WildFood Project

Eating the wild: Improving the value-chain of Mediterranean Wild Food Products (WFP)

D3.1: Report on innovative marketing strategies for WFPs

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1. Introduction and Objectives

The consumption of wild food products has gained significant attention in recent years, as people are increasingly interested in exploring unique and sustainable food options. These products, derived from diverse natural habitats, offer a wealth of nutritional benefits and a distinct culinary experience. However, despite their potential, wild food products often face challenges in reaching a wider consumer base and establishing a solid market presence.

To overcome these obstacles, it is crucial to implement innovative marketing strategies specifically tailored to promote and create awareness around wild food products. These strategies can effectively highlight the uniqueness, nutritional value, and ecological significance of these products, ultimately driving consumer demand and supporting the sustainable utilization of natural resources.

In this deliverable, we explore the importance of embracing innovative marketing approaches to unlock the full potential of wild food products. We will delve into the various benefits that can be derived from these strategies, including increased consumer engagement, expanded market reach, and enhanced environmental conservation efforts.

By harnessing the power of innovative marketing, we can showcase the exceptional qualities of wild food products, raise consumers' awareness about the origins of WFPs, and foster a deeper appreciation for their nutritional proprieties. The D3.1 explores the reasons why innovative marketing strategies are essential in promoting wild food products and creating a sustainable market for these goods. As a part of the WP3, the deliverable D3.1 aims to develop innovative marketing strategies for target products according to the needs of local producers/businesses. This objective was reached in two steps. First, the organization of participatory workshops, to identify the most relevant barriers to enhancing WFP markets and search for innovative solutions. To fit at best with the Mediterranean context and all partners, the outcome of the workshops was later validated and readjusted either: during a second workshop or by sending it to at least 5 stakeholders per product per country.

To attain the deliverable objective, the following elements were synthesized for each of the target products (Pine nuts, Acorns, Truffle, and Aromatic and medicinal plants):

1. Elaboration of the SWOT analysis
2. Identification of the most relevant barriers to enhancing WFPs markets.
3. Identification of innovative solutions to promote WFPs;

2. Methodology

At first stage, a participatory workshop was organised in each country to identify the most relevant barriers to enhancing WFP markets and search for innovative solutions. To fit at best with the Mediterranean context and all partners, the outcome of the workshops was later validated and readjusted either: during a second workshop or by sending it to at least 5 stakeholders per product per country.

During first participatory workshops, a SWOT analysis was performed, allowing the determination of the strengths, weaknesses opportunities, and threats for the target WFPs in the corresponding countries.

SWOT analysis is a strategic planning tool that allows the assessment of internal strengths and weaknesses, as well as external opportunities and threats of a specific sector. It provides a comprehensive framework for understanding the current position of WFPs businesses.

By analysing the strengths, weaknesses, opportunities, and threats (SWOT), Sectors can gain valuable insights that help develop effective strategies to achieve new goals such as improving the profitability, increasing the consumption and changing the harvesting practices...

The strengths and weaknesses refer to internal factors within the sector, such as resources, capabilities, and limitations. They provide an understanding of what the sector does well and where improvements are needed. On the other hand, opportunities and threats represent external factors that exist in the environment surrounding the sector. These factors can either be favourable opportunities to capitalize on or potential challenges that may hinder success.

SWOT analysis can be applied to various scenarios, including business planning, marketing strategies, product development, and risk assessment. It enables sectors to identify their competitive advantages, address vulnerabilities, leverage market trends, and prepare for potential risks or disruptions.

3. Results

In this analysis, we will delve into the strengths, weaknesses, opportunities, and threats specifically related to pine nut, acorns, aromatic plans and truffles production and commercialization in the Mediterranean area. By conducting a SWOT analysis, we can gain a comprehensive understanding of the industry's current situation and identify areas for improvement and growth.

Let us now explore the specific factors affecting the pine nut industry in the Mediterranean, highlighting the strengths and weaknesses that exist within the industry, as well as the opportunities and threats that influence its growth and sustainability.

3.1.1. Pine nuts

Pine nuts are the most common product in the framework of the wild food project. Three partners (Tunisia, Portugal, and Spain) and their correspondent stakeholders, were able to determine the SWOT matrix for the pine nuts sector. The following table was revised by Portuguese and Spanish stakeholders to shape it with the Mediterranean context (Table 1).

Table 1. SWOT analysis developed by Tunisian, Portuguese and Spanish stakeholders (revised by 5 Spanish and Portuguese Stakeholders)

Strength	**Weakness**
Great raw material quality. Although expensive, good sale. Typical regional product. Fire resistance of the specie (except for Portugal). Drought resistance. Indifference to the soil type (except for Portugal where in sandy soils, the species is not productive and sustainable). Good knowledge about the ecology and management of the species. Robust and highly plasticized species. Possibility of harvesting mechanization. Genetic selection and grafting to domesticate the species. Nutritive, culinary and cultural value of the product Regulated and controlled exploitation in some regions	Lack of good hygiene practices in Spain and Tunisia Failure to follow appropriate seed drying procedures (Tunisia). Low quality and yields due to very early harvesting. Aflatoxin Contamination in Spain. Unorganized value chain. Unfavourable working conditions: temporary, lack of ergonomics, hard work in the fields. Annual production and very variable. High prices and extraction and processed costs. Low production per hectare compared to other countries (for Spain). Missing control of pinecone endemic pests. Difficulties on early estimation of annual production Lack of exploitation on a high percentage of the area (Spain). Lack of management and exploitation (Spain and Tunisia). Lack of regulation and control in the exploitation and traceability. Persistence of cones robbery (Tunisian & Spain). Missing information about pinion value chain.
Opportunities	**Threats**
State encouragement (Tunisia). Product highly appreciated by Tunisian consumers. Important economic value of the product. Improvement in fighting the disease. Multifunctional management capability (pinecone, biomass, fire prevention, landscape). Forest management and product certification. Technological advances in harvesting and processing Start of production of PAC plantations (Spain). High product demand (internal and international). Growing green food and gourmet product market. Instruments for rural development and bioeconomy (EIPAGRI, Operational Groups, Networks). Bioeconomy (Next Generation). Graft plantations for early and abundant cones production. Using pinion processing waste as fuel. Improvement programs and reproductive material selection.	Difficult access to peddling permit and certificate of origin (Tunisia). Road harassment and corruption (Tunisia). A regressing business climate. Pinion pine does not regenerate in the absence of planting (For Portugal, if the species is well adapted, Natural Regeneration is sufficient). Climate change. Pine and pine nut disease. Very high price (Spain and Tunisia). Decrease in pine nut quality. Use of Asian pine nuts by other producers mischaracterized the product. Lack of new young workers (Portugal)Exotic phytosanitary threat: *Leptoglossus occidentalis*. Management abandonment on private lands. Forest fire threats. Urban pressure on Pinus pine forest land. Entry of immature pinecone in factories.

	Lack of commercial differentiation of Mediterranean pinion and confusion with "Chinese" and "Pakistan" pinion. Pinecone robbery and illegal product traffic.

In summary, while pine nut production and commercialization in the Mediterranean area have inherent strengths such as natural abundance and culinary versatility, they also face challenges like limited harvesting seasons and labour-intensive processes. However, opportunities exist in the growing health-consciousness and culinary trends, although competition and environmental factors pose threats to the industry. Understanding these factors is crucial for developing effective strategies to maximize the potential of pine nuts and ensure their long-term success in the marketplace.

3.1.2. Acorns

For Acorns, only by Portuguese partners were implicated, and it was not possible to make any comparison with other countries. During the participatory workshop, the acorn stakeholders were able to provide sufficient information to elaborate the SWOT matrix which was later revised by 5 stakeholders (Table 2)

Table 2. SWOT analysis for Acorn Sector developed by Portuguese stakeholders (revised by 5 Stakeholders)

Strength	Weakness
Easy production. Harnessing wild resources. Versatility of uses (animals, people, substitute products). Adaptability to climate. High nutritional value. Relatively neutral taste (not for fresh production). Added value of associated ecosystem services Medicinal value. Educational and pedagogical value, valuing the indigenous forest.	Inefficient harvest. Inefficient processing. Need to remove tannins (if acorns are of holm oaks). Irregular production. Difficult storage and conservation. Diseases and pests. Lack of chain transformation. Lack of scale.
Opportunities	**Threats**
Emerging product on the market: little competition Consumers interested to taste new products. Suitable for consumption by celiacs (gluten free). High final price. Acorn beverage (caffeine alternative).	Resistance to novel foods (Neophobia). High final price. Small market niches. Competition from cheaper products. Reduction of mounted area. Competition with animal husbandry.

Acorns' main strength lies on the importance of its nutritional and medicinal values, besides it's adaptation to the Mediterranean climate, however, the irregular production and the inefficient harvesting and processing constitute a considerable weakness. Also, the fact that the products are emerging on the markets with relatively high prices is an opportunity but should be managed with wariness. A deep understanding of the market is required to avoid the neophobia and prohibitive prices.

3.1.3. Aromatic plants

For Aromatic plants, both Tunisian and Portuguese stakeholders were able to provide information on the sector, considering the fact that Tunisian stakeholders focused on Myrtle and Rosemary, while Portuguese focused on Pennyroyal. The following SWOT analysis was revised and readjusted by both countries' stakeholders.

Table 3. SWOT analysis for Aromatic plants Sector developed by Tunisian and Portuguese stakeholders (revised by 5 Stakeholders in both countries)

Strength	Weakness
An important source of raw material for the production of essential oils. Local job generator (Mainly for Tunisia). Boosts the local economy. Consumers become increasingly interested in alternative and natural medicine. Expansion of International market (mitigated for both Tunisia and Portugal). EO obtained from wild sources are generally commercialized in low volume and with high prices. EO processing are not only adequate for big producers, but they are also profitable for small scale production and families in forest areas (for Tunisia). Easy production. Efficient picking (for Tunisia). Harnessing wild resources. Medicinal value. Added value of associated ecosystem services. maintains aromatic and medicinal characteristics even in dry conditions (mitigated). Easy storage and conservation. Proximity of the farmer to the final consumer (short circuit). Ease of communication with the client/end consumer Adaptation to the climate. Product with a long history of use in Portugal. Ease of production (under suitable conditions).	Unfavourable working conditions: temporary, lack of ergonomics, hard work in the fields. Difficulties in forecasting market evolution. Lack of awareness of the threats to the sector among public decisionmakers and society in general. The production of EO is still based on traditional production infrastructure. Investment efforts are very limited. The presence of several stakeholders in the AMP sector results in overlapping and reduce transparency due to lack of coordination. Distribution channels are not organized with the presence of too many intermediaries. Bad practices in collecting plants may result in loss of biodiversity and destruction of habitat. Product search in the market (for Portugal). Little product offer. Need for high availability of water (for Tunisia).
Opportunities	**Threats**
Sector aligned with bioeconomic strategies (Mainly for Portugal). Sector that fits into the circular bioeconomy scheme. The demand for AMP is rapidly increasing given its various benefits for human consumption. Value in traditional cuisine. Endemic to the Mediterranean area. Search for more sustainable production. Greater consumer interest in organic and environmentally friendly production. New products with pennyroyal. Ex: Candy with pennyroyal. Use for purposes other than food. E.g.: Keeping away insects (disinfectant). Local product. Search for new products and flavours. Search for healthy alternatives from sustainable agriculture.	Legislative framework. Strong competition (Mainly for Portugal). An abusive and anarchic overexploitation of natural resources. Competition from synthetic products. Fluctuation in the price of essential oils. Forest pests and diseases. Forest fires. Climate change. High final price. Relatively strong characteristic flavour. Consumption in very small quantities. Intermediary (price speculation). Be careful with possible side effects and study where they are observed in the plant in fresh, liqueur, quantities from which they can represent danger. Low demand. Low knowledge (not for Tunisia).

Aromatic plants present as an important environmental, social and economic asset in the Mediterranean region, considering the important potential of raw material, being a job generator and a local economy booster. However, difficulties such as working conditions, traditional production infrastructure and distribution channel could be limiting factors. Meeting opportunities such as the increasing demand and sustainable production require overcoming handicapping legislative framework. Besides the legal framework, Aromatic plants face several natural threats related to forest fire, climate changes, vulnerability to pests and diseases, that need a close follow-up and interventions.

3.1.4. Truffle

Truffle is the second most common product in the framework of the wild food project, being chosen by three partners (Slovenia, Spain and Italy). However, we need to mention that, unlike the Italian and Spanish partners, Slovenians weren't able to organize a workshop and the results were obtained from two individual interviews made with stakeholders acting both as pickers and middlemen. Due to time limitations, the SWOT analysis was not carried out for the Truffle market in Slovenia, however Italian and Spanish stakeholders were able to make a SWOT analysis. Italian partner went further with a deeper analysis taking into account the different market levels: local and territorial. Table 4 presents the adjusted version of the SWOT.

Table 4. SWOT analysis of the local and territorial market for the Truffle sector, developed by Spain and Italy

Strength	Weakness
Good recognition of the white truffle and in general Italian and Spanish truffle on the international market. High number of Italian and Spanish companies that are able to export the product abroad. High number of SME that transform the truffle into hundreds of different products (i.e. truffle sauce, pasta with truffle, etc.) in Italy. Presence of local fairs based on truffle. Presence of the international Alba White truffle fair Local initiative of truffle tourism based on local activities. Black truffle plantations do not compete with highly valued crops. The truffles are very unique products, recognized by their organoleptic quality, highly appreciated in gastronomy. The truffle sector is characterized by a very passionate dimension (e.g: working with a dog), which also generates additional incomes. Increasing awareness of the truffle possibilities in culinary world. The cultivation of black truffles is compatible with environmental protection as it can be easily adapting the requirements of organic farming. The links between the sectorial actors with the	High level of informality in the market. High fluctuation of the prices. High conflict between truffle growers and truffle pickers (in Italy 90% of the forests must be open for free truffle hunting even on private land). Local disputes over how the brand should be implemented and over which product. Incapability of local politicians to carry on the political action over one political mandate. Total absence of the medium long political view for the local politicians. Continuous decrease of wild truffle production in Spain. High variability of the yearly truffle yields, due to the variable weather conditions and the dependence of the wild truffles on adequate rainfall. Consumers are not sufficiently informed about truffles, truffle products, artificial truffle scent and their use in cooking. There is a lack of common legal schemes for the commercialization of certified mycorrhizal seedlings. Inaccurate management techniques (i.e : irrigation management, weed control, fertilization, pruning) for truffle cultivation.

researchers.	
Opportunities	**Threats**
New technologies to support truffle orchards. New technologies to support the local market for selling truffle in the big cities. New law approaching the final implementation phase to regulate the market transactions and legal rights. EU projects, like WildFood, supporting technical and networking activities. International demand for white truffle and its constant growth on a global scale. Easy access to the international end consumers through e-shops. Growing interest of international demand for truffle tourism. EU projects that can improve networking among national actors. Great potential for touristic and gastronomic activities linked with the truffles. Integration of the truffle with other products of high rural value, which will be attractive for luxury tourism (territorial marketing). Catalonia still has a high potential for truffle cultivation. Newly irrigated lands in suitable rural areas (i.e: Segarra Garrigues) could be available for truffle cultivation. Increasing market trend of high quality, ecological and proximity products (three of the main features of the truffles).	Global warming causing uncertainties in truffle production. Cheap and fair product imported from Eastern European countries and other extra EU countries. Legal barriers to planting new white truffle orchards. Wrong media communication about the use and consumption of truffles. For Italy, Croatian market is a new destination for German truffle lovers. For Italy, the high communication capacity of other competitors such as Spain and Croatia. High financial means delivered to truffe sector in other European states. Current pandemic and future global events that will cause economic crisis in the Italian tourism sector. The use of phytosanitary products that can cause. contamination of truffles, altering the image of wild product. The chemical compounds that may replace the truffles in cuisine. Increase in pests and diseases affecting the truffle plantations (precisely Leiodas in Spain). Increase of the wild boar populations which are damaging to the mostly wild truffle population.

Despite the difference between the target products (Acorns, AMP, Pine nuts and truffle), an overview of the 4 SWOT analysis allows the detection of common points when looking to WFPs at the Mediterranean level. For instance, when considering Strength, the “good quality”, “high knowledge level”, “high nutritional value” and “value added” are almost in all target products and for all partners. For Weakness, we notice: “variability/irregularity of production”, “lack of information on the market”, “high costs” and “vulnerability to diseases”. For opportunities, “high demand” and “new final products” were the most mentioned. While the main mentioned Weakness are “global warming”, “competitivity” and “legal framework”. Such overview allows a better understanding of the WFPs in general, retaining the particularities of each product and the country level.

3.1. Most relevant barriers for target WFPs

Relevant barriers were determined during the workshop organised by the project partners (except for Slovenia) and were revised by corresponding stakeholders in each country as mentioned in Table 5.

Table 5. Most relevant barriers for target WFPs (Pine Nuts, Acorns, Aromatic plants and Truffle)

Pine nuts	Acorns

Pinecone robbery, illegal product traffic and black market Difficulties on the harvesting and need of innovation on mechanical harvesting. Decreasing production due to climate change impacts Lack of regulation and control in the exploitation and traceability. Difficulties on the harvesting and need of innovation on mechanical harvesting. Certification process.	Lack of knowledge about the product. Fear of trying new foods (Neophobia). Certification process. Administrative procedures. High costs ("raw material costs", "harvesting costs", "transport costs"). Difficulty in obtaining income/revenue and lack of technological solutions.
Aromatic Plants	**Truffle**
Administrative procedures and related problem to access to forests to collect aromatic plants: Access rights and legislative framework. Price fluctuation of extracted products (dried herbs, essential oils…). Certification process: No certification scheme for this wild product and get confused easily with cultivated plants. Unsustainable harvesting practices. Fear of trying new foods (Neophobia). High costs. Difficulty in obtaining income/revenue and lack of technological solutions.	The return of investment. difficult to find inoculated seedlings of good quality. language and technological (digital) barriers to integrate international market. Branding strategy. The incapability of stakeholder to coordinate Tourism and truffle. Lack of financial resources for forest maintenance and/or restoration. High level of friction between truffle promoter and the other local food product producers. Lack of political continuity in local action on truffle branding.

3.2. Classification of main difficulties and barriers per category

When it comes to commercializing wild food products, several categories of difficulties can act as barriers. These include:

1. Legal and Regulatory Constraints:

   - Lack of clear regulations: The absence of specific regulations governing the collection, processing, and sale of wild food products can create uncertainty and hinder commercialization efforts.

   - Permit requirements: Obtaining permits or licenses for harvesting wild food products can be complex and time-consuming, especially if there is a lack of streamlined processes or excessive bureaucracy.

   - Protected species and habitats: Certain wild food products may come from protected species or habitats, leading to restrictions or bans on their commercialization, limiting market access.

2. Quality Control and Safety:

   - Consistency and quality standards: Maintaining consistent quality in wild food products can be challenging due to natural variations, which impact marketability and consumer may trust.

- Food safety concerns: Wild food products may have potential risks associated with contamination, such as pesticide residues, pathogens, or allergens. Ensuring proper handling, storage, and processing to meet food safety standards is crucial.

3. Supply Chain and Logistics:

    - Seasonal availability: Many wild food products have limited harvest seasons, leading to challenges in maintaining a consistent supply throughout the year.

    - Harvesting logistics: The remote and inaccessible nature of wild food sources can make harvesting and collection difficult, requiring specialized skills, equipment, and transportation arrangements.

    - Fragmented supply chain: The involvement of multiple stakeholders, including foragers, processors, distributors, and retailers, can result in a fragmented supply chain, making coordination and market access more complex.

4. Market Perception and Consumer Awareness:

    - Lack of familiarity: Wild food products may be less well-known or understood by consumers, leading to limited demand and market penetration.

    - Perception of inferiority: Some consumers may perceive wild food products as less desirable or less reliable compared to cultivated alternatives, potentially impacting their marketability and pricing.

5. Sustainability and Environmental Concerns:

    - Overharvesting and ecosystem impact: Commercialization of wild food products can put pressure on natural ecosystems and biodiversity if not managed sustainably, leading to concerns about environmental conservation and resource depletion.

    - Certification and traceability: Establishing systems for certifying the sustainable and ethical sourcing of wild food products can be challenging, making it harder to market them as environmentally responsible choices.

3.3. Innovative Solutions for WFPs

Besides, stakeholders suggested various innovative solutions to face aforementioned barriers as follow:

Table 6. Most relevant barriers for target WFPs (Pine Nuts, Acorns, Aromatic plants and Truffle)

Pine nuts	Acorns
Improving production through innovation on pest control and mechanical harvesting. Marketing and commercialization. Encouraging local population to get organized in cooperatives. Develop a label for Mediterranean Pinion (differentiation from other origins). Creation of stakeholder's network. Nutritional marketing campaigns and product promotion actions. Awareness for ecological value of wild foods promoting education for healthy and sustainable eating. Creation of a support office for certification. Legal issues and polices (mainly, regulation of the harvesting).	Creation of stakeholder's network. Nutritional marketing campaigns and product promotion actions. Awareness for ecological value of wild foods, promoting education for healthy and sustainable eating. Innovation in food technology and meeting consumer needs. Creation of a support office for certification.
Aromatic Plants	**Truffle**
Developing an Organic Certification Program with priority to small processors, local population, startups and Agricultural development groups. Reforming regulation is needed in order to facilitate the access to the resources. Creation of stakeholder's network. Nutritional marketing campaigns and product promotion actions. Awareness for ecological value of wild foods, promoting education for healthy and sustainable eating. Innovation in food technology and meeting consumer needs. Creation of a support office for certification.	Creation of stakeholder's network. Develop certification schemes to assure customers access to information on quality. Communicate the findings with decision makers. Design and implementation of a national brand with a local "crue" (or local recall). Design and implementation of a local. More round tables based on the local political action. New market-based mechanism to link product value to forest management for truffle production. Move from truffle centric promotion to a local truffle drive promotion for all the other products supplied in the market. Strengthen the links between truffles, tourism and gastronomy. Increase efforts to recognize truffle production. Increase of the awareness and consumption of truffles among consumers. Focus on how to evaluate quality only the quality of the fresh product. Development of a common protocol for the certification of the mycorrhized seedlings.

3.4.MAIN FINDINGS ABOUT INNOVATIVE SOLUTIONS

Categories of most relevant innovative solutions to commercialize wild food products include:

1. Product Development and Diversification:

    - Value-added processing: Explore innovative processing methods to transform wild food products into unique and marketable forms, such as extracts, powders, or ready-to-use ingredients.

    - New product formulations: Develop novel food products or blends that incorporate wild food ingredients, targeting specific consumer preferences and culinary trends.

2. Market Development and Consumer Engagement:

    - Education and awareness campaigns: Conduct targeted marketing campaigns to raise consumer awareness about the nutritional value, unique flavours, and sustainable aspects of wild food products.

    - Culinary events and collaborations: Organize food festivals, chef collaborations, and cooking demonstrations that showcase the versatility and culinary potential of wild food products, attracting both consumers and industry professionals.

3. Sustainable Sourcing and Conservation:

    - Wildcrafting best practices: Promote sustainable harvesting methods and guidelines to ensure responsible collection of wild food products, emphasizing conservation, ecosystem preservation, and ethical practices.

    - Partnerships with conservation organizations: Collaborate with environmental NGOs and conservation groups to develop initiatives that support the sustainable management of wild food resources, fostering a positive brand image.

4. Technology and Digital Solutions:

    - Online marketplaces and e-commerce platforms: Create dedicated platforms that connect producers of wild food products directly with consumers, facilitating convenient access to a wider market.

    - Mobile applications: Develop mobile apps that provide information on wild food identification, sustainable foraging practices, and recipes, enhancing consumer engagement and promoting responsible foraging.

5. Collaboration and Networking:

    - Value chain partnerships: Foster collaborations between different stakeholders in the wild food industry, such as farmers, foragers, processors, distributors, and retailers, to streamline operations, improve efficiency, and enhance market access.

    - Cross-sector collaborations: Partner with restaurants, food companies, or culinary schools to integrate wild food products into their menus or product lines, expanding their reach and exposure.

6. Storytelling and Product Differentiation: Crafting compelling narratives around wild food products and their origins can captivate consumers' interest. Highlighting the unique cultural heritage, traditional harvesting techniques, and the role of local communities in wild food production can create emotional connections and generate appreciation. Emphasizing the distinct flavours and textures of wild food products and their versatility in various culinary applications can also differentiate them from cultivated alternatives.

Implementing these innovative solutions can help overcome the challenges associated with commercializing wild food products, unlock market potential, and promote sustainable and responsible consumption of these unique and valuable resources.

4. Discussion

The organized workshops allowed better visualization of the WFPs sector at the Mediterranean level with a particular focus on target products: Acorns, AMP, Truffle, and Pine nuts in the project partners' countries: Tunisia, Spain, Portugal, Italy, and Slovenia through the elaboration of the SWOT matrixes. Which also showed common Strengths, weaknesses, opportunities, and threats. The determination of the Swot was followed by the establishment of the main barriers list per product, pointing out the main handicaps faced by stakeholders in the different countries. These later indicated mainly limitations in relation to financial and commercialization aspects such us "certification process", "administrative procedure", "fear of new food" and the "difficulty in obtaining income". The determination of the barriers was the crucial step in allowing the determination of Innovative solutions leading to new marketing strategies. The most common solution went to innovation, networking, and marketing through marketing campaigns, product promotion actions, raising awareness for the ecological value of wild foods, and promoting education for healthy and sustainable eating.

The innovative solutions are based on real stakeholders' perspectives and took into consideration WFPs' particularities, which make them effective.

5. Conclusion

The deliverable summarises the SWOT analysis, main barriers, and innovative solutions for the target WFPs (Acorns, AMP, Truffle, and Pine nuts) at the Mediterranean counties level from the stakeholders' perspectives. It gives an overview of WildFood's actual situation and allows a better understanding of the possible perspective and the need for innovative marketing strategies.

In conclusion, innovative marketing strategies for edible wild food products are of great importance for several reasons. They contribute to the conservation of biodiversity-rich ecosystems by creating incentives for the preservation of habitats and species. These strategies also promote sustainable harvesting practices by educating consumers and suppliers about responsible collection methods and the importance of long-term resource management.

In addition to conservation, innovative marketing strategies highlight the nutritional and cultural value of edible wild food products. They can encourage healthier eating habits and preserve traditional knowledge associated with wild food use. Moreover, these strategies create economic opportunities for local communities, particularly in rural areas, by promoting niche markets and value-added products.

The policy implications of innovative marketing strategies for edible wild food products are significant. Governments need to establish regulatory frameworks that ensure sustainable harvesting and marketing practices. This includes licensing, certification schemes, and quality control measures. Policy support is also needed for education and awareness initiatives that inform stakeholders about the ecological and cultural importance of these products.

Market development is another policy area that requires attention. Governments can provide support for infrastructure, research, and development initiatives related to edible wild food products. This includes funding for product development, marketing research, branding, and the creation of distribution networks.

Lastly, collaboration and partnerships among relevant stakeholders, including government agencies, conservation organizations, indigenous communities, researchers, and the private sector, are essential for the success of innovative marketing strategies. Policy efforts should encourage and facilitate these collaborations to develop comprehensive marketing strategies, address challenges, and ensure the inclusion of diverse perspectives in policy development.

In summary, innovative marketing strategies for edible wild food products are crucial for conservation, sustainable practices, nutritional awareness, cultural preservation, and economic opportunities. Policies should be in place to support these strategies through regulatory frameworks, education, market development, and collaboration, ultimately creating a balance between promoting these products and ensuring their long-term viability.

The Partnership for Research and Innovation in the Mediterranean Area will devise new R&I approaches to improve water availability and sustainable agriculture production in a region heavily distressed by climate change, urbanisation and population growth.

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