Deliverable D.1

COMMUNICATION AND DISSEMINATION PLAN (CDP)

Action	D	Public Awareness and dissemination of Results
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Nature[2]	REPORT	
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[1] Dissemination level: **PU** = Public, **PP** = Restricted to other programme participants, **RE** = Restricted to a group specified by the consortium, **CO** = Confidential, only for members of the consortium.

[2] Nature of the deliverable: **R** = Report, **P** = Prototype, **D** = Demonstrator, **O** = Other.

Deliverable abstract

This document describes the development of the Communication and Dissemination Plan.
This CDP includes the following contents:
· Classification of target stakeholders to be addressed
· The dissemination methods and their specific associated activities.
· Schedule and complementarily of the dissemination activities among partners.
· The conditions to ensure proper dissemination of the generated knowledge, related to confidentiality, publication and use of knowledge.

List of acronyms and abbreviations:

GA: Grant Agreement

EC: European commission

LIFE DRAINUSE: Re-utilization of drainage solution from soilless culture in protected agriculture. From open to close system

DCP: Dissemination and Communication Plan

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1. Project Overview

The dissemination of the project at national and international levels aims to raise awareness and demonstrate the effectiveness of the results to implement close system technology in southern Europe area. The dissemination activities will focus on the technical solutions of this demonstration project that will allow an easy transformation of existing greenhouses producing under soilless open system into a closed one that recirculate drainages.

This action is focused on the efficient knowledge dissemination and other types of communication in order to assure the social and environmental impact of the results of the project. The project's results will be communicated and disseminated to the relevant stakeholders and audiences by a series of different on/offline means. All the project partners will participate in this action and will work to engage stakeholders in the project dissemination activities.

2. Communication and Dissemination Strategy

1.1 Dissemination objectives

The general objectives of the Communication and Dissemination Plan of the LIFE DRAINUSE Project are as follows:

- Optimize the flow of information between project partners and organize an efficient communication between the institutions participating in the project.
- Make the project known to potential stakeholders and to the main beneficiaries.
- Report and communicate the results of the project to public and private bodies and entities from other national / European regions and national / European institutions that could be interested in the project.

Consequently, the communication and dissemination objectives of the LIFE DRAINUSE project will focus on:

- Demonstrate the technological possibility of reuse of drainage in the Euro-Mediterranean Regions.
- Propose a regulation and legal framework for the recirculation of drainage to the Euro-Mediterranean Regulatory Agencies.
- Demonstrate the benefits of full recirculation systems as an environmentally friendly solution for drainage from hydroponic greenhouses
- To increase the profitability of the greenhouses of the Region of Murcia and that of their companies transforming their facilities to a closed system implementing the recirculation unit.
- Increase Population's quality of life by allowing access to a cleaner and safer environment.
- Reduce the environmental impact of agricultural activity.
- To preserve the areas of tourist interest in the Region of Murcia, rivers, coastal areas and lakes, by reducing pollution by installing such a system.

1.2 Key Message

The following is the main message to be transmitted for each of the groups that make up the LIFE-DRAINUSE project audience:

- Greenhouse farmers: the key message to communicate is that “With the project LIFE DRAINUSE they will have the possibility of transforming their facilities into a closed system by implementing the recirculation unit. This will increase the profitability of their businesses, and they will benefit of a full recirculation system as an environmental friendly solution for drainage release of hydroponic greenhouses.

- General population: the key message to communicate is that “With the project LIFE DRAINUSE the implementation of closed systems in greenhouses will reduce the environmental impact of the agricultural activity, which will increase their quality of life by allowing access to a cleaner a safer environment.

- Tourism sector of the region: the key message to communicate is that “With the project LIFE DRAINUSE the reduction in the environmental pollution by the implementation of closed systems will contribute to the conservation of areas of touristic interests such as rivers, coast zones and lakes. The touristic sector will be reinforced, which will reactivate the local economy of this area.

- To scientific bodies and technicians: "Research and innovation allow us to deal with environmental problems by the contamination of the aquifers and ground water with different drained fertilizers (as nitrates) which affects the eutrophication of the local seas.

- To the public administration: the key message to be communicated is that "The LIFE DRAINUSE project offers an example of good environmental practices and should therefore be moved towards the development of a regulation for water and fertilizer consumption savings that will help increase the Profitability of agricultural activities ". Likewise, "The LIFE DRAINUSE project offers an example of good environmental practice.

In summary, the key message for all groups is to effectively communicate that water consumption and contamination in agricultural greenhouses can be reduced by wastewater treatment and recycling technology and fertilizer. A technical and environmental solution is needed to minimize the consumption of water and fertilizers in agricultural activities and thus reduce the volume and the load of contaminating waste water.

1.3 Target Audience

The communication and dissemination activities of the LIFE-DRAINUSE project aim to transmit a series of messages and information to clearly identified target groups. The main identified target groups that will be addressed during the LIFE DRAINUSE project are:

Internal direct recipients:

- The partners of the LIFE-DRAINUSE project

External direct recipients:

Industrial and agricultural communities/associations: will provide valuable requirements and feedback from potential end-users, operators and will also increase awareness of Drainuse concepts among the professional communities, fostering the future take-up and integration of the technology. This is the main target market for Drainuse business

- Horticultural Producers
- Greenhouses farmers and irrigation companies
- Associations of Agriculture at local, national and international level-Technology platforms
-Companies for greenhouse construction, water treatment

Public Sector and policy makers: Policy support is crucial to support a legal and regulatory framework to encourage producers to transform open producing systems into closed recirculating systems. Particularly focus will be paid on the Euro-Mediterranean regulatory bodies. However it is expected to draw attention of:

-Public bodies and entities from different national regions and other European regions.
- Political makers at local, regional, national and European level.

Water efficiency in agriculture, water management and water related policy, as well as sustainable agriculture are some of the key policy makers and citizens that the project DRAINUSE will deal with.

Scientific community: including scientific and technical organizations, dealing with DRAINUSE's approaches and technologies related to water reuse in agriculture, wastewater treatment and wastewater management. These activities not only reinforce project awareness, but also will allow leveraging other interesting research results, and cross-project cooperation.

Tourism sector of the region and General public: in order to raise awareness, inform about the benefits that can be generated through areas under study, bridge the communication gap between scientists and enhance consultation and feedback from citizens

Table 1 shows the target audiences and stakeholders, the methods to reach them, the activities for marketing and the expected results in LIFE-DRAINUSE

Target audiences	Methods and channels to reach them	Activities for marketing the Project during and after implementation	Expected results
Green farmers	Informative events in extension facilities	Flyer (and e-flyer) with information on the events delivered at the farmers facilities	Promotion of transformation of open into closed Systems of greenhouses
General population	WEB page of the Project and social networks	Social Networks advertisement	Awareness of general population of the important of applying environmental friendly practices in agriculture
Tourism sector	WEB page of the Project and social Networks and tourism info offices	Flyer and social Networks advertisement	Tourists attraction to the area
Horticultural producers	Phone, email, social Networks, newsletters, subscription to website news-feed	Active Communications campaign with industrial stakeholders and commercial suppliers	Promotion of transformation of open into closed Systems of greenhouses
Greenhouse and irrigation companies	Email, social Networks, web page, subscription to website news-feed	Active Communications campaign with industrial stakeholders and farmers	Promotion of the Project results among industrial stakeholders, dissemination of information in relevant
Policy makers	Event for scientific, technical and policy makers' information.	Propose a legal and regulatory framework for drainage recirculation to Euro-Mediterranean areas	New legal regulatory framework for drainage recirculation to Euro-Mediterranean areas
Researchers of public and private institutions	Event for scientific, technical information.	Propose a legal and regulatory framework for drainage recirculation to Euro-Mediterranean areas	New legal regulatory framework for drainage recirculation to Euro-Mediterranean areas

1.4 Communication Tools and Activities

The main dissemination channels commonly used by the scientific community are publication in scientific journals, specialized websites and participation in scientific congresses. In contrast, 60% of the general public gains their knowledge of science through TV. Other channels such as the press, magazines, radio and, increasingly, the Internet, play an important role in forming public opinion and disseminating knowledge to the general public (European Commission, 2004).

Between these two extremes are commercial tools such as commercial, technical, industrial publications; Radio and TV broadcasts; Fairs and seminars. All these tools must be taken into account when preparing a balanced communication strategy.

The LIFE-DRAINUSE project, in order to effectively communicate the results of the project, contains a mixture of tools from both columns as detailed below:

Workshop and Final Infoday: One workshop with scientific stakeholders, industry and regional and national administrations will be organized. This workshop will take place in Spain where the demonstration will be already concluded. Apart from the demonstrating character, these events aim to strengthen the cooperation between stakeholders and end users. Besides, Workshops are capacity building instruments, as short and practical courses. By way of example, these workshops will be included in the courses of the *Programa de Desarrollo Rural de la Región*, as well as in the programs of the Vocational Training Centres.
The EU final info-day will be held in Brussels at the end of the project, and will be opened to general public as well as relevant stakeholders at international level.

Exhibitions/Fair events: DRAINUSE partners plan to participate in specific exhibitions and thematic fairs in order to liaise with key actors in the sector. It will be intended to have project presence in stands or exhibitions attendance related to agriculture and environment where leaflets and posters will be distributed. Some of the initially identified references events are: Fruit Logistical: Berlin - DE, BIOFACH: Nuremberg - DE, Fruit Attraction Madrid, FIMA Zaragoza, SEPOR Lorca-Murcia, FAME Torre-Pacheco-Murcia.

Networking activities are taken as direct meetings to present the project objectives and results to relevant stakeholders in order to create synergies. Networking with other LIFE projects are expected to be carried out in specific Action (E2). The consortium should take advantage of the different involved networks where the project can be disseminated in order to exchange experiences, contribute to their sustainability and improve the transferability of the results. Some examples are AGRAGEX, FUNDACION TECNOVA, CENTRO TECNOLOGICO DEL METAL, FREMM, AGRITECH

Drainuse website will contain all the reference information about project, progress update, news, documents and other materials that can be disseminated to the general public, photogallery, links, contacts and project progress.

The language will be Spanish and English to increase the visibility. The project website will be promoted by means of networking and display of the URL on other dissemination materials.

The Website will be updated periodically and will be hosted under the project domain name: *http://www.drainuse.eu/*. (See Annex A)

Media work: Journalists will be invited to events and made aware of project outputs via the different distribution channels mentioned; as well in-situ meeting/visits to the pilot plant will be organized in order to show project results and progress. Some of the targeted media channels identified are: local TV and radio, and newspapers ("*La Verdad*" and "*La Opinión*").

Press releases will be shared with all project partners who are encouraged to share via their own channels where appropriate, and have the liberty to amend the main press release to suit the market they are communicating with.

Scientific and Technical Publications is important that DRAINUSE results are shared with a broad academic audience. Publications will be determined in accordance

to thematic content and quality and will be decided upon partners' discussion. A list of potentially relevant publications for DRAINUSE research outputs includes: Scientia Horticulturae, Journal of Horticultural Science and Biotechnology, Horttechnology, Irrigation Science.

Partners will also be encouraged to contribute to publications with a broader audience such us popular related technical magazines like: Vida Rural, Infoagro, Revista de Fruticultura, Agricola Vergel, to explain the Drainuse pilot system: environmental problem and proposed solution.

Dissemination and communication materials:

A visual identity will be developed for the project comprising a logo and style in different formats, in line with the LIFE visual guidelines. Once the visual identity will be ready, the following tools can be produced:

Demofilm: These materials will be circulated during the workshop and the final Infoday events, as well as during the participation in trade fairs. agriculture. It will be disseminated in online means and during events to wide audience as well as it will be available at DRAINUSE website to all visitors). The film will be produced in MPEG format to facilitate internet viewing and will last about 10 minutes.

Project Leaflets: materials showing the basic features of DRAINUSE: objectives, expected results, partnership, pilots, etc. to be easily delivered in every workshop, exhibition, conference, and to be placed in strategic places (cooperatives, public offices…) (See annex B).

Roll-up stands and posters: to support project visual communication at events. It is an effective way to display the project's visual identity while making sure that the audience clearly knows who the organizer is/which project is behind the event. (See annex B).

DRAINUSE promotional materials. Different merchandising materials will be designed, produced and distributed to continue with the dissemination of DRAINUSE results. It is foreseen to produce notebooks (1000), pens (1000). These materials will be circulated during the workshop and the final Infoday events, as well as during the participation in trade fairs. A roller panel showing project results and project information will also be produced for specific events.

Notice Boards: The notice boards will have content both in English and Spanish, and placed in strategic locations for the project's promotion. (Further information in Deliverable DD4).

Table 2 Shows the target groups by action in LIFE-DRAINUSE

Action	Target Groups
Notice Boards	Horticultural producers and Greenhouse and irrigations companies as well as Agriculture associations at local and national level as well as visitors of beneficiary's facilities.
Website	Stakeholders (experts and specialists, potential users of the technologies being developed, policy decision makers at all levels and public funding authorities, as well as the general public and local citizens)
Layman's report	General public (public and private)
Media work	General public (public and private)
Events	Final users (farmers and technicians), public technicians, authorities, farmers and technicians from other regions/countries (Technical visits of farmers and technicians form Mediterranean countries are usual, and these groups will be informed through a workshop).
	Experts and authorities on regional, national and European laws and financial instruments; representatives of the stakeholders: farmers, pesticide manufacturers, environmental associations, etc.
	Scientific and technical community
Project Leaflets	In special final users, but also public technicians, cooperatives, authorities, journalists, supporting institutions, and general public.
International promotion	Public authorities, Agricultural Companies, Farmers and technicians
Technical publications on project	Farmers and technicians, and related authorities in general
Scientific papers	Scientific community

3. Communication and Dissemination Plan

This section presents the schedule and complementarily of the dissemination activities among partners, according with the CD Strategy.

For each of the groups that form the audience, the following is a description of the planned activities and their implementation (expected date for carrying out the activity).

Communication and Dissemination Plan (CDP):

ACTION D.1: Dissemination of the project results

This action is divided in the following tasks:

- Task D1.1. Communication and Dissemination Plan (CDP)
  The first task to be developed will be the elaboration of a "Communication and Dissemination Plan" (CDP).

- Task D1.2. Production of Dissemination and Communication materials and means
  The dissemination materials of the project include:
  LIFE DRAINUSE corporate image.
  Production of printed and audiovisual materials.
  Project leaflet
  One Demo film
  DRAINUSE promotional materials.
  Technical publications and scientific journals.
  Media work.
  Other important means to disseminate DRAINUSE results are the website, noticeboards and a Layman's report.

- Task D1.3. Organization of dissemination activities.
  Trade fairs and exhibitions.
  at national level
  at international level
  Dedicated events and presentations.
  International Society for Horticultural Science
  Sociedad Española de Horticultura
  Organization of technical workshop and Final DRAINUSE Infoday.

ACTION D.2: Elaboration of project website

ACTION D.3: Elaboration of the Layman's Report

ACTION D.4: Elaboration and maintenance of Notice Boards

Table 4 Dissemination activities for LIFE-DRAINUSE

Name of the action	Number of the associated action	Deadline
Communication and Dissemination Plan	D1.1	09/2016
Dissemination portfolio report	D1.1	08/2018
Project's corporate image design	D1.2	12/2015
Leaflet and roller panel	D1.2	06/2016
Drainuse promotional materials	D1.2	06/2016
Demo video	D1.2	10/2017
Technical publications report	D1.2	08/2018
Scientific publications report	D1.2	08/2018
Trade fairs and exhibitions	D1.3	07/2018
Workshop organization	D1.3	04/2018
Final Infoday organization	D1.3	07/2018
Website running	D2	02/2016
Layman's report	D3	08/2018
4 Noticeboards & set up	D4	05/2016

Table 5 Schedule for dissemination activities for LIFE-DRAINUSE

Action		2015				2016				2017				2018				2019				2020			
Action numbe	Name of the action	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
D. Public awareness and dissemination of results (obligatory)																									
D.1	Dissemination of the project results			■	■	■	■	■	■	■	■	■	■	■	■	■									
D.2	Elaboration of project website			■	■	■	■	■	■	■	■	■	■	■	■	■									
D.3	Elaboration of the Layman's Report															■									
D.4	Elaboration and maintenance of Notice Boards					■	■	■	■	■	■	■	■	■	■	■									

Partners are encouraged to organise individual, joint and consortium-wide dissemination. The following table 6, presents the different elements of the communication and dissemination plan of the LIFE DRAINUSE project. This plan is a result of the communication and dissemination strategy to be implemented during the duration of the project. The table contains detailed partner's commitments (what - action -, how - resources -, when - date, term -, and who - audience -) of the communication actions to be implemented at local, national and European level.

Table 6 Elements of the communication strategy for LIFE-DRAINUSE

Action	What	How	Where	When	Who
Notice Boards	Project description (objectives, actions, progress, results, very graphic) in Spanish and English	CEBAS-CSIC will design the contents and for updating a direct contact person with each strategic place will be available	4 Notice boards located in Strategic places: 1 CEBAS-CSIC, 1 in the pilot plant....	Installation nine months after the start	FECOAM, with contributions of CEBAS-CSIC.
Website	Drainuse website. Contents: It will contain all the reference information about the description of the project, update on the progress, news, documents and other materials that can be disseminated to the general public, photogallery, links, contacts (name and contact details of the coordinating beneficiary and associated beneficiaries, and Date of the last update.	The language will be Spanish and English to increase the visibility. The LIFE logo will be also visibly displayed on the website. The project website will be promoted by means of networking and display of the URL on other dissemination materials.	Placed at CEBAS-CSIC web server	Drainuse website will be online at latest 6 months after the starting date following the LIFE general conditions http://www.drainuse.eu/	CEBAS-CSIC, with contributions of UMU, RITEC and FECOAM
Layman's report	5-10 page-long document presenting the project, its objectives, its actions, and its results in an easy-to-understand language	In English and in Spanish, in electronic format, placed at the project website, distributed by e-mailing	To be sent to/placed at Life administration, stakeholders, supporting institutions, project website	At the end of the project, in August 2018	FECOAM with contributions of UMU, RITEC and CEBAS-CSIC

Media work	Press releases and other announcements will be prepared and distributed to the general media with information of interest to reach to wide audience.	• 3 Preparing articles for the press-yearly press articles • Create and maintain DRAINUSE profile in Facebook and LinkedIn (social media)	Some of the targeted media channels identified are: • Newspapers “La Verdad” and “La Opinión” • Social media: Facebook and LinkedIn • Webpages of the partners	During all the project	Partners will also contribute to the projects’ dissemination through their usual communication means CEBAS-CSIC, with contributions of UMU, RITEC and FECOAM
Workshop	To show the Drainuse System *in-situ* and its way of working as the best way of dissemination of results among final users	Workshops with scientific stakeholders, industry and regional and national administrations will be organized. The EU final info-day will be held in Brussels and will be opened to general public as well as relevant stakeholders at international level.	The workshop will take place in Spain. The EU final info-day will be held in Brussels.	The Spain workshop when the demonstration will be already. The EU final info-day at the end of the project	CEBAS-CSIC and FECOAM
Trade fairs/Exhibitions	Attendance to exhibitions related to agriculture and environment	Project presence in stands or exhibitions attendance. Leaflets and posters will be materials for dissemination.	2 European 2 International Some references are: Fruit Logistica: Berlin - DE, BIOFACH: Nuremberg - DE, Fruit Attraction Madrid, FIMA Zaragoza, SEPOR Lorca-Murcia, FAME Torre-Pacheco-Murcia	During all the project	CEBAS-CSIC and FECOAM

Networking	Networking activities are taken as direct meetings to present the project objectives and results to relevant stakeholders in order to arise a multiplier effect or synergies.)	Networking with other LIFE projects is not included here, but in an specific Action (E2)	Some examples are AGRAGEX, FUNDACION TECNOVA, CENTRO TECNOLOGICO DEL METAL, FREMM, AGRITECH	During all the project	CEBAS-CSIC, UMU, RITEC and FECOAM
Project Leaflets	Leaflets containing the basics of the project: environmental problem, objective, methodology, Drainuse description, and partnership	To produce 2.000 copies and distributed between beneficiaries. The brochure will be designed avoiding crowd information and including some photos of the demo site and the technology.	To be placed in strategic places (cooperatives, public offices, vocational training centres…), sent by mail previous contact	During all the project	CEBAS-CSIC and FECOAM
Demo Film	It will be produced to explain the impact of the proposed solution on the soilless agriculture	The film will be produced in MPEG format to facilitate internet viewing and will last about 10 minutes.	It will be disseminated in online means and during events to wide audience as well as it will be available at DRAINUSE website to all visitors.	Filmed when the system is fully operational in the pilot plant. To be ready in October 2017	CEBAS-CSIC and FECOAM
Technical publications on project	Technical Articles	Explanation of the Drainuse pilot system: environmental problem and proposed solution	Technical information magazines. Spanish: Vida Rural, Revista de Fruticultura, Agricola Vergel	During all the project	CEBAS-CSIC

Scientific papers	Scientific Articles	Scientific aspects of the project fundamentals (chemical and economic approaches)	Scientia Horticulturae, Journal of Horticultural Science and Biotechnology, Horttechnology, Irrigation Science.	During all the project	CEBAS-CSIC and UMU

4. Indicators of Progress

In the following table 7 we present the different indicators of progress, periodicity and controller for the CDP:

Table 7 Indicators of progress for LIFE-DRAINUSE

Action	Indicator	Value of reference	Periodicity	Controller
Notice Boards	• Units	4	Set up notice boards before 05/2016	CEBAS-CSIC
Website	• Number of visits to the website • Website online and number of downloads • Number of website updates	>5.000 visitors expected	At the end of the project (August 2018)	CEBAS-CSIC
Layman's report	• Nº of copies distributed	200 copies	At the end of the project (August 2018)	CEBAS-CSIC
Media work	• Nº of articles for the press- yearly press articles • DRAINUSE social media profile in Facebook and LinkedIn	• 3 articles for the press- yearly press articles • Create and maintain DRAINUSE profile in Facebook and LinkedIn	yearly	CEBAS-CSIC
Workshop	• Nº of workshops • Nº of attendees	• Nº of workshops: 2 • Nº of attendees at the Spain workshop: at least 50-60 • Nº of attendees at the EU final info-day: at least 150	The Spain workshop when the demonstration will be already. The EU final info-day at the end of the project	CEBAS-CSIC
Trade fairs/Exhibitions	• Nº of fairs	• 2 National fairs: - ECOFIRA - EFIAQUA - Fruit Attraction • 2 international fairs: - Growtech Eurasia International Agriculture Fairs - IFTF International Floriculture and Horticulture Trade Fair	2017 and 2018	CEBAS-CSIC
Networking	• Nº Networking • Nº synergies with	• Nº Networking 4: • Nº synergies with other project / stakeholders: it is	At the end of the project (August 2018)	CEBAS-CSIC

	other project/stakeholders	expected 8 contacted projects, 6 exchange of information / synergies, 2 invitation to attend a dissemination event		
Project Leaflets	• Nº of leaflets delivered	2000 multilingual copies	At the end of the project (August 2018)	CEBAS-CSIC
Demo film	• Nº Video	1	Filmed when the system is fully operational in the pilot plant (October 2017)	CEBAS-CSIC
Technical publications on project	• Nº of articles	At least 2	At the end of the project (August 2018)	CEBAS-CSIC
Scientific papers	• Nº of articles	At least 2	At the end of the project (August 2018)	CEBAS-CSIC

5. Progress action by action

Hereunder, the actions of the plan of dissemination and communication and it's indication of progress are presented one by one:

Action	
D1.1. COMMUNICATION AND DISSEMINATION PLAN	
Partner in charge	
FECOAM	
Main objective	Current state
Develop and elaboration the Communication and Dissemination Plan - CDP	Completed
Reactions & feedback	
A first draft version of the CDP will be available during the 6th month of the project's lifecycle. This version will be updated during the project; a final version is planned to be delivered at month 18.	

Action	
D1.1. DISSEMINATION PORTFOLIO REPORT	
Partner in charge	
FECOAM	
Main objective	Current state
Elaboration the Communication and Dissemination Portfolio Report	In process
Reactions & feedback	
A final version is planned to be delivered at month 18.	

Action	
D1.2. PROJECT'S CORPORATE IMAGE DESIGN	
Partner in charge	
FECOAM	
Main objective	Current state
Design and implementation of the different elements that make up the corporate image of the project.	Completed
Reactions & feedback	
The design and development of the corporate image of the project started at the beginning of the project. This action was completed at the end of 2015, the deadline.	

Action	
D1.2. PRODUCTION OF PRINTED AND AUDIOVISUAL MATERIALS: PROJECT LEAFLET	
Partner in charge	
FECOAM	
Main objective	Current State
Leaflet with basic information about the project. 2000 units in Spanish and	Completed.

English.	
Reactions & feedback	
This action started in the first months of the project with other tasks of corporate image. This action was completed ON TIME. The different formats designed were established in the action D of the memory of the project..	

Action	
D 1.2. DRAINUSE PROMOTIONAL MATERIALS	
Partner in charge	
FECOAM	
Main objective	Current state
Different materials have been designed in order to promote the Project: 1000 ballpoint pens and 1000 notebooks. It has also made a roll-up for use in events.	In process
Reactions & feedback	
To be designed the different formats established in the action D of the technical annex: notice board, leaflet, roll-up, as well as different materials from stationery (envelopes. cards...).	

Action	
D1.2. PRODUCTION OF PRINTED AND AUDIOVISUAL MATERIALS: ONE DEMO FILM	
Partner in charge	
CEBAS	
Main objective	Current State
Make an Informative film of the project focused to the agricultural sector. Will also be available online (YouTube, web project etc)	The partners are preparing their contributions to the video.
Reactions & feedback	
Since the beginning of the project and included in the package of hiring of the web of LIFE Drainuse, has carried out work with regard to the preparation of a film that would serve as informative material from the project. There are already a number of images taken at meetings, laboratories etc. and is preparing the corresponding script.	

Action	
D1.2. TECHNICAL PUBLICATIONS AND SCIENTIFIC JOURNALS: TECHNICAL PUBLICATIONS	
Partner in charge	
CEBAS	
Main objective	Current state
At least 2, technical articles in Spanish journals between 2016 and 2018.	In process
Reactions & feedback	
So far the publications have not been made because it was considered more	

appropriate to do so after the first tomato crop, in order to take into account the results of the tests carried out.

Action	
D1.2. TECHNICAL PUBLICATIONS AND SCIENTIFIC JOURNALS: SCIENTIFIC JOURNALS	
Partner in charge	
CEBAS	
Main objective	Current state
At least 2 scientific articles in Spanish journals between 2016 and 2018.	In process
Reactions & feedback	
So far the publications have not been made because it was considered more appropriate to do after the first tomato crop, in order to take into account the results of the tests carried out in the pilot system.	

Action	
D1.3. Organization of dissemination activities: Trade fairs and exhibitions.	
Partner in charge	
FECOAM	
Main objective	Current state
Participation in 2 European fairs and 2 National fairs	In process
Reactions & feedback	
The demonstrator will be presented in trade fairs and exhibitions by means of the video and the leaflet. These presentations will focus on technical aspects and environmental and economic benefits of the technological solution proposed. Given the sector in which the project is going to be executed, we have identified these potential fairs and exhibitions	

Action	
D1.3. Organization of dissemination activities: dedicated events and presentations.	
Partner in charge	
FECOAM	
Main objective	Current state
Attendance to 4 dedicated events (conferences, workshops)	In process
Reactions & feedback	
Will be presented at different national and international events (workshops and technical conferences) and in other potentially interesting events that are nationally and internationally organized by interested organizations Dissemination of the project has become both the specialized crowd as among the public in general.	

Action	
D1.3. Organization of technical workshop and Final DRAINUSE INFODAY.	
Partner in charge	
CEBAS, UMU, RITEC, FECOAM	
Main objective	Current state
1 National Workshop (At least 70 attendees). 1 Info day (At least 150 attendees).	In process
Reactions & feedback	
Dissemination actions are a crucial part of LIFE DRAINUSE project to inform other stakeholders of the main results and to encourage them where appropriate to use the techniques and methods successfully tested in the Project. This workshop will take place at the end of the project and will bring together experts and authorities in order to determine the future of Drainuse options and the legal and financial tools available for this purpose.	

Action	
D2. Elaboration of project website	
Partner in charge	
CEBAS	
Main objective	Current state
A project website will be created as main element to disseminate the project.	Completed
Reactions & feedback	
To improve the dissemination of LIFE DRAINUSE activities to a wide range of stakeholders (experts and specialists, potential users of the technologies being developed, policy decision makers at all levels and public funding authorities, as well as the general public and local citizens)	

Action	
D3. Elaboration of the Layman's Report	
Partner in charge	
FECOAM	
Main objective	Current state
A report will be produced and distributed according to the CDP at the end of the project. This report will be set up for LIFE DRAINUSE project in order to introduce a general vision of the objectives and results into the society in order to increase its awareness in the environmental problem addressed. It is planned to print 200 paper copies to be distributed among partners	In process
Reactions & feedback	
A final version is planned to be delivered at month 18.	

Action	
D4. Notice board	
Partner in charge	
FECOAM	
Main objective	Current state
Information poster located in strategic places linked to the development of the project. A total of 4 will be carried out.	Completed
Reactions & feedback	
This action started at the beginning of the project. The posters have been placed in the strategic sites, offering the basics of this project (in English and Spanish), so that it is affordable for all visitors.	

6. Conclusions

As planned, it has been worked progressively since the beginning of the project in tasks of the plan of dissemination and communication of LIFE DRAINUSE and the overall assessment of the situation with respect to this part of the project it is positive. Actions planned have been led properly and many of them will be intensified during 2017 with the run-up of the closed - system.

There have only been some few exceptions and changes based on decisions strategic of them partners but that not affect to the good development of the project and the results expected.

Annex A- Life Drainuse WebSite

Figure 1. LIFE Drainuse Website-Front

Figure.2 LIFE DRAINUSE Website-Partners and contacts

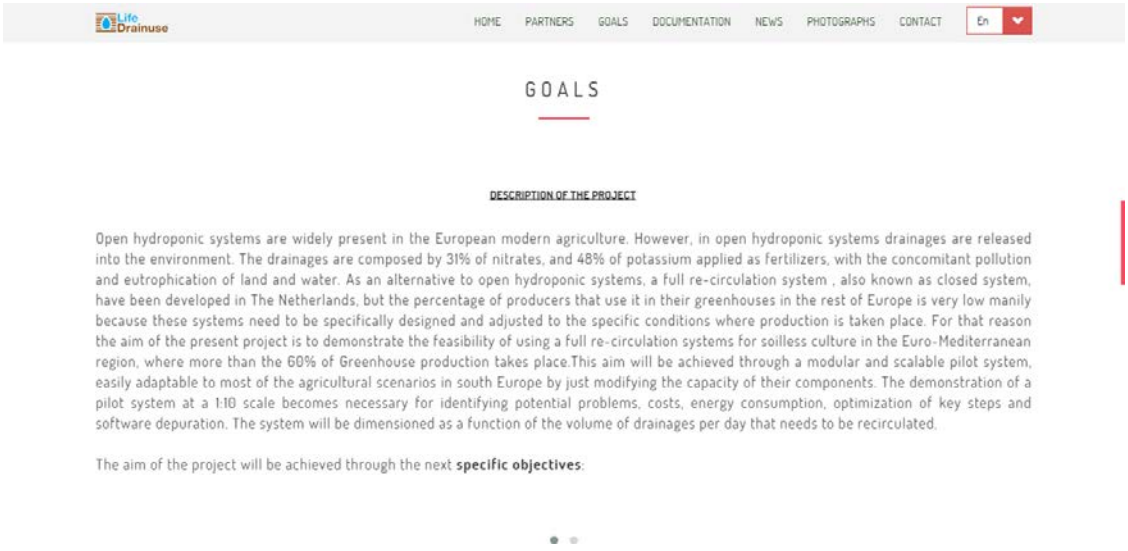


Figure 3. LIFE Drainuse Website-Project's Goals

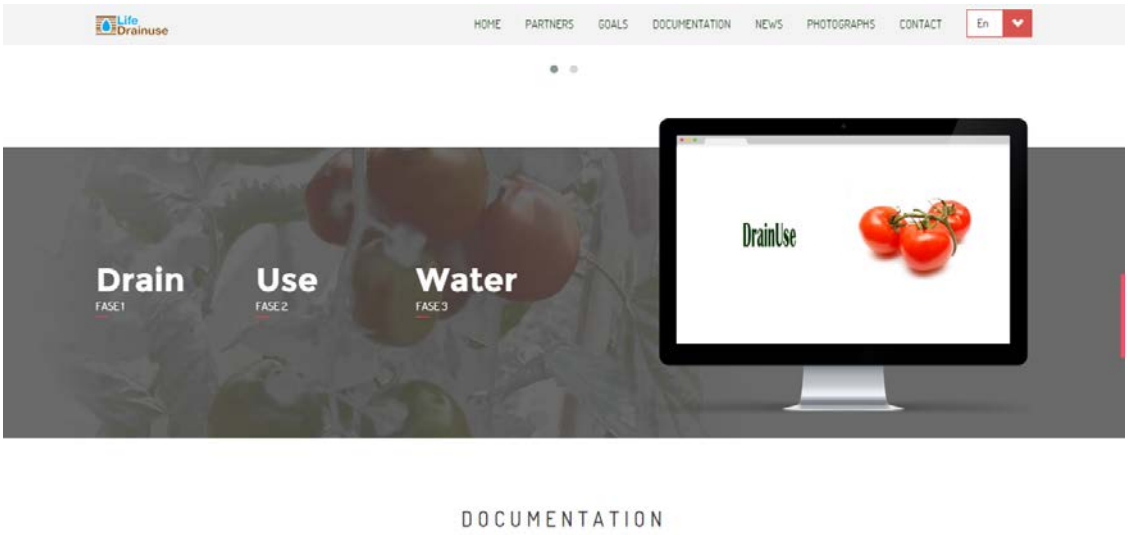


Figure 4. LIFE DRAINUSE Website-Project's technology

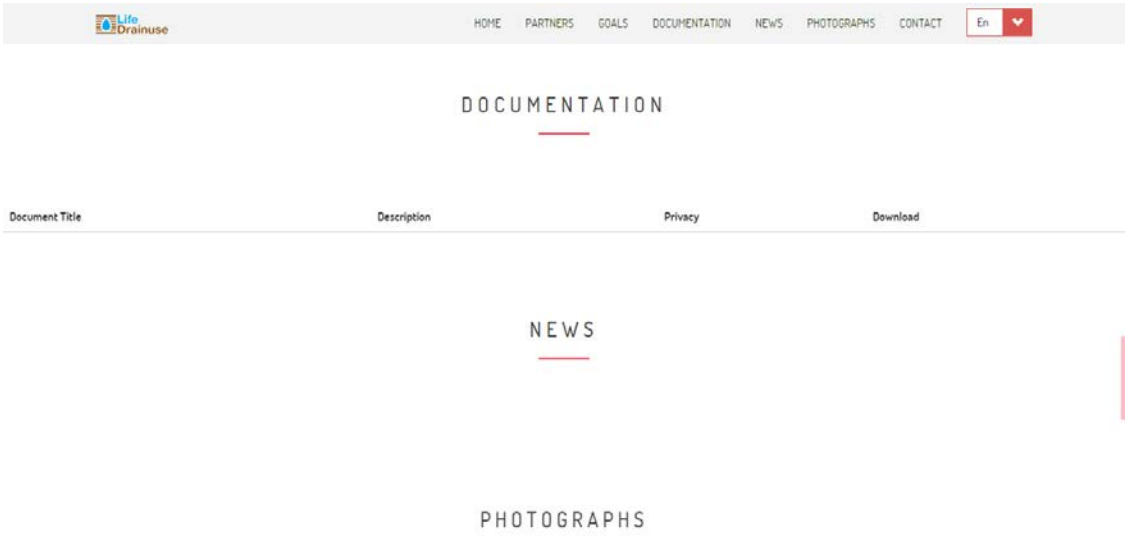


Figure 5. LiFE Drainuse Website- Project's photogallery and News Section

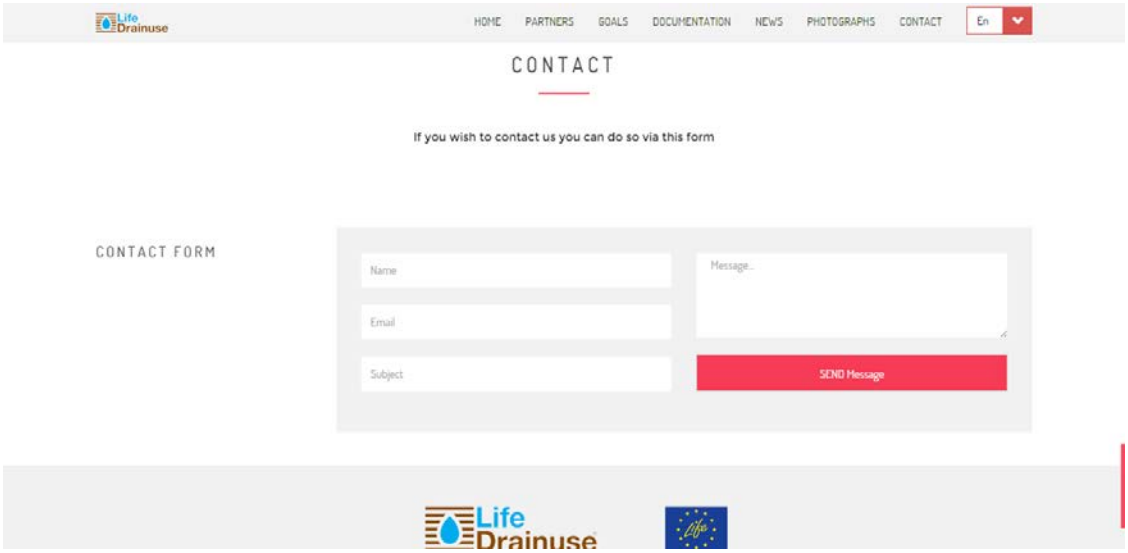


Figure 6. LIFE DRAINUSE Website- Contact Section

Figure 7. LIFE DRAINUSE Website- Objectives

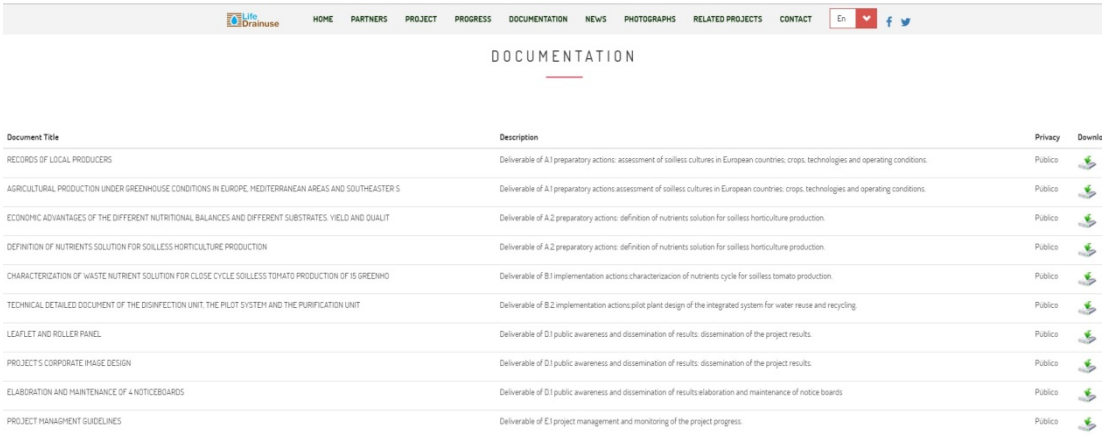


Figure 8. LIFE Drainuse Website- Documentation

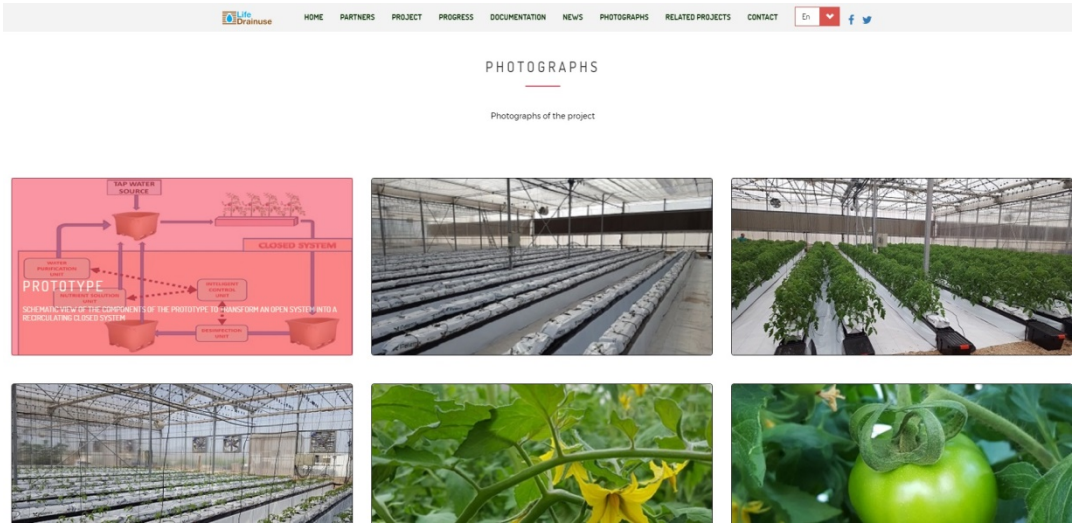


Figure 9. LIFE DRAINUSE Website- Photogallery

Annex B -Dissemination Material

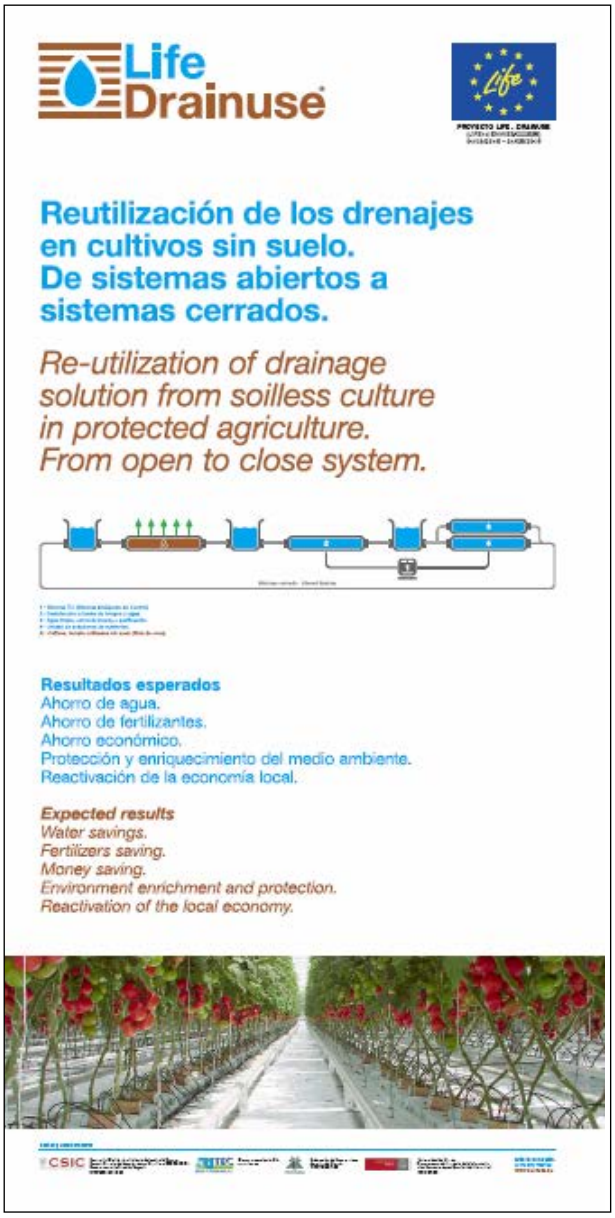


Figure 10. LIFE DRAINUSE Roll up/ Poster

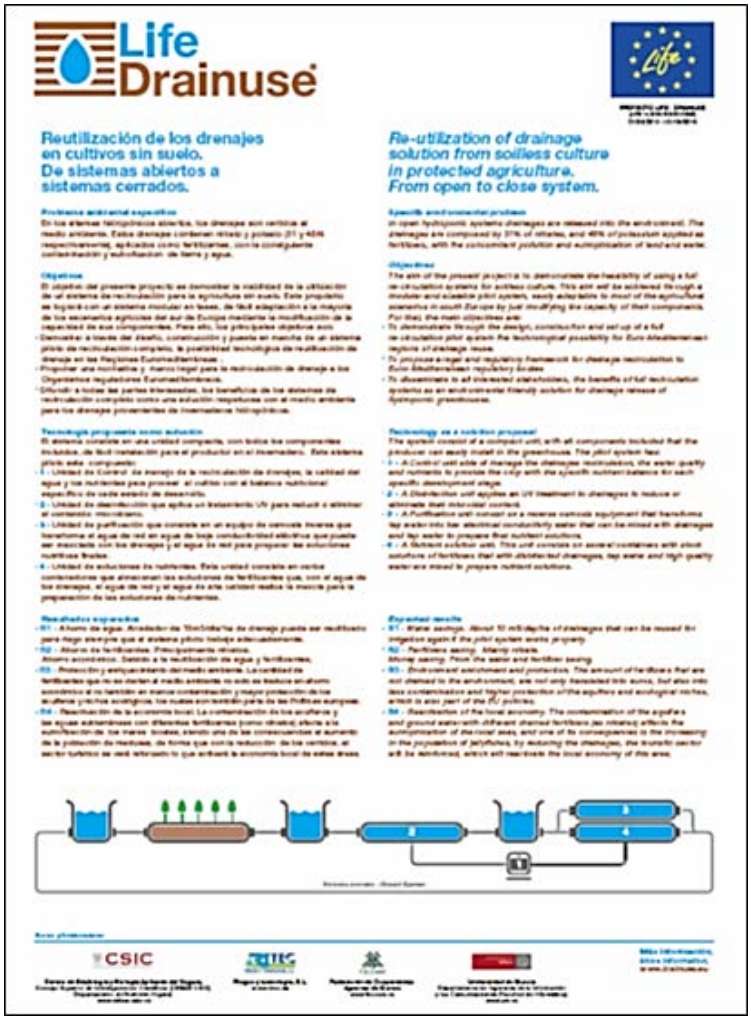
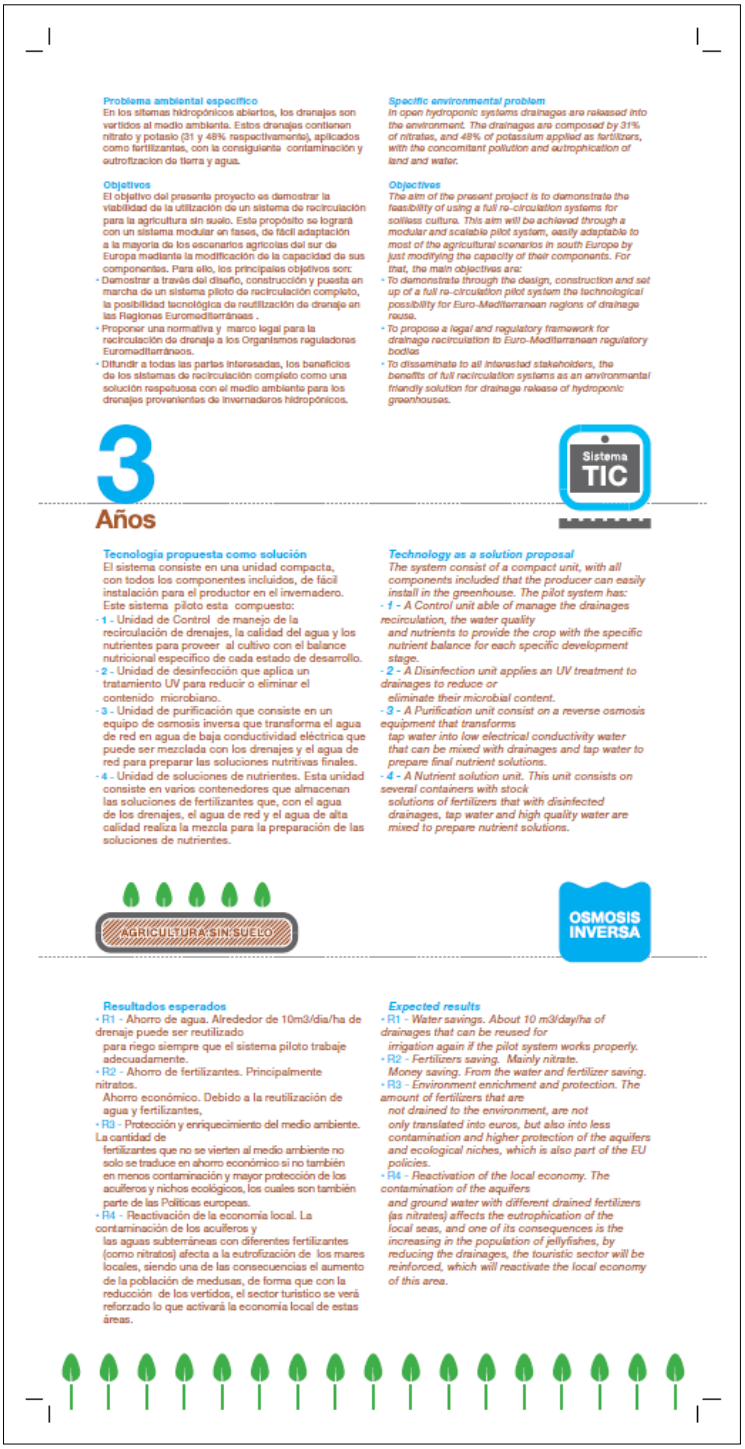


Figure 11. LIFE DRAINUSE Roll up

Figure 12. LIFE DRAINUSE Leaflet Front



Problema ambiental específico
En los sitemas hidropónicos abiertos, los drenajes son vertidos al medio ambiente. Estos drenajes contienen nitrato y potasio (31 y 48% respectivamente), aplicados como fertilizantes, con la consiguiente contaminación y eutrofizacion de tierra y agua.

Objetivos
El objetivo del presente proyecto es demostrar la viabilidad de la utilización de un sistema de recirculación para la agricultura sin suelo. Este propósito se logrará con un sistema modular en fases, de fácil adaptación a la mayoría de los escenarios agrícolas del sur de Europa mediante la modificación de la capacidad de sus componentes. Para ello, los principales objetivos son:
- Demostrar a través del diseño, construcción y puesta en marcha de un sistema piloto de recirculación completo, la posibilidad tecnológica de reutilización de drenaje en las Regiones Euromediterráneas .
- Proponer una normativa y marco legal para la recirculación de drenaje a los Organismos reguladores Euromediterráneos.
- Difundir a todas las partes interesadas, los beneficios de los sistemas de recirculación completo como una solución respetuosa con el medio ambiente para los drenajes provenientes de invernaderos hidropónicos.

Specific environmental problem
In open hydroponic systems drainages are released into the environment. The drainages are composed by 31% of nitrates, and 48% of potassium applied as fertilizers, with the concomitant pollution and eutrophication of land and water.

Objectives
The aim of the present project is to demonstrate the feasibility of using a full re-circulation systems for soilless culture. This aim will be achieved through a modular and scalable pilot system, easily adaptable to most of the agricultural scenarios in south Europe by just modifying the capacity of their components. For that, the main objectives are:
- *To demonstrate through the design, construction and set up of a full re-circulation pilot system the technological possibility for Euro-Mediterranean regions of drainage reuse.*
- *To propose a legal and regulatory framework for drainage recirculation to Euro-Mediterranean regulatory bodies*
- *To disseminate to all interested stakeholders, the benefits of full recirculation systems as an environmental friendly solution for drainage release of hydroponic greenhouses.*

3 Años

Sistema TIC

Tecnología propuesta como solución
El sistema consiste en una unidad compacta, con todos los componentes incluidos, de fácil instalación para el productor en el invernadero. Este sistema piloto esta compuesto:
- 1 - Unidad de Control de manejo de la recirculación de drenajes, la calidad del agua y los nutrientes para proveer al cultivo con el balance nutricional específico de cada estado de desarrollo.
- 2 - Unidad de desinfección que aplica un tratamiento UV para reducir o eliminar el contenido microbiano.
- 3 - Unidad de purificación que consiste en un equipo de osmosis inversa que transforma el agua de red en agua de baja conductividad eléctrica que puede ser mezclada con los drenajes y el agua de red para preparar las soluciones nutritivas finales.
- 4 - Unidad de soluciones de nutrientes. Esta unidad consiste en varios contenedores que almacenan las soluciones de fertilizantes que, con el agua de los drenajes, el agua de red y el agua de alta calidad realiza la mezcla para la preparación de las soluciones de nutrientes.

Technology as a solution proposal
The system consist of a compact unit, with all components included that the producer can easily install in the greenhouse. The pilot system has:
- *1 - A Control unit able of manage the drainages recirculation, the water quality and nutrients to provide the crop with the specific nutrient balance for each specific development stage.*
- *2 - A Disinfection unit applies an UV treatment to drainages to reduce or eliminate their microbial content.*
- *3 - A Purification unit consist on a reverse osmosis equipment that transforms tap water into low electrical conductivity water that can be mixed with drainages and tap water to prepare final nutrient solutions.*
- *4 - A Nutrient solution unit. This unit consists on several containers with stock solutions of fertilizers that with disinfected drainages, tap water and high quality water are mixed to prepare nutrient solutions.*

AGRICULTURA SIN SUELO

OSMOSIS INVERSA

Resultados esperados
- R1 - Ahorro de agua. Alrededor de 10m3/día/ha de drenaje puede ser reutilizado para riego siempre que el sistema piloto trabaje adecuadamente.
- R2 - Ahorro de fertilizantes. Principalmente nitratos. Ahorro económico. Debido a la reutilización de agua y fertilizantes,
- R3 - Protección y enriquecimiento del medio ambiente. La cantidad de fertilizantes que no se vierten al medio ambiente no solo se traduce en ahorro económico si no también en menos contaminación y mayor protección de los acuíferos y nichos ecológicos, los cuales son también parte de las Políticas europeas.
- R4 - Reactivación de la economía local. La contaminación de los acuíferos y las aguas subterráneas con diferentes fertilizantes (como nitratos) afecta a la eutrofización de los mares locales, siendo una de las consecuencias el aumento de la población de medusas, de forma que con la reducción de los vertidos, el sector turístico se verá reforzado lo que activará la economía local de estas áreas.

Expected results
- *R1 - Water savings. About 10 m3/day/ha of drainages that can be reused for irrigation again if the pilot system works properly.*
- *R2 - Fertilizers saving. Mainly nitrate. Money saving. From the water and fertilizer saving.*
- *R3 - Environment enrichment and protection. The amount of fertilizers that are not drained to the environment, are not only translated into euros, but also into less contamination and higher protection of the aquifers and ecological niches, which is also part of the EU policies.*
- *R4 - Reactivation of the local economy. The contamination of the aquifers and ground water with different drained fertilizers (as nitrates) affects the eutrophication of the local seas, and one of its consequences is the increasing in the population of jellyfishes, by reducing the drainages, the touristic sector will be reinforced, which will reactivate the local economy of this area.*

Figure 13. LIFE DRAINUSE Leaflet Back