



**INTERCROP
VALUES**



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D7.1 Project Website



Document Summary

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Project coordinator	CIRAD

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Abstract

This document presents the *IntercropVALUES* website specifications upon which the project's website has been constructed and published. The present document is version number 1.

The website address is the following: <https://www.intercropvalues.eu>

Introduction

IntercropVALUES website will make the project clearly visible in the domain. It constitutes one of the most important tools through which the project activities and results will be disseminated during and after its lifetime.

The website address is the following: <https://www.intercropvalues.eu>

This section presents the key features of the project website.

- **Domain:** www.intercropvalues.eu has been protected. The website is hosted by INICIATIVAS INNOVADORAS to ensure its sustainability after the project's lifetime.
- **Languages:** *IntercropVALUES* website's language will be English.
- **Design:** INICIATIVAS INNOVADORAS has developed the overall design of the website inspired by the *IntercropVALUES* logo and image handbook. A simple and attractive design based upon the use of a streamlined menu with few sections, images, and infographics is proposed.
- **Content Management System (CMS):** INICIATIVAS INNOVADORAS will manage the website via WordPress and will regularly feed the News & Events section with the collaboration of appointed Communication Officers from partners following agreed standard procedures.
- **Links:** Partners will ensure good cross-linking between the website and their sites. INICIATIVAS INNOVADORAS will also ensure that crosslinks are established with other related projects.
- **Social media:** the website will include links to the *IntercropVALUES* project social media profiles (Twitter, LinkedIn, Facebook, and YouTube), managed by INICIATIVAS INNOVADORAS.
- **Contact:** Users and visitors will be able to contact the project dissemination manager and obtain general information by filling out an online form that will be automatically forwarded to INICIATIVAS INNOVADORAS.
- **Search engine positioning and web traffic analytics:** in close collaboration with CIRAD (coordinator of the project), INICIATIVAS INNOVADORAS will manage both tasks, according to CIRAD's procedures. Google Analytics is used for ongoing monitoring of the number of visitors and the traffic on the website sections, and such intelligent information can be used for improving the impact of the website.



1. IntercropVALUES website and architecture

The project website is displayed with the following architecture:

The project ▾ Case studies ▾ Partners Downloads ▾ News Contact

1.1 The project

This will be the home of the website. The website opening screen shows a sliding banner and direct links to the phone number, email address, and all media channels.



1.1.1 In a nutshell

This sub-section is very graphic, and contains the main information about the project, with very short titles, giving more importance to the icon, so that at a glance, there is a general idea of the project.



1.1.2 The objectives

This sub-section presents the six general objectives that are shortly described:

1. To support, through 13 case studies in Europe and worldwide (including one in Reunion Island and one in Mozambique), the design of relevant, legitimate, and innovative value chains at local level
2. To understand, through 15 meta-experiments (15 sites mostly in Europe and also in Senegal, Zimbabwe, and China), the functioning and interactions for selecting ideotypes, optimising material, and identifying management strategies that maximise productivity and the provision of ecosystem services.
3. Generate knowledge, methods, and tools for the management of associated crops and the evaluation of their performance and profitability.
4. To unravel the performance of intercropping through modelling.
5. Analyse grains' sanitary and technological quality from associated crops for food processing and new product development.
6. Discover the main obstacles and levers in the value chain to stimulate development and identify new ways and solutions to increase value added.

To show the importance of Communication in European Projects, at the end of this section there is also a sentence that explains it:

Communication is designed for wide dissemination of results (farmers, advisors, processing and equipment companies, citizens, academia, and policymakers...).

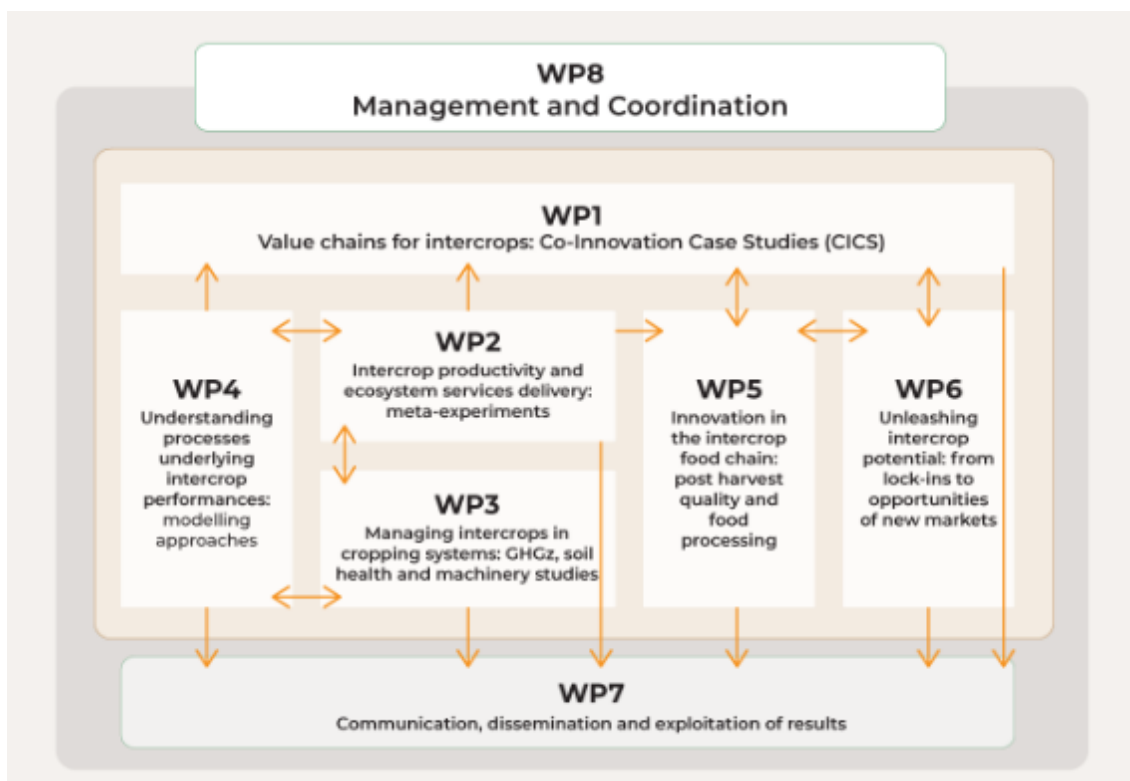
The project objectives

- | | | |
|--|---|---|
| <p>1 To support, through 13 case studies (including one in Reunion and one in Mozambique), the design of relevant, legitimate and innovative value chains at local level</p> | <p>2 To understand, through 15 meta-experiments (15 sites including one in China, one in Senegal, one in Burkina Faso and one in Zimbabwe), the functioning and interactions for selecting ideotypes, optimising material and identifying management strategies that maximise productivity and the provision of ecosystem services</p> | <p>3 Generate knowledge, methods and tools for the management of associated crops and the evaluation of their performance and profitability</p> |
| <p>4 To unravel the performance of intercropping through modelling</p> | <p>5 Analyse the sanitary and technological quality of grains from associated crops for food processing and new product development</p> | <p>6 Discover the main obstacles and levers in the value chain to stimulate development, and identify new ways and solutions to increase value added</p> |

Communication is designed for a wide dissemination of results (farmers, advisors, processing and equipment companies, citizens, academia, policy makers...).

1.1.3 The project structure

Short text and a figure explaining the organization of the work to be conducted in the frame of the project. IntercropVALUES is divided into eight Work Packages (WP):



This section includes a description per WP, with its title and a short description:

WP1: This team aims to meet contextualized value chain goals to ensure sustainable agroecological transitions while analyzing and monitoring coupled innovation processes through iterative actions and learnings within and between 13 Co-Innovation Case Studies (CICS).

WP2: This work package will assess yield performance and yield stability of intercrops vs. sole crops and identify determining pedo-climatic conditions as key factors, which explain results and performance variation under local conditions. They also evaluate the efficiency of abiotic resource use and determine factors of grain nutrient composition. Finally, they will also evaluate the Ecosystem Services (ES) delivered by intercropping in terms of weed, pest, and disease control, and associated reduction of yield gaps or reduction of pesticide use.

WP3: This work package aims to produce and deliver more widespread, original, and relevant practical knowledge on the management and assessment of practices at different levels of the cropping system.

WP4: This team will use models to estimate the performance of intercrops for specific field designs and conditions. With such information, trade-offs between performance optimization and farm management can be analysed. They will perform in silico explorations with different species, genotypes, designs, and environments to quantify

interactions between crops, ecosystem services, and disservices, and to find optimal field designs and ideotype combinations.

WP5: The work package will assess the qualities of grains harvested from cereal-legumes intercrops, to evaluate the possibilities for original development in different value chains. Also, they analyse the co-innovation processes and the impact of cropping modalities on some processing operations within some CICS. Finally, they will analyse the possibility, and consequences, of incorporating a certain percentage of the second species into the main crops.

WP6: This team aims to uncover the key lock-ins and potential levers, at the food system level, to transition towards intercropping practices and provide a set of potential market avenues for products resulting from intercropping practices across several European countries and Southern countries.

WP7: Responsible for the dissemination of intercropping among the general population; it transfers the knowledge acquired during the project to the various value chain groups and consumers, through digital tools adapted to each group according to their knowledge, interest, language, and usual media source. It also strengthens communication between value chain actors involved in the project and jointly identifies the most appropriate exploitation routes and strategies for the results.

WP8: Ensures the proper management of data, taking into account large amounts of data, centralize management of data coming from the project and shared by the partners. This team also ensures proper management of all the gender and ethical aspects; and the implementation of the project according to the work plan, Grant Agreement (G.A.), and Consortium Agreement (C.A.), and all financial aspects.

1.2 Case studies

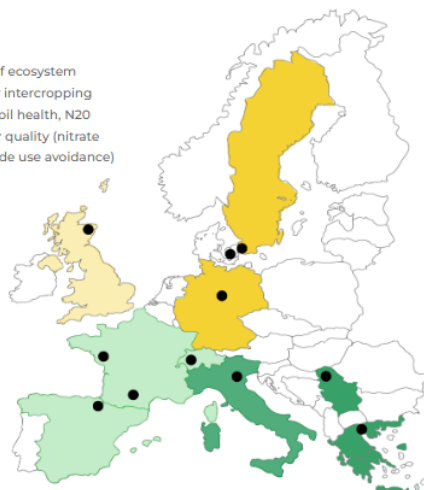
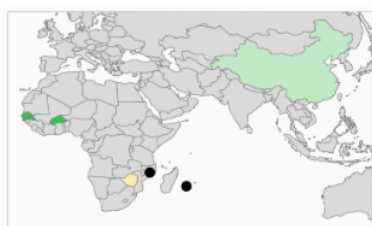
1.2.1 A network of experiments

This section includes a short text describing the multi-actor approach and how it is implemented in IntercropVALUES along with a map of Europe highlighting where the Multi-Actor Platforms will be located and the partner in charge of each of them.

The two-year field experiment will be based on a network of 15 sites (image) covering a wide gradient of soil and climatic conditions. Based on a common protocol, the data collected will be analysed jointly using a statistical methodology adapted to meta-analyses to answer 4 key questions:

1. Assess the performance and yield stability of associated crops compared to pure crops and identify the determining conditions.
2. To assess the efficiency of abiotic resource use and the factors determining grain nutrient composition.
3. Evaluate the pest control efficiency of intercropping to elucidate pest-induced yield differences in the case of reduced or no chemical pesticides.
4. Identify the extent of ecosystem services provided by intercropping and the impact on soil health, N₂O emissions, and water quality (nitrate leaching and pesticide use avoidance).

- 1** Assess the performance and yield stability of associated crops compared to pure crops and identify the determining conditions
- 2** To assess the efficiency of abiotic resource use and the factors determining grain nutrient composition
- 3** Evaluate the pest control efficiency of intercropping to elucidate pest-induced yield differences in the case of reduced or no chemical pesticides
- 4** Identify the extent of ecosystem services provided by intercropping and the impact on soil health, N₂O emissions and water quality (nitrate leaching and pesticide use avoidance)



Countries involved in IntercropVALUES with the location of the 13 case studies and the 15 meta-experimentation sites

-  Case studies
-  4 Hypotheses test
-  4 Hypotheses + N₂O emissions test
-  4 Hypotheses test + C*G*E*M interactions test
-  4 Hypotheses + C*G*E*M interactions and N₂O emissions test

1.2.2 13 co-innovation case studies

This sub-section includes a presentation of the 13 co-innovation case studies. Each one of the case studies has its own link and will include more information throughout the project. Now it is only included a summary of it, with the main information.

Presentation of the 13 Co-innovation Case Studies (CICS)

CICS 01 New business opportunities along local food value chains – including educational aspects See more	CICS 02 Increased market demand for locally produces, value addition, unlocking from local to national See more	CICS 03 New and high value product development requiring technical quality adjustments See more
CICS 04 Develop mixtures of species for food innovations adapted to original low productivity contexts See more	CICS 05 New product development including technology and adjustments/redefining regulations See more	CICS 06 New sustainable products for local markets including new machineries and adaptation See more

CICS 01: New business opportunities along local food value chains – including educational aspects

- Topic: Public driver
- Country: Denmark
- Responsible: BLF – Business Lolland-Falster

Objectives:

- Further improvement and optimization of initial oat lentils intercropping initiatives, with the objective to test other GL species to be at the forefront of a growing plant-based market.
- Develop and test value chains based on the harvested crops, B2B and B2C.
- Provide a feasibility study based on fermentation strategies in a novel entrepreneurial startup company focusing on the food service, restaurant and gastro scene.

Develop and test the use of legumes in the public kitchen, as a part of the strategic shift from meat-based proteins to proteins from legumes.

As a guidance, the successful Danish transition towards organic farming practices was achieved through a combination of policy, capacity building, value chain collaboration, and active engagement of public kitchen staff. This is part of the CICS

strategy to engage public kitchens in the conversion to more intercrop-based plant protein market opportunities.

CICS 02: Increased market demand for local produce, value addition, and unlocking from local to national

- Topic: Value chain
- Country: Sweden
- Responsible: SLU – Sveriges Lantbruksuniversitet

Objectives:

- Generate knowledge-based arguments for using intercropped legumes in local food markets and novel food products, e.g., proven agronomic, environmental, and/or soil health benefits.
- Recommendations on how to achieve agronomic, environmental, and soil health benefits by intercropping.
- More efficient post-harvest handling, on-farm as well as in centralized facilities
- Improved marketing of intercropped legumes

Best advice for the success of the project in one sentence: Facilitate the local regional national trade and processing of legumes, so that all value chain actors understand the great value of local legume production especially from intercropping and consumers easily find legume-based products from their home region, and so that farmers' gain the full benefits of legume cultivation (intercropped or not).

CICS 03: New and high-value product development requiring technical quality adjustments

- Topic: High-end products
- Country: United Kingdom
- Responsible: SAOS - Scottish Agricultural Organisation Society Ltd.

Objectives: To grow (involving intercropping), process, and market organic oilseed rape for oil (human use) and livestock (oil and protein cake)

The main stakeholders are Norvite, interested farmers, academics, SAOS, agronomists, crushers, marketing, and buyer / end user.

CICS 04 Develop mixtures of species for food innovations adapted to original low-productivity contexts

- Topic: Spatial and temporal foods
- Country: France
- Responsible: INRAE – Institut National de Recherche pour l' Agriculture, l' Alimentation et l' Environnement

Objectives: To develop the use of intercrops on the territory by illustrating a diversity of possibilities to the different actors of the case study associating short circuits and longer channels.

The CICS is developing around a small group of 10 organic farmers who know each other and are already familiar with the use of intercrops.

Around this group, a local dynamic is being developed with the territorial food programs. A precise analysis of the functioning and interactions between actors in these programs should make it possible to identify possible lock-ins and levers for the deployment of intercrops on the territory.

Several private partners are already interested in participating in the project and others have been identified.

These actors will be associated with the CICS workshops to collectively reflect on different strategies for developing intercrops, adapted to different production situations.

CICS 05: New product development including technology and adjustments/redefining regulations

- Topic: Milling and baking
- Country: Germany
- Responsible: UniKassel – Universität Kassel

Objectives:

- Intercropping of wheat and legumes to improve wheat baking quality,
- Integration of 'intercropped' wheat into mills and bakeries,
- Challenge current purity standards in terms of 'foreign matter',
- Possible development of a new protein product

CICS 06 New sustainable products for local markets including new machinery and adaptation

- Topic: Low-input wheat
- Country: Greece
- Responsible: AUTH – Aristotelio Panepistimio Thessalonikis

Objectives:

- To produce wheat with low input approaches and also with the intercropping with winter legumes (pea and faba bean)
- To increase the use of intercropping with use in Greece and especially in winter crops (wheat, pea, and faba bean)

The main intercrops and cropping systems studied in the CICS are: monocultures of cereals and legumes; cereal-legume intercrops; and arable crops are mostly cultivated in monoculture systems and are the main crops in Greece (62% of the arable land).

The stakeholders are farmers, cooperatives researchers, farm advisors, companies with agricultural supplies, processors, distributors, consumers, and policy actors.

CICS 07 New proven crop management strategies using service plants between the sugarcane rows

- Topic: Sugarcane value
- Country: France
- Responsible: eRcane – Ercane Gie (La Réunion Island)

Objectives: Co-designing sugarcane x cover crop systems on-farm based on data acquired by research and by identifying the technical and economic levers and obstacles that the farmer will face in practice

The main stakeholders involved are farmers, agricultural technicians (Tereos & Chambre d'Agriculture), and Research & Development institutes (eRcane, CIRAD)

CICS 08 Specific labeling to the agri-food industry. Collective IPM actions and strategies

- Topic: Horticulture IPM
- Country: Spain
- Responsible: INTIA – Instituto Navarro de Tecnologías e Infraestructuras Agroalimentarias SA

Objectives: Demonstrate in farmers' plots that the innovation allows for reducing the presence of some pests in the crop

The main stakeholders are farmers (coop), agroindustry and public advisory service are the main stakeholders. Farmers have face-to-face contact with public advisors every week and they sell the product to the agroindustry that establishes some standards (e.g. not using some specific pesticides, trying to reduce the number of products they apply). The agroindustry is also linked to the advisory service (advice and training activities). They are not involved yet.

CICS 09 Added final product value with prototypes and operational solutions

- Topic: Multifunctional farming
- Country: Serbia
- Responsible: UNSFA

Objectives: Added value of the final product (legume-small grains intercropping) with prototype and operational solution for intercrop.

The farm has close cooperation with the most relevant institution in the agricultural sector of Serbia. The main stakeholders involved to work on this farm are UNSFA,

- Extension services - assistance with applications for various funds (IPARD, subsidies)
- Institutes/seed company (NS seme, Agrosava....) – seeding material, organic seed production
- Organic agriculture Cluster of Vojvodina (VOK) knowledge transfer, promotion
- Farmer association - knowledge transfer, lobbying

The farm will try to reach new consumers and new markets and develop its own brand based on co-innovation in intercropping development. The required inputs are suitable intercropping solutions and technology development (fine-tuning).

Scaling out potential - the selected farm is the front-runner farm which will be used for knowledge transfer and implementation of intercropping on farms within the local community and beyond.

CICS 10 Local/regional values chains, up to national to bring out other groups in the FNCUMA network

- Topic: Shared equipment
- Country: France
- Responsible: FN CUMA

Objectives:

- Clean crops → Secure the quality during storage
- Sort crops → Improve economic value; control animal feed; recover waste
- Sort seeds → Limit the risk of weeds
- Improve flexibility → Of use and organization with mobile sorter

Other objectives of the CICS: Manage sowing with different depth requirements; harvest mixtures with two heights (pruning harvester); harvest mixtures with two maturities (pick-up with carpet).

The stakeholders involved are the farmers themselves.

CICS 11 Environmental service clarifications including technical equipment optimization and investment

- Topic: Ecosystem functions
- Country: Italy
- Responsible: RSR – Rete Semi Rurali

Objectives: Eliminate silage from the production system to reduce plastic, fuel costs, and contractors' costs, increase the health of the herd and enter the "latte fieno" (milk from hay) value-chain

CICS 11 is a network of seven Italian organic farms: 4 farms are located in the Po valley in Northern Italy, and 3 farms are in central Italy. They share common features: Organic certified; they use intercrops to enhance their agro-ecological practices; they support short or closed value-chain, they are members of networks, and finally they have experience with multi-actor research projects and dissemination/training events

CICS 12 "Global south" model building with the transition from subsistence to commercial family farming

- Topic: Fighting poverty
- Country: Mozambique
- Responsible: UEM – Universidade Eduardo Mondlane

Objectives:

- Monitor crop performance on farmers' plot
- Monitor crop performance in on-station plots
- Monitor resources flow both on-farm and on-station
- Use participatory tools to assess crop performance (productivity and quality)

Hold several workshops with stakeholders to:

- discuss the sustainability of scenarios of crop intensification with and without intercropping,
- identify possible trade-offs to be accounted for to favour intercropping against "simplification" of the cropping system.
- Use crop models to simulate resource flow and crop performance.

The stakeholders are extension officers, research Institutions (IIAM), Departments of Agriculture, local NGOs, the poultry industry, and the input market.

CICS 13 Each value chain actor needs to experience benefits from intercropping strategies

- Topic: Production processing
- Country: Switzerland
- Responsible: FiBL

Objectives:

- Providing proof that intercropping provides similar quality compared to pure productions for human production 1) wheat for bread making, 2) faba bean
- Opening new perspectives in faba bean food production – from local transformation to industrial processing

Intercropping for fodder production is an established practice in organic farming: pea-barley, oat-lupine.

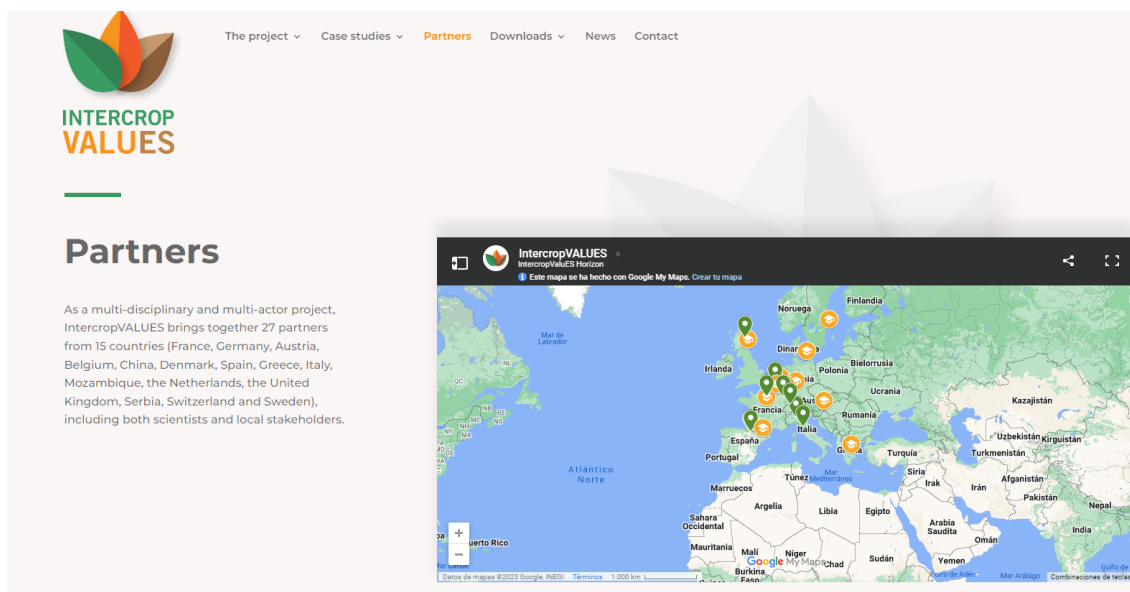
Several farmers grow wheat - faba bean intercropping, wheat for bread making, and faba bean for fodder. The process requires support at various stages of the value chain: quality of wheat.

The next assumption is that what has been successfully developed for on-farm processing of soybean (tofu) can also be developed for faba bean

1.3 Partners

This section provides an overview of all the project partners.

As a multi-disciplinary and multi-actor project, IntercropVALUES brings together 27 partners from 15 countries (France, Germany, Austria, Belgium, China, Denmark, Spain, Greece, Italy, Mozambique, the Netherlands, the United Kingdom, Serbia, Switzerland, and Sweden), including both scientists and local stakeholders.



This section includes one paragraph per project partner, showing the logo of the partner on the left, including the email address of the partners' key persons. Each project partner is presented with its full name, acronym, country of origin, website link, other related links, and social media profile links. An example is shown below:

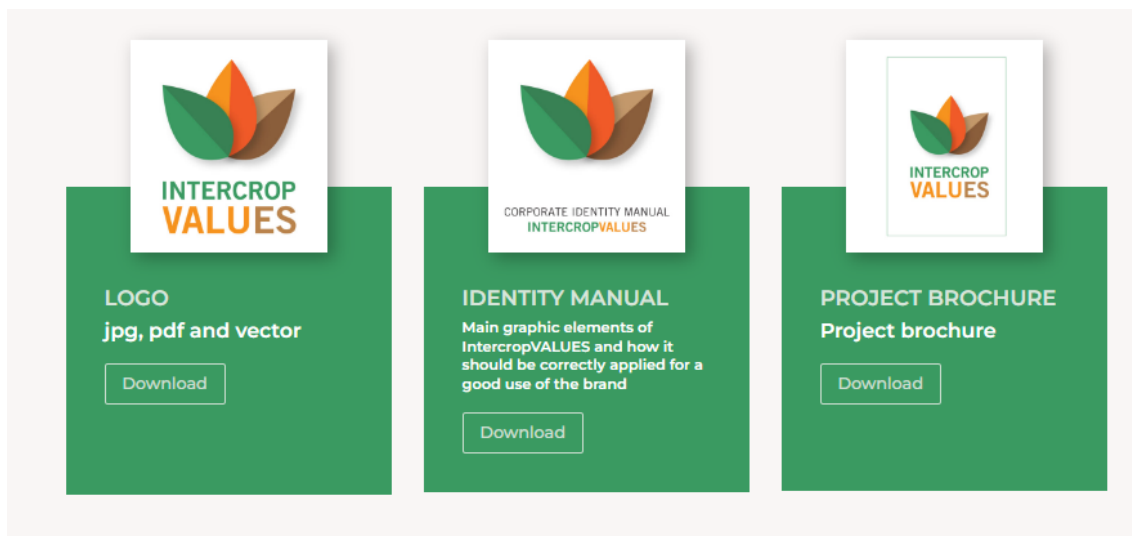


1.4 Downloads

This section will make available to the public the project documents as they are elaborated. The documents will be presented in the following categories:

1.4.1 Communication materials

At the launch of the website, the materials provided are:



- The project logo: in all available formats, jpg, pdf, and vector.
- The IntercropVALUES manual of identity, which includes all main graphic elements of the project and how they should be correctly applied for good use of the brand.
- The IntercropVALUES PowerPoint presentation template

There is also a blank space for the project brochure which is going to be produced in the following weeks.

1.4.2 Practice abstracts

The 32 practice abstracts produced by the project will be available for download here.

1.4.3 Videos

The videos published by partners will be made available here. At least 14 professional videos must be produced throughout the project lifetime: 13 showing the CICS activities and outputs, and 1 for the entire project.

1.4.4 Infographics

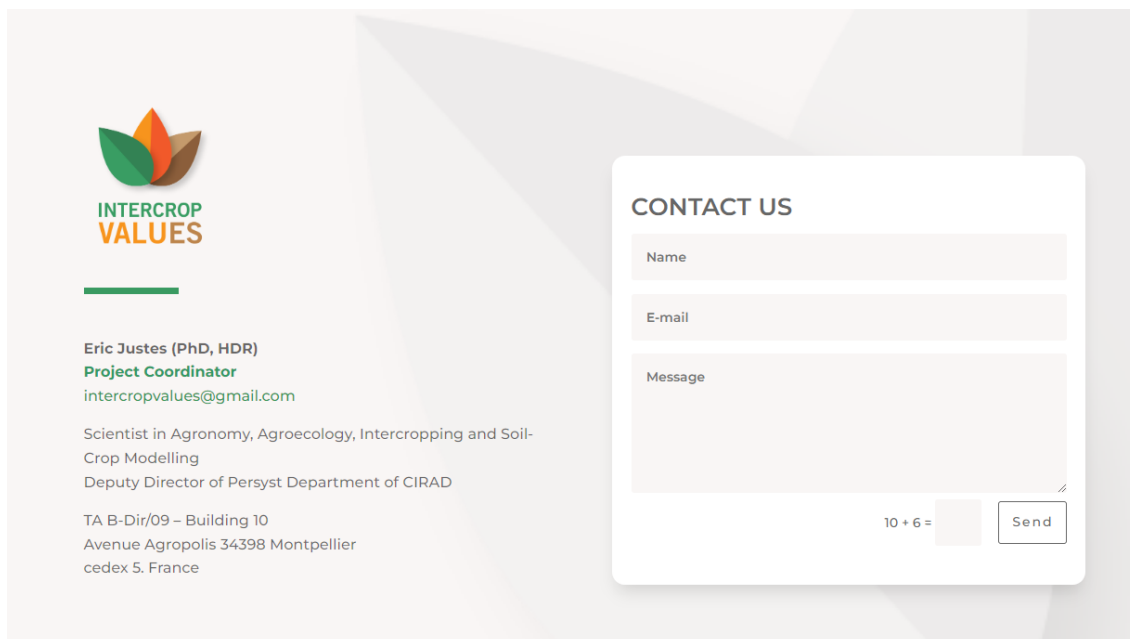
A total of a minimum of 6 infographics will be produced during the project. These will display the project activities, objectives, and results.

1.5 News

All project news is compiled in dedicated news sections. The series opens with the first news item on the Kick-off Meeting held in November 2022. Upcoming news items will be displayed in chronological order with the most recent news items on top.

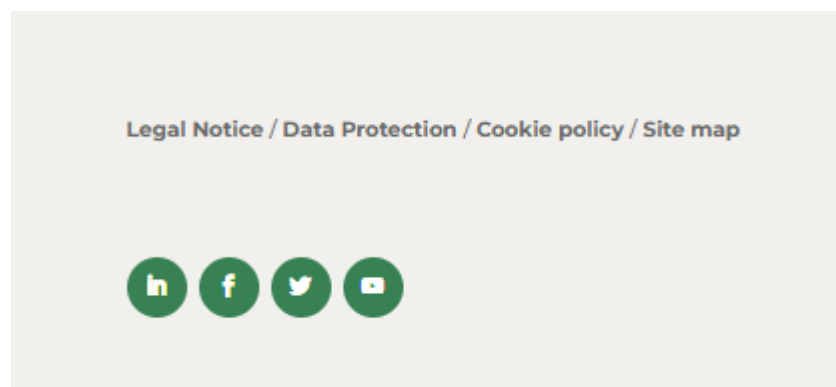
1.6 Contact

Through "Contact" visitors are allowed to contact the project through a "send us an email" form or to contact the key partners:



1.7 Other static content

Shown at the bottom of each page, this section includes 4 parts directly accessible by clicking:



Legal notice:

This section contains information on the website owner as well as the legal applicable terms related to the following topics:

- information on intellectual and industrial property
- conditions and terms of registration and access to the website
- purpose
- personal data protection policy
- linking to other websites
- responsibilities
- provision of the service
- image rights and disclaimer
- infringements

- validity
- jurisdiction and applicable jurisdiction

Data protection policy:

The detailed information about how personal data is processed and privacy is protected. The following topics are covered:

- minors
- who is the data processor?
- what personal data are collected and the purpose of collection
- duration of the data
- legal grounds for data processing
- type of data being processed
- entities' data disclosure
- data owners' rights
- the way personal data are protected
- commercial communications by electronic means
- privacy policy update

Cookies policy:

An explanation of cookies, their purpose, the types, and guidelines on how to set or disable cookies.

Site map:

An easy way to find the location of all website content.

Social media links: connecting the public directly to the project's different social media accounts: Twitter, Facebook, LinkedIn, and YouTube.

Shown at the bottom of each page, the following information is also available:

Direct email: connecting the public to the project coordinator, Eric Justes, on intercropvalues@gmail.com



INTERCROP VALUES



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