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Summary of Deliverable D1.1 – Kick-off Meeting Report	The first general project meeting of SEAFENNEL4MED, held on June 15th, 2022 in Ancona (Italy), marked the official start of this ambitious European initiative. The gathering brought together all partners—universities, research institutes, and industry stakeholders from Italy, Croatia, France, Tunisia, and Turkiye - who joined both in person and online. During the meeting, participants introduced their institutions, clarified roles, and established the project's governance structures. The Project Management Committee and Steering Committee were formally launched, while national expert groups and stakeholder platforms were outlined as key channels to link the consortium with local communities, industries, and policymakers. Special emphasis was placed on ensuring balance across academia, public bodies, and industry, to guarantee that scientific outputs would translate into real-world impact. The agenda also included first discussions on communication strategies, the project's visual identity, and the upcoming website—tools essential for outreach, stakeholder engagement, and knowledge exchange. Importantly, the meeting initiated technical discussions on sea fennel sampling (WP3) and sustainable cultivation trials (WP4), highlighting the need for shared protocols and flexibility across diverse Mediterranean conditions. Partners agreed on next steps for field sampling, cultivation design, and early dissemination activities such as press releases and newsletters. The kick-off meeting successfully laid the foundations for cooperation, aligning expectations and setting a common vision: to transform sea fennel into a model crop for agrobiodiversity, circularity, and resilience in Mediterranean small farms.

Versioning and Contribution History

Version	Date	Modified by	Modification reason
v1.0	15/06/2022	Lucia Aquilanti	First version
v2.0	17/06/2022	Lucia Aquilanti	Comments after peer review process

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1 Minutes of the Kick off meeting

KICK-OFF MEETING
PRIMA FUNDED PROJECT UNDER THE 2018 CALL
“Innovative sustainable organic sea fennel (*Crithmum maritimum* L.) -based cropping systems to boost agrobiodiversity, profitability, circularity, and resilience to climate changes in Mediterranean small farms”
Acronym SEAFENNEL4MED

15 JUNE 2022

1.1 LOCATION

Botanic garden “Selva di Gallignano” Agugliano (AN)
 Dipartimento di Scienze Agrarie Alimentari e Ambientali (D3A), Università Politecnica delle Marche (UNIVPM), via Brecce Bianche 60131 Ancona, Italy
 Tel: +39 071 2204959, Fax: +39 071 2204988



On June 15th, 2022, at 10.20 am at the Botanic Garden “Selva di Gallignano” - Università Politecnica delle Marche, via Brecce Bianche, Ancona, Italy, the Principal Investigators (PI) and the research Team Members of the Partners of the SEAFENNEL4MED Consortium met in blended mode (presence and distance, via Teams, https://teams.microsoft.com/join/19%3ameeting_ZDUzNjZhNGYtMWQxYS00ZWQyLWFiMDctMWQ1ZDY1Y2MyMjll%40thread.v2/0?context=%7b%22Tid%22%3a%22117b418d-fb21-416f-a85f-1e9ff725bf2c%22%2c%22Oid%22%3a%224095be1d-22fc-4df0-afe8-d7fe13ab74d5%22%7d%22%7d), regularly convened by the Coordinator of the Project, Prof. Lucia Aquilanti, with an email dated 23.05.22.

The attendance situation at the beginning of the meeting is shown in the following table:

Partner No.	Organisation	Participant (Permanent Staff)	Role	Attendance
Coordinator (P1)	Dipartimento di Scienze Agrarie, Alimentari e Ambientali, Università Politecnica delle Marche, Italy short name: UNIVPM	Lucia Aquilanti	Project Coordinator/ PI of UNIVPM	P presence
		Deborah Pacetti	Deputy Coordinator	P presence
		Andrea Osimani	Team member	P presence
		Cristiana Garofalo	Team member	A
		Massimo Mozzon	Team member	A
		Simona Casavecchia	Team member	P presence

		Roberto Orsini	Team member	A
		Ester Foppa Pedretti	Team member	A
		Daniele Duca	Team member	P presence
		Raffaele Zanolì	Team member	P presence
		Simona Naspetti	Team member	P presence
		Ancuta Nartea	collaborator	P presence
		Kofi Armah Boakye-Yiadom	collaborator	A
		Antonietta Maoloni	collaborator	A
		Stefano Zenobi	collaborator	P presence
		Vesna Milanovic	collaborator	A
		Cinzia Mannozi	collaborator	P distance
		Roberta Foligni	collaborator	P distance
		Federica Cardinali	collaborator	A
Partner 2 (P2)	Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria - Centro di ricerca Alimenti e Nutrizione short name: CREA-AN	Antonio Raffo	PI of CREA-AN	P distance
		Fiorella Sinesio	Team member	P distance
		Irene Baiamonte	Team member	P distance
		Elisabetta Moneta	Team member	P distance
		Nicoletta Nardo	Team member	P distance
		Marina Peparaio	Team member	P distance
		Valentina Melini	Team member	P distance
		Eleonora Saggia Civitelli	Team member	P distance
Partner 3 (P3)	RINCI Srl short name: RINCI	Luca Galeazzi	PI of RINCI	P presence
		Claudia Gonnelli	Team member	P presence
		Rossano Cacciatore	Team member	A
		Ettore Drenaggi	collaborator	A
Partner 4 (P4)	UNIVERSITY OF SPLIT short name: UNIST	Ivana Generalić Mekinić	PI of UNIST	P presence
		Vida Šimat	Team member	P distance
		Danijela Skroza	Team member	P distance
		Ivica Ljubenkov	Team member	P distance
		Olivera Politeo	Team member	P distance
		Linda Bazina	Team member	P distance
Partner 5 (P5)	INSTITUTE FOR ADRIATIC CROPS AND KARST RECLAMATION short name: IACKR	Branimir Urlić	PI of IACKR	P presence
		Tonka Ninčević	Team member	P distance
		Maja Veršić Bratinčević	Team member	P distance
		Marijana Popović	Team member	P distance
		Marko Runjić	Team member	P distance
		Gvozden Dumičić	Team member	P distance
Partner 6 (P6)	UNIVERSITÉ DE BRETAGNE OCCIDENTALE short name: UNIBRE	Christian Magné	PI of UNIBRE	P distance
		Xavier Dauvergne	Team member	P distance
		Garance Bianchetti	Team member	A
		Monique Arzur	Team member	A
		Marie-Dominique Jezequel	Team member	A
		Laurence Guenan	Team member	A
Partner 7 (P7)	INSTITUT NATIONAL DE RECHERCHE EN GÉNIE RURAL, EAUX ET FORÊTS short name: INRGREF	Abdelhamid Khaldi	PI of INRGREF	P distance
		Issam Touhami	Team member	P distance
		Boutheina Siti	Team member	P distance
		Ali Khorchani	Team member	P distance
		Ezzeddine Saadaoui	Team member	P distance
		Faten Mezni	Team member	P distance
		Sondes Fkiri	Team member	P distance
		Kaouthar Ben Yahia	Team member	P distance

		Mohamed Tahar ElAyeb	Team member	P distance
		Awatef Slama	Team member	P distance
		Ali El Khorchani	Team member	P distance
		Ammar Hadj	Team member	P distance
		Liliya Naui	Team member	P distance
Partner 8 (P8)	EGE UNIVERSITY	Özlem Karahan Uysal	PI of UNIEGE	P presence
		Sebnem Tavman	Team member	P presence
	short name: UNIEGE	Oguz Bayraktar	Team member	P distance
		Seher Kumcuoglu	Team member	P distance
		Zerrin Kenanoglu	Team member	P distance
		Duygu Tosun	Team member	P distance
		Özgür Tatar	Team member	P presence
		Cigdem Sönmez	Team member	P distance
		Serdar Gökhan Senol	Team member	P presence

Legend: *P* Present (in presence or distance, as specified); *A* Absent

1.3 AGENDA FOR THE MEETING

9 h 30 – 10 h 30

Welcome at D3A, UNIVPM and transfer to the Botanic garden “Selva di Gallignano”
[Gallignano forest] communications from the Project coordinator

10h 30 – 10h 45

Coordinator’s Communications

10h 45 – 11h 15

Flash presentation of Principal Investigators (PI), Partners, and their role in the Project

- Deborah Pacetti UNIVPM, Italy
- Antonio Raffo CREA-AN, Italy
- Luca Galeazzi RINCI, Italy
- Ivana Generalić Mekinić UNIVERSITY OF SPLIT, Croatia
- Branimir Urlić INSTITUTE FOR ADRIATIC CROPS AND KARST RECLAMATION, Croatia
- Christian Magné UNIVERSITÉ DE BRETAGNE OCCIDENTALE, France
- Abdelhamid Khaldi INSTITUT NATIONAL DE RECHERCHE EN GÉNIE RURAL, EAUX ET FORÊTS, Tunisia
- Özlem Karahan Uysal UNIVERSITY OF EGE, Turkey

11h 00 - 11h 30

Management bodies

- Assignment of Project Management Committee seats
- Nomination of National Expert Groups
- Drafting of Stakeholders list

11h 30 – 11h 45

Coffee break

11 h 45 – 12h 30

WP1 and WP2 deliverables

- Project Logo

- Project Website
- Quality Assurance Plan

13h 00 – 14h 00

Lunch

14h 45 – 16h 45

Specific techno-scientific aspects related to WP3-WP4

- WP3: Mediterranean populations of sea fennel (*Crithmum maritimum* L) to be sampled and collected for a preliminary screening of their morphometric, and chemical traits
- WP4: Experimental plan design for cultivation

16h 45 – 17h 00

Coffee break

17h 00 – 18h 30

Specific techno-scientific aspects related to WP5-WP8

18h 30

Expected closure of the meeting

1.4 MEETING MINUTES AND CONCLUSIONS

• Coordinator's Communications

The Project Coordinator opens the meeting at 10.30; she welcomes the participants and opens the meeting with a communication about the use by PRIMA-IS of the MEL PLATFORM (<https://mel.cgiar.org/user/login>) for the uploading of deliverables (in charge of Prof. Lucia Aquilanti) and as a communication tool. The Coordinator kindly reminds to PIs to check if they have received by the email the credentials for entering the platform, by the system.

• Flash presentation of Principal Investigators (PI), Partners, and their role into the Project

The Project Coordinator introduce the Deputy Coordinator, Prof. Deborah Pacetti, who shows her flash presentation briefly describing UNIVPM, the research team and the main role of UNIVPM researchers into the SEAFENNEL4MED Project); hence the Project Coordinator invites the PIs of the remaining Partners to show their presentations, with the following order: Dr Antonio Raffo Dr. Luca Galeazzi, Prof Ivana Ivana Generalić Mekinić, Dr Branimir Urlić, Prof Christian Magné Prof. Abdelhamid Khaldi Prof. Özlem Karahan Uysal.

• Management bodies

The Project Coordinator lists and briefly describes the 3 management bodies foreseen in the SEAFENNEL4MED Project, namely (i) **Project Management Committee**; (ii) **Steering Committee**; (iii) **National expert groups**.

Concerning the **Project Management Committee**, in the SEAFENNEL4MED proposal it is literally stated that:

*"The Coordinator will be responsible for the smooth execution of the Project and will be supported by the **Project Management Committee** and the **Steering Committee** in achieving the objectives of the Project.*

The support of this team, who will monitor the progress daily, will enable the Coordinator to focus on the big picture and promoting the project”

“The Project Management Committee is the decision-making body of the Consortium”

*“The **Project Management Committee** shall consist of one representative of each Party (corresponding to the Principal Investigator), hereinafter referred to as “Member”. The Coordinator shall chair all meetings of the Project Management Committee, unless decided otherwise by the Project Management Committee. The Parties agree to abide by all decisions of the **Project Management Committee**. Each Member shall be deemed to be duly authorised to deliberate, negotiate, and decide on all matters listed in Section 6.3.6 of this Consortium Agreement. The Parties agree to abide by all decisions of the Project Management Committee. This does not prevent the Parties from submitting a dispute for resolution in accordance with the provisions of settlement of disputes in Section 11.8 of the signed Consortium Agreement (CA)*

Any Member:

- should be present or represented at any meeting;**
- may appoint a substitute or a proxy to attend and vote at any meeting;**
- shall participate in a cooperative manner in the meetings.**

*The **Project Management Committee** shall be free to act on its own initiative to formulate proposals and take decisions in accordance with the procedures set out herein.*

The following decisions shall be taken by the Project Management Committee:

- *Content and intellectual property rights*
 - Proposals for changes to the Project Work Plan (Attachment 6) to be agreed by the Funding Authorities
 - Modifications to Attachment 1 of the signed CA (Background Included)
 - Additions to Attachment 3 of the signed CA (List of Third Parties for simplified transfer
 - Additions to Attachment 4 of the signed CA (Identified Affiliated Entities)
- *Evolution of the consortium*
 - Entry of a new Party to the Consortium and approval of the settlement on the conditions of the accession of such a new Party
 - Withdrawal of a Party from the Consortium and the approval of the settlement on the conditions of the withdrawal
- *Identification of a breach by a Party of its obligations under this Consortium Agreement or the Grant Agreement*
 - Declaration of a Party to be a Defaulting Party
 - Remedies to be performed by a Defaulting Party
 - Termination of a Defaulting Party's participation in the Consortium and measures relating thereto
 - Proposal to the Funding Authority for a change of the Coordinator
 - Proposal to the Funding Authority for suspension of all or part of the Project
 - Proposal to the Funding Authority for termination of the Project and the Consortium Agreement

In addition, the Project Management Committee shall:

- approve the Work plan for the coming Project period
- evaluate the progress since the last Project period
- discuss any issues concerning the management or the smooth running of the Project, which may require attention;
- resolve sensitive technical, administrative, or contractual issues
- monitor coherence and integration in the Project
- identify and analyse potential risk factors and determine the necessary measures to minimize them, recording this in a risk register
- discuss and approve changes in the Consortium if necessary
- take decisions on proposed changes to the Consortium Agreement deal with conflict resolution”

Based on the above premises, the **Project Management Committee** will be formed by:

SEAFENNEL4MED Project Management Committee				
P1	UNIVPM	ITALY	Prof. Lucia Aquilanti (PI of UNIVPM) and Project Coordinator	email: l.aquilanti@univpm.it phone: +39 071 2204959 mobile phone: +39 340 3380366
P2	CREA-AN	ITALY	Dr Antonio Raffo (PI of CREA-AN)	email: antonio.raffo@crea.gov.it mobile phone: +39 347 9906198
P3	RINCI	ITALY	Dr Luca Galeazzi (PI of RINCI)	email: l.galeazzi@rinci.it mobile phone: +39 3289325821
P4	UNIST	CROATIA	Prof. Ivana Generalić Mekinić (PI of UNIST)	email: ivana.generalic-mekinic@ktf-split.hr mobile phone: +385 95 9131939..... Telephone: +385 21 329 458
P5	IACKR	CROATIA	Dr Branimir Urlić (PI of IACKR)	email: branimir.urlic@krs.hr mobile phone: + 385 98 896 362..... Telephone: +385 21 434 478.....
P6	UNIBRE	FRANCE	Prof. Christian Magné (PI of UNIBRE)	email: christian.magne@univ-brest.fr mobile phone: +33 673 68 62 88 Telephone: +33 298 01 72 25
P7	INRGREF	TUNISIA	Prof. Abdelhamid Khaldi (PI of INRGREF)	email: khalidtn@yahoo.fr mobile phone: +216 97425066 Telephone: +21671709033.....
P8	UNIEGE	TURKEY	Prof. Özlem Karahan Uysal (PI of UNIEGE)	email: ouysal4@gmail.com mobile phone: + 90 533 545 02 23 Telephone: + 90 232 311 29 72

Regarding the Steering Committee, in the SEAFENNEL4MED proposal it is literally stated that:

"The daily management of the Project execution will be the responsibility of the Steering Committee, who will comprise the Coordinator and the Work Package (WP) Leaders. Each WP of the Work Plan (Attachment 6) has a Work Package Leader who is the contact person for that WP. The Steering Committee will direct all tasks of the Project in accordance with the Project objectives. The Steering Committee will be also responsible for:

- ensuring that the tasks are progressing according to the agreed schedule and in coordination with the other WP leaders*
- report on progress to the Coordinator and advice of any delays, risks or other issues that may hinder this, including the proposal of solutions*
- as necessary propose modifications to the Work Plan and the Consortium Agreement for approval by the Project Management Committee and PRIMA-IS and the Funding Authorities if so required.*
- provide input on technical and financial aspects to be included in reports and communication (via the Coordinator) to PRIMA-IS and the Funding Authorities*
- address and document all issues raised by external regulatory and other relevant bodies;*
- discuss and record all relevant intellectual property issues raised by participants in conformity with the Consortium Agreement;*
- approve or otherwise, publications resulting from the Project;*
- monitor all ethical issues.*

The Steering Committee will meet once a month via teleconference/Skype. Additional meetings can be called at any time. Decisions will be taken by consensus. If this is not possible, then they will be referred to the Coordinator”.

Based on the above premises, seats of Steering Committee have been assigned according to the following table:

SEAFENNEL4MED Steering Committee			
Chairman	UNIVPM	Lucia Aquilanti	e.mail: l.aquilanti@univpm.it phone: +39 071 2204959 mobile: +39 3403300366
Project Coordinator			
WP1 Leader			
WP2 Leader	UNIVPM	Deborah Pacetti	email: d.pacetti@univpm.it phone: +39 071 220 4685 mobile phone: 3483016689
WP3 Leader	INRGREF	Abdelhamid Khaldi	email: khalditn@yahoo.fr phone: +21671709033 mobile phone: +21697425066
WP4 Leader	IACKR	Branimir Urlic	email: branimir.urlic@krs.hr phone: +385 21 434 478 mobile phone: +385 98 896 362
WP5 Leader	CREA-AN	Valentina Melini	email: valentina.melini@crea.gov.it phone: +39 06 51494536 mobile phone:
WP6 Leader	UNIBRE	Christian Magne	email: christian.magne@univ-brest.fr mobile phone: +33 673 68 62 88 Telephone: +33 298 01 72 25
WP7 Leader	UNIEGE	Ozlem Uysal	email: ouysal4@gmail.com phone: +90 232 311 2972 mobile phone: +90 533 545 0223
WP8 Leader	UNIVPM	Daniele Duca	email: d.duca@univpm.it phone: +39 071 220 4631 mobile phone: +39 3337963762

Regarding nomination of **National Expert Groups**, the SEAFENNEL4MED proposal reports that:

“The National Expert Groups will comprise at least 3 members for each country, with a Chairmain who will be a representative from the scientific partners, and at least one expert from public bodies and one from industry. National Expert Groups will act as advisory bodies. Nominations for participants for the National Expert Groups will be proposed by the Parties to the Steering Committee who will evaluate and approve them. The members of the National Expert Groups must have a good knowledge of the national and regional sector policy and practice relevant to the food sector in their countries. The National Expert Groups shall:

- be an active linkage between the Steering Committee and the main Stakeholders (Academia, ministries, industries, local authorities, etc.);*
- have an advisory role and assist the Steering Committee for the current priorities for the Project implementation;*
- consult the Steering Committee on issues related to the evaluation of Project results.”*

The Project Coordinator kindly ask to each PI to make as soon as possible a list of their potential national experts carefully following the above indications (minimum 3 members per Group); the composition of the **five National expert groups (1 for Italy, 1 for Croatia, 1 for Tunisia, 1 for France, and 1 for Turkey)** will be approved by the Steering Committee at its first meeting. **Deadline for identification of National Experts: JULY 30th**

SEAFENNEL4MED National Expert groups

ITALY	1. Academy	Raffaele Zanolì	Full Professor Agri.food economics UNIVPM	r.zanolì@univpm.it
	2. Industry/Farm	Ettore Drenaggi	Expert sea fennel crop production at RINCI	etdrenaggi@gmail.com
	3. Public institution	Antonio Raffo	CREA-AN	antonio.raffo@crea.gov.it mailto: d.pacetti@univpm.it
CROATIA	1. Academy	Maja Jukić Špika	IACKR	Maja.Jukic.Spika@krs.hr
	2. Industry/Farm	Ana Marija Dropulić	ZRNO SOLI (food industry)	anamarija.dropulic@gmail.com
	1. Public institution	Martin Bučan	Split-Dalmatia county	martin.bucan@dalmacija.hr
FRANCE	1. Academy	Christian Magne	UNIBRE	christian.magne@univ-brest.fr
	2. Industry/Farm	Yves Bleunven	ABYCEAN (sea fennel crop producer)	yves.bleunven@abycean.fr
	3. Industry/Farm	Bue Manu	Groupe des Agriculteurs Biologiques du Finistère (GAB29) (ORGANIC CROP PRODUCER ASSOCIATION)	m.bue@agrobio-bretagne.org
	4. Industry/Farm	Martinaud Estelle	Ferme de la mignonne (ORGANIC CROP PRODUCER)	estelle.martinaud@gmail.com
TUNISIA	1. Academy	Abdelhamid Khaldi	Full Professor Forestry	khalditn@yahoo.fr
	2. Industry/Farm	Lassaad Ben Slimane	Food industrial	benslimane@yahoo.fr
	3. Public institution	Habib Kachouri	Assistant Director (Regie d'Exploitation Forestière)	kachourih22@yahoo.com
TURKEY	1. Academy	Funda Turan	Full Professor at Iskenderun Technical University	funda.turan@iste.edu.tr
	2. Industry/Farm	Şerife Yılmaz	Head of Antalya Gaziosmanpaşa Limited Liability Women's Initiative Production and Business Cooperative	gazipasakadingirisimi@gmail.com
	3. Public institution	Ayfer Tan	Ministry of Agriculture, Aegean Agricultural Research Institute	ayfer_tan@yahoo.com
	4. Industry/Farm		LimoniLimon Co., Mersin	limonilimon33@gmail.com
	5.R&D Company	Oğuz Bayraktar	Natco Natural Ltd. Co	info@natconatural.com

Finally, concerning the **Stakeholders platform** implementation, in the SEAFENNEL4MED proposal, it was stated that:

"The Project outcomes will be of interest to certification and control bodies, NGO's, producers of vegetable food ingredients, retailers, consumers, policymakers, associations, researchers, etc. Other key stakeholders are represented by agriculture operators (especially crop producers). Relevant stakeholders will be directly involved during the whole Project using multiple tools (newsletters, participation at national expert groups, ...). They will be also invited to participate in the thematic Project events (final Workshop; events for valorisation of local dairy products) where the Project results will be presented and discussed, as detailed in the Project Work Plan"

Analogously to what suggested for **National expert groups**, even for the implementation of the **SEAFENNEL4MED Stakeholders platform**, the Project Coordinator kindly invites PIs to draft as soon as possible their own list of potential (local/national) Stakeholders using the template *.xls file drafted by the Coordinator (**minimum 10 KEY Stakeholders per Country**); Stakeholders should include (among others): **crop producers** (for the sustainable cultivation of new sea fennel crops); **food industries**; producers of food ingredients/nutraceuticals (e.g., spices, etc.); **certification and control**

*“Concerning WP2, Partners will identify the key stakeholders for each country, **ensuring gender and group balance** and invite them to participate to the stakeholder platform on a voluntary basis”*

[illegible]

Mockup of the Stakeholder platform template (.xls table supplied by the Coordinator to all PIs)*

Once that the Stakeholder lists have been drafted for each country, Pls will share them with the Steering Committee for approval; **thereafter Pls will be in charge of contacting directly the stakeholders from their own countries; in case of a positive answer in terms of inclusion into the Stakeholders platform, stakeholders will receive a formal email from the Project Coordinator (written in English and translated by Pls in the local/national languages) with an invitation to register on the SEAFENNEL4MED website to receive newsletters, surveys, invitations for attendance at meetings/seminars/congresses, etc.** **Deadline for identification of key STAKEHOLDERS: JULY 30th**

- **WP1 and WP2 deliverables**

The Project Coordinator shows the WP1 and its deliverables:

Work package number	1	Lead beneficiary			P1 (UNIVPM)				
Work package title	Project coordination and overall management								
Participant number	P1	P2	P3	P4	P5	P6		P7	P8
Short name of participant	UNIVPM	CREA-AN	RINCI	UNIST	IACKR	UNIBRE		INRGREF	EGE
Person months per participant	25	1	2	4	6	10		12	8.5
Start month	1			End month		36			

Objectives

The objective of WP1 is to ensure optimal co-ordination and management of SEAFENNEL4MED, as well as collaboration among Partners, with the final aim of maximising progress of knowledge and innovation outputs.

Description of work: The coordination and overall management of SEAFENNEL4MED will utilise the project management expertise of the Coordinator (UNIVPM) together with the expertise of WP leaders. A set of plans will be prepared and presented to assure proper programming, identification, formulation, implementation, evaluation, and audit processes: I. work planning and timetable; II. Work package list; III. Deliverable list; IV. Overall budget; V. Management level description of resources and budget. The Project coordination and overall management will rely on the following bodies (a full description of their composition and tasks is reported in Section 3.2). The **Steering Committee** will be composed of the **work package leaders (WP Leaders)**. It will direct the research priorities and activities of the consortium. The steering committee will meet (face-to-face or by teleconference) with the Coordinator at least once a month during the Project. If a member cannot attend a meeting, a written notification must be sent to the Coordinator. Chairman of this body is Prof. Lucia Aquilanti (Coordinator and Principal Investigator for UNIVPM). The main tasks of the Steering Committee are to set and revise Project's priorities and activities to ensure they are consistent with the contractual obligations with PRIMA call secretariat and funding agencies. The Steering Committee will also establish the national expert groups and to encourage and coordinate joint activities between the participants from different countries. The Steering committee will also organise the Quality Assurance Plan describing the guidelines adopted by the Project on preparation and validation of deliverables, internal peer reviewing, periodic reporting, preparation of financial statements, as well as risk management. The **Project Management Committee** will comprise the **Principal Investigators (PI)** and the Project Coordinator. The Project Management Committee (led by the Project Coordinator) will meet (face-to-face or by teleconference) at least every 3 months, or as required, for tasks detailed in section 3.2. The **National Expert Groups** will comprise at least 3 members for each country (**ensuring gender and group balance**) with a Chairman, who will be a representative from the scientific partners, and at least one expert from public bodies and one expert from Mediterranean farmers/industry. National Expert Groups will act as advisory bodies. Nominations for participants for the National Expert Groups will be proposed by SEAFENNEL4MED participants to the Steering Committee who will evaluate and approve them. Members of the National Expert Groups must have a good knowledge of the national and regional sector policy and practice relevant to sustainable cropping systems and exploitation of agro-food resources in their countries. Their main tasks are: (i) to become an active linkage between the Steering Committee and the main related stakeholders (academia, ministries, industries, local authorities, etc.); (ii) to have an advisory role and assist Steering Committee for the current priorities for the project implementation; (iii) to consult the Steering Committee on issues related to the evaluation of project results.

Project coordination and overall management will be achieved through the following tasks: **Task 1.1. Organization of general Project meetings (month 1 –36). Partners involved: All.** The organization of **five general Project meetings**, restricted to the Consortium will be responsibility of the Coordinator, who will handle the careful and timely preparation of the agenda, meeting documents and reports. The general Project meetings are expected to take place in months: 2 (kick-off meeting), 12, 18, 24, and 30. The **kick-off meeting** will be hosted by Coordinator, whereas the other four meetings will be hosted by other participants. The logistics of the meetings in terms of venue and accommodation are responsibility of the hosting participant. A **final Workshop** (hosted by the Coordinator) will be organized by the Coordinator together with the Steering Committee, in month 36. This event will be open to the public and will be part of the Dissemination activities (see WP2). **Task 1.2. Project coordination, management, supervision, and quality control (month 1 –36), Partners involved: All.** The Coordinator will ensure the role of Project supervision with the help of the Steering Committee and the Project Management Committee. General coordination of the Project includes monitoring of the overall project progress and management of communication and knowledge transfer between participants. The quality management system will be based on current practices applied at Coordinator institution, e.g. University and standard operating procedures applied in other EU funded projects. **Task 1.3. Communication with PRIMA call secretariat and the funding Agencies (month 1 –36); Partners involved: All.** The Coordinator will review the periodic and final reports prepared by the WP leaders to verify their consistency with the project tasks, before assembling and transmitting them to PRIMA call secretariat and the funding Agencies on behalf of the SEAFENNEL4MED Consortium. **Task 1.4 Preparation of mid-term and final reports (month 6 –36); Partners involved: All.** Preparation of mid-term and final scientific reports will involve all Partners who are requested to produce a detailed report before the end of each year and further send it to the Coordinator (through the WP leader). An updated "Plan for the dissemination and exploitation of results" as well as a Report of completed and planned communication activities will also be included in both the periodic and final reports.

Deliverables:

- D1.1** General Project meeting n.1 (Kick off meeting) Report (month 2);
- D1.2** Quality Assurance Plan (month 3);
- D1.3** General Project meeting n.2 Report (month 13);
- D1.4** 1st year (progress) Report (month 13);
- D1.5** General Project meeting n.3 Report (month 19);
- D1.6** General Project meeting n.4 Report (month 25);
- D1.7** 2nd year (progress) Report (month 25);
- D1.8** General Project meeting n.5 Report (month 31);
- D1.9** General Project meeting n.6 (Final workshop) (month 36);

D1.10 3rd year (final) Report (month 36)

Hence, the Project Coordinator shows the Work Package 2 (included in the SEAFENNEL4MED Consortium Agreement as Annex 6) and its deliverables with the up-dated deadlines for delivery, namely:

Work package number	2	Lead beneficiary			P1 (UNIVPM)				
Work package title	Multi-actor internal and external communication and technology transfer								
Participant number	P1	P2	P3	P4	P5	P6		P7	P8
Short name of participant	UNIVPM	CREA-AN	RINCI	UNIST	IACKR	UNIBRE		INRGREF	EGE
Person months per participant	20	1	2	4	5	10		12	9
Start month	1			End month		36			

Objectives: The objectives of WP2 are to ensure participation of stakeholders, as well as dissemination and exploitation of SEAFENNEL4MED outputs. A distinction can be made between objectives of internal and external communication/technology transfer. Objectives of **internal communication** (within the Project) are: i) communicate project results within the Consortium so that all partners are updated timely on the knowledge generated by all WPs and tasks; ii) coordinate the use of participatory approaches to utilise stakeholder and research knowledge and innovation to prioritise research activities within the project. Objectives of **external communication** (to Stakeholders) are: i) use participatory approaches to utilise stakeholder and research knowledge to prioritise dissemination and training activities; ii) communicate and disseminate project outputs to stakeholders and create a dairy farm-level observatory and knowledge exchange network; iii) build capacity through technology transfer to ensure that the industry can effectively use the outputs from the project. iv) create a roadmap for future implementation and exploitation of project outputs at dairy farm, on regional and Mediterranean scales and for further research. As a whole these actions aim to promote participation and effectively translate the Project outputs to meet the needs of the Mediterranean small farms and food industries and so that the results are disseminated in a way that can be promptly implemented and exploited by the following stakeholder groups: farmers, crop producers, “wanna-be” farmers and entrepreneurs (**including women and young people**), food industries, food operators, associations and business incubators, retail and consumers, general public; non governative organisations, scientists, policy makers, etc.. All the partners will be involved in this WP.

Description of work: Task 2.1 Start-up activities (month 1–2); Partners involved: All. During the Kick-off meeting, a **press conference** will be organised in Ancona (Italy), while **press releases** will be sent to main newspapers and online magazines of all the countries involved. The Project Coordinator will share with the Partners a first draft of the Communication Strategy containing information on the objectives, the mission and vision of the Project. Specific reference to targets (general public, public authorities, small farmers, SMEs, “wanna-be” farmers and entrepreneurs **including women and young people**, associations and business incubators, etc.) will allow the declination of dissemination and communication tactics and activities. **Task 2.2 Establishment of a stakeholder-platform and knowledge exchange network (month 1–36); Partners involved: All.** Effective knowledge transfer requires the participation of stakeholders. Communication between researchers and stakeholders will be managed to ensure that: i) new RTD strategies and innovations are relevant to industry needs; ii) stakeholder's perspectives are considered in the development of the research programme. A stakeholder platform, composed of almost 3 members per participating country, will be formed to represent the interests of the target groups (e.g. farmers, food industries, food business operators, agro-food processors retailers, end-users, researchers, public authorities, policy-makers, etc.) to interact with the Project Consortium. Partners will identify the key stakeholders of diverse types and with different interests, **ensuring gender and group balance**. Selected stakeholders will be invited to participate to the platform on a voluntary basis. They will have the possibility to interact with the platform, to share information and other resources (e.g. using different tools that will be made available on the project website, such as interviews, surveys, etc.) and to receive updated information/news about the project and its progresses and main outcomes (e.g. through periodic newsletters). A SEAFENNEL4MED **data management plan** will be drafted according to the H2020 Guidelines and completed by Month 6, to manage data overall collected from both the stakeholders and the research and demonstration activities foreseen in WP3, 4, 5, 6, 7 and 8. The SEAFENNEL4MED data management plan will be annually discussed and updated. **Task 2.3 Installation and continuous up-date of SEAFENNEL4MED website (month 1 –36); Partners involved: All.** The SEAFENNEL4MED **Project website** for external and internal communication, dissemination and project management will serve as an archive for Project information. The website will be established by the Coordinator at a suitable server to: i) present information on Project structure and outputs; ii) allow closed and open discussion between Partners and Stakeholders. The website will have a **restricted site** and an **open site**. The **restricted site** will be characterized by a password-regulated access for

Project Partners to have access to internal and confidential material with a special section for stakeholders. The restricted site will contain: i) updated Projects documents including all meeting agendas, material, and reports at overall Project level and by WPs; ii) project reports; iii) facility to share Project data to facilitate exchange between Partners; iv) share point to enable information exchange and discussion between Partners; V. share point to allow discussion between Partners and the stakeholder platform. The information will be transferred from the restricted to the open site in format targeted at the stakeholder groups after agreement between Project partners and with advice from the stakeholder platform. The **open site** will contain: i) SEAFENNEL4MED objectives; ii) list of Partners and team members (including contact details and website links); iii) workplan description; iv) press releases and latest news; v) calendar and information on Project events; vi) scientific publications, presentations from conferences and proceedings, etc.; vii) regular update on results and outputs of the Project including recommendations, guidelines, technical notes, and summary articles from the Project activities. Email alerts and RSS (electronic information) feeds will inform members of the stakeholder platform of new information available on the site. The Coordinator will continue to support the website after the end of the Project. To increase its visibility, links will be created to each Partner's website and to other relevant web interfaces. Running information and communication with the stakeholders and the general public on project issues and results will be ensured by means of news in connection with the publication of deliverables on the public part of the website. **Task 2.4 Production of dissemination materials (month 1 –36); Partners involved: All.** As detailed in the Communication, Dissemination and Exploitation Plan described in Section 2.2, different dissemination materials will be produced to ensure that the outputs of the Project are communicated to the relevant stakeholders, including: **leaflets; newsletters; social media; articles in divulgative journals, videos**, etc. First, a **visual identity** defining the SEAFENNEL4MED Project's key graphic elements (logo, typekit, etc.) that must be used by all Partners for communication about SEAFENNEL4MED activities will be designed. Instructions for external communication and publications will be provided in a Communication guide to ensure that all SEAFENNEL4MED Partners use the visual identity in a consistent way. Key results of scientific relevance and innovation potential will be summarised in **leaflets** (both in English and in the official languages of the Partners involved into the transnational Consortium) to present them to a wide public. These texts are expected to appear at the Project website, the websites of the participating organizations and at the project social media (Twitter, Facebook, Instagram, etc.). At least 12 **newsletters** will be periodically sent to the project stakeholders and 2 **divulgative articles** with up-dated information on the progress of the Project (written in a non-scientific-technical language) will be also made available to general public. A **video** giving an insight on sustainable cultivation and exploitation of organic sea fennel crops for production of new foods/foods ingredients/nutraceuticals/soil amendments will be also made available in the Project website, websites of the Project participating organizations, and Project **social media** (e.g.: youtube, Instagram, etc). **Task 2.5 Documentation of scientific results (month 13 –36); Partners involved: All.** Thorough documentation of SEAFENNEL4MED scientific results in **open-access international peer-reviewed journals** will support the worldwide dissemination of the Project outputs within a wide scientific community. Scientific results will also be spread at well-known Mediterranean/international conferences as well as at exhibitions aimed at promoting traditional local products where the supply and demand of the trade specialising in local agri-food products can encounter each other and the researchers (e.g.: agri-food innovation event, <https://agrifoodinnovationevent.com/> etc.). To share the project outputs within a wider audience the Coordinator will organise a **final Workshop**, where the main outputs of SEAFENNEL4MED will be presented and discussed to ensure relevance to the Mediterranean basin. Partners will contribute to organise this event. The Workshop will enable Partners to discuss with key end-users in the Mediterranean basin the latest research from the project and gain feedback on future activities in research, dissemination, and implementation. Funds will be made available from the Project for representatives coming from the participating countries (**particularly early career scientists, stakeholders, and decision-makers**) to attend this meeting (**ensuring gender and group balance**). The aim of this event will be to provide recommendations of future research needs and implementation strategies for project outputs to enhance exploitation. Each event will comprise plenary sessions to present the project outputs and overviews by partners, members of the stakeholder platform and external speakers, breakout workshops to discuss the relevance of project outputs from each of the components to the Mediterranean regions and a final session to agree recommendations on future research, development, and decision-making needs implementation plans. The proceedings and conclusions from the Workshop will be placed on the SEAFENNEL4MED website. **Task 2.6 Demonstration activities (month 20–36); Partners involved: All.** Communication is essential to promote the cultivation, exploitation but also use and consumption of sea fennel. Hence, promotional communication activities will accompany demonstration activities aimed at practically involving specific target stakeholders (customers, food business operators). Hence, at least 2 demonstration activities will be held at P2: a **first event**, consisting of a sea fennel harvesting campaign at the sea fennel open fields, involving **students of different ages and backgrounds**, and a **second event**, organised at P2, consisting of the presentation of a sea fennel-based recipe book to customers and food business operators (chefs, gourmets, etc.).

Deliverables:

- D2.1 Project logo and communication templates (month 1);
- D2.2 Public SEAFENNEL4MED website (month 2);
- D2.3 SEAFENNEL4MED intranet (month 2);
- D2.4 Press release at Project launch for the wide public (month 3);
- D2.5 Establishment of a stakeholder platform for knowledge exchange network (month 6);

D2.6 SEAFENNEL4MED Data Management Plan (month 6);
D2.7 Demonstration activity 1: sea fennel harvesting campaign involving students (month 20);
D2.8 Demonstration activity 2: presentation of sea fennel-based recipe book (month 34);
D2.9 Collection of 12 newsletters (month 36);
D2.10 At least 2 articles in divulgative journals/magazines (months 36);
D2.11 At least 4 open access papers published in international peer-reviewed journals (months 36);
D2.12 At least 4 conference proceedings (months 36);
D2.13 At least 1 downloadable Project leaflet (month 36);
D2.14 At least 1 video on new sustainable organic sea fennel cropping systems and applications of the new crops for production of food/food ingredients/nutraceuticals (month 36);
D2.15 Press release at Final Workshop (month 36);
D2.16 Attendance at almost 1 event/exhibition aimed at promoting Mediterranean agri-food products where the supply and demand can encounter each other and the researchers (month 36).

Regarding Deliverable D7.1, in the SEAFENNEL4MED proposal it was stated that:

“A visual identity defining the Project’s graphic character, logo, fonts, and colours will be designed including compulsory logos that must be used by all Partners for communication about Project activities”

The Project Coordinator announce that a local web agency, VANNILLA MARKETING (<https://www.vanillamarketing.it/>) has been commissioned to design the SEAFENNEL4MED logo. Hence, the Project Coordinator shows the proposal for logo made by the Company:



The Project Coordinator announces that even the implementation of the SEAFENNEL4MED website will be in charge of the web agency VANILLA MARKETING, who will complete it by the end of July 2022 after the evaluation of the mockup

Again regarding WP2, the project Coordinator gives some up-to-dates about deliverable D2.4 “Press release at Project launch for the wide public” (date of delivery: 30.08.2022, end of month 3) involving press agency such as ANSA <https://www.ansa.it/marche/> for Italy In the SEAFENNEL4MED Project, and more specifically in the Section describing communication activities, it was literally stated that:

“Key results of scientific relevance and innovation potential will be summarised in press releases and leaflets (both in English and in the official languages of the Partners involved into the transnational consortium) to present them to a wide public. These texts are expected to appear at the website of the participating organizations and in farmers/dairy industries journals’ articles, and to be presented to the media, including social media (twitter, facebook, etc.).”

The project Coordinator kindly invites all the Partner to translate in the official languages of the project (CROATIAN, FRENCH, TURKISH and ARABIC) the English template drafted by the Coordinator of a press releases describing the SEAFENNE4MEDLProject, its Partners, its main objectives, expected impact, kickoff meeting, etc. The draft of the press

release will be soon sent by the Coordinator to all Pls, together with copyright-free pictures of wild sea fennels and photos taken at the kick-off. **The deadline for release of national press releases is 15th July.**

• Specific techno-scientific aspects related to WP3 and WP4

The Project Coordinator opens the discussion concerning WP3 and WP4 dealing with: (i) the collection of sea fennel from the wild, as plant sections (leaves, stems, flower heads) and seeds (WP3); and (ii) the sustainable cultivation of sea fennel (WP4), respectively

Concerning WP3, the Project Coordinator first shows the up-dated WP3 scheme (as reported in the Consortium agreement) and its deliverables, whose delivery date has been updated considering that the project started on 30.05.2022:

Work package number	3	Lead beneficiary			P7 (INRGREF)				
Work package title	<u>Characterization of Mediterranean sea fennel ecotypes</u>								
Participant number	P1	P2	P3	P4	P5	P6		P7	P8
Short name of participant	UNIVPM	CREA-AN	RINCI	UNIST	IACKR	UNIBRE		INRGREF	EGE
Person months per participant	15	1	0	10	2	15		12	10.5
Start month	1			End month		10			

Objectives: The objective of WP3 is the characterization of Mediterranean sea fennel populations based on qualitative and quantitative morphological, chemical, and genetic traits, identification and further selection of different ecotypes based on traits of interest for the project purposes.

Description of work: Task 3.1 (RES). Sampling and morphological characterization of spontaneously growing sea fennel populations (month 1 – 6). Partners involved: P1, P2, P4, P5, P6, P7, P8. Individuals from wild sea fennel populations (≥ 6) spontaneously growing in various Mediterranean coastal areas in Italy (P1), Croatia (P4, P5), France (P6), Tunisia (P7), and Turkey (P8) will be sampled, classified, and characterized through the evaluation of morphological (qualitative and quantitative) traits. For each population, 20 different individuals will be sampled into separate bags to avoid cross contamination. Mature seeds will be also sampled, catalogued according to international protocols (ENSCONET, 2009; BUREAU OF LAND MANAGEMENT, 2016; ISTA, 2018), and stored at +4°C and at -20°C for long-term conservation. Aerial parts of sampled sea fennel individuals will be dried in silica gel (as whole plants and plant sections: leaves, stems, flowers) or subjected to freeze drying when opportune. The dried material will be kept in sealed bags at room temperature for long term storage prior to further analysis. **Task 3.2 (RES) Chemical analysis of dried sea fennel aerial parts/seeds (month 2 – 8). Partners involved: P1, P2, P4, P5, P6, P7, P8.** Dried aerial parts and seeds of the sampled sea fennel populations will be subjected to the following quantitative determinations: carotenoids, tocopherols, vitamin C and phenolic compounds will be determined by using an Ultra-High Performance Liquid Chromatography (UPLC) system coupled with different detectors (diode array, fluorimeter, and mass spectrometer) or alternative opportune techniques. Fatty acids will be determined by using a gas-chromatography (GC) system coupled with flame ionization detector whereas the volatile organic compounds (VOCs) will be investigated by means of solid phase microextraction (SPME)-GC-mass spectrometry (MS) technique. **Task 3.3 (RES). Molecular analysis of sea fennel aerial parts (month 2 – 8). Partners involved: Coord.** Dried sea fennel leaves will be also subjected to extraction of high molecular weight genomic DNA with commercial kits (Qiagen DNeasy® Plant Pro Kit) followed by Next Generation Sequencing (NGS e.g.: ddRAD sequencing). Data obtained from NGS analysis will be analysed using bioinformatic tools to genotype the populations sampled. **Task 3.4 (RES) Elaboration of morphological, chemical, and genetic data for potential identification of different ecotypes (month 6 – 8). Partners involved: Coord., P3, P4, P5, P6, P7, P8.** Morphological, chemical, and genetic data will be elaborated using multiple statistical tools (PCA, PLS, PLS-DA, UPGMA cluster analysis, etc.) to identify different Mediterranean sea fennel ecotypes as well as identification of sea fennel germplasm with a potential for production of sea fennel crop with high nutritional, biological, and/or sensory value.

Deliverables:

- D3.1 Dried sea fennel biomass** (leaves, stems, flowers) **from at least 5 Mediterranean spontaneous sea fennel populations** (month 6→ 30.11.2022);
- D3.2 Catalogued and stored seeds (≥ 2500) from at least 5 Mediterranean sea fennel populations** (month 8→ 30.01.2023);
- D3.3 Selected Mediterranean sea fennel germplasm (at least 1 ecotype)** for cultivation (month 10→ 30.03.2023);
- D3.4 Report with elaborated data overall collected within WP3** (month 10→ 30.03.2023)

For Deliverable D2.1, the Project Coordinator and all the partners, especially botanists/experts from UNIVPM, IACKR, INRGREF, UNIBRE and UNIEGE, discuss about the criteria for selection of wild sea fennel populations for sampling across the different countries involved in the Project (Italy, Turkey, Tunisia, Croatia, and France) stressing out the importance of the definition of a standardized protocol for sample collection on site to be shared among all partners. The sampling protocols should consider a number of variables, including: number of individuals per population, phenological stage (identified by morphological features), plant section to be sampled (seeds, leaves, roots, stem, flours), amount (grams) of sample per plant section/individual/population, distance in km between sampling sites, etc. Prof. Cristian Magnè suggests to consider both Mediterranean and Atlantic populations for sampling.

The Coordinator kindly reminds to all partners involved in WP3 to preliminary check the available literature, to draw a list of the most important features/traits to be considered for morphological characterization of spontaneous (and further cultivated) sea fennel populations/ecotypes. Dr Branimir Urlić suggests to consider at least 10-11 spontaneous populations, per country, whereas Prof. Abdelhamid Kaldhi suggests increasing such a number. At this regards the Coordinator stresses the importance to be flexible as much as possible; to guarantee the independence of research partners; accordingly, she proposes **to define a minimum number of populations to be sampled per country**; however, each partner involved in the sampling activities () can freely increase this number, taken under consideration that no additional funds could be requested to the national funding agencies for this (or any other) activity.

The Coordinator also proposes that in the next days (**and mandatory by 30th June**), Prof. Abdelhamid Kaldhi, Leader of WP3, will convey a **WP3-meeting**, inviting Botanists/ Experts of UNIVPM, IACKR, INRGREF, UNIBRE and UNIEGE, to specifically discuss about **shared criteria and procedures** for the **identification, sampling, and long-term storage** of the sampled specimens (leaves, seeds, flowers).

Regarding the storage of sampled sea fennel **green sections**, the Coordinator kindly reminds to WP3 researchers to identify **easy and fast techniques** (e.g.: tea box drying method proposed by Prof. Simona Casavecchia) rather than time-consuming procedures (e.g.: freeze-drying), to avoid delays in the processing of the plant material collected during the sampling campaign; obviously, the methods selected should allow to preserve both DNA (for further next generation sequencing) and phytochemicals. The Consortium partners agree that **different aliquots from the same sampled population might potentially be stored using different methods, depending on the type of analysis to be carried out**.

To help WP leaders in the conveying of WP meetings, the Project Coordinator announces that together with the minutes of the Kickoff meeting, she will soon send to PIs **a list of research staff members from all the Consortium partners, with basic information on their expertise and e-mail address**.

Concerning WP4, again the project Coordinator opens the discussion by showing the up-dated WP4 scheme (as reported in the Consortium agreement) and its deliverables with up- dated delivery date:

Work package number	4	Lead beneficiary			P5 (IACKR)				
Work package title	Sustainable production of organic sea fennel crop								
Participant number	P1	P2	P3	P4	P5	P6		P7	P8
Short name of participant	UNIVPM	CREA-AN	RINCI	UNIST	IACKR	UNIBRE		INRGREF	EGE
Person months per participant	20	1	8	0	16	12		15	11.5

Start month	1	End month	35
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Objectives: Starting from previous experiences of the applicants from national and international projects, this WP is aimed to develop protocols for sustainable production of **organic sea fennel crops** within the cooperation area, **in agreement with the zero-pollution ambition for a toxic-free environment**. This objective will be reached by carrying out cultivation trials in demo and open field. Demo experiments will be carried out in 6 experimental sites, modelling Mediterranean scenarios with different climatic conditions, namely: Central Italian, Northern Tunisian and Croatian coastal areas with a **warm and rainy temperate climate** (classified as **Csa** = hot-summer Mediterranean climate, according to Köppen and Geiger) (**P1, P7, P5**); an area in the western coastal region of Turkey with an **arid climate** (classified as **BSh** = hot semi-arid climate, according to Köppen and Geiger) (**P8**); a Southern Tunisian area with a **hot desert climate** (classified as **BWh** = hot semi-arid climate according to Köppen and Geiger) (**P7**). Cultivation trials will be carried out during a 3-year period, under rainfed conditions **with no chemical inputs according to the principles of organic cropping**. Influence of soil traits, soil salinity and irrigation with saline/brackish water on agronomic performance of the selected sea fennel ecotype(s) will be evaluated. The impact of a biofertiliser that has received great attention from the scientific community known as the microbial inoculum Effective Microorganisms® (EM) (a blend of regenerative microorganisms that positively influence the decomposition of organic matter leading to a "life-promoting" process in soil, which in turn stimulates plant growth and soil fertility in agriculture) **on soil microbial diversity and health** as well as **on sea fennel crop quantitative and qualitative traits** will also be investigated.

Description of work: Task 4.1 (R). Sustainable production of sea fennel crop in demo field (month 6 – 24). Partners involved: P1, P5, P7, P8. Sea fennel seeds from fully characterized Mediterranean germplasm will be planted in dimpled plates; seedlings with 3-4 true leaves will be transplanted in coastal demo fields in the 6 test sites (**P1., P5, P7, P8**) by applying a completely randomized block experimental design with 3 replications. The influence of soil composition and salinity on crop yield will be evaluated by measuring: texture, pH, organic matter content, electrical conductivity, total N, available P, exchangeable Ca, K, Na, I, Mg, and main anions. The impact of soil inoculation with **"effective microorganisms"** on **soil microbial diversity** and **soil microbial health** will be also evaluated **at the Italian test site (Coord.)** by applying both culture-dependent (enumeration of total mesophilic aerobes, spore formers, yeasts, moulds, actinomycetes, free nitrogen-fixing bacteria, lactic acid bacteria) and advanced molecular techniques (Next Generation Sequencing for the analysis of soil microbial communities) as well as chemical/biochemical assays for the assessment of: i) microbial biomass; ii) carbon (C) and nitrogen (N); soil microbial respiration; soil basal respiration; soil dehydrogenase activity; cellulose degradation. During the cultivation trials, plants will be irrigated (depending on rainfall and soil moisture) with fresh and/or **saline/brackish water** to align experimental conditions to plant native's conditions. Above-ground fresh and dry biomass yield will be analysed once a year (harvesting period: may – august) by separating sea fennel aerial parts into "edible portion" (sprouts, tender young leaves, and stems) and "refuse" (older leaves and fibrous stems) categories, which were both stored at +4°C immediately after harvesting, prior to their analysis/use. **Task 4.2 (D). Sustainable production of sea fennel crop in open field (month 12 – 35). Partners involved: P2.** Open field sustainable production of organic sea fennel crop will be carried out by **P2** using the optimized protocol set up in T.4.1. **Task 4.3. (D) Analysis of the new sea fennel crops (month 6 – 35). Partners involved: Coord., P1, P4, P5, P6, P7, P8.** The new sea fennel crops (from demo and open field cultivation trials) will be analysed using destructive analyses (biomass sampling) for the determination of: fresh and dry biomass yield; leaf area; CIE Lab colour; NIR spectra; content in lipophilic (tocopherols, carotenoids) and hydrophilic (polyphenols) antioxidant compounds, minerals, vitamin C, fatty acids, soluble and protein N, VOCs. All the collected information will be used as a support for the correct interpretation of multispectral imagery captured **with unmanned aerial vehicles (UAVs) (drones)** equipped with multispectral cameras. Relationships between vegetation indices (calculated from multispectral images), colour parameters, NIR spectra and chemical traits will be tested for obtaining mathematical models and vegetation maps able to predict the quality of sea fennel crop without destructive analyses. **Task 4.4. (D) Statistical analysis (month 18 – 35). Partners involved: Coord., P1, P4, P6, P7, P8.** All data overall collected within this WP will be elaborated using multiple statistical tools (PCA, PLS, PLS-DA, UPGMA cluster analysis, etc.) aimed at summarizing observations and identifying possible correlations among variables.

Deliverables:

- D4.1** Experimental plan design of cultivation trials (month 6);
- D4.2** Fresh biomass (edible aerial parts) from the new organic sea fennel crops (month 12);
- D4.3** By-products (old leaves and fibrous stems) from the new organic sea fennel crops (month 12);
- D4.4** Recommendations and guidelines on sustainable production of new organic sea fennel crops in the Mediterranean basin (Month 24);
- D4.5** Report with the elaborated data overall collected within WP4 (month 35)

Regarding *D4.1 Experimental plan design of cultivation trials* (month 6), and *Task 4.1 Sustainable production of sea fennel crop in demo field* (month 6 – 24), the Coordinator stresses that **at month 6 (early November 2022, delayable to March 2023, if needed)**, demo field trials have to be started with transplantation of young seedlings. Given these premises, **the selection of germplasm to be exploited in cultivation trials could not be based on morphological/chemical/molecular data collected from wild sea fennel populations**; hence, cultivated ecotypes will be selected, based on *a priori* shared criteria. At this regards, Dr Branmir Ulric suggests foreseeing the cultivation in demo field of 2 ecotypes per partner involved in this activity (UNIVPM, IACKR, UNIBRE, INRGREF, EGE), including: **1 shared ecotype** and 1 freely selected ecotype. Again, according to the “flexibility” principle, once that the chemical/morphological/molecular characterization of wild sea fennel populations is completed, any partner in charge of demo field cultivation trials might **freely decide** to include further fully characterized ecotypes in their trials.

In analogy to what suggested for WP3, to better plan WP4 activities, the Coordinator kindly suggests to Dr Branmir Ulric (**Leader of WP4**) to soon convey (**tentatively by 30th July**) a WP4-meeting, where **agronomists/crop experts** from INRGREF, EGE, UNIVPM, RINCI, IACKR and UNIBRE should be invited. Beyond the number of ecotypes to be selected and the criteria to be adopted for such a selection, further issues should be discussed by agronomists/crop experts, including e.g.:

- i) shared agronomic procedures to be adopted for sustainable production of organic sea fennel crops;
- ii) use of **brackish water/saline water/sea water** for **emergency/regular irrigation**;
- iii) use of selected bio-stimulants (e.g.: **commercial and/or experimental bio-stimulants**);
- iv) shared protocols for chemical/biochemical/microbiological/ molecular analyses to be performed onto sampled soils; v) shared protocols for evaluation of fresh/dry yield and other agronomic parameters; etc.

Prof. Christian Magnè suggests evaluating the inclusion of green-house cultivation trials whereas Prof. Özgür Tatar suggests the consideration of soilless trials (cultivation in pots).

The Project Coordinator shows WP5 and its updated deliverables:

Work package number	5	Lead beneficiary			P2 (CREA-AN)				
Work package title	Exploitation of sea fennel edible aerial parts for manufacturing of innovative sea fennel-based foods								
Participant number	P1	P2	P3	P4	P5	P6		P7	P8
Short name of participant	UNIVPM	CREA-AN	RINCI	UNIST	IACKR	UNIBRE		INRGREF	EGE
Person months per participant	18	2	1	12	0	0		16	5.5
Start month	1			End month		35			

Objectives: The main objective of this WP is the development of sustainable innovative foods by exploiting the new sustainable sea fennel crops. More specifically several innovative sea fennel-based food products (shelf-stable fermented and unfermented preserves) will be developed – first at laboratory scale and subsequently at pilot-scale - using edible aerial parts (young leaves and sprouts) of the new organic sea fennel crops produced in WP4. Hence, the pilot-scale prototypes will be analysed immediately after production and during their shelf life (up to 6 months) for their chemical, gross compositional, functional, microbiological, and sensory traits as well as consumer perception through panel tests carried out by trained assessors.

Description of work: Task 5.1 (R) Laboratory scale manufacturing of fermented shelf-stable sea-fennel preserves at laboratory scale (month 1 – 20). Partners involved: P1, P2, P7. A pool of lactic acid bacteria strains (≥ 70 cultures), including reference strains of species of interest for the fermentation of vegetables from national and international culture Collections and wild cultures isolated from sources of vegetable origin will be assayed as monocultures for the fermentation of edible sea fennel parts (sprouts and young leaves) by assessing the following key technological parameters: kinetics of acidification; production of organic acids and exopolysaccharides; release of volatiles; NaCl resistance. Safety of the best performing strains (≥ 10) will be assayed by evaluating the simultaneous absence of selected genes coding for amino acid decarboxylases [tyrosine decarboxylase (tdc), histidine decarboxylase (hdc) and ornithine decarboxylase (odc) genes and transferable resistance to antibiotics conventionally used in clinical practice, namely macrolide-lincosamide-streptogramin B (MLSB) [erm(A), erm(B), erm(C)]; vancomycin (vanA, vanB); tetracyclines [tet(M), tet(O), tet(S), tet(K)]; β -lactams (mecA, blaZ); aminoglycosides [aac(6')-Ie aph(2'')-Ia]. The most promising strains (≥ 3) will be used for the formulation

of a mixed-strain culture to be further assayed in miniaturized fermentation trials aimed at optimizing the following process parameters: bacterial inoculum; fermentation time (t); fermentation temperature (T); thermal inactivation of the bacterial starter. Mild non-thermal technologies (a_w reduction and addition of essential oils from Mediterranean herbs) will be also assayed to extend the shelf-life of the preserves while preserving their nutritional and sensory traits. The most promising laboratory-scale prototypes will be selected based on a preliminary qualitative evaluation of the following distinctive traits: colour, appearance, texture, odour, and content of bioactive compounds. **Task 5.2 (R) Laboratory-scale manufacturing of unfermented shelf-stable preserves (month 1 – 20). Partners involved: P1, P4, P7, P8.** Edible sea fennel aerial parts (young leaves and sprouts) will be used alone or in combination with Mediterranean herbs and horticulture products preliminary selected based on their organoleptic (colour, flavour, taste) and biological properties (antioxidant activity), for the formulation of innovative recipes of shelf-stable unfermented preserves (≥ 3). For each recipe, laboratory scale prototypes (≥ 2) differing in pH and water activity (a_w) will be subjected to mild “in-container” pasteurization treatments aimed at guaranteeing safety and prolonged shelf-life without compromising nutritional and sensory traits. The most promising laboratory-scale prototypes will be selected based on the quali-quantitative evaluation of the following distinctive traits: colour, appearance, texture, odour, and content of bioactive compounds (carotenoids, tocopherols, vitamin C, and phenolic compounds). **Task 5.3 Pilot-scale manufacturing of fermented and unfermented shelf-stable sea-fennel preserves (D) (month 20 – 35). Partners involved: P1, P2, P3.** The optimized recipes and conditions identified in T5.1 and T5.2 will be used by P3 to produce industrial-scale prototypes (≥ 2) of shelf-stable fermented and unfermented preserves, respectively. The prototypes will be assayed immediately after production and during their shelf-life (up to 6 months) for chemical (pH, Total Titratable Acidity, a_w), gross compositional (protein, fat, ashes, dry matter, free nitrogen), functional (vitamin C; carotenoids, tocopherols, phenolic compounds, bioactive fatty acids), microbiological (viable counts of total aerobic mesophiles, lactic acid bacteria, yeasts, moulds, spore forming bacteria, Enterobacteriaceae, *Escherichia coli*) and sensory (CIE Lab colour parameters, texture, VOCs) traits as well as consumer perception (panel test with trained assessors). For each industrial-scale prototype, challenge studies with *Staphylococcus aureus* and *Bacillus cereus* will be carried out, together with growth tests with relevant spoilage microorganisms (*Bacillus thermosphacta*), to investigate the dynamics of these microorganisms during the products shelf life. Data overall collected within this WP will be elaborated using multiple statistical tools (PCA, PLS, PLS-DA, UPGMA cluster analysis, etc.) aimed at summarizing observations and identifying possible correlations among variables.

Deliverables: D5.1 At least 2 pilot scale prototypes of sea fennel-based fermented shelf stable preserves (month 24); D5.2 At least 2 pilot scale prototypes of sea fennel-based unfermented shelf stable preserves (month 24); D5.3 Recommendations and guidelines for manufacturing of new sea fennel-based fermented shelf-stable preserves at pilot scale (month 35); D5.4 Recommendations and guidelines for manufacturing of new sea fennel-based unfermented shelf-stable preserves at pilot scale (month 35); D5.5 Report with elaborated data overall collected within WP5 (month 35)

The Coordinator kindly invites the **WP5 Leader, Dr Valentina Melini (CREA-AN) to convey a WP5 meeting to start** the discussion among food experts (food microbiologists, food technologists, food engineers) for the identification of NEW sea fennel-based fermented and unfermented products to be developed in WP5. At this regard, the Coordinator suggests to focus on novel products not yet explored; hence, a preliminary overview of the available literature is strongly recommended to exclude the selection of already developed/investigated products (e.g.: table green olives co-fermented with sea fennel sprouts; sea fennel spices; fermented sea fennel sprouts in brine; shelf-stable sea fennel green sauces used for seasoning of meat/fish developed by UNIVPM using funds from regional research programs).

The Project Coordinator shows WP6 and its up-to-date deliverables:

Work package number	6	Lead beneficiary			P6 (UNIBRE)				
Work package title	Valorisation of sea fennel crop by-products for production of functional food ingredients/nutraceuticals/soil amendments								
Participant number	P1	P2	P3	P4	P5	P6		P7	P8
Short name of participant	UNIVPM	CREA-AN	RINCI	UNIST	IACKR	UNIBRE		INRGREF	EGE
Person months per participant	18	1	1	18	3	15		12	5.5
Start month	12			End month		35			

Objectives: The main objective of this WP is to valorise by-products (damaged or discarded aerial parts, seeds, flowers, autumn mowing) of the new crops for the formulation of functional food ingredients and nutraceuticals, given the acknowledged high content of no edible aerial parts in extractable bioactive compounds (carotenoids, tocopherols, phenolic compounds, vitamin C).

Description of work: Task 6.1 (R&D). Preparation and analysis of extracts from sea fennel crop by-products (month 12 – 18). Partners involved: P1, P2, P3, P4, P6, P7, P8. Refuse portions of the new sea fennel crops will be subjected to green extraction technologies (ultrasound, microwave) using food grade hydro-alcoholic (water/ethanol) solvent mixtures. The choice of these solvents fully complies with the European legislation (Directive 2009/32/EC), also considering the effectiveness towards the extraction of bioactive substances and the toxicity and environmental impact. The crude extracts (≥ 3) will be characterized by determining the bioactive compounds listed in T4.3, using advanced chromatographic techniques. The antioxidant activity of the extracts will be assessed by different *in vitro* methods such as ORAC, ABTS and DPPH, FRAP assays. Moreover, the antimicrobial activity of the crude extracts will be evaluated against key foodborne pathogens (*Escherichia coli*, *Staphylococcus aureus*, *Listeria monocytogenes*). Specific health-beneficial properties (antidiabetic and anti-inflammatory activity) of the extracts will be also investigated according to optimized protocols in use at P6). **Task 6.2 (R&D) Exploitation of the extracts as functional food ingredients and nutraceuticals (month 18 – 24). Partners involved: P1, P3, P4, P6, P7, P8.** The most promising extract in terms of antioxidant and/or antimicrobial activities will be tested as functional food ingredient to increase the shelf life and/or to mitigate the stabilization process of the new sea fennel-based preserves developed in WP5. In parallel, the most promising extract in terms of content of bioactive compounds and health-beneficial activities will be used as a source for nutraceutical preparations. To this end, different encapsulation, and delivery technologies (≥ 2) will be comparatively evaluated. **Task 6.3 (R&D) Composting of residual sea fennel biomass (month 24 – 35). Partners involved: P1, P3, P4, P5, P6, P7.** Residual sea fennel biomass resulting from extraction of bioactive compounds will be assayed in laboratory-scale composting trials (≥ 2 biological replicates) to produce an effective soil amendment, **to achieve the goal of zero waste farming system**. Residual sea fennel biomass will be co-composted with wheat straw and/or other agro-industrial wastes. The evolution of pH, temperature, and phytotoxicity during co-composting will be monitored.

Deliverables:

- D6.1** At least 1 crude extract with antioxidant, antimicrobial and/or health-beneficial activity (month 18);
- D6.2** Recommendations and guidelines for preparation of crude extracts with antioxidant, antimicrobial and/or health-beneficial activity from sea fennel (month 18);
- D6.3** At least 1 soil amendment produced by composting of sea fennel crop residual biomass (month 35);
- D6.4** Recommendations and guidelines for preparation of soil amendment by composting of sea fennel residual biomass (month 35);
- D6.5** Report with elaborated data overall collected within WP6 (month 35)

Pharmaceutical application of leftovers on field was discussed based on the experience of RINCI (Party 3). The coordinator invites the partners to consider a project variation, consisting of the replacement of *Task 6.3 composting of residual sea fennel biomass* with a new task aimed at **producing essential oils from sea fennel and at exploiting these essential oils as food ingredients with antimicrobial activity/beneficial properties in the manufacture of specific Mediterranean products (e.g.: cheeses, fermented sausages, ect).** The Consortium approves this variation.

Hence, the Coordinator leaves the floor to Prof. Raffaele Zanolì (agro-food economist and expert in economics and marketing at UNIVPM), who shows a ppt presentation drafted with Prof. Ozlem Oysal (**WP7Leader**) which highlights WP7 main objectives, tasks, and deliverables; in particular Prof. Zanolì stresses the importance to soon build up the Stakeholder platform, which will be crucial for further recruitment (survey method) and engagement (delphi method) of stakeholders. At this regard, he strongly encourages the involvement of value chain actors, from farm to fork to soon define the enabling factors, constraints, and lock-ins for the market development and socio-economic impacts of the project innovations on Mediterranean consumers.

Work package number	7	Lead beneficiary			P8 (UNIEGE)				
Work package title	Demonstration of socio-economic benefits of the proposed innovations								
Participant number	P1	P2	P3	P4	P5	P6		P7	P8
Short name of participant	UNIVPM	CREA-AN	RINCI	UNIST	IACKR	UNIBRE		INRGREF	EGE
Person months per participant	18	0	1	0	2	6		12	12

Start month	1	End month	35
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Objectives: The aim of the WP is to provide an evaluation of the socio-economic impact of sea fennel sustainable farming along the supply chain (farm to fork) in a context of sustainable production approach.

Description of work: Task 7.1 (D) Identification of drivers and lock-ins for the development of sea-fennel products (month 1– 12). **Partners involved: P1, P3, P5, P6, P7, P8.** A Qualitative Delphi expert stakeholder survey will be conducted to explore the views of value chain actors and the potential market development of sea-fennel products. 10-15 experts, identified via the stakeholder platform (Task 2.2) in the partner countries, will be interviewed (mostly online or by phone). The interviews will be conducted at least twice to allow experts to react to each other's assessment. The Delphi interviews will help to achieve a broad understanding of the constraints and lock-ins for the development of the market of sea-fennel products, the factors enabling this development as well as the potential socio-economic impacts on the value-chain. **Task 7.2 (D) Assessment of consumer attitudes and acceptance of sea fennel products (month 13–30).** **Partners involved: P1, P3, P5, P6, P7, P8.** An online survey will be conducted on a sample of 200 consumers in each of the partner countries (IT, FR, GR, HR, TN, TR) to explore the attitudes and acceptance of sea-fennel based products. Econometric modelling will allow to identify the drivers and barriers for the development of consumer demand of sea-fennel products as well as defining the profile of potential interested consumers. **Task 7.3 (D) Business model evaluation (month 24 – 35).** **Partners involved: P1, P3, P6, P7, P8.** Using Osterwalder's approach, an evaluation of alternative business models for the development of the sea fennel supply chain will be carried out. Using a participatory approach involving the stakeholder's platform (Task 2.2), once the best business model will be identified, a blueprint for a strategy for the development of an innovative sea fennel supply chain will be drafted in terms of organisations structures, processes, and customer base.

Deliverables:

- D7.1** Lock-ins and drivers for the development of sea-fennel products (month 12);
- D7.2** Report on consumer research on the attitudes and acceptance of sea-fennel products (month 30);
- D7.3** Report on Business Model Evaluation (month 35)

Finally, the Coordinator shows WP8 and its up-to-date deliverables; she soon leaves the floor to Prof. Daniele Duca (Agro-engineer at UNIVPM, **WP8 leader**), who illustrates the Life Cycle Assessment approach; at the end of its presentation, Prof Duca stresses the importance of collecting data (inputs and outputs) from the very preliminary stage of the project to tune the system of LCA, and hence to produce indicators, that will be interpreted by the Consortium team of LCA experts.

Work package number	8	Lead beneficiary			P1 (UNIVPM)				
Work package title	<u>Demonstration of environmental impacts and sustainability of the proposed innovations</u>								
Participant number	P1	P2	P3	P4	P5	P6		P7	P8
Short name of participant	UNIVPM	CREA-AN	RINCI	UNIST	IACKR	UNIBRE		INRGREF	UNIEGE
Person months per participant	18	0	1	0	0	6		6	5.5
Start month	1			End month		35			

Objectives: The data needed for the environmental sustainability assessment will be collected in close cooperation with all Partners, based on tasks 1.2 and 2.2. The main objective of this WP is the calculation of sustainability indices through the Life Cycle Assessment (LCA) method as defined by the ISO 14040 and ISO 14044 standards, using updated SimaPro software application and associated LCA database. Specific PEF-PCR documents will be considered if available. Different indices will be evaluated for the entire sea fennel supply chain including carbon footprint and water footprint.

Description of work: Task 8.1 (D) Sustainability assessment of sea fennel open field production (month 1-35). **Partners involved: P1, P3, P6, P7, P8.** The new sea fennel open field crop production will be evaluated from the environmental point of view considering outcome and data provided by WP4 partners. In detail, this activity is focused on the assessment of the environmental sustainability of seed production,

seedling production and sea fennel cultivation in open field, according to WP4 activities. The main deliverable will be the level of sustainability of the production of fresh sea fennel and of any residues of the cultivation step to be valorised according to WP6 activities. **Task 8.2 (D) Sustainability assessment of new sea fennel-based foods/food ingredients (month 1-35). Partners involved: P1, P3, P6, P7, P8.** The data needed for this activity will be collected from WP5 Partners. All the information related to inputs and outputs for the innovative products deriving from the processing of fresh sea fennel will be gathered. The principal outcome of this activity will be the calculation of sustainability indicators for the evaluation of the environmental benefit based on the comparison of the innovative food products assessed. **Task 8.3 (D) Sustainability assessment of functional extracts for food ingredients/nutraceuticals (month 1- 35). Partners involved: P1, P3, P7, P8.** This activity is based on collaboration and data collection from the WP6 partners. The main objective is to assess the environmental benefits obtainable from the simultaneous production of innovative food and hemical/nutraceuticals products. The deliverables of the activity will be environmental sustainability indices to evaluate the advantage of valorising the residues from the crop management and processing of sea fennel.

Deliverables: **D8.1** Report on sustainability assessment of fresh sea fennel carried out by LCA from data collected thanks to WP4 activities (month 35); **D8.2** Report on sustainability assessment of processed sea fennel products carried out by LCA from data collected thanks to WP5 activities (month 35); **D8.3** Report on sustainability assessment of sea fennel residues extracts from data collected thanks to WP6 activities (month 35)

The project Coordinator concludes the discussion about techno-scientific WPs, recalling the list of documents that she will soon send to PIs by email, being:

- i) minutes of the kick-off meeting;
- ii) list of team members with main expertise and contact details;
- iii) template for press release (DEADLINE FOR TRANSLATION AND RELEASE: **15th JULY**)
- iv) template for identification of key stakeholders (DEADLINE FOR RESTITUTION OF THE FILLED TABLE: **30th July**)
- v) matrix to check the correspondence between expertise of the Consortium partners and project tasks (DEADLINE FOR RESTITUTION OF THE FILLED TABLE: **15th July**)

As there was nothing else to discuss, the project Coordinator declares the session closed at 17.20.

SEAFENNEL4MED Project Coordinator

Prof. Lucia Aquilanti PhD





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Appendix

Selection of pictures taken at the Botanic garden "Selva di Gallignano" Agugliano (AN) Italy - Università Politecnica delle Marche

