

# Eating wild food products in the Mediterranean area: What is behind certification, branding and labelling?

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## Abstract:

Certified labels are an important asset for meeting consumer expectations and addressing information asymmetry about product features. It is an important factor in making decisions about buying a food product. However, wild forest products (WFPs) show many specificities, linked to product origin, the harvesting process and consumers awareness, among other things, that can complicate the certification process. The aim of this article is to highlight the distinctiveness of WFPs compared to agrifood products and identify the most relevant barriers and opportunities related to WFPs certification, labelling and branding, based on the data collected in the WILDFOOD project. Three main solutions were identified to improve certification schemes for WFPs within the project: (1) national initiatives; (2) group certification; and (3) process certification.

**Keywords:** Wild food products, certification, branding, labelling, marketing strategies, Mediterranean area

## Introduction

Based on a bioclimatic definition of Mediterranean forests, the Mediterranean region included more than 25 million hectares (ha) of forest and about 50 million ha of other wooded lands in 2015, representing 2.20 percent of the world's total forest area. In addition, the forest area in Mediterranean countries has increased since 1990. Mediterranean forests and agroforestry systems harbour a vast array of wild and semi-wild food products (WFPs) with unique and exclusive properties. These WFPs are strongly connected to key issues for local economies, such as food security, rural livelihoods, the provision of ecosystem services, biodiversity conservation, traditional knowledge, local identity, gastronomy and other cultural values (Mutke *et al.*, 2019; Weiss *et al.*, 2020; Taghouti *et al.*, 2021). A significant share of the population harvests and consumes WFPs and, as demand continues to grow, aspects such as local production, sustainability and added social value attract more and more attention from conscious consumers (Martínez de Arano *et al.*, 2021). In this respect, enhancing the operation of existing and developing new WFP value chains, products, processes and services, taking into account the principles of sustainability, would improve the competitiveness of the Mediterranean agrifood sector in accordance with local values and heritage. Moreover, marketing strategies and new communication tools aimed at increasing Mediterranean WFP trade and sustainable consumption awareness can contribute to achieving an increased value and market access for the local products. Certification, branding and labelling are considered key strategies and tools for promoting the sustainable use of WFPs and enhancing their markets (Corradini *et al.*, 2018; Pettenella *et al.*, 2019; Martínez de Arano *et al.*, 2021).

Recently, there has been an increasing appreciation and use of natural, traditional and wild resources (FAO, 2019). This is evident in the proliferation of popular culture around “wild foods” and “foraging”, the resurgence of interest in traditional crafts, and the emergence of “back-to-nature” lifestyles, which are consciously chosen (Amici *et al.*, 2020). For example, many traditional WFPs, such as nuts, mushrooms and forest herbs, are no longer seen as subsistence food, but are part of healthy “superfoods” and stylish gourmet foods served in the finest restaurants. They are becoming highly appreciated and in demand at least in some high value-added market segments. Homemade, handmade or one-of-a-kind artisanal products based on WFPs, such as specialty liqueurs and berry jams, produced by small manufacturers that incorporate the use of traditional methods and materials, successfully capture growing consumer segments who are willing to pay high prices for high quality, unique, organic or locally produced goods (Weiss *et al.*, 2019). To refer to these producers and consumers, the idea of “innovative nostalgia” is suggested by several authors to define a market trend that connects traditional products with this new consumer and leading to new labelling systems based on rigorous certification standards, innovative packaging and improved product information (Sheppard *et al.*, 2020).

The shift towards high quality and unique food production can help capitalize on the richness of Mediterranean biodiversity with its abundance in WFPs while at the same time enhancing economic activity in rural areas, thereby contributing to “inclusive growth” and the development of the bioeconomy in Europe and in the Mediterranean area. Moreover, wild food chains can benefit from improved cooperation with other actors in food supply chains, as well as novel solutions to trace origin and identity, ensure safety and exploit digital opportunities through the development of innovative certification, branding and labelling tools (Taghouti and Daly-Hassen, 2018).

The certification of WFPs can have a significant impact on forest management, as it has the potential to raise awareness among consumers and industry about the conditions under which forestry goods are collected and marketed to push for increased transparency and improved policies and practices (Shanley *et al.*, 2008). Product certification activities, labelling and brand development, together with networking activities and an increase in sales in the specialized distribution channels, are key aspects of the development of new WFP markets (Wiersum *et al.*, 2018; Martínez de Arano *et al.*, 2021). At the global level, certification of forest products was developed primarily for timber through certification standards such as the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification Schemes (PEFC). These standards can also be applied to WFP certification. Specific certification

schemes that can be applied to WFPs have been established more recently (Sheppard *et al.*, 2020). They include those standards dealing with geographical provenance, organic food products, social aspects (e.g. fair trade products) and nutritional properties (Corradini *et al.*, 2018; Pettenella *et al.*, 2019; Vantomme & Walter, 2003).

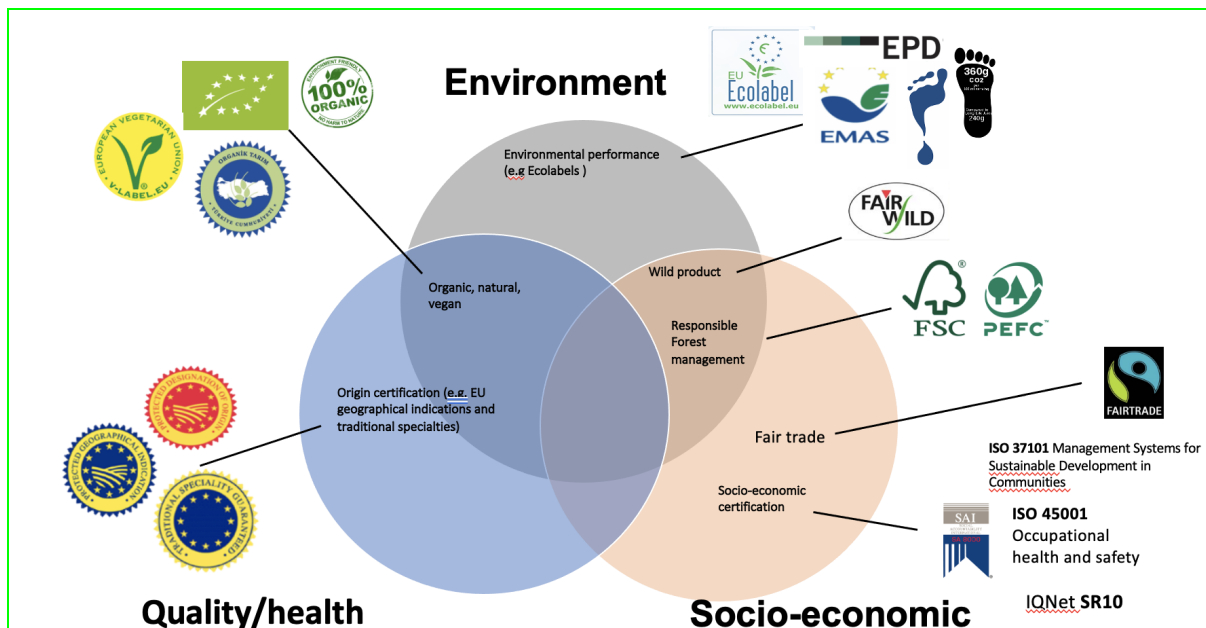


Figure 1. Certification schemes

Source: Pettenella, D., Corradini, G., Da Re, R., Lovric, M., Vidale, E. 2019. *NWFPs in Europe - consumption, markets and marketing tools*. In: Wolfslehner B., Prokofieva I., Mavsar R., (eds). *Non-wood forest products in Europe: seeing the forest around the trees*. Joensuu, Finland, European Forest Institute, p. 31–53.

Some schemes are developed by public entities, such as the European Union’s “origin, geographical indications and traditional specialties schemes” with the labels Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Speciality Guaranteed (TSG). These types of certification schemes promote and protect the names of products that come from a specific region. Several WFPs, such as mushrooms, nuts and berries, have been certified with these schemes (Weiss *et al.*, 2020; Brotto *et al.*, 2018).

Branding and certification of WFPs in terms of sustainability, quality and origin are important tools for differentiating wild products from industrial mass-produced products (Pettenella *et al.*, 2019). These marketing strategies and tools allow to connect the producer and the consumer. Through certification, the consumer can be better informed about the precedence of the product and the production system. It allows the consumer to choose according to their criteria and preferences, and it enables product traceability and more transparency along the value chain stages (Brotto and Pettenella, 2018). Regarding the overall production of wild products, data are scarcer than data on trade, although some figures on certified products are available. Even if Europe represents the second largest area in organic certification, it produces a relatively small amount of certified wild products (Wong and Wiersum, 2019). Innovation in WFP branding can include standard development, certification and labelling (e.g. with reference to a traditional product designation), area of origin, naturalness and sustainable system of production, thus meeting the consumer’s demand for more natural and healthy foods.

## Materials and methods

This paper was developed under the WILDFOOD project, funded by the Foundation for the Partnership on Research and Innovation in the Mediterranean Area (PRIMA), whose overall aim is to promote the

implementation of joint innovative strategies by the different actors in the value chains based on WFPs in the Mediterranean area, to improve their quality, safety and sustainability. Among its objectives, the WILDFOOD project seeks to facilitate market access by Mediterranean companies and increase the added value of local products by implementing innovative marketing strategies and targeted dissemination activities – including certification, branding and labelling – and integrating local key stakeholders in the implementation process, thus ensuring their participation and achieving a joint marketing action.

Based on the WILDFOOD project and the results from previous projects (e.g. INCREDIBLE and STARTREE), certification, branding and labelling are considered relevant strategies and tools to boost the potential of WFPs around the Mediterranean and promote sustainability, quality and safety along the WFP value chains. The WILDFOOD project includes data collection, analysis and synthesis of state-of-the-art WFP value chains. Workshops and questionnaires with the actors of selected WFP value chains (e.g. truffles, pine nuts, aromatic plants and acorns) were carried out. Collected data were analysed to produce consumption information through the analysis of market flows and estimate current and potential future trends for WFP demand. The questionnaires included information at the level of production, especially on cultivation and harvesting management models, as well as wild food processing (including handling processes), maintenance of facilities, storage and packaging; business model aspects and marketing strategies were tackled with special attention to certification, branding and labelling. Among the workshops' objectives were the identification of the most relevant difficulties in reaching international markets, tools for increasing stakeholders' visibility, and certification and labelling innovations. This information will be made available to producers and other actors to help them integrate certification and ensure adequate labelling of Mediterranean WFPs, with a clear indication of the product and area of origin, and emphasizing their naturalness and sustainable production. In addition, the project includes the implementation of pilot projects and case studies to develop innovative activities and methods for addressing quality, safety and sustainability throughout all the stages of WFP value chains.

## Results and discussion

In recent decades, there has been a substantial change in WFP consumption patterns in the Mediterranean area (Amici *et al.*, 2020; Martínez de Arano *et al.*, 2021). The commercialization of WFPs involves various actors who are increasingly aware of the effectiveness of certification for providing safe food, improving working conditions, protecting forests and biodiversity, and improving transparency surrounding product attributes (Girmay *et al.*, 2013). Consumers are also not just looking for higher levels of safety and quality in their food, they have started to pay more attention to other attributes as well, ranging from the local and social embeddedness of purchased products, sustainable harvesting methods and societal concerns (Burgener, 2007).

In various developing Mediterranean countries, edible WFPs are harvested and consumed not only as subsistence products, but also because they form part of the cultures and traditional lifestyles of local communities. Moreover, there is an increasing interest in these products considering their potential commercial value among non-traditional consumers, like those living in urban centres or export countries (Taghouti *et al.*, 2021). Therefore, WFPs should not be considered as any other conventional food, and the economic characterization of these products would benefit from a differentiation strategy based on the uniqueness of the product. Effective differentiation of WFPs is built on the fact that there is no product on the market that could substitute these goods, as this can create brand loyalty in consumers and better profit margins for companies.

The experience to date shows that many factors were identified behind successful certification. Many lessons can be drawn in the case of WFPs and should be considered by private enterprises to reshape their marketing strategies and policymakers to readjust their priorities (Kaczorowska *et al.*, 2021). Edible WFPs supply various industry sectors with raw materials that are consumed as medicines and food products. Various stakeholders are involved in the production and transformation system of WFPs, which could make the certification process very long and difficult (Corradini *et al.*, 2018). In this sense, more communication

and networking processes among the stakeholders involved in the certification and labelling processes are needed. Moreover, producers and harvesters should predict the costs and benefits of available certification schemes (e.g. wild food, fair trade and organic) for WFPs to find out whether the selected certificate is suitable for their product, consumer base and organizational capacity. Available information on the costs and requirements are very scarce, and this can be a challenge for making the transition to certified products.

Another factor is related to standards recognition in markets of different countries or organizations. Producers should focus on the most common certification schemes to avoid a variety of challenges related to land tenure of harvesting areas, standards variability of accredited certification bodies, and insufficient technical and organizational skills at the company level to comply with certification requirements. Different certification schemes have many standards and requirements, which can confuse consumers and producers at the same time. There is an urgent need to set up better collaboration across different certification schemes (ecological, organic and fair trade) to avoid overlapping. To do so, implementing a holistic approach has become a political priority to improve the certification process and schemes for WFPs; training forest managers and certifiers on the specificities of WFPs (ecology, use and market trends) can be an important step in making the certification process easier, more efficient and more transparent (Wolsfleher *et al.*, 2019; Amici *et al.*, 2020).

Moreover, the perception and understanding of certification and labelling among consumers should be taken into consideration to identify to what extent people are willing to pay higher prices for better qualified products, which can vary among different countries (Kaczorowska *et al.*, 2021). According to Schunko and Volg (2020), consumers know, gather and have positive attitudes with respect to WFPs, although they are hardly aware of their market relevance. Therefore, consumers need to be better informed about the wild origin of food ingredients and the added value of certification.

Certification is also an important asset for the restoration of agroforestry models in the Mediterranean area. An example is in Montado de Freixo do Meio, Portugal (Box 1). Many species could undergo certification given their nutritional, economic and cultural value. Certifying WFPs is considered a relatively recent and promising marketing tool employed by private enterprises to take into consideration WFP particularities (e.g. taste, quality conformity and size). In this regard, further studies and research on WFP certification, labelling and branding are needed to provide appropriate information to policymakers.

**Box 1. Portuguese case study.** The Portuguese *montado*, like the Spanish *dehesa*, is one of the oldest and richest living models of agroforestry on our planet. This system of cooperation between man and nature was adopted at the beginning of the 1990s as a way of obtaining food while regenerating the ecosystem. As the *montado* consists essentially of oaks – holm oak (*Quercus rotundifolia*), cork oak (*Q. suber*), kermes oak (*Q. coccifera*), Portuguese oak (*Q. faginea*) and Pyrenean oak (*Q. pyrenaica*), besides other less represented species – it is only natural that the acorn, a product common to all of them, became one of the most used resources in this system. The acorn is a kind of dry nut, akin to the hazelnut, made of one seed covered by a woody shell with a dome-shaped capsule. The acorns of many species can be eaten raw right after the harvest, but some are too bitter for general consumption, having surprising nutritional and functional features. With high fibre and protein content, it has a fat profile similar to olive oil, is gluten free and has high levels of antioxidants. The acorn for human consumption is the emblem of Montado do Freixo do Meio.

Montado of Freixo do Meio (MFM) is a 584 ha farm located in Foros Vale Figueira, Montemor-o-Novo, 100 kilometres (km) east of Lisbon. It is privately owned, it has been privately owned by the same family for 70 years, with a focus on agroecology for the last 30 years, the farm has been producing foods without chemicals, pesticides or herbicides, obtaining an organic farming certification in 2018 as certified by Kiwa Sativa (PT-BIO-03). MFM has 12 microfactories for on-site production of 370 food products, 12 of which are acorn products, as a pioneer in the use of this superfood and the main champion of the reintroduction of this fruit in the everyday diet by creating unique products like acorn coffee, acorn breads, acorn-shaped biscuits, and acorn hamburgers and sausages. "Cozido de bolota do Montado do Freixo do Meio", a meat stew with acorns made in clay pots on an open fire, is one of the dishes visitors can taste when visiting the

farm. MFM has created their own brand “Montado Freixo do Meio”, and they sell their products online at <https://loja.freixodomeio.pt/>.

Wild aromatic plants are very appreciated by consumers in the Mediterranean area. However, there is an urgent need to upgrade certification schemes for these products to improve the working conditions of people harvesting wild plants from forests and to meet consumers' expectations. A good example of WFP certification can be found in Tunisia where the aromatic plants sector is of great importance (Box 2).

**Box 2. Tunisian case study.** Herbéos is a brand of natural cosmetics created in 2015. The mission of Herbéos is to develop ethical cosmetic care and natural remedies for women, men and children, developed with respect for humankind and the environment, while promoting Tunisian medicinal plants. Herbéos works principally on four aspects:

- extraction of vegetable oils by cold pressing;
- distillation of floral waters;
- cold process soap manufacturing; and
- development of specific care ranges for each type of skin.

The laboratory is based in Sahline, Monastir, and relies, among other things, on organic family crops in the region of Zéramdine, Monastir. A factory for processing cactus fruit has been established in Zéramdine, with 68 ha of organic growing.

Organic agriculture is a method of production and processing that respects the environment, animal welfare and biodiversity. Organic food is produced from ingredients grown without synthetic chemicals and without genetically modified organisms (GMOs). They do not contain flavour enhancers, colourings or synthetic chemical aromas. Organic products are controlled at all stages. In addition to the controls carried out on all agrifood products, specific controls are carried out on organic products by an independent organization approved by the public authorities. Organic agriculture is at the heart of sustainable development. It is a commitment to the well-being of future generations.

The organic label helps consumers identify organic products. Its presence on the packaging ensures compliance with the European Union's organic farming regulation. The logo can be applied to products that contain at least 95 percent organically produced ingredients.

Wild food products are strongly connected to local traditions and culture, especially in marginal areas where they are used for local subsistence as in the case of the Nogué herbalist shop (Box 3), owned by a producer located in a remote area of the Catalan Pyrenees in Spain, with a long tradition of herbal use and marketing. While the producer finds it challenging at times to follow certification schemes, these are considered an important tool for selling their products.

**Box 3. Spanish case study.** The Vansa and Tuixent valley in Catalonia is a landscape of great natural interest harbouring a variety of aromatic and medicinal plants, forests of pines, oaks and other trees along with shrubs for domestic use, and with beautiful panoramic views of the valley. The valley has a long tradition of wild plants, and during the nineteenth century and much of the twentieth century, a group of women called "trementinaries" (turpentine workers) collected plants with medicinal properties, which, once properly processed, were sold throughout Catalonia. In this valley is Ossera, an artisan village located on top of a hill, where since the 1980s, producers and artisans have been making various products in their workshops. One of these workshops is the Nogué herbalist shop, which has been cultivating and collecting aromatic and medicinal plants on its farm (Ossera, La Vansa Fornols and Tuixent) in the Catalan Pyrenees, for more than 30 years. The mountain climate and the careful workmanship in planting, harvesting, drying and handling ensures that plants retain all their aromas and properties. The herbalist's products include aromatic and medicinal plants, dried flowers, cosmetics, ointments, tinctures and essential oils. The plants are grown in accordance with the rules of organic farming, and some wild plants are also collected in the

surrounding mountains, always respecting the environment. To provide quality assurance for their products, the herbalist is on the Register of the Catalan Council of Ecological Agricultural Production (CCPAE), a health register, and undergoes bacteriological testing. Its labelling is simple; it mentions the origin, connects with the consumer who seeks authenticity, uniqueness and biobased products, and promotes an awareness of nature and sustainability.

According to the information collected under the WILDFOOD project, several challenges and opportunities should be highlighted. Certifying WFPs is a very challenging task for all involved stakeholders in the certification process. Challenges can be categorized in three groups: social, economic and legal. Social challenges affect mainly small producers and are linked to the lack of organization and bargaining power of these stakeholders; small firms have inadequate or insufficient market information, legal knowledge and negotiation skills to undertake the certification process for their products. Besides, these enterprises face real difficulties in the certification process because they are not able to comply with administrative and institutional requirements to ensure quality control. Producers should not overestimate opportunities behind certification and avoid unrealistically high expectations. Externally driven certification is often poorly understood by small producers who often also underestimate limitations and obstacles. From another perspective, there is a difficulty in striking a balance between the need to improve the existing working conditions of WFP harvesters and overregulation.

When talking about WFP certification, there is an important question: is certifying WFPs similar to the certification of agrifood products? The value chains of WFPs involve many stakeholders from forests to market. The certification of WFPs could be hampered by the complexity of their value chains and the poor interaction between the forest and agrifood sectors. Indeed, there is a lack of capacity to address this issue in the forest sector, and certifying bodies do not consider the specificity of WFPs before defining certification standards. For instance, the quality of WFPs is highly variable, leading to obstacles in processing and marketing, and this specificity should be considered when defining and adapting certification schemes.

The perception of food quality by the consumer depends on previous experience, product knowledge and sensory sensitivity. Meanwhile, demand for WFPs is changing rapidly, exposing producers to significant risk, meaning that they often have problems meeting consumer expectations and marketplace specifications (e.g. for quality control and volume). It has become necessary to raise awareness about the implications of purchasing WFPs, and producers need to put more effort into marketing and raising awareness among consumers.

Other challenges were pointed out related to the legal and institutional framework. Laws regulating access, use and marketing of WFPs can already overburden harvesters and processors. Certification has the potential to exacerbate this problem. Standards need to be adapted to fit different scales of land ownership. The complexity of products, harvesting rights and forest types requires not one set of standards, but a variety of instrument types. Moreover, certification should address legal and policy advances in recognizing the rights of local communities to control the use of their traditional knowledge, images and resources.

Despite many challenges affecting WFP certification and labelling, there are still very important opportunities behind these powerful marketing tools. Local forest communities are among the main beneficiaries of certification. Certification by internationally recognized bodies has been seen to help communities who are sustainably harvesting WFPs, and they can gain recognition within their own country for their responsible stewardship of natural resources. Performing certification, labelling and branding can consolidate community forest management and add importance to best management practices for WFPs. Certification can be an efficient tool to address information asymmetry and restore strategic partnerships between public bodies, industries and communities. People living within forest areas can benefit from certification because it supports collaboration and organization among community members to strengthen community institutions.

Certification can open access to new marketing channels and ensure that enterprises have better access to emerging markets; certifying WFPs may allow communities to tap into new niche markets for their

products, particularly in areas where consumer concerns over forest conservation and equity in trade are well developed. Globalization is creating niche markets that provide potential avenues for certification. Opportunities are created for smallholders to increase their competitiveness, meet new consumer demands for “green” and sustainably sourced products, and to receive higher prices. Wild forest product certification through local marketing and branding strategies can enhance positive perception and increase their recognition among other products. Moreover, third-party certification can separate responsible companies from companies that engage in marketing hype, alleviate consumer confusion and reward sound management and marketing. In some areas, new measures have already positively impacted producer livelihoods and species management. Certified WFPs can easily have greater recognition nationally and internationally. Furthermore, donors have shown strong support for certification as a market-based tool to achieve conservation and development objectives. Certification can provide background and conceptual frameworks for better policy and can catalyse national dialogues.

## Conclusion

The work carried out under the WILDFOOD project has advanced the knowledge and understanding of WFP certification, as well as branding and labelling. Integrating certification; ensuring the proper labelling of Mediterranean WFPs, with clear information on the product and its origin; and highlighting its naturalness and sustainable production can contribute to enhancing WFP markets and consumption. These tools can help improve the visibility of WFPs and better meet the requirements of more selective, conscious consumers. However, the sector faces several challenges that need to be overcome to enable producers and processors to adapt to new forms of certification and labelling. Challenges include: competitive and unstable markets with frequent changes in demand; an industry mainly made up of small producers with little capacity to innovate and comply with market and certification specifications; and the complexity of the sector due to the wide range of existing products and collection rights, which requires the development of different standards and tools.

In this sense, three main solutions were identified to develop an alternative action plan:

- National initiatives should be implemented to streamline procedures, reduce both direct and indirect costs of certification, and create a more practical evaluation process for small producers and WFP harvesters. These initiatives could be implemented to adjust requirements for certification by smallholders, including shorter, more concise reports, and options for fewer evaluators, desk audits and peer reviews.
- Group certification is used by several certification systems, including organic certification and fair trade certification, to reduce certification costs (e.g. evaluation, planning, management and other implementation costs) per member to increase opportunities for accessing new markets.
- Chain of custody certification is necessary at all stages of the processing and supply chain if the certified product is to eventually carry a label that informs the consumer of its certified origin.

Summing up, each country should have a different “awareness” about certification performances related to WFP production and consumption. Forest sector operators should show a different perception of the labelling and certification strictly connected to market conditions, regulatory frameworks and consumer trends. It is more challenging for smaller companies to comply with certification procedures than for larger companies. The WFP sector as a whole needs a massive capacity-building effort to increase the skills of their workforce and be ready to meet the challenges of future labelling and certification schemes.

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