NATURA 2000 – GRASSLAND

The experience of the farmers: Few suggestions to improve our contribution to NATURA 2000

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In this short document I will give you some information about the project between the Alta Murgia National Park and the farmers.

The Alta Murgia National Park (Figure 1) was established through the Italian Law no. 426 on 9th December 1998 and was officially proclaimed a National Park through a Decree of the President of Italian Republic on 10 March 2004 (Ref: Bulletin no. 152, issued on 1st July 2004). It is situated in SE of Italy in the Apulia Region. The Park has a perimeter of irregular shape elongated about 70 - 20 km at the points of greatest length and width, and is disposed towards the SE - NW.

Figure 1: The Alta Murgia National Park

The Alta Murgia National Park is the second most extended national park in Italy. It covers a total area of 68,077 ha and its territory stretches out in the central Apulian region across the Provinces of Bari, Barletta, Andria and Trani. The communities of the North-West and the South-East Murgia as well as 13 municipalities are located in the surroundings of the Park. Altamura municipality is the bigger one with 12,660 ha followed by Andria (12,000 ha) (Table 1).
Table 1: Municipalities included in the Park (Region of Puglia)

<table>
<thead>
<tr>
<th>INVOLVED PROVINCES</th>
<th>INVOLVED MUNICIPALITIES</th>
<th>AREA BELONGING TO THE RESERVE (ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bari</td>
<td>Altamura</td>
<td>12,660.0</td>
</tr>
<tr>
<td>BAT</td>
<td>Andria</td>
<td>12,000.0</td>
</tr>
<tr>
<td>Bari</td>
<td>Ruvo di Puglia</td>
<td>9949.5</td>
</tr>
<tr>
<td>Bari</td>
<td>Gravina in Puglia</td>
<td>7587.0</td>
</tr>
<tr>
<td>BAT</td>
<td>Minervino Murge</td>
<td>7481.0</td>
</tr>
<tr>
<td>Bari</td>
<td>Corato</td>
<td>5411.0</td>
</tr>
<tr>
<td>BAT</td>
<td>Spinazzola</td>
<td>3944.0</td>
</tr>
<tr>
<td>Bari</td>
<td>Cassano delle Murgue</td>
<td>3206.0</td>
</tr>
<tr>
<td>Bari</td>
<td>Bitonto</td>
<td>1959.0</td>
</tr>
<tr>
<td>Bari</td>
<td>Toritto</td>
<td>1923.0</td>
</tr>
<tr>
<td>Bari</td>
<td>Santeramo in Colle</td>
<td>864.0</td>
</tr>
<tr>
<td>Bari</td>
<td>Grumo Appula</td>
<td>627.0</td>
</tr>
<tr>
<td>Bari</td>
<td>Poggioirsini</td>
<td>127.5</td>
</tr>
</tbody>
</table>

The Park is mostly characterized by Mediterranean dry grasslands, rocky crests, sweet hill, sinkholes, karstic caves, scarps, natural pastures and cultivations, pine forests and oak woods (Figure 2). Here the perennial action of nature blends with the thousand years action of man who built fortified stone farmhouses, fences and sheepfolds, tanks, snow warehouses and endless network of dry stone walls. I am a farmer and my farm, called Lago Cupo, is an organic farm located in the Alta Murgia National Park. The farm, with 150 ha of arable land and 35 ha of pastures, is located 20 km far from Altamura and 30 km far from Ruvo di Puglia (Figure 3).

I and my father grow cereals (as wheat, barley and spelled) and legumes (lentil and chickpea) and also I have a herd of 50 sheep for the production of meat and wool. Thanks to the pastures in our farm, we breed lambs that are sold in local markets.

The expectations of the economic development of the operators who live within might thwart the conservative management of a protected territory of 68,000 ha, about half of which is made up of agricultural systems; it is therefore necessary to identify strategies of sustainable development that involve agricultural and zootechnician entrepreneurs who live and work in the Park and to share the goals. Several initiatives have come to my mind having different names:
Figure 2: Characteristic landscape of the Park (Picture by Dr Rocco Colamonaco)

Figure 3: Lago Cupo Farm (Picture by Dr. Rocco Colamonaco)

1. Management of the agroecosystems
2. PartnerSheep project
3. LIFE Alta Murgia project
4. Actions to provide for solution to the conflicted relationship that arise from presence of wild fauna and common agricultural and zootechnical activities.

Starting in 2010, the Alta Murgia National Park started a system of agreements providing economic contributions to farmers carrying on the following action:
- Burying of crop residues (instead of burning them);
- Growing at least three different arable crops (at the same time);
- Grazing or growing cover crops in the orchards;
- Cleaning the edges of country roads dirt;
- Maintenance of driveways and trekking paths identified by the Park;
- Purchase and installation of passive safety systems;
- Intervention related to the availability of potable water in the farm.

**Management of the agroecosystems**

This project developed in time, in fact in 2009, the demands by farmer were 121 EUR while in 2014 amounted to 370 EUR. Consequently the allocated funds increased from 350,000 EUR in 2009 to 1,800,000 EUR in 2014.

Since 2010, my farm has participated in the convention adhering to a series of actions listed here:
- Burying of crop residues;
- At least three crops;
- Cleaning the edges of dirt roads;
- Purchase and installation of passive safety systems;

**The burying of crop residues** can be run at the end of the crop cycle or late summer, it allows to increase the organic matter content and reduce the risk of accidental fires. The contribution of this operation is 50€ per ha.

**Growing three crops at the same time** - To receive the contribution of 600 EUR for this action, the farm must cultivate at the same time at least three different crops and one at least should be a leguminous species. In my case the contribution is increased to 1200 EUR because there are sheep in the farm that use leguminous species as fodder after harvesting.

**Cleaning of roadsides** - this must be done by cutting the herbaceous vegetation. This is to be carried on in late spring, in any case before the period of maximum risk of forest fires; after the cutting, the cleaning and the removal of the cut material must follow, in order to eliminate masses of highly flammable material. The contribution for this is 0.50 EUR / m.

**Purchase and installation of passive safety systems** - The contribution is equal to 40% of the documented costs up to a maximum of 5000 EUR. Only sheep breeders can access to this contribution. Following numerous thefts occurred on my farm, I installed a video surveillance system that thanks to contribution, cost me about 2000 EUR.

**PartnerSheep Project**

The aim of the project was to identify social and economic strategy for the rediscovery and promote of the use of the wool. The project was born from a first experience of a group of 30 farmers who, in 2010, with a cooperation project collected about 16,000 kg of wool. The Project was born and developed in 3 years 2012-2014, thanks to the collaboration between:
- Alta Murgia National Park
- the association "Murgia Viva"
- the center of collection "The Wool Company"
- the University of Bari "Aldo Moro".

The final aim of the first period of the project was to reduce in the business cost for shearing the wool. For the success of the project, it is very important the quality of the wool in the collection time. The wool has to be devoid of any animal droppings and of any kind of waste (Figure 4).
In Figure 5 you can see how the number of farms involved over the years in the project has increased and thus the amount of wool collection. In 2014 we collected 55,000 kg of wool from 108 farms. Wool collection was packed in special bags, branded with the logo of the *Alta Murgia National Park* and with the identification data of the farm. After this is delivered at the center of collection "*The Wool Company*" where it will be checked, processed and then sold (Figures 6).

Through this project, we breeders, sell larger quantities of wool getting sales price well above the past, also because by eliminating the middlemen, we manage to cover the cost of shearing. Now the project was completed, but we are working for the future, in fact we want to buy a press to reduce the cost of transport and also we want to produce objects with our wool to sell as souvenirs.

The LIFE Alta Murgia project

This four-year’s project has the objective to eradicate the invasive exotic tree species *Ailanthus altissima* from the Alta Murgia National Park (Figure 7). The species, commonly known as *Tree of Heaven or Ailanthus*, is one of the most harmful and widespread invasive woody species in Europe. It reaches the heart of protected areas and spreads across the natural environment rapidly and spontaneously, producing reproductive offspring in very large numbers. In recent years, the species has spread and multiplied at a rapid rate in Italy (Figure 8).

Innovative techniques with low environmental impact will be used, in order to reduce ailanthus spread and negative impact within the protected area, preserve and restore natural habitats from woody invasive species colonization. To eradicate ailanthus, the herbicide shall be applied through localized low volume treatments to avoid herbicide dispersal in the environment.
The most suitable application techniques are:

- Cutting of the stumps
- Cut spaced with sponge
- Injections
- Endotherapy (for bigger trees)

Cutting of the stumps - This technique consist to cut the trunk at its base and apply the herbicide on the fresh cut surface, cut the timber into pieces and remove them from the ground to avoid resprouts (Figure 9).

_Cut spaced with sponge_ - This technique consist to make downward 3 - cm cuts spaced around the stem and insert in each one small piece of sponge on which to apply 2-3 ml of herbicide by a syringe (Figure 10).

Injections and endotherapy - This technique consist to make one deep downward drill hole at the base of the trunk every 15 cm of circumference, and fill it with the erbicide by a syringe. This technique is recommended for a big plants and consist in a localized injections into the trunks using a specific equipment for endotherapy (Figures 11 and 12).
The Jazzo project

In my farm, there were many plants of ailanthus that prevented the use of an old “Jazzo” used in the past for the breeding sheep. Thanks to the “Jazzo” project my property has been cleaned up and is now ready to be used again as was done in the past. This intervention was entirely borne by the Park and therefore was not charged on my farm’s budget. Also the big logs obtained from cutting trees are now used for heating my home (Figure 13).

Actions to solve conflicts coming from the interaction between wildlife and agriculture / livestock activities

This Project concerns a special set of problems related to the presence of wild boars and wolfs. This is a constant topic of discussion through projects funded by the Ministry of the Environment, the interventions for the protection of cultivations through the granting of aid for the installation of electrified fence against wild boars, and the adoption of Abruzzese sheepdogs, the only Italian race able to protect flocks from wolfs.

In last years, my farm obtained several grants in consequence of the damages made by wild boars to my cultivations. Finally, I received 1000 EUR of grant covering the damage coming from the assault of a wolf to my flock, that caused the death of 10 ovine. For that reason I have asked to adopt two Abruzzese sheepdogs that were delivered just a few months ago.

The Alta Murgia National Park consist of a territory of high agricultural and zootechnical interest. The actions we presented, are of considerable economic help for all the farmers, but as well a way to manage the territory respecting its culture. Much can be done for the territory and the farmers, to
better integrate both of them in the rural development of the Park. As farmers, first of all, we ask help to solve robberies that are taking place, an ever increasing problem in our areas. The second issue is the problem of the abandoned wastes on the edges of the streets, a sore for our territory. My suggestion is to solve these problems by increasing controls on the whole territory, to increase security of people living in the countryside and also to ensure that our landscape is not to be not ruined by mountains of dangerous wastes scattered here and there.

Thank you for the attention. For more information about the Alta Murgia National Park, please visit the web site http://www.parcoaltamurgia.gov.it.