

Payment for environmental services

Picking mushrooms in Catalonia (Spain) and Liguria (Italy)

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Mushrooms represent one of the most important forest products in the Mediterranean Rim. Free and unregulated until now, their harvest has called, for some years now, the attention of forest owners, both public and private. Indeed, it is a significant source of income, that could allow them to manage in a sustainable and economically viable way their forests. The next challenge is to organise the payment and make it acceptable, that is what Catalan and Ligurian partners of the European project SylvaMED have tested.

Mushrooms represent one of the most important non-timber forest products (NTFP) in the Mediterranean Basin. Due to the diversified site conditions, mushroom diversity in the Mediterranean is very high, probably the highest in the European region. Mushrooms have an important economic, ecological and social value for society. Mushroom picking is a very popular recreational activity that implies accessing the forest and taking home free mushrooms. It is essential to remember that, given the importance of its potential market, mushrooms picking could represent, through a suitable harvesting, an important source of revenue for the forest owners.

Promoting and organising mushroom picking in a sustainable way could be an interesting alternative to this usage right, in order to increase the value of forests, given that it would allow: (1) to obtain a product highly valued by society; (2) to obtain an annual product that complements rural family income; and (3) to control the harvest, and thus safeguard and guarantee the resource and biological diversity. Until now, wild mushrooms were not much exploited by the landowners, and it is an activity economically feasible and perfectly compatible with timber exploitation.

Various regulatory instruments can be used to limit and organise mushroom picking, like harvesting fees, quantity limitations, even going so far as harvest prohibitions.

Private and public mushroom reserves are examples of such instruments.

In some private reserves — where the owner of the property is entitled to prohibit the harvesting activity to outsiders — mushroom pickers are allowed in exchange for the payment of an established fee directly to the forest owner to develop the mycological harvesting.

In the public properties, a regulatory system can be implemented by government, through the collection of a fee paid by outsiders to collect mushrooms (Catalan Government). In both situations, it is not necessary to change the legislation. Compliance with current laws is enough.

Demonstrative actions

Mushroom picking in Catalonia

Traditionally the access to forests in Catalonia is open to everyone although the current legal framework allows the owner to fence his property.

Customary mushroom harvesting has been free of charge and uncontrolled. Nevertheless, legal ownership of mushrooms relies on the land-owner; and therefore, in theory, pickers must first ask the owner for permission and be subject to his potential requirements. In practice this rarely occurs.

The objectives and measures to apply in each property are determined by the owner and are collected in a forest management plan. These plans will be evaluated and

approved by the relevant forestry agency (CPF for private forest and Forest Service for public forest properties).

Generally, management objectives do not include mushrooms harvesting.

Two pilot cases on Payment for Environmental Services (PES) have been implemented within the framework of the SylvaMED project in the areas with free forest access and mushroom collection.

The Monegal is a private property located in the Pre-Pyrenees, with 200ha of Scots pine. Since autumn 2011, it has restricted mushroom harvesting by introducing a daily access ticket of 10 euros with a maximum allowed amount of collected mushrooms of 3kg per person. This has been the initiative of a single private forest owner, who also is owner of a rural hotel and restaurant. He wants to reinvest the revenues in *myco-tourism*. To develop this initiative, he offers, in exchange for acquiring the authorisation to collect mushrooms in his property, discounts and special prices on mycological menu and hotel stays, mycological routes in the forest with informative panels and mycological advice. Furthermore, he has set aside an experimental plot based on the scientific advice of mycologists. The aim is to give an add value to the traditional harvesting activity. The owner has fenced the property and placed the required signs.

The second initiative was developed in a public forest in Poblet, located in the south of Catalonia, and belongs to a protected area. In 2012 a seasonal permit has been established.

This public fee was formalized through an explicit normative that established the price

Pictures 1 & 2:
Local information meetings in Monegal.
Author S. Torredadella



(10 euros per person and per season as well as a 90% discount for locals (who have to pay only 1 euro), the area for mushroom collection (near 3,000 ha), the collection period (October until mid-December) and the maximum amount to be collected per person (6kg). The need for such legal procedures was required given the public ownership (regional) of the forest as well as the protection status of the area. Revenues will be assigned to forestry treatments enhancing mushrooms production, as well as the creation of informative boards and artistic mushroom paintings in the trees. Furthermore, a software application for mobile phones has been created in order to inform, guide and to offer recreational activities to the users in the pilot zone.

Both areas are regulated in a way that only collection for recreational purposes is allowed.

Through the implementation of the payment for environmental services (PES) schemes, mushroom harvesting has become regulated through the payment of a certain amount for a daily or seasonal right. Locals, usually, benefit from special treatment. The main objectives are to reduce the pressure on certain forest areas during the harvesting season, to reinvest in the forest that provides the environmental service to the mushroom pickers through forest management, preferably in myco-silviculture, and to raise public awareness on limited resources, on sustainable harvesting, free or restricted access to the forests, forest ownership, compensatory



Picture 3:
Information panel in Monegal.
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Picture 4:
Information panel in the «mycologic» trail in Monegal.
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Pictures 5 & 6:
Paintings on trees at Poblet.
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Picture 7: Information panel on the control of mushroom picking at Poblet.
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mechanisms, etc. In both pilot areas, informative sessions and debates with interested citizens and stakeholders were held prior to the launch of any scheme in order to explain and debate the arguments of the initiatives.

The acceptance of the initiative was rated very positively, given the interest generated and the large amount of pickers acquiring the license to collect. Much it is so that the private initiative will remain this autumn and the Catalan Government planned to expand the initiative in several protected areas in Catalonia for the coming season of mushroom harvesting.

In general, landowners complain about the current lack of incentives to enter into formal lawsuits in case of illegal harvest, within current legislation, the forest owner has to sue the person illegally harvesting mushrooms on his property through civil process, which is much slower than an administrative procedure. In addition, civil process can end up costing more than the market value of the illegally collected mushrooms. Administrative procedures are only possible through a specific normative framework, which defines the typology of non-compliance, and corresponding sanctions, fines and procedures. Such a norm is much needed and has been recommended.

Mushroom picking in Liguria

Mushroom picking in Liguria is regulated by regional law that allows occasional pickers to pick a daily maximum amount of 3kg. Professional pickers can pick more. The law states that mushroom picking is free of charge in natural areas, but private owners can decide to allow and to govern the picking in their territory through notice boards informing the pickers. The Region, provinces, municipalities, forestry and agriculture enterprises and the owners can promote the constitution of voluntary consortiums among forest owners for the search, picking and sale of mushrooms. Every constituted consortium has to set their own rules (e.g. establishment of pay-ments or issuing picker cards). The consortiums also have to invest at least 70% of their income for maintenance and management of forests in order to improve the mushroom production, promotion of quality trademarks for mushroom picking and information and communication for a better conservation of mushroom species.

Some problems in the application of the legislation regarding consortiums have emerged, in particular:

- insufficient control of the incomes; many consortiums had not reported their incomes to the Region (lack of information/systems and transparency);
- consortiums have problems supervising irregular pickers;
- the legislation does not foresee sanctions for non – compliance;
- consortiums can decide discretionarily how to invest the incomes; many times, only partial income has been invested in the conservation of forests.

Some existing consortia (30 altogether) had developed a regulation for mushrooms pickers, which also foresees a PES scheme, through a picking card (Table 1).

The calculation of the outcome of the PES is difficult since it depends on the willingness of the pickers to pay, and on the problem of surveillance. However, the yearly income of the consortia could change from zero to a few thousand Euros to more than €100,000.

Consortiums observed some difficulties in the acceptance of PES by local pickers:

- the consortium card generated some dissatisfaction in the inhabitants of the nearest

Picture 8: «Mushroom app» developed for mobile phones.
Picture CTFC



municipalities that do not want to pay due to political reasons;

- some people consider such a payment as a constraint against tourism in the local areas;

- it is difficult to distinguish the borders of associated properties from the external ones, because the borders of the properties are not well defined.

The existence of the local consortia is the basic condition for the sustainability of such a PES. Regional law had a positive impact because the presence of such association became compulsory. However, only a very low percentage (27%) of the existing consortium sent a report about the amount of income gained by selling the picking cards. A better definition of common rules for all regional consortia, the improvement of the methodology of monitoring and incentivise the mushroom-income reporting, would be necessary. Additional ways to foster this kind of PES should be explored, for example, tax exemption for the mushroom harvesting activity. In some territories, consortia start applying this PES with other PES linked to tourism and hiking, e.g. cards for buying the possibility to pick mushrooms and to enter pathways (for example in Nature 2000 sites).

The following applications could be proposed for the application of PES for mushrooms:

- to formally recognize professional pickers (who could pick more than 3kg/day), increase the number of surveillance systems, and give a common PES scheme on mushroom picking at the regional level;

- to note local consortia to realise better communication tools, in order to inform the citizens on the realized interventions using PES funds, and to sustain the payments by the pickers through innovative payment systems (i.e. web tools, smartphone QR codes);

- to promote adapted forestry management interventions in order to increase the quality and the quantity of mushrooms.



Picture 9:

QR code used in Liguria to inform on mushroom picking.

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Name of consortium	Incomes € from cards (2012)	Cost of local surveillance	Available money for investments in forest conservation
High SturlaValley	27.096,00	38.992,00	-11.896,00
Borlasca	2.030,00	765,00	1.265,00
Rezzoaglio	141.378,47	38849,05	102.429,42
High Arroscia	19.031,35	12.909,53	6.121,82
High Vara Valley	10.628,00	4.052,00	6576,00
Gottero Mountain	32.390,00	23.575,00	8.8150,00
Dego	42.586,79	14.150,66	28.436,04
Erlì	763,81	1319,20	-555,39
Bardineto Plateau	58.870,00	12.601,7	46.268,30
Giusvalla	4.055,00	3.826,8	228,20
Murialdo	7.052,82	14.761,67	55767,15
Cairo Montenotte	13.177,77	12.650,00	527,77
Consorzio Funghi Sassello	179.075,00	2.0163,79	158.911,84
Calizzano	196.748,00	13.964,97	182.783,03
Tutela del territorio -Sassello	108.460,00	42.657,00	65.803,00
Sassello	52.760,00	21.942,00	21.572,60

Table 1:

Income of eight consortia implementing mushroom picking cards (data year 2012)

Summary

Catalonia is a forest region, with a long tradition of mushroom picking. In the last twenty years, the activity of gathering mushrooms had grown uncontrolled. This situation often causes direct and indirect damage to the environment and to the mycological resource. Catalonia has no specific rules for collecting mushrooms in forest areas although it is specifically contemplated in the regional legislation. The price of the mushroom in the market is high and in Catalonia its harvesting is free. This situation causes some disadvantages to forest owners who must manage the forest without receiving any income in return.

Therefore this activity (recreational or sometimes professional) generates a ludic or economic benefit to mushroom picker when the owner and the forest environment suffer constraints.

With the aim to raise awareness in society and to enhance the involvement of all the stakeholders in sustainable harvesting of the natural resources, two pilot actions were developed in Catalonia. They implemented a compensatory system that give value to the mycological resource as an environmental service. This mechanism (Payment for Environmental Services – PES) is feasible and sustainable both environmentally and economically in our mediterranean rural communities, providing for both long-term conservation of natural resources and additional income for local populations.

Mushroom picking in Liguria is regulated by regional law that allows occasional pickers to pick a daily maximum amount of 3kg, with professional pickers allowed to pick more. The law states that mushroom picking is free in natural areas, but private owners can decide to allow and to govern the picking in their territory through notice boards informing the pickers. The Region, provinces, municipalities, forestry and agriculture enterprises and the owners can promote the constitution of voluntary consortiums among forest owners for the search, picking and sale of mushrooms. About 30 constituted consortiums set their own rules (e.g. establishment of payments or issuing picker cards). They have to invest at least 70% of their income for maintenance and management of forests in order to improve the mushroom production, the promotion of quality trademarks, information and communication for a better conservation of mushroom species.

Some problems in the application of the legislation regarding consortiums have emerged, in particular:

- insufficient controls of the incomes, of irregular pickers, no sanctions for non – compliance, arbitrary investment of consortium incomes,
- the acceptance of PES by local pickers and some stakeholders (i.e. tourism).

For these reasons, the calculation of the outcome of the PES is difficult since it depends on the willingness of the pickers to pay, on the climate conditions, and on the problem of surveillance. So, the yearly income of the consortia could change from zero to a few thousand Euros to more than €100,000.

According to Ligurian experiences, some actions could be put in practice, in order to develop efficient PES in mushroom picking: to develop local consortiums, to formally recognize professional pickers, to inform inhabitants and pickers on the realized interventions using PES funds, to promote adopted forestry management interventions in order to increase the quality and the quantity of mushrooms.