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SUSTAINOLIVE

Data Management Plan

Deliverable D 1.3

WP1. Project management and governance

Novel approaches to promote the SUSTAInability of OLIVE cultivation in the Mediterranean

DELIVERABLE FACTSHEET

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Executive Summary

This report is the first version and describes the updated Data Management Plan (DMP) for the SUSTAINOLIVE project, funded by the PRIMA H2020 Programme under Grant Agreement number 1811. This DMP followed the structure of the Horizon 2020 DMP template and reported on most of the datasets used and produced by the project in a dedicated annex.

This first version of the SUSTAINOLIVE DMP describes the procedures used in the project for the handling of data during and after the end of the project, discusses what kind of data will be collected, processed, and synthesized, which methodology and standards will be applied during data collection and handling, elaborates procedures for sharing and open access to the SUSTAINOLIVE data and for curation and preservation of the data.

As part of PRIMA Horizon 2020, the SUSTAINOLIVE project participates in a pilot action on open research data. The aim is to provide indications as to what kind of data the project will collect, how the data will be preserved and which sharing policies will be adopted towards making these data readily available to the research community.

This DMP is considered as a "living" DMP and will continuously updated throughout the course of the project, and describe the status of the data that is collected, processed or generated and following what methodology and standards, whether and how this data will be shared and/or made open, and how it will be curated and preserved.

TABLE OF CONTENTS

1.- Introduction	6
2.- SUSTAINOLIVE DMP review process & timetable	7
3.- Principles that govern the Data Management Plan (DMP)	8
4.- About SUSTAINOLIVE Data Management Policy	11
5.- Type of data generated in SUSTAINOLIVE	12
6.- Making SUSTAINOLIVE data findable	13
7.- Making SUSTAINOLIVE data openly accessible	17
8.- Data Interoperability of SUSTAINOLIVE	18
9.- SUSTAINOLIVE Data Re-Use (through clarifying licenses)	18
10.- Allocation of resources	19
11.- Data security	19
12.- Ethics and Confidentiality	19
13.- Annex 1.	21

1.- Introduction

This deliverable analyses and describes the data management implications of the activities undertaken in the project, and describes the guidelines and procedures to apply to ensure compliance with data management requirements. In addition, the different data sets that will be used within the WPs are described as well as possible.

The purpose of the Data Management Plan (DMP) deliverable is to provide relevant information concerning the data that will be collected and used by the partners of the project SUSTAINOLIVE. The project overall objective is to *enhance the sustainability of the olive oil farming sector throughout the implementation and promotion of a set of innovative sustainable management solutions that are based on agro-ecological concepts, and the exchange of knowledge and co-creation involving multiple actors and end-users*. In order to achieve this, a platform for harvesting and sharing data has been created which is located in the intranet of **SUSTAINOLIVE** web page (https://sustainolive.eu)

The **SUSTAINOLIVE** Data Management Plan (DMP) aims to provide a strategy for managing data generated and collected during the project and optimise access to and re-use of research data. The DMP is intended to be a living document that will outline how the **SUSTAINOLIVE** research data will be handled during and after the project, and so it will be reviewed and updated at regular intervals.

The DMP describes the data management life cycle for all datasets to be collected, processed and/ or generated by the project. It covers: i) Data handling during and after the Project, ii) Types and formats of the generated and collected data, iii) Methodologies and standards which will be applied, iv) When the data will be shared or made open-access, and how, and finally v) the curation and preservation of the data.

The DMP will be updated as the project evolves to verify the applicability of the DMP to the generated data. **SUSTAINOLIVE** will generate diverse outputs, including measurements data, observations, validation protocols, survey results, interview recordings and scientific articles relating to the performance of sets of innovative sustainable management solutions to enhance and boost the sustainability of the olive oil farming sector. The great

diversity of data requires a DMP, building on existing open science resources that are interoperable and trusted.

2.- SUSTAINOLIVE DMP Review Process & Timetable

The first version of the SUSTAINOLIVE DMP will be validated by the consortium and will function as the operational manual until a next update has been validated. The DMP will be updated over the course of the project whenever significant changes arise, such as: i) New data, ii) Changes in consortium policies, and iii) Changes in consortium composition and other unaccounted external factors. The **SUSTAINOLIVE** DMP will also be reviewed, and revised as needed, at 18-month intervals, by the full consortium. Feedback will be recorded in table 1 below to support clarity and transparency in the revision process.

Table 1. Overview of revisions of the **SUSTAINOLIVE** DMP.

Version	Date	Status	Author	Description
v1	09/10/2020	Draft	Roberto García Ruiz	Table of contents and content description for each section
v2	03/02/2020	Draft	Roberto García Ruiz	First complete draft
V3	18/05/2020	Draft	Elena Guzmán Jiménez	Review and comments
v4	10/06/2020	Draft	Executive Committee SUSTAINOLIVE	Review and comments
v5	20/06/2020	Draft	General Assembly SUSTAINOLIVE	Review and comments
v6	30/06/2020	Final	Roberto García Ruiz	Finalised draft

3.- Principles that govern the Data Management Plan (DMP)

The Data Management Plan of **SUSTAINOLIVE** is coordinated by Workpackage 1, and is vertebrate around the following key points:

i.- This DMP has been prepared by taking into account the template of the "Guidelines on Data Management in Horizon 2020"(http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data- mgt_en.pdf). The elaboration of the DMP will allow **SUSTAINOLIVE** partners to address all issues related with IP

protection and data. The DMP is an official project Deliverable (D1.3) due in Month 3, but it is a live document throughout the project. This initial version will evolve depending on significant changes arising and periodic reviews at reporting stages of the project.

ii) The consortium will comply with the requirements of Regulation (EU) 2016/679 and of the Council of 27 April 2016 on the protection of natural persons concerning the processing of personal data and the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation). A guide on how these regulations relate with open-access data policy can be found in https://www.openaire.eu/ordp/.

iii) The procedures that will be implemented for data collection, storage, access, sharing policies, protection, retention and destruction will be in line with EU standards as described in the Grant Agreement and the Consortium Agreement, particularly Articles 18, Keeping Records — Supporting Documentation; Article 23a, Management of Intellectual Property; Article 24 Agreement on background; Article 25, Access Rights to Background; Article 26, Ownership of Results; Article 27, Protection of Results — Visibility of EU funding; Article 30,Transfer and Licensing of Results; Article 31, Access Rights to Results; Article 36, Confidentiality; Article 37 Security-related Obligations; Article 39 Processing of Personal Data; Article 52, Communication between the parties, and "Annex I – Description of Work" of the Grant Agreement.

4.- About SUSTAINOLIVE Data Management Policy

The data management policy will detail the current status of reflection within the consortium regarding the data that is being produced. According to ORD requirements, the **SUSTAINOLIVE** DMP observes FAIR (Findable, Accessible, Interoperable and Reusable) data management protocols. For each data set collected, processed and/or generated in the project the following elements are addressed:

1.- Dataset description

Description of the data that will be generated or collected, including its origin (in cases where data is collected), nature and scale and to whom it could be useful, and whether it underpins a scientific publication. Information on the existence (or not) of similar data and the potential for integration and reuse.

2.- Dataset reference and name

In order to be able to distinguish and easily identify data sets, each data set will be assigned with a unique name. This name can also be used as the identifier of the data sets. Internal project Identifier for all the data files to be produced. This will follow the format: WPNumber_TaskNumber__PartnerName_DataSubset_DatasetName_Version__DateOfStorage, where the project name is **SUSTAINOLIVE** the PartnerName represents the name of the data custodian (WP Lead/ Task Leader). An example of this naming format would be: WP3_T3.4.3_UJA_soilfunctionalquality_soilenzymes_V1_23.09.21. Each data set that will be collected, processed or generated within the project will be accompanied by a brief description.

3.- Standards and metadata

This version of the **SUSTAINOLIVE** DMP does not include a compilation of all the metadata about the data being produced in **SUSTAINOLIVE**. However, there are already several domains considered in the project which follows different rules and recommendations. This is a very early stage identification of standards:

i) Microsoft Office 2010 for text-based documents (or any other compatible version) .doc, .docx, .xls, .xlsx, .ppt, .pptx. Also, especially where larger datasets need to be dealt with, .csv and .txt file formats will be used. All finished and approved documents will also be made available as .pdf documents.

ii) Illustrations and graphic design will make use of excel, power point, Microsoft Visio (Format: .vsd), Photoshop (Format: different types possible, mostly .png), and will be made available as .jpg, .psd, .tiff and .ai files.

iii) PFDs, PIDs and layouts will preferentially use inkscape.org, an open source software for vector graphics. (Format: .svg), and will be made available as .png, .jpg and .pdf files.

iv) MP3 or WAV for audio files.

v) Quicktime Movie or Windows Media Video for video files.

These file formats have been chosen because they are accepted standards and in widespread use. Files will be converted to open file formats where possible for long-term storage.

If needed, metadata will be comprised two formats: contextual information about the data in a text-based document and ISO 19115 standard metadata in an xml file. These two formats for a metadata are chosen to provide a full

explanation of the data (text format) and to ensure compatibility with international standards (xml format).

4.- Data sharing and access

The mechanisms explained in this section aim at reducing to the maximum the risks related to data storage. Identification of the repository where data will be stored, if already existing and identified, indicating the type of repository (institutional, standard repository for the discipline, etc.). In cases where the dataset cannot be shared, the reasons for this will be stated (e.g. security-related, policies of personal data, ethical, intellectual property, commercial, privacy- related,).

The data created by the project will be diversely curated depending on the sharing policies attached to it. For both open and non-open data, the data will be preserved and make it readily available to the interested parties for the whole duration of the project and beyond. The database compliance aims to ensure the correct implementation of the security policy on the databases verifying vulnerability and incorrect data. The target is to identify excessive rights granted to users, too simple passwords (or even the lack of password) and finally to perform an analysis of the entire database. The following measures will be considered for assuring a proper management of data: i) Establishment of the minimum amount of data needed to be stored so as to prevent potential risks, ii) Access control list for user and data authentication. Depending on the dissemination level of the information an Access Control List will be implemented reflecting there for each user the data sets that can be accessed, iii) The activity of each user in the intranet of **SUSTAINOLIVE**, including the data sets accessed, will be registered in order to track and detect harmful behavior of users with access to the platform, iv) Commitment to try to implement an alert system that informs in real time of the violation of procedures or about hacking attempts, v) Identification of the responsible for keeping safe the information stored, vi) When possible, the information will be also made available in the initiative that the EC has launched for open data sharing from research, ZENODO.ORG.

The non-open research data will be archived and stored long-term in the **SUSTAINOLIVE** intranet, which is currently being use to coordinate the SUSTAINOLIVE activities and to store all the material.

We plan that the open research data will be archived on the ZENODO platform (http://zenodo.org). The portal's aims are inspired by the same principles that

the EU sets for the pilot; ZENODO represents thus a very suitable choice for SUSTAINOLIVE open research data archive. As far as we are concern the repository services offered by ZENODO are free of charge and enable peers to share and preserve research data and other research outputs of any size and format, such as datasets, images, presentations, publications and software. Each uploaded data-set is assigned a unique DOI rendering each submission uniquely identifiable and thus traceable and referenceable.

5.- Data archiving and preservation

Data will be stored in existing and administered EU and international files to ensure their accessibility during and the project has ended. For each type of data, a specific database will be set. All data generated in **SUSTAINOLIVE** will be jointly stored in the digital database designed by UJA as part of the **SUSTAINOLIVE** project. This task will be overseen by the Executive Committee. The **SUSTAINOLIVE** database will continue to be hosted by UJA beyond the **SUSTAINOLIVE** project end for future analysis and use by the scientific community and the olive oil sector across the Mediterranean.

5.- Type of data generated in SUSTAINOLIVE

SUSTAINOLIVE will create a great number of various type of data. With Data creation we refer to the act of creating new data (e.g., by performing questionnaires, analysis of organic and inorganic carbon in the soil, data on olive grove resistance and resilience in contrasting olive grove after running a specific model), or acquiring existing data which is new to the project (for example, by obtaining existing public datasets for use in the project). If a partner is the creator of data (e.g. by analyzing the contents of compounds in olive mill byproducts), then the partner is responsible for proper storage, processing and sharing of that data, and ensuring that personal data is purged before further dissemination to the consortium. If a consortium partner wishes to use relevant information from a case study area, but is not the creator (e.g. by acquiring relevant datasets or relevant documentation), then the partner is responsible for determining the source of the data, and assessing if the dataset contains personal or otherwise privacy-compromising data. If that is the case, it is the responsibility of the consortium partner to purge personal data from that dataset, and prepare it for further dissemination in a proper admissible form.

SUSTAINOLIVE will generate and collect diverse data outputs, including data on: 1) olive grove characteristics and management throughout a survey, 1) SWOT and synopsis of the olive oil cultivation in Portugal, Spain, Italy, Greece, Tunisia and Morocco; 2) Nutrient retention, carbon sequestration, biotic and abiotic olive trees on olive groves, etc; 3) Resistance and resilience of olive groves of contrasting management practices; 4) Olive production stability and quality, 5) Olive mill byproduct characterization, 6) Life cycle assessment and costing, 7) Identification of barriers in the flow of knowledge towards olive oil farmers. The organization of data collection and most convenient format will be the responsibility of the relevant task leader and will be integrated in a database hosted on the intranet of the **SUSTAINOLIVE** webpage. When uploading data to the database, the possibility of generating a protocol for unique and persistent identifiers, such as DOI will be established (OpenAIRE+ and ZENODO e- infrastructures) will be evaluated.

A detailed description of the type and format of SUSTAINOLIVE data that will be generated and collected for activities of WP2, WP3 and WP4, which are carried out during year 1, can be found in Annex I (Data Inventory). Data for other activities of these and other workpackages which are planned to start to be generated from year 1.5, will be shown in later updates of the DMP

As the project progresses and data is identified and collected, further information on the specific datasets will be outlined in subsequent versions of the DMP. Additional datasets may be identified and added to future versions of the DMP as necessary.

6.- Making SUSTAINOLIVE data findable

SUSTAINOLIVE agreed to take part of the ORD Pilot, and therefore is expected to deposit most of the generated and collected data in an open online research data repository. **SUSTAINOLIVE** will contact to ZENODO repository as its data archive of choice, based on compliance of the repository structure, and facilities and management FAIR data principles. As already mentioned, ZENODO is an OpenAIRE and European Organization for Nuclear Research (CERN) collaboration that allows researchers to deposit both publications and data, providing tools to linking them to these through persistent identifiers and data citations. ZENODO is set up to facilitate the finding, accessing, re-using and interoperating of data sets, which are the basic principles that ORD projects must comply with. The guidelines provided by ZENODO will be used by **SUSTAINOLIVE** to ensure the right format of data is uploaded to comply with FAIR principles.

Other online research data repositories will be considered depending on data types and formats generated and collected data. Beneficiaries will be encouraged to consider the Registry of Research Data Repositories and Databib and Directory of Open Access Repositories (OpenDOAR) for useful listings of repositories that might be suitable for **SUSTAINOLIVE** outputs.
The management principles behind storing and making findable data collected through **SUSTAINOLIVE** that partners should follow is detailed in:

a.- Store and make findable any **SUSTAINOLIVE** data that can be made openly accessible, either in the ZENODO repository or in another online data repository suitable for the type and format of data generated or collected. Any chosen online repository needs to facilitate identification of data and refer to standard identification mechanisms (ideally persistent and unique identifiers such as DOI), which should be outlined.

b.- Ensure that research outputs and data-sets are cross-referencing each other (e.g. scientific publications and the data behind them).

d.- The organisation, data collection and most convenient format will be under the responsibility of the relevant task leader.

e.- Each task leader will be responsible for depositing relevant data in ZENODO or another appropriate open access online repository. Data will be made accessible within two months of publishing the data in peer-reviewed scientific articles or similar, unless beneficiaries have outlined justifiable reasons for maintaining data confidentiality.

f- Each beneficiary is responsible for their records and documentation in relation to data generated, which must be in line with the accepted standards in the respective field, overseen by Task leads. To avoid losses, beneficiaries must take measures to ensure that data is backed-up using reliable methods.

Information on naming conventions used, approach towards search keywords, approach for clear versioning, and specification of standards for metadata creation (if any) will also be provided. A template will be created and provided to partners requesting specific information and metadata parameters that will support FAIR data management.

7.- Making SUSTAINOLIVE data openly accessible

Within **SUSTAINOLIVE**, the data from experimental olive groves will be used to assess for the improvement in sustainability of the olive groves under specific set of innovative sustainable management practices. The data from

questionnaires focused on target groups of the olive sector will provide a synopsis of the olive cultivation in the participant countries and on the barriers in the flow of information regarding olive grove and olive mil sustainable management practices.

In order to maximise the impact of **SUSTAINOLIVE** data, the project will facilitate sharing of results and deliverables within and beyond the consortium. Selected data and results will be shared with the scientific community and other stakeholders through publications in scientific journals and presentations at conferences, as well as through open access data repositories. We plan to have an open access policy applied to these following the rules outlined in the Grant and Consortium Agreements. Each beneficiary must ensure open access (free of charge, online access for any user) to all peer-reviewed scientific publications relating to its results. In particular, it must: i) as soon as possible and at the latest on publication, deposit a machine-readable electronic copy of the published version or final peer-reviewed manuscript accepted for publication in a repository for scientific publications, ii) ensure open access to the deposited publication — via the repository — at the latest on publication, if an electronic version is available for free via the publisher, or within six months of publication (twelve months for publications in the social sciences and humanities) in any other case, iii) ensure open access — via the repository — to the bibliographic metadata that identify the deposited publication. The bibliographic metadata must be in a standard format and must include all of the following the terms "PRIMA", "European Union (EU)" and "Horizon 2020", the name of the action, acronym and grant number, the publication date, and length of embargo period if applicable, and persistent identifier.

As an exception, the book that the consortium plan to publish in Springer (early in 2021) will not be open access available. This book should be considered as a non-planned extra deliverable and, therefore the consortium did not plan specific budget for this purpose. In addition, the book will contain contributions from researchers outside the SUSTAINOLIVE consortium and it is not planned to show results of SUSTAINOLIVE activities, but rather the know-how of the partners.

Task leaders will collect data from each task and the Executive Committee will review and approve all data that is identified as appropriate for open access. This process will be carried out on an ongoing basis to facilitate the publication of data as soon as possible. The Executive Committee is

responsible for the IPR issues within **SUSTAINOLIVE** and their approval will avoid any possible conflicts between open access and IPR issues.

All data will be made available for verification and re-use, unless the task leader can justify why data cannot be made openly accessible. The Executive Committee will assess such justifications and make the final decision, based on examination of the following elements regarding confidentiality of datasets: i) commercial sensitivity of datasets, ii) data confidentiality for security reasons, iii) conflicts between open-access rules and national and European legislation (e.g. data protection regulations), iv) sharing data would jeopardise the aims of the project, and v) other legitimate reasons, to be validated by the Executive Committee.

When a database should be kept confidential, the reasons for doing so will be included in an updated version of the DMP. Annex 1 illustrates the expected levels of accessibility of some of the **SUSTAINOLIVE** data.

The following protocol will be followed for Making SUSTAINOLIVE Data Openly Accessible:

1.- To encourage re-use and further application of project results, all **SUSTAINOLIVE** research data that underlies scientific publications will be made available via open-access online platforms, unless subject to protection, or if release of all or part of the data to open-access platforms would jeopardise the action's main objective. Some examples of approved open-access platforms are:

i) Factsheet: Open Access in H2020 (https://ec.europa.eu/programmes/horizon2020/sites/horizon2020/files/FactSheet_Open_Access.pdf),
ii) Registry of Research Data Repositories (https://www.re3data.org/),
iii) Directory of Open-Access Repositories (http://www.opendoar.org/),
iv) ZENODO Open-Access Data Repository (https://zenodo.org/), v) OpenAIRE Guidelines for Literature Repositories, Data Archives, and CRIS Managers based on CERIF-XML (https://guidelines.openaire.eu/en/latest/),
iv) Open Data and Metadata Standards (https://joinup.ec.europa.eu/sites/default/files/document/2015-05/d2.1.2_training_module_2.2_open_data_quality_v1.00_en.pdf),

vi) Making Data 'Findable' using Persistent Identifiers (file:///C:/Users/emer/Downloads/IdentifiersforauthorsandresearchmaterialstoenableOpenAccessandOpenData.pdf).

2.- Data that results from **SUSTAINOLIVE** activities that underlies scientific publications must be submitted to the relevant **SUSTAINOLIVE** task and workpackage leaders, and Scientific coordinator, not more than 15 days following any related publication in scientific journals (unless data is subject to protection or embargo periods). An information template will be circulated to all beneficiaries upon publication of the DMP outlining the descriptive information required by the workpackage leader and Scientific coordinator to evaluate and approve datasets for upload to open-access repositories. Upon receipt of data, the Scientific coordinator will evaluate each dataset and request additions or modifications promptly, to facilitate upload of the dataset by task leaders no more than 30 days after the original date of publication. It is the responsibility of project partners to prepare the template for submission on time to facilitate this process.

3.- All **SUSTAINOLIVE** data collection should be completed before to the official deadline as outlined for each task at the end of the Grant Agreement. Partners are expected to observe such deadlines and have all data in a suitable format ready for sharing openly according to these deadlines unless the publications have not yet been accepted.

4.- Partners who intend to protect their data should notify all consortium beneficiaries, the project coordinator, and the IPC, as soon as possible to ensure that the optimum level of confidentiality is upheld from an early stage. Evidence of applications for protection, and/ or associated legal processes, should be sent to the IPC within six months of such notifications. If no evidence of protection is provided, the IPC may request that such data be made accessible.

5.- When considering the potential to make data open access, partners are requested to review the project Consortium Agreement which follows the standard rules as outlined in the DESCA model (http://www.desca-2020.eu/) for Horizon 2020. This defines the main approach regarding the ownership, protection and access to key knowledge like IPR and data. This approach will allow the **SUSTAINOLIVE** partners, collectively and individually, to pursue market opportunities arising from the project's results.

6.- Each partner will treat information from other partners as confidential unless otherwise stated and not disclose it to third parties unless the information is publicly available.

7.- Any proposed publication or communication by one of the parties is required to be submitted to other beneficiaries for their consent, according to CA Article 8.4.2.1. All publications will be either gold or green open access in accordance with the H2020 requirements. As an exception, the book that the consortium plan to publish in Springer (early in 2021) will not be open access available. This book should be considered as a non-planned extra deliverable and, therefore the consortium did not plan specific budget for this purpose. In addition, the book will contain contributions from researchers outside the SUSTAINOLIVE consortium and it is not planned to show results of SUSTAINOLIVE activities, but rather the know-how of the partners.

8.- Task leaders will notify the partnership of their planned intent to upload datasets to open-access repositories following approval of data for such purpose by the Workpackage leader and Scientific coordinator.

9.- Each partner is and remains the sole owner of its Intellectual property right (IPR) over its pre-existing knowhow (or background). The partners will identify and list in the Consortium Agreement and DMP the Pre-Existing Know-How over which they may grant access rights for the project. The partners agree that the Access Rights to the Pre-existing Know-How needed for carrying out their work under the project shall be granted on a royalty-free basis.

10.- The ownership of foreground will belong to the partner/s generating it. Protection will be done appropriately. When the Foreground is the result of a work carried out by two or more partners and their respective share of the work cannot be ascertained, joint ownership will be agreed between the partners as it is established in the Consortium Agreement. If a partner wishes to assign any knowledge to a third party he should do so, while observing the conditions set out in Articles 26 and 30 of the **SUSTAINOLIVE** Grant Agreement, and should inform the other partners and request their consent, which should not unreasonably be withheld.
12.- Partners grant to each other royalty-free access right to knowledge generated in the project and to the background knowledge they bring to the project to the extent needed to successfully perform the project tasks allocated to them.

13.- Under Article 27.1 of the Grant Agreement, partners who own knowledge suitable for patent are obliged to make applications for patents or similar form of protection, and shall supply details of such application to the other partners. Information relating to patents that have been registered must be submitted under the 'IPR' section of the EU Participant Portal.

14.- If dissemination of knowledge does not adversely affect its protection or use and subject to legitimate interests, the partners shall ensure further dissemination of their knowledge as provided under the Grant Agreement (see Article 29) and the Consortium Agreement (see Section 8.4) which has been signed by all partners.

8.- Data Interoperability of SUSTAINOLIVE

SUSTAINOLIVE is considering to generate project specific ontologies in order to normalize and make data from different sources interoperable. Partners will observe OpenAIRE guidelines for online interoperability. Repositories, OpenAIRE Guidelines for Data Archives, OpenAIRE Guidelines for CRIS Managers based on CERIF-XML.

These guidelines can be found at: https://guidelines.openaire.eu/en/latest/. Partners will also ensure that **SUSTAINOLIVE** data observes FAIR data principles under H2020 open-access policy (http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-datamgt_en.pdf). Information relating to the interoperability of **SUSTAINOLIVE** datasets has been collated in Annex 1: Data Inventory Table. As the project progresses and data is identified and collected, further information on making data interoperable will be outlined in subsequent versions of the DMP. Specifically, information on data, standards or methodology to follow to facilitate interoperability and whether the project uses standard vocabulary for all data types present to allow interdisciplinary interoperability.

9.- SUSTAINOLIVE Data Re-Use (through clarifying licenses)

SUSTAINOLIVE is expected to produce a substantial volume of novel data and knowledge through experimental approaches that will be presented to the scientific community, the different actors of the olive sector, policy-makers and society at large through a carefully designed portfolio of dissemination

actions. Datasets uploaded in the repositories, such as ZENODO will be freely accessible after an embargo period determined per dataset if required. Potential users are expected to adhere with the ZENODO Terms of Use and will be subject to scrutiny by the ZENODO team.

As the project progresses and data is identified and collected, further information on increasing data re-use will be outlined in subsequent versions of the DMP. In specific, information on how data will be licensed to permit the widest reuse possible when the data will be made available for re-use, whether the data produced and/or used in the project is useable by third parties, a description of data quality assurance processes and specifications of the length of time for which the data will remain re-usable will be provided.

10.- Allocation of resources

Data management in **SUSTAINOLIVE** will be done as part of the WP1 and UJA, as project coordinator, will be responsible for the update and resources needed for the data management. **SUSTAINOLIVE** has allocated a part of the overall WP1 budget and person-months to these activities, although these have not been specified in the proposal. The Project coordinator will allocate approximately 1 person per month for the data management with the assistance of dedicated and experienced project manager of the Center for Advanced Studies in Olive Groves and Olive Oils. At the moment, the project coordinator is responsible for FAIR data management. Costs related to open access to research data are eligible as part of the Horizon 2020 grant (if compliant with the Grant Agreement conditions). Resources for long term preservation, associated costs and potential value, as well as how data will be kept beyond the project and how long, will be discussed by the whole consortium during the third General Assembly (GA) meeting. Fees related to open access to research data in PRIMA Horizon 2020 are eligible for reimbursement under the conditions defined in the PRIMA Grant Agreement, in particular Article 6 and Article 6.2.D.3, but also other articles relevant for the cost category chosen. Costs cannot be claimed retrospectively. Project beneficiaries will be responsible for applying for reimbursement for costs related to making data accessible to others beyond the consortium.

11.- Data security

All research data underpinning publications will be made available for verification and re-use unless there are justified reasons for keeping specific datasets confidential. The main elements when considering confidentiality of datasets are i) protection of intellectual property regarding new processes, products and technologies where the data could be used to derive sensitive information that would impact the competitive advantage of the consortium or its members, ii) commercial agreements as part of the procurements of components or materials that might foresee the confidentiality of data, iii) personal data that might have been collected in the project where sharing them is not allowed by the national and European legislation.

For the duration of the project, datasets will be stored on the responsible partner's storage system. Every partner is responsible to ensure that the data are stored safely and securely and in full compliance with European Union data protection laws. After the completion of the project, all the responsibilities concerning data recovery and secure storage will go to the repository storing the dataset.

12.- Ethics and Confidentiality

In this section the ethical and legal compliance issues, like the consent for data preservation and sharing, protection of the identity of individuals and companies and how sensitive data will be handled to ensure it is stored and transferred securely, is detailed. Data protection and good research ethics are major topics for the consortium of this project. Good research ethics meet all actions to take great care and prevent any situation where sensitive information could get misused. The executive committee of **SUSTAINOLIVE** is in charge of ensuring that ethical requirements are met for all research undertaken in the project, including data management aspects, in compliance with H2020 ethical standards. Research data which contains personal data will just be disseminated for the purpose for which it was specified by the consortium. Furthermore, all processes of data generation and data sharing have to be documented and approved by the consortium to guarantee the highest standards of data protection.

All partners will assure that the EU standards regarding ethics and data management are fulfilled. **SUSTAINOLIVE** partners must comply with the ethical principles (see Article 34) and confidentiality (see Article 36 as set out in the Grant Agreement) outlined also in the Ethical plan, which states that:

i) Ethical principles (including the highest standards of research integrity — as set out, for instance, in the European Code of Conduct for Research Integrity including, in particular, avoiding fabrication, falsification, plagiarism or other research misconduct) and
ii) Applicable international, EU and national law (in particular, EU Directive 95/46/EC).

Personal data will only be stored, analysed and used anonymously. The individuals will be informed comprehensively about the intented use of the information collected from them and have to agree to the data collection for this scientific purpose with their active approval in the form of written consent.
The identity of any individual interviewed or other wisely engaged in the project (e.g. by email correspondence) will be protected by this anonymization of the data. The anonymization process guarantees that no particular individual can be identified anymore. Statistics and tables of quantitative research will be published in a manner such that it will not be possible to identify any person.

The legal experts of the partners of this project will guarantee that this process, including the information for the individuals about data protection issues, fully complies with national and EU laws.

Data collection, storage, protection, retention and destruction will be carried out through the intranet system of the project. Interviewees/beneficiaries/recipients will be informed about data security, anonymity and use of data as well as asked for accordance. Participation of the different activities will be done on a voluntary basis.

ANNEX 1

Data inventory table, showing data for WP2, WP3 and some for WP4. Version October 2019. This data inventory table will be completed and updated in later versions of SUSTAINOLIVE DMP.

Data set	Task	Dataset name	Data subset	Type of data	New/existing	Method capturing	Format and size	Ethical issue	Access
1	2.1	Synopsis of the olive groves	Italy, Portugal, Spain, Greece, Tunisia and Morocco.	Quantitative. Tree density, soil management, pest and diseases, yield, olive mills, management	New and existing	Questionnaires, interviews and primary and secondaries sources	Docs and xlsx; < 5 Mb	No	Restricted
2	2.2	SWOT analysis of the olive oil production sector	Italy, Portugal, Spain, Greece, Tunisia and Morocco.	Quantitative and qualitative. SWOT data	New	Questionnaires, interviews and workshop	Docs and xlsx; < 5 Mb	no	Restricted
	2.2	Ontology of agroecological sustainable concepts of interest in olive farming	Italy, Portugal, Spain, Greece, Tunisia and Morocco.	qualitative.	New	Primary and secondaries sources and on the know-how of SUSTAINOLIVE participants and actors of the olive oil sector	Doc and xlsx; 20-100 Mb	no	Restricted/public

	2.3	Methods for monitoring and evaluating adaptation of STSs (T2.3)	Italy, Portugal, Spain, Greece, Tunisia and Morocco.	qualitative.	New	Primary and secondaries sources and on the know-how of participants	Doc and xlsx; 20-100 Mb	no	Restricted/public
3	3.1.	Network of experimental sites, and sites for implementation of innovative STSs	Italy, Portugal, Spain, Greece, Tunisia and Morocco.	Qualitative and qualitative. Photos and graphic figures of the farms, aerial photos, coordinates, description of varieties, tree density and main management practices	New	Experimental measurement	Jpg, ppt; < 200 Mb	no	Restricted
4	3.2	Abiotic stress in the experimental olive groves	non-enzymatic antioxidants, such as glutathione and ascorbate contents	Quantitative. Contents of non-enzymatic antioxidants in olive leave tissues	New	Experimental measurement	Xlsx; < 2 Mb	no	Restricted
			Marker of oxidative lipid injury and hydrogen peroxide	Quantitative. Contents of oxidative lipid injury and hydrogen peroxide	New	Experimental measurement	Xlsx; < 2 Mb	no	Restricted

			Quantitative Real-Time RT-PCR of stress responsive genes	Qualitative. Gene expression	New	Experimental measurement	Xlsx; < 2 Mb	no	Restricted
5	3.3	Monitoring of pest populations and determination of their phenology	Monitoring of *Prays oleae, Phloeotribus scarabaeoides, Bactrocera oleae* and *Euzophera pinguis*	Quantitative. Estimated number of the main pests	New	Experimental measurement	Xlsx; < 2 Mb	no	Restricted
			thermal integrals, based on the units of accumulated heat.	Quantitative. Temperature integrals	New	Data recording	Xlsx; < 2 Mb	no	Restricted
6	3.4	Nutrient balance and nutrient retention	Nutrient contents in soil and olive tree compartments	Quantitative. Total and available C, N, P, K in soil, leave and pruning.	New	Lab measurements	Xlsx; < 20 Mb	no	Restricted

7	3.4	Soil functional quality	P-related soil enzyme activities	Activity (□g product g^{-1} soil h^{-1}) of phosphomonoesters	New	Laboratory assay with collected soil	Xlsx; < 2 Mb	no	Restricted
			S-related soil enzyme activity	Activity (□g product g^{-1} soil h^{-1}) of arilsulfatase	New	Laboratory assay with collected soil	Xlsx; < 2 Mb	no	Restricted
			N-related soil enzyme activities	Potential for soil N mineralization and nitrification (□g N-NH_4^+ or NO_2^- soil d^{-1})	New	Laboratory assay with collected soil	Xlsx; < 2 Mb	no	Restricted
			Microbial carbon utilization profile	Quantitative. Usage of 33 different sources of organic carbon.	New	Lab measurements	Xlsx; < 20 Mb	no	Restricted
8	3.5	Soil Erosion and C sequestration	Soil Erosion	Quantitative. Soil erosion estimated in olive groves along a sustainable gradient	New	Lab measurements by RUSLE modeling	Xlsx; < 20 Mb	no	Restricted
			C sequestration	Quantitative. Organic carbon pools in olive groves along a sustainable gradient	New	Lab measurements in collected soil	Xlsx; < 20 Mb	no	Restricted
9	3.6	Olive production stability and quality	Olive production stability and quality	Quantitative and qualitative. Olive oil	New	Lab and expert panel	Xlsx; < 20 Mb	no	Restricted

				yield and organoleptic quality		measurements of olive oil			
10	3.7	Resistance and resilience	Resistance and resilience	Quantitative.	New	Modeling	Software and xlsx; < 100 Mb	no	Restricted
11	4.1	Characterization of OML by products	Washing water	Quantitative. By-product properties (pH, P, N, polyphenols..) and other specific.	New	Lab measurements in collected byproducts.	Xlsx; < 20 Mb	no	Restricted
			Olive mill pomace	Quantitative. By-product properties (pH, P, N, polyphenols..) and other specifics.	New	Lab measurements in collected byproducts.	Xlsx; < 20 Mb	no	Restricted
			Olive stones	Quantitative. Total C, N, P and K, and other specific. Calorific power	New	Lab measurements in collected byproducts.	Xlsx; < 20 Mb	no	Restricted
			Olive leave	Quantitative. Total C, N, P and K.	New	Lab measurements in collected byproducts.	Xlsx; < 20 Mb	no	Restricted