemming from the reviews, the analysis of new data, and the modelling will be integrated into policy recommendations for a better standardization, harmonization and integration of both pastoral and wildlife management systems.

CoCo is funded by the European Union’s Horizon Europe - Research and Innovation programme (grant agreement No. 101181958). The project, started in November 2024, has a duration of three years.



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## EXECUTIVE SUMMARY

This Data Management Plan (DMP) describes the life cycle for the research data within the CoCo project, as part of making them Findable, Accessible, Interoperable and Re-usable (FAIR). It describes the overall strategy and detailed instructions and procedures including how data will be collected, managed, used, modified, stored, shared and made available during the project and beyond its completion in the long-term.

All the information provided in this document is aligned with the main European scientific community standards. The indications given in this document will be supported by the open multi-disciplinary environment European Open Science Cloud and will follow OpenAIRE research information platform guidelines and its tools (<https://guidelines.openaire.eu/en/latest/>) to ensure and improve discoverability, accessibility, shareability, reusability, reproducibility, and monitoring of the project data-driven research results. In addition, other discipline-oriented Open Data sets standards such as AGROVOC (<https://www.fao.org/agrovoc/>) have been considered when developing this DMP, as well as the principles of the European Code of Conduct for Research Integrity.

This DMP version provides a preliminary and non-exhaustive list of data that is planned to be managed in the project. A more exhaustive list of the datasets will be detailed in deliverables linked to WP3 (3.1. Database from herd level survey; D3.2 Field inspection; D3.3 Husbandry and damage), WP4 (D4.1 Stakeholder perspectives; D4.2 Governance structures) and WP6 (D6.1 Values and externalities; D6.2 Cost benefit analysis). However, all the project activities performed in other WP and the data generated by those activities will also endorse these guidelines.

All CoCo project beneficiaries should refer to this DMP to ensure a consistent approach to the sharing and documentation of the various datasets (including metadata) and other project results.

# 1 INTRODUCTION AND OBJECTIVES

The Data Management Plan (DMP) aims to describe the overall data management process in CoCo project: how data will be collected, managed, stored and made available during the project lifetime, and how it will be stored and shared upon the project completion.

This DMP has been developed following the multi-disciplinary European Open Science Cloud (EOSC) recommendations and the OpenAIRE European research information platform Guidelines, and it complies with the Horizon Europe mandate for Research Data Management.

The DMP will be published together with the closely related deliverable 1.2 “Publication strategy” (D1.2) as well as deliverable 1.3 “Gender, diversity, equality and ethics plan” (D1.3). This DMP should be considered a living document aiming to make data, protocols and research outputs aligned to the FAIR guidelines during the project lifetime and beyond. Its content will be updated and enriched during the project lifetime. Additional versions can be released if it is considered necessary throughout the project.

According to article 15 of CoCo Grant Agreement (GA), the DMP sets the guidelines for all project beneficiaries to ensure that all personal data generated and used in the project is:

1. Processed lawfully, fairly and in a transparent manner in relation to the data subjects.
2. Collected for specified, explicit and legitimate purposes and not further processed in a manner that is incompatible with those purposes.
3. Adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed.
4. Accurate and, where necessary, kept up to date.
5. Kept in a form which permits identification of data subjects no longer than is necessary for the purposes for which the data is processed.
6. Processed in a manner that ensures appropriate security of the data.

The rest of the DMP document is organized in the following sections:

- **Section 2 “Project data”**, a comprehensive overview of the project’s data, covering the purpose of data collection and its alignment with project objectives, the types of data involved, methods and sources of data collection, a detailed description of the data, version control and naming conventions.
- **Section 3. “Data management, storage and back up”**, outlines the storage solutions, backup strategies, and recovery measures for project data. It covers storage locations, access protocols, backup frequency, and compliance with data protection regulations, ensuring data security and integrity throughout the project.
- **Section 4. “Data security”**, describes the primary data security measures implemented by the project and its beneficiaries
- **Section 5. “FAIR data compliance”**, focuses on describing CoCo project compliance with the FAIR principles, detailing how it will achieve Findability, Accessibility, Interoperability, and Reusability for its data.
- **Sections 6. “Ethics and Privacy of participants”**, provide an overview of the content of the related D1.3 “Gender, Diversity, Equality and Ethics Plan”, addressing project compliance with ethical standards and data protection regulations.

## 2 PROJECT DATA

The overarching objective of the CoCo project is to “co-create, integrate, and consolidate a diversity of knowledge forms (...) concerning pastoralism-wildlife interactions as a basis for developing policy recommendations and tools for practitioners to promote a sustainable coexistence in shared multi-functional landscapes”. To address this objective, the project will produce a comprehensive, comparative mapping of stakeholder perceptions and values concerning pastoralism, wildlife, the pastoral-wildlife interface, and its governance. New qualitative and quantitative data will be generated from large samples of stakeholders involved in different aspects of pastoralism-wildlife interactions. In particular, the CoCo project plans a series of field surveys and online surveys to collect fresh, standardized, empirical data from a set of sites across 12 different European countries. This section describes:

1. The type of data that will be gathered,
2. The methods and sources of data collection,
3. A comprehensive description of the data that will be gathered in each WP, and
4. The version control and naming conventions.

A complete list of CoCo’s datasets and project outputs will be provided in the Final DMP at the end of the project.

### 2.1 TYPE OF DATA

The project activities will involve the acquisition of the following types of data:

- **Confidential consortium data.**

Internal mailing, phone numbers, contracts, financial statements, etc.

- **Personal data.**

The most sensitive data handled in this project will include personal information such as names, affiliation, contact details (email, address, etc.), professional background, gender, photographs, and interview recordings. The specific personal data collected will vary depending on the target group categories (e.g., pastoralists, hunters, landowners, etc.) and the gathering methods used in each research activity (see below). Economic data collection will be limited to broad categories, including farm income and costs associated with predator attacks or the implementation of mitigation measures. No sensitive economic information, such as specific figures related to personal, family, or wage income, will be collected. In some cases, photographs taken for illustration of project communication work may include people, such as farmers. Photographs will only be taken and used with the explicit permission of the individuals depicted as explained in the following sections.

It is important to note that the processing of special categories of sensitive data is not anticipated. According to the General Data Protection Regulation (GDPR) of the EU, these categories include “personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, as well as the processing of genetic data, biometric data aimed at uniquely

identifying a natural person, data concerning health, or data concerning a natural person's sex life or sexual orientation."

What is mentioned above does not imply that the security requirements for the personal data collected will be lowered, nor that such data will be processed without the strict application of the data processing principles established in Articles 5 and 6 of the European GDPR. Research data containing personal information that can directly or indirectly identify a living person will be handled with the utmost care, including textual, image and sound data.

All data will be pseudonymised using a specific key code for each interviewee/respondent and stored securely on each beneficiary's storage platform, in compliance with applicable legal and GDPR provisions.

- **Geographic data.**

The project will collect geographic data from pastoralists, hunters and landowners, which may indirectly enable personal identification. To ensure privacy, this information will be stored in a separate file, linked via a key code, during analysis. Most spatial data will be limited to a coarse spatial scale of a 10 x 10 km quadrat. The geographic data will be replaced by an internal project regional code. For online questionnaires, spatial data will be restricted to administrative units.

## 2.2 DATA COLLECTION AND SOURCES

The technical data and datasets generated and collected during the project will be obtained through various methods, including surveys, interviews, focus groups, voice and image recording tools, and the processing of pre-existing datasets and scientific and grey literature to produce new data. The primary methods and sources of data collection for the project are outlined below:

- **Face-to-face surveys and interviews.**

To obtain detailed information, the T3.1 1000 Pastoralist Survey and the T3.2. Field Inspections will predominantly rely on face-to-face surveys, enabling in-depth engagement with participants. Activities of WP2, WP3, WP4 and WP6 may involve conducting personal interviews with key informants relevant to their respective focus areas.

- **Online questionnaires.**

Surveys targeting hunters, landowners (which in some countries may include farmers and pastoralists), and other stakeholders of interest, will be distributed online. These questionnaires will be advertised via media, social media, and membership lists of stakeholder organizations (which will not be shared with the research team). No personal identifiers will be collected, and spatial data will be limited to administrative units to ensure privacy.

- **Previous projects and scientific and grey literature.**

Some WPs, particularly WP2 and WP5, will collect and process existing data from previous initiatives, including LIFE projects and targeted field studies across Europe. The datasets may include files from

face-to-face interviews, analyses, reports, and transformed legacy datasets to meet project standards and formats. Notably, many of these key projects of interest were conducted by partners within the CoCo project, ensuring familiarity with the legacy data's status and context.

- **Other sources.**

Additional data sources include information collected from workshop sign-up sheets, personal data provided upon request by consortium members, and data generated through participatory activities conducted during the project such as focus groups and similar participative methods. Socio-economic data on livestock production and wildlife management will also be downloaded from public data sources, but these will already have been organised to ensure privacy concerns are safeguarded.

## 2.3 DATA DESCRIPTION

The following paragraphs provide a preliminary and brief overview of the data and information managed within each WP along with a description of the data collection process, the expected format of the data, and its estimated size. A complete list and description of CoCo's dataset will be provided in the final DMP at the end of the project.

### **WP2. Consolidating the state of knowledge – policy, practices and concepts**

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**Name of the dataset:** Documents and interviews from scoping reviews

**Description of the dataset:** Documents from the scientific and technical literature and ad hoc interviews with key informants.

**Type of data:** Published documents and short summaries of interviews

**Sensitive personal data** (According to European GDPR): No

**Sources:** Online publication databases, public documents. Face-to-face and online interviews. Email exchanges.

**Aim of the data produced:** To produce new typologies and consolidate existing knowledge on specific topics.

**Process of the data collection applied:** Key informants will be contacted and asked to provide information. Consent will be obtained. Interviews will only exceptionally be recorded, mainly short summaries of key content will be integrated into the evolving reviews.

**Format of the data:** .DOC /.DOCX, .XLS / .XLSX, .CSV, .PDF

**Estimated size:** 1 GB

### **WP3. Effectivity of livestock protection strategies (1000 Pastoralists)**

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Name of the dataset: "Database from herd level survey", which corresponds with Deliverable 3.1.

Description of the dataset. A large sample of approximately 1,000 pastoralist farmers across twelve European countries, will be interviewed and surveyed to gather their experiences and perspectives on various issues related to pastoralism and wildlife management. The dataset will compile the results of the surveys.

The surveys will primarily be conducted through face-to-face questionnaires, although online surveys may also be used on some occasions. The survey will include a large number of questions that gather field-data on the level of individual herds / farms concerning both the details of the husbandry practices and livestock protection measures in use and on the conflicts and interactions experienced with wildlife such as (a) herd size, structure, grazing patterns, shepherding practices transhumance, the timing of the husbandry cycle, products obtained, economic issues, (b) any protection measures used to buffer the herd against wildlife impacts, and (c) their losses of livestock to wildlife damage and any indirect impacts of wildlife. In addition to the farm technical data, the questionnaire will gather information on novel and emerging wildlife protection tools (WP5), the relationships between pastoralists and wildlife management or nature conservation authorities (WP4), and farm economics (WP6). Note that the economic data will not include sensitive personal information related to family finances but will focus on general farm data to assess the impact of wildlife damage on farm profitability. For a subsample of the herds, we will also conduct field inspections of the exact manner how protection measures are implemented as an opportunity to get more insight into the practical details of husbandry practices.

**Type of data:** Personal and geographical data.

**Sensitive personal data** (According to European GDPR): No

**Sources/collection method:** Face to face surveys and online questionnaires.

**Aim of the data produced:** Analyse the relationship between husbandry practices and interactions with wildlife and pastoralist perspectives on pastoralism and wildlife.

**Process of the data collection applied:** First, participants are contacted, then consent is obtained, data are recorded and verified for accuracy manually and stored in a database.

**Format of the data:** .DOC /.DOCX, .XLS / .XLSX, .CSV, .PDF

**Estimated size:** 0.5-2 MB

#### **WP4. Task 4.1. Stakeholder perspectives on needs and measures to manage conflicts (1000 Hunters, 1000 Landowners).**

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**Name of the dataset:** Database on stakeholder perspectives based on 1000 hunters and 1000 landowner surveys (linked to D 4.1).

**Description of the dataset:** The database will comprise two sets of data: the first will be qualitative data from interviews with stakeholder representatives of the project's Advisory Board, and the second will be quantitative data from online surveys with landowners and hunters. Both will map out perspectives of stakeholders on interactions with wildlife and the ways these interactions are managed. Issues that will be part of the database will include: the forms of interactions, different perceptions of conflict, power imbalances, levels of influence and (in)justice, access to and need for knowledge, information and support (technical and financial) and suggestions for coexistence.

**Type of data:** Personal and geographic data.

**Sensitive personal data** (According to European GDPR): No

**Sources:** Face-to-face qualitative interviews and online questionnaires.

**Aim of the data produced:** To understand the types of interactions of stakeholders with wildlife, how the interactions are currently managed and how they could be managed in the future with a view towards greater coexistence.

**Process of the data collection applied:** Initial contact, consent forms sent and signed, data recorded and transcribed, data pseudo-anonymised and stored in project database.

**Format of the data:** DOC / .DOCX, .XLS / .XLSX, .CSV, .PDF

**Estimated size:** 1-2 MB

#### **WP4. Task 4.2. Innovative governance structures to reduce social conflicts**

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**Name of the dataset:** Stakeholder input for governance structures.

**Description of the dataset:** The database will include stakeholder input and feedback referring to targeted participatory processes and governance structures. We will concentrate on what works well and what does not in such processes and structures to delineate and inform good practices for stakeholder engagement for managing wildlife – livestock interactions. Related deliverables and milestones: D2.1, D2.2, D4.2, M1.2, M2.2, M2.2-2.3.

**Type of data:** Personal and geographic data.

**Sensitive personal data** (According to European GDPR): No

**Sources:** Interviews and online questionnaires, previous projects.

**Aim of the data produced:** To inform the production of a roadmap of good practices, which would contextualize innovative governance structures for managing wildlife – livestock interactions and highlight any potential barriers to implementation.

**Process of the data collection applied:** Instrument development, sample selection, data collection, data storage.

**Format of the data:** DOC /.DOCX, .XLS / .XLSX

**Estimated size:** About 1MB for DOC /.DOCX, and another 1MB for .XLS / .XLSX

#### **WP5. Emerging tools and technologies for rapid assessment and management of the wildlife-livestock interface**

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**Name of the dataset:** Stakeholder input for emerging tools and technologies

**Description of the dataset:** The database will include stakeholder input and feedback referring to emerging tools and technologies for management of the wildlife-livestock interface. Related deliverables and milestones: D3.1, D3.2, D3.3, D5.1, M14-15, M19, M24-27.

**Type of data:** Personal and geographic data.

**Sensitive personal data** (According to European GDPR): No

**Sources:** Interviews and online questionnaires, previous projects.

**Aim of the data produced:** To inform the development of a typology of tools and technologies for management of the wildlife-livestock interface.

**Process of the data collection applied:** Instrument development, sample selection, data collection, data storage.

**Format of the data:** DOC /.DOCX, .XLS / .XLSX, .JPEG / .PNG

**Estimated size:** 1MB for DOC /.DOCX, 1MB for .XLS / .XLSX, about 70MB for .JPEG / .PNG

#### **WP6. Socio-economic analysis of the wildlife – livestock interface**

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**Name of the dataset:** Socioeconomic data on farm economics and behavior.

**Description of the dataset:** The database will include data on farm structures and the profitability of different pastoralist management strategies including subsidies and compensation payments as well as farmer preferences regarding different policy instruments.

**Type of data:** personal data

**Sensitive personal data** (According to European GDPR): No



**Sources:** WP3 questionnaire, public databases (e.g FADN, IACS, KTBL).

**Aim of the data produced:** to allow for a cost-benefit analysis of pastoralist strategies to reconcile conflicting objectives between wildlife and conservation/pastoralism, to identify the preferences of farmers for different wildlife management options (e.g. fencing, livestock guarding dogs, damage prevention payments etc.).

**Process of the data collection applied:** First, participants are contacted, then consent is obtained, data is recorded and verified for accuracy manually and stored in a database (see WP3). As for publicly available data, the available data sources will be identified, scanned, relevant data downloaded and reorganized as needed, data preparation for model use, calculation of relevant economic indicators.

**Format of the data:** .csv, depending on database format (e.g. PostgreSQL, MS Access etc.)

**Estimated size:** 2 GB for database

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### WP8. Task 8.3. Co-creation of knowledge

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**Name of the dataset:** Stakeholder input for eco-generation experience.

**Description of the dataset:** The database will include stakeholder input and feedback for documenting co-generation experiences for selected project outcomes. Related deliverables and milestones: D4.1, D7.1, D8.4, M22-23, M36, M40-44, M46-47.

**Type of data:** Personal, economic, and geographic data; recordings.

**Sensitive personal data** (According to European GDPR): No

**Sources:** Interviews and online questionnaires, previous projects.

**Aim of the data produced:** To inform the development of information packs and best practice guidelines for the co-creation of solutions to effectively address human-carnivore and human-human conflict in the wildlife-livestock interface.

**Process of the data collection applied:** Instrument development, sample selection, data collection, data storage.

**Format of the data:** DOC /.DOCX, .XLS / .XLSX

**Estimated size:** 1MB for DOC /.DOCX, 1MB for .XLS / .XLSX

## 2.4 VERSION CONTROL AND NAMING CONVENTIONS

### 2.4.1 Version control

Datasets and other project outputs will be organized to keep track of different versions, through the application of a version control system that includes a data identification sheet and a version log tracking incremental version (or revisions).

### 2.4.2 Naming conventions

Datasets and publicly accessible documents will be carefully named using clear, descriptive, and standardized file names, which include the document version. These names will be designed to be both human-readable and machine-readable, ensuring they are informative and useful for a wide range of users. File names should be meaningful to facilitate understanding of the file's content and its intended use. Naming will be in accordance with the recommendations below:

- Short names will be preferred.
- Meaningful names will be chosen to explain the content making it useful for human users.
- Machine and human readable names will be used.
- The following intentional delimiters will be used: “-” to connect related words and “\_” to separate different information within a file name.
- Spaces, punctuation, capital letters or special characters (i.e. \$, @, %, #, &\*, (, ), !, etc. ) that may have meanings in programming languages will be avoided.

To ensure a consistent naming strategy across the project for open sharing, which distinguishes deliverables, technical documents/outputs, and datasets, the following naming conventions will be applied:

- **DELIVERABLES:** CoCo\_DX.X\_WPX\_SHORTNAME\_yymmdd\_v.X
- **DATASETS:** CoCo\_DS\_ENTITY\_WPX\_SHORTNAME\_yymmdd\_v.X
- **TECHNICAL DOCUMENTS:** CoCo\_[CODE]\_WPX\_SHORTNAME\_yymmdd v.X

Codes ([CODE] above) for the different types of technical documents:

- AGENDA: For agendas of project meetings.
- MINUT: For minutes of project meetings.
- WORKDOC: working document
- ABSTR: For abstract of congresses, workshops and events of any type where project activities or outcomes are presented.
- PRESENT: For presentations at congresses, workshops and events.
- POSTER: For poster in congresses, workshops and events.
- SCIPUB: For publications in peer-reviewed scientific journals
- TECHPUB: For publications in technical or sectorial journals of any type.
- PROTOCOL: For protocols developed in the project.
- PICTURE: For pictures related to project activities of any type.
- INFOGR: Infographic.

## 3 DATA MANAGEMENT, STORAGE AND BACKUP

This section outlines the strategies and infrastructure for securely storing project data and ensuring reliable backups. It details the storage solutions to be employed, including their location, access protocols, and compliance with relevant data protection regulations. Additionally, it specifies the frequency and methods of data backup, measures to prevent data loss, and mechanisms for recovery in case of system failures. The section also highlights responsibilities for storage and backup management within the project team.

### 3.1 PERSONAL DATA MANAGEMENT

- **Pseudonymization of Personal Data**

Each partner responsible for data collection at the national level oversees pseudonymizing personal data obtained from surveys, interviews, or any other means, conducted with pastoralist farmers or any other stakeholder individuals across the 12 participating European countries. Pseudonymization must be performed following GDPR guidelines, ensuring that personal identifiers are replaced with unique codes. The key linking codes to personal data must remain secured and accessible only to the national partner conducting the survey.

- **Photographs Involving People**

In certain situations, photographs intended for project communication may feature individuals, such as farmers. To ensure ethical practices and compliance with data protection regulations, all photographs will only be taken and utilized with the explicit consent of the individuals depicted. Prior to taking any photographs, a detailed consent form will be provided to obtain informed consent. Each individual will be required to sign the consent form before any photographs are taken, ensuring clarity regarding the use of their images in project materials.

- **Data Sharing within the Consortium**

Once pseudonymized, data will be shared within the consortium through a secure data transfer platform (e.g., encrypted cloud services or secure file exchange systems). Only the pseudonymized datasets will be shared, ensuring that no direct identifiers are included. Consortium partners will have access solely to the pseudonymized data for the purposes outlined in the project.

Photographs will only be shared or disseminated with the explicit permission of the individuals depicted. Photographs will only be used for illustration of CoCo communication work. Photographs will be shared or disseminated in accordance with the GDPR.

- **Public access to data**

The project will endorse the principle of “as open as possible, as closed as necessary” during its implementation, in line with the European Code of Conduct for Research Integrity principles (<https://allea.org/code-of-conduct/>). The project will seek a balance between openness and protection of information, commercialization and Intellectual Property Rights (IPR), privacy concerns, security, etc.

Regarding sensitive data and in accordance with Open Science procedures, neither confidential, nor personal, nor geographic data will be shared when the data are made publicly available. When in certain circumstances, research data or outputs need to be kept temporarily closed, confidential (i.e. to preserve IPR or data protected for security reasons: passwords, financial information, etc.), or embargoed for a specific period of time or in the long-term, the choice will be carefully assessed by the Executive Board and explicitly justified in the following updated versions of this DMP.

- **Retention of Common Data**

The consortium's coordinating institution and institutions leading CoCO WP and Tasks will be responsible for storing and managing the harmonized dataset(s), which will include the combined pseudonymized data from all participating countries. Harmonized datasets will be retained in a secure repository for the duration of the project and, if necessary, for the legally required period following its conclusion. Access will be limited to authorized personnel within the consortium.

- **Monitoring**

Regular reviews by CoCo's Executive Board will ensure that pseudonymization, sharing, and retention practices align with established protocols and ethical standards.

## 3.2 DATA STORAGE AND BACKUP

The project will utilize data storage tools tailored to end-users' needs, ensuring compliance with the FAIR principles (see next section).

- **Internal Use and Daily Project Activities**

Daily working documents and pseudonymized research datasets will be managed and shared through a project-specific portal integrated into the project's website. This portal will be supported by Microsoft Teams, acting as a file hosting and synchronization service provided as part of Microsoft Office's web version. This secure, private space is dedicated to project activities and will be accessible to all beneficiaries for sharing working files and temporarily storing master copies of key project deliverables and results. The system is set up so that the data is stored on the coordinating institution's own servers, located in Norway (which is bound by GDPR).

In addition, consortium partners may utilize local drives, their institutions' cloud storage systems, and external portable storage devices for short-term individual storage. These storage solutions fall outside the scope of this DMP.

- **Open Access and Long-Term Data Storage**

Data sets, deliverables and other outputs generated during the project, including verifiable statistical analyses and R scripts to support reproducibility, will be archived in open access repositories to ensure long-term storage and compliance with the FAIR principles. Only pseudonymized datasets (e.g., transcripts and research data) will be made available on these platforms.

Datasets will be stored on **ZENODO**, which provides long-term preservation by assigning a persistent identifier (DOI) for citation and discoverability. A dedicated Zenodo community will be created for the project, enabling beneficiaries to upload pseudonymized datasets. Each dataset will include a README file (.txt) to facilitate understanding.

For files containing information limited to single countries, national open-access repositories may be used if preferred by the respective country beneficiaries. Examples of these national repositories are, **Sikt** (<https://sikt.no/en/home>), operated by the Norwegian Agency for Shared Services in Education and Research, and **citaREA** (<https://citarea.cita-aragon.es>), operated by the Aragón Agrifood Research Centre in Spain.

- **Data Retention and deletion**

Personal data will be erased when no longer strictly necessary. Specifically, personal data will be deleted under the following conditions:

- i) The data are no longer required for the purposes for which they were collected.
- ii) The data subject withdraws consent, and no other legal basis for processing exists.
- iii) The data subject objects to processing, and no overriding legitimate grounds justify retention.
- iv) The data have been processed unlawfully.
- v) The data must be erased to comply with legal obligations under EU or Member State laws.

These provisions ensure data handling aligns with Article 17 of the GDPR while safeguarding participants' privacy.

## 4 DATA SECURITY

This DMP and all the activities undertaken in the Coco project will comply with the applicable EU, international and national laws on data protection (in particular 2016/679). Each consortium partner is responsible for ensuring that their activities comply with all applicable local, national, and international laws, regulations, and guidelines. They must implement appropriate technical and organizational security measures (Annex I) to ensure a level of security proportional to the risks associated with the project activities and the nature of the personal data. These measures must protect the integrity and confidentiality of the personal data in accordance with the requirements of Article 32 of the GDPR, including but not limited to the following:

- i) Treat all personal data in a strictly confidential manner,
- ii) Have in place procedures which ensure that any third party authorised to access the personal data will respect and maintain the confidentiality and security of the personal data,
- iii) Ensure that (except for people authorized or required by law or regulation to have access to the personal data) any person or organisation acting under its authority, processes the personal data only upon instructions from the project beneficiary acting as a controller.
- iv) Ensure that all project staff are trained in data management procedures.

All data containing personal data will be pseudonymized by default before processing. personal data will be collected only with the prior explicit consent of the data subjects. Data subjects, defined as identifiable individuals whose data is used exclusively for legitimate and explicit purposes, have the right to withdraw their consent at any time. Upon withdrawal, their personal data will no longer be used for the stated purposes.

As stated in article 15 of GA, the beneficiaries may grant their personnel access to personal data only if it is strictly necessary for implementing, managing and monitoring the Agreement. The beneficiaries must ensure that their personnel are under confidentiality obligation.

No data will be transferred to a country outside of the European Economic Area without complying with applicable Data Protection Law, and especially with Chapter V of the GDPR and related recommendation of the European Data Protection Board.

Raw and confidential data (e.g., interview records, geographical details) collected for internal purposes will be securely stored at the facilities of the organization responsible for data collection. This data will be retained 10 years after the project's conclusion and used solely for similar research purposes within the same discipline. Pre-processed data (e.g., interview transcriptions) will be periodically backed up to ensure the ability to reconstruct vital data in case of corruption.

Each project beneficiary is responsible to determine its qualification in respect to processing activities carried out and, based on such qualification, comply with the obligations stipulated in this DMP and in the related deliverable D1.3 Gender, diversity, equality and ethics plan. In addition, it should be warranted that:

- i) To the extent required under applicable Data Protection Law, it has conducted or will conduct a timely Data Protection Impact Assessment covering the data processing operations and,
- ii) Each project beneficiary will appoint and identify within their teams the following figures involved in data collection, processing and use activities of the project and communicate them to the Executive Board:

- **Data controller** – is the natural or legal person responsible for determining the purpose and methods of processing personal data. The controller ensures that explicit consent is obtained from data subjects for the specified purposes and must be able to demonstrate compliance with the GDPR at all times.

- **Data processor/s** – is the natural or legal person who processes personal data on behalf of the controller. Processors do not decide the purpose of data processing but act solely under the controller's instructions.

When processing data is done by an external company under a specific contract (i.e. subcontracting), a data controller can only use a data processor who offers sufficient guarantees, these should be included in a written contract between the parties involved. The contract must also contain a number of mandatory clauses, e.g. that the data processor will only process personal data when instructed to do so by the data controller.

- **Persons cleared for use of data** – team members of each beneficiary with access to raw and pseudonymised data.

- **Data Protection Officer (DPO)** – who may have been designated by the project beneficiaries, is responsible for monitoring how personal data is processed and to inform and advise employees who process personal data about their obligations.

Each appointed partner responsible for specific research activities will:

- i) Respond to requests from supervisory authorities,
- ii) Respond to enquiries from data subjects, within a reasonable time and in accordance with article 12.3 GDPR delays,
- iii) Consider, in consultation with its DPO (or other qualified personnel/ persons in charge with data protection compliance), and if required by its data protection supervisory authority, the optimum modalities and methodologies for performing a Data Protection Impact Assessment with respect to Personal Data Processing within Research Project,
- iv) Enter into the necessary agreements when engaging a third party to process the Personal Data and keeping updated records - within the meaning of article 30 GDPR - of Processing activities it carries out in the frame of the Research Project.

In addition to the legal framework concerning privacy issues and the wider provisions of the GDPR but also including national and institutional laws and regulations, the project will fulfil the principles of the European Code of Conduct for Research Integrity as well as the individual codes of conduct of each entity participating in the project.

The compliance with the guidelines laid out in this DMP by all members of the consortium will be ensured via regular monitoring, as part of Task 1.3. The Executive Board members, responsible for monitoring and supervising the data and information shared within the project-specific portal

implemented in the project's internal SharePoint. Some of the research will be conducted in Norway, but as part of the European Economic Area Agreement, agreement Norway falls under all the same relevant restrictions as the EU with respect to GDPR and data management regulations, as well as the same animal welfare legislation.

When a third party has access to sensitive data under subcontracting, a specific Agreement must be signed by both entities to ensure that legal, ethic and good practices requirements are preserved and aligned with the guidelines set in this DMP.

#### **OVERALL LEGAL FRAMEWORK**

REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 april 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing directive 95/46/ec (general data protection regulation)

REGULATION (EU) 2018/1725 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 october 2018 on the protection of natural persons with regard to the processing of personal data by the union institutions, bodies, offices and agencies.

National regulations (IPR, ...) of the different countries involved in research activities: Belgium, France, Germany, Greece, Italy, Latvia, Norway, Slovenia, Romania, Spain, Sweden, and Poland.

Article 15 Of The Grant Agreement No 101181958.

Coco Consortium Agreement (Final Version 2024-10-15).



## 5 FAIR DATA COMPLIANCE

The CoCo project is committed to ensuring that all datasets, deliverables and research output generated during the project adheres to the FAIR principles. These principles will guide our data management practices to maximize the value of the data for the research community and society, while safeguarding privacy and complying with GDPR and other relevant regulations.

### 5.1 MAKING DATA FINDABLE, INCLUDING PROVISIONS FOR METADATA

All project beneficiaries will make sure that the deposited data will:

- i) Include rich meta-data, stored as a .txt file, to allow for easy discovery and ensure that key details about the data are clearly documented,
- ii) Has a persistent DOI identifier for each dataset, thereby preserving it in the long-term,
- iii) Supports open-access licenses, thereby allowing public access without barriers such as paywalls or logins.

Based on these procedures, every new dataset created should be accompanied with the appropriate open-access license and required metadata. Metadata will include search keywords to optimize the possibility for discovery and re-use and will be offered in such a way that it can be harvested and indexed. The authors (project beneficiaries) will facilitate descriptive and substantive metadata openly available and licenced under a public domain. The table below provides an initial version of the metadata fields that each CoCo dataset should include, following the ZENODO and OpenAIRE standards. This ensures the project's metadata is exposed in a way that is compatible with the OpenAIRE infrastructure (<https://guidelines.openaire.eu/en/latest/data/index.html>) and the European Open Science Cloud (EOSC).

#### *CoCo metadata scheme*

Metadata element	Description
<i>Creator</i>	Main researchers involved in producing the data in priority order (FORMAT: family name, given name, ORCID if existing)
<i>Contributor</i>	Institution where the data was created or collected. A person or organization responsible for collecting, managing, distributing, or otherwise contributing to the development of the dataset/resource. <ol style="list-style-type: none"> <li>i. Contributor type (Controlled list values: <a href="https://guidelines.openaire.eu/en/latest/data/field_contributor.html">https://guidelines.openaire.eu/en/latest/data/field_contributor.html</a>)</li> <li>ii. Contributor name</li> <li>iii. Name identifier</li> </ol>
<i>Title</i>	Name or title by which the dataset is known (FORMAT: according to section 2.4).
<i>Publisher</i>	A holder of the data (including archives appropriate) or institution which submitted the work. Any others may be listed as contributors.
<i>Publication year</i>	The year when the data was or will be made publicly available (FORMAT: YYYY).

Metadata element	Description
<i>Subject</i>	Subject, keyword, or key phrase describing the resource.
<i>Data created</i>	Date the resource itself was put together; this could be a date range or a single date. (FORMAT: YYYYMMDD or YYYYMMDD-YYYYMMDD).
<i>Language</i>	The primary language of the resource (FORMAT: IETF BCP 47 language tag).
<i>Resource type</i>	A description of the resource type (Controlled list values: <a href="https://guidelines.openaire.eu/en/latest/data/field_resourcestype.html">https://guidelines.openaire.eu/en/latest/data/field_resourcestype.html</a> ).
<i>Related identifier</i>	Identifier of related resources. Include the web addresses or DOIs for any publication, important internal reports or other datasets that are related to your dataset ( <a href="https://guidelines.openaire.eu/en/latest/data/field_relatedidentifier.html">https://guidelines.openaire.eu/en/latest/data/field_relatedidentifier.html</a> ). <ul style="list-style-type: none"> <li>i. Related identifier type (controlled list values)</li> <li>ii. Relation type (controlled list values)</li> </ul>
<i>Size</i>	Unstructured size information about the resource. Free text. i.e. 15 pages, 6 MB.
<i>Format</i>	Technical format of the resource. Use file extension or MIME type where possible.
<i>Version</i>	The version number of the resource.
<i>Rights</i>	Any rights information for this resource.
Description	Concise description of the contents of the dataset. Describe the research objective, type of research, method of data collection and type of data.
Spatial coverage	Describe the geographic area to which the data refer. Spatial data will be limited to administrative units.
Temporal coverage	Indicate the dates to which the data refer. Enter the year or beginning and ending dates. This could be a date range or a single date following the FORMAT: YYYYMMDD or YYYYMMDD-YYYYMMDD.

## 5.2 MAKING DATA ACCESSIBLE

Pseudonymised datasets, deliverables and research outputs will be made publicly available and accessible at EU Open Research Repository ZENODO and other national open repositories that provide, in line with FAIR principles:

- i) **Safety** - Information is stored safely for the future.
- ii) **Trust** - It is built and operated to ensure that everyone can join Open Science.
- iii) **Citeable** - Every upload is assigned a DOI, to make them citable and trackable.
- iv) **No waiting time** - Uploads are made available online as soon as you hit publish, and your DOI is registered within seconds.
- v) **\*Open or closed** - Share can be use-restricted access mode if needed.
- vi) **Versioning** - Easily update your dataset with our versioning feature.

- vii) **GitHub integration** - Easily preserve your GitHub repository in Zenodo.
- viii) **Usage statistics** - All uploads display standards compliant usage statistics.

The main part of processed data generated by the project (only pseudonymised data) will be stored and accessible to all consortium partners (only members of consortium previously identified as controller/processor/data user and or data protection officer and ascertained by the Executive Board) within a project-specific SharePoint site for internal use. All partners will use this portal to inform the whole consortium about the results of the project in a timely manner.

The Executive Board will act, when necessary, as a data access committee evaluating and approving or denying access requests to personal/sensitive data submitted through the shared portal.

IPR and research data and results ownership will be preserved according to section 7 of the Consortium Agreement and Articles 16 and 17 of the GA. This may imply occasionally to temporal or longer-term restricted access to project research data.

\*In exceptional cases when data cannot be made accessible to the public, it will be stored in Zenodo (to preserve it) but only the metadata will be public (in CC0 Public Domain Dedication; <https://creativecommons.org/share-your-work/ccllicenses/>). For this purpose, the project data will be classified into OPEN, SENSITIVE and CLOSED. Access will depend on its classification:

- **PUBLIC (PU):** Fully open. No permission is required from the researcher and open data must be acknowledged by citing the data set.
- **SENSITIVE (SEN):** Access is governed by the Executive Board's permission. Sensitive data may be available only once identifying information has been removed.
- **CLASSIFIED (CI):** Data that are not available for sharing.

### 5.3 MAKING DATA INTEROPERABLE

The CoCo project will follow an implementation strategy that ensure datasets and information generated to fulfil with community interoperability standards. To achieve this, it will follow established best practices such as prioritizing the use of common and widely accepted open formats, providing rich metadata, using persistent identifiers and making data as open as possible.

OpenAIRE guidelines for Data Archives are implemented to make the project data interoperable and allow data exchange and re-use within and across disciplines. The combination of data archiving in online repositories, as well as open access publication of research outputs, will ensure that the data, reports, publications, and other research outputs will adhere to interoperability standards.

The vocabulary used in the project documentation will be standard, formal, accessible, shared and understandable also outside the discipline. To guarantee this, standard terminology available in official libraries such as the National Agricultural Library Thesaurus Concept Space will be used as a reference.

## 5.4 INCREASE DATA REUSE

All relevant data obtained will be preserved and archived in ZENODO and national open repositories. The pseudonymised datasets and other results generated within the CoCo project will be openly accessible beyond the project to other researchers to complement, reproduce or as starting point for future research in this field.

All data are documented to help interested users to clearly understand and reuse them. For this reason, descriptive and substantive (i.e. how the data should be read or interpreted) metadata will be elaborated and described in a readme.txt file complementing each dataset (section 5.1). Aimed at optimizing the reuse of data produced within the CoCo project, metadata will be richly described with accurate and relevant attributes.

This DMP will prioritize the licensing of CoCo data according to best practice for free sharing giving priority to open source and open datasets. However, subsequent versions of this DMP will detail case by case the specific licenses applied in each case (dataset, deliverable, etc.) according to their data classification abovementioned.

## 6 ETHICS AND PRIVACY OF PARTICIPANTS

The CoCo project is committed to addressing privacy and ethical issues in full compliance with the GDPR and adhering to relevant national and institutional laws and codes of conduct. In addition, the project follows the principles of the Declaration of Helsinki and the European Code of Conduct for Research Integrity.

To mitigate potential ethical and privacy impacts, all project beneficiaries will:

- **Use of Personal Data:** Personal data will be exclusively processed for purposes directly related to the research objectives of the CoCo project.
- **Informed Consent:** Participants will provide written or online consent prior to enrollment, in line with GDPR requirements. They will be fully informed of their rights, including the ability to withdraw consent or participation at any stage. All withdrawal requests will be documented.
- **Transparent Information:** Before collecting or processing any personal data, researchers will provide clear and plain language information, ensuring participants understand:
  - i) Who is processing their data and why.
  - ii) The legal basis for processing.
  - iii) Data recipients (if applicable).
  - iv) Contact details for the DPO, if relevant.
  - v) Data retention periods.
  - vi) Participant rights, such as access, correction, erasure, restriction, objection, and portability.
  - vii) How consent can be withdrawn (if applicable).
  - viii) Any statutory or contractual obligations to provide the data.
- **Participant Rights:** The project will ensure participants' rights under GDPR, including:
  - i) Free access to their data and the right to data portability in a machine-readable format.
  - ii) The right to correct data and object to processing at any time, with accessible communication channels and tools provided.
  - iii) The right to erasure ("right to be forgotten"), supported by clear communication procedures.
- **Data Protection Measures:**
  - i) Data protection by design and by default will be implemented.
  - ii) Any data breaches will be promptly reported, with proper notification procedures in place.
- **Pseudonymization:** All data will be carefully pseudonymized using a unique key code for each participant. Geographic data that could indirectly identify individuals will be stored in a separate, linked file during analysis and replaced with regional codes when data is shared through Open Science platforms.

All project beneficiaries will adhere to their respective national and institutional ethical frameworks. In addition to fulfilling their roles and responsibilities as data controllers or processors, data users will:

- **Ethical Clearance:** Ensure that all CoCo project activities involving human subjects have received the necessary clearance from relevant national ethical research committees.
- **Purpose Limitation:** Use personal data exclusively in accordance with this DMP and solely for the research project's objectives.

- **Data Minimization:** Access, use, and process personal data strictly as necessary for the research project, following the data minimization principle under Data Protection Law.
- **Restricted Duplication:** Avoid copying or downloading personal data unless it is essential for achieving the project's goals.
- **Prohibited Data Linking:** Not link or combine personal data with other information (including freely available data) unless explicitly authorized.
- **Preservation of Anonymity:** Avoid any use or analysis of personal data that could:
  - i) Circumvent pseudonymization measures.
  - ii) Lead to the identification of data subjects.
  - iv) Compromise the anonymity of data subjects.
  
- **Confidentiality in Publications:** Ensure the confidentiality of personal data and the anonymity of data subjects in all publications, taking all necessary precautions to prevent identification.
- **Security Practices:**
  - i) Follow best practices for data security, such as maintaining strict confidentiality of credentials.
  - ii) Notify relevant parties in case credentials are lost, stolen, or compromised.
  
- **Error Reporting:** Promptly report any detected errors in personal data to the relevant data subjects or stakeholders.
- **Data Breach Notification:** Notify relevant parties without undue delay in the event of a personal data breach.
- **Access Limitations:** Acknowledge that access to personal data may be suspended or blocked in the event of a breach of the DMP, related agreements, or for maintenance and security purposes.
- **Data Reissuance and Versioning:**
  - i) Accept that personal data may be reissued with appropriate versioning.
  - ii) Remove earlier data versions from analysis and publications upon ethical review or at the request of data subjects.
  - iii) Securely destroy all outdated versions of personal data.
- **Data Deletion:**
  - i) Delete or pseudonymize personal data (including backup copies) upon written request, provided the request complies with Data Protection Law, a supervisory authority's order, or if access rights are revoked.
  - ii) Ensure secure deletion methods to prevent restoration or reconstruction of data.

By adhering to these principles, the project will ensure ethical data handling, safeguarding privacy, and compliance with GDPR and other relevant regulations.

## **A ANNEX I: TECHNICAL AND ORGANISATIONAL SECURITY MEASURES**

### **1. Access Control to Data Processing Systems:**

The project beneficiaries will implement suitable measures to prevent their data processing systems from being used by unauthorized people. This is accomplished by:

- i. Identification of the terminal and/or the terminal user to the systems.
- ii. Automatic time-out of user terminal if left inactive, identification and password required to reopen.
- iii. Automatic turn-off of the user identification when several erroneous passwords are entered, log file of events (monitoring of break-in-attempts).
- iv. Issuing and safeguarding of access/identification codes.
- v. Staff policies and training in respect of each staff's access rights to personal data (if any), informing staff about their obligations.

### **2. Access Control to Use Specific Areas of Data Processing Systems**

The project beneficiaries commit that the people entitled to use their data processing systems are only able to access the data within the scope and to the extent covered by its access permission (authorization) and that personal data cannot be read, copied or modified or removed without authorization. This shall be accomplished by:

- i. Staff policies and training in respect of each staff member's access rights to personal data.
- ii. Allocation of individual user accounts.
- iii. Release of data to only authorized people.
- iv. Control of files, controlled and documented destruction of data.

### **3. Availability Control**

The project beneficiaries implement suitable measures to ensure that personal data are protected from accidental destruction or loss. This is accomplished by:

- i. Infrastructure redundancy.
- ii. Data redundancy via data backup.
- iii. Data contained in backups will be put beyond use for any other purpose until destroyed pursuant to data backup schedules.

#### **4. Transmission Control**

The project beneficiaries implement suitable measures to prevent the personal data from being read, copied, altered or deleted by unauthorized parties during the transmission thereof or during the transport of the data media. This is accomplished by:

- i. Use of appropriate firewall technologies.
- ii. Data encryption in transit.
- iii. As far as possible, all data transmissions are logged and monitored.

#### **5. Input Control**

The project beneficiaries implement suitable measures to ensure that it is possible to check and establish whether and by whom Personal Data have been input into data processing systems or removed. This is accomplished by:

- i. An authorization policy for the input of data, as well as for the reading, alteration and deletion of stored Data (role-based access management rules).
- ii. Authentication of the authorized personnel.
- iii. Utilization of user codes (passwords).
- iv. All users who have access to personal data shall reset their passwords as specified in the relevant internal policy of each involved party.
- v. Areas housing the computer hardware and related equipment are capable of being locked.

#### **6. Additional security measures**

- i. The third parties involved in the project, if any, will declare that they have the means enabling them to process and protect the personal data collected in the project databases, including: information systems with an appropriate level of security, as stipulated by the GDPR.
- ii. The data and information gathered through the online contact are accessible, through a secure password, to the authorized personnel.
- iii. Authorized personnel of consortium partners will have access to the project database only in visualization mode through a secure password.