

## Innovative Actions Against Illegal Poisoning in Protected Areas of Crete

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### Abstract

In the framework of LIFE+ Biodiversity project on “Innovative actions against illegal poisoning in EU Mediterranean pilot areas” [LIFE09 NAT/ES/000533], the Spanish organization “Fundación Gypaetus”, acting as coordinating beneficiary, along with the Portuguese partners “Quercus” and “Centro de Estudos da Avifauna Ibérica” (CEAI) and the Greek partners “Arcturos” and “University of Crete – Natural History Museum of Crete” (NHMC), are implementing specific actions on this issue since October 2010 for a 5-years’ project. The main goal of the project is to evaluate and spread the effectiveness of several innovative actions based on voluntary agreements with the main rural groups related with the fight against the illegal use of poisoned baits (municipalities, hunters, stockbreeders, etc.). Thanks to the demonstrative character of the foreseen actions, it is expected to relevantly improve the current anti-illegal poisoning strategies and so diminish the biodiversity loss related with this malpractice at EU level. In Crete, Greece, the project is being implemented in Eastern Mountains of Crete (pilot area GR-2), more specifically the following NATURA 2000 protected areas: Idi Oros (GR4330005), Asterousia (GR4310005) and Dikti (GR4320002). Among other innovative actions, the establishment of three (3) European networks against illegal use of poisoned baits, i.e. stockbreeders (ENSPAIP), municipalities (ENMAIP) and hunters / hunting associations (ENHAIP), will be under short presentation, as far as their design and operation is of concern. Results and constrains of the operation of these networks will be also under consideration. Finally, a brief description of other innovative actions and actions of public awareness will be briefly presented.

### Keywords

Crete, poisoned baits, biodiversity, innovative actions, European networks against illegal poisoning, LIFE+ Biodiversity project.

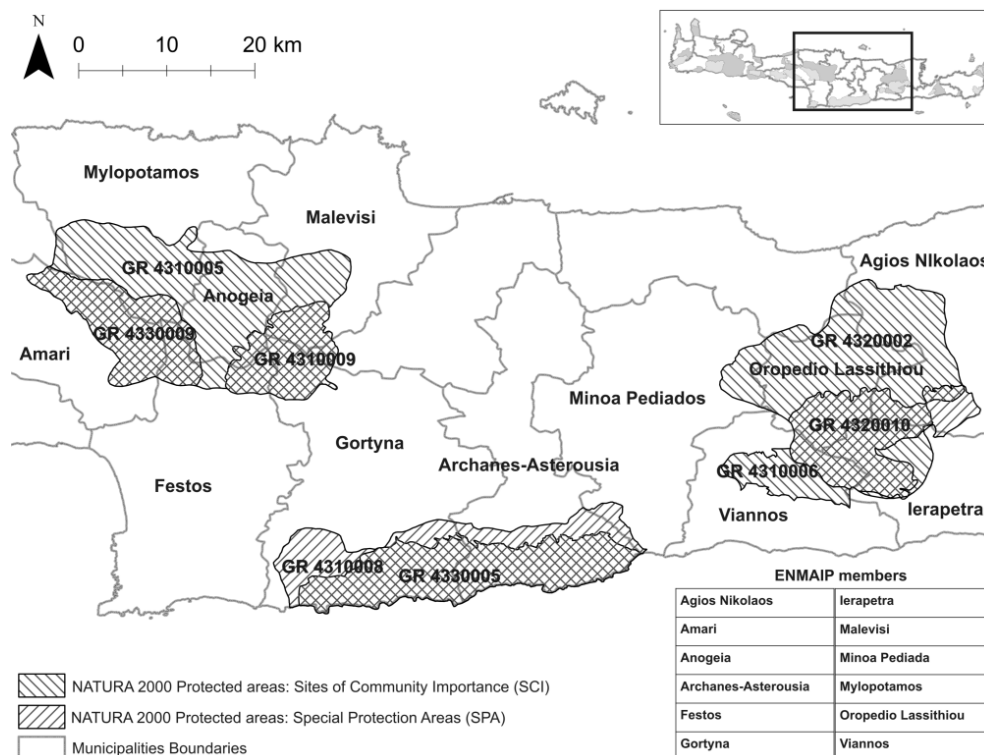


Figure 1: Map of the pilot area GR-2 and list of Municipalities involved in the LIFE+ Biodiversity project on “Innovative actions against illegal poisoning in EU Mediterranean pilot areas”. © NHMC

## Introduction

The illegal use of poisoned baits is a harmful practice for the environment and for the preservation of biodiversity. In addition, it can be a potential source of negative effects for public health. The main purpose of LIFE+ Biodiversity project on “Innovative actions against illegal poisoning in EU Mediterranean pilot areas” [LIFE09 NAT/ES/000533] is to contribute to the minimization and/or eradication of illegal use of poisoned baits with the implementation of a series of innovative actions. In total, the program evolves 8 pilot areas in Spain, Portugal and Greece. Specifically in Crete, Greece, the project is being implemented in Eastern Mountains of Crete (pilot area GR-2: see relevant map, Figure 1). Main actions of the program include the following: a) establishment of three (3) European Networks against illegal poisoning, b) formation and function of a European Canine Team, c) monitoring and evaluating the use of illegal poisoned baits with bioindicator species, d) communication –public awareness actions, and e) promotion of the participation of social stakeholders.



Photo 1: Stockbreeder – member of the “European Network of Stockbreeders Against Illegal Poisoning” (ENSAIP) with the identification plaque placed in his establishment. © NHMC

## Methods and Results

### European Networks Against Illegal Poisoning

A contract with the “Group of Producers Stockbreeders of Crete – KRITIKA MITATA” was signed on October 2011, for assisting in the establishment and function of the “European Network of Stockbreeders Against Illegal Poisoning” (ENSAIP) in Crete. The duration of the contract is 2 years (ending on July 2013). During November 2011, an official meeting was organized with the “Association of Professional Stockbreeders of the Prefecture of Heraklion” (SEKNH) and “KRITIKA MITATA”, for coordination of their activities. Both organizations signed the relevant contract for their support in ENSAIP and the project. So far, 34 stockbreeders in the pilot area GR-2 have become members of the ENSAIP, while more than 100 questionnaires have been distributed in the whole area for expressing interest of joining the network. The network is operative since May 2012. All stockbreeders participating in the ENSAIP have been provided with relevant signs for their establishments (see Photo 1).



Photo 2: Representative of the “European Network of Municipalities Against Illegal Poisoning” (ENMAIP) during the collection of the identification plaque. © NHMC

Moreover, contracts of commitment have been signed between the University of Crete – NHMC and all the 12 municipalities in the pilot area (pilot area GR-2: see relevant map, Figure 1), thus creating the “European Network of Municipalities Against Illegal Poisoning” (ENMAIP) in Crete. The network ENMAIP is operative since March 2012. All members of ENMAIP have been provided with relevant signs to be hanged in visible places of municipal offices (see Photo 2).



Photo 3: Meeting with members of the “European Network of Hunting Areas, Hunting Associations and Hunters Against Illegal Poisoning” (ENHAIP). © NHMC

Also, the University of Crete – NHMC has already made discussions with the 1<sup>st</sup> Hunting Confederation of Crete and Dodecanese (AKOKD). Contacts have been already made with individual hunters and most of the Hunting Associations of Crete (total number: 17) for informing them about the project and the “European Network of Hunting Areas, Hunting Associations and Hunters Against Illegal Poisoning” (ENHAIP) in Crete. Except AKOKD, members of ENHAIP are already 7 Hunting Associations of Crete, and the network is operative since March 2012 (see Photo 3).

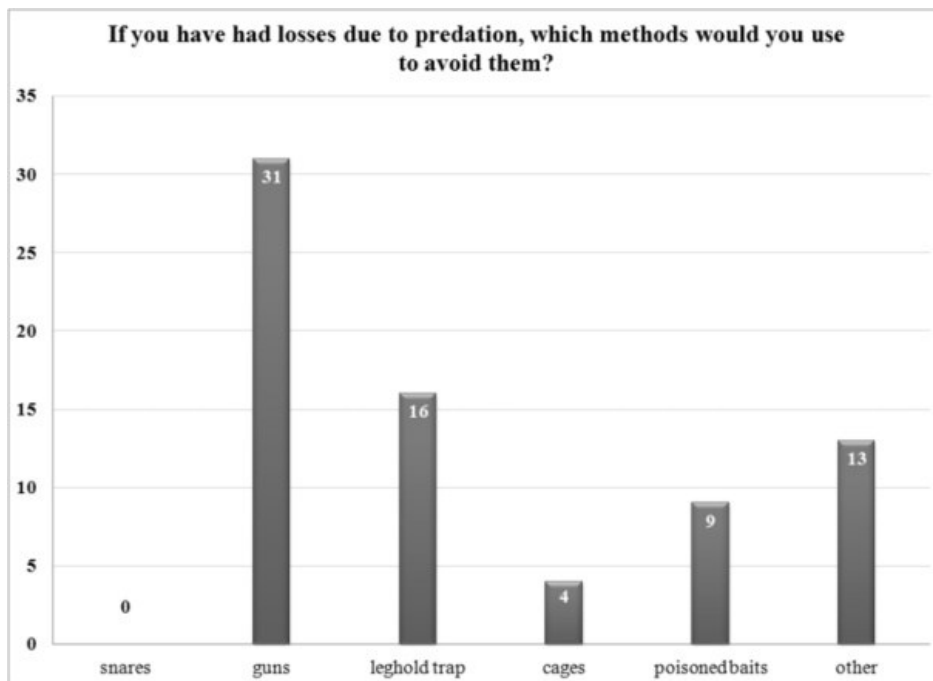


Figure 2: Answers provided by stockbreeders of Crete to the question: “Which method would you implement for controlling predation of stock from wild animals?” © NHMC

In order to acquire an overall idea of the difficulties and problems that stockbreeders and hunters of the pilot areas may face, questionnaires were handed out to them. In total, 95 stockbreeders and 45 hunters answered the questionnaires. For stockbreeders, results show that the most popular method implemented for controlling predation of their stock from wild animals is the use of firearms, while a lower percentage would use poisoned baits (Figure 2). Moreover, when hunters were questioned which method is the most effective for controlling the predators the majority answered use of guns, poisoning and traps (Figure 3).

Also, within the framework of the LIFE+ Biodiversity project, University of Crete – NHMC in collaboration with members of the three networks, namely ENSAIP, ENMAIP and ENHAIP, has scheduled to make workshops in the pilot area. In addition, public events are held in order to raise awareness among local communities on the consequences of illegal use of poisoned baits in biodiversity and its importance on the sustainable development of the island.

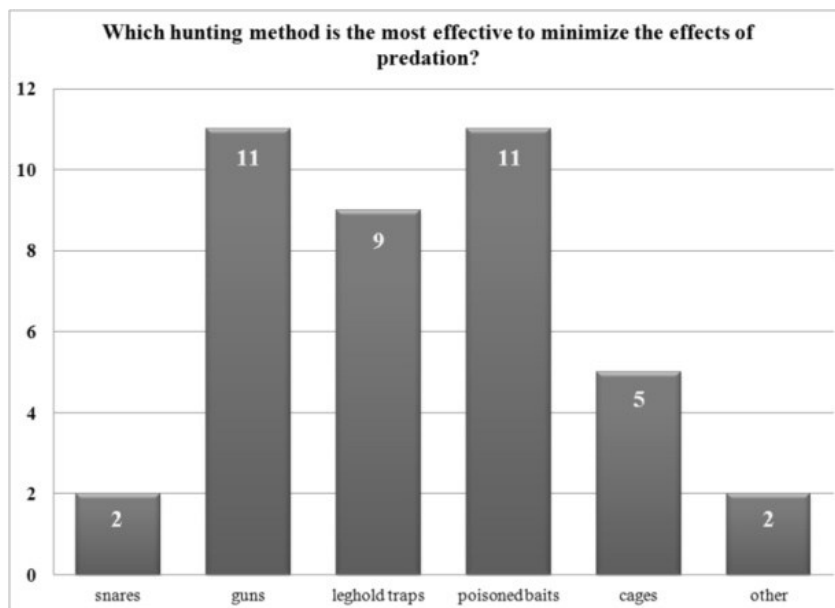


Figure 3: Answers provided by hunters of Crete to the question: “Which method is more effective for controlling predators?” © NHMC

In this direction, several conferences have already been organized in the framework of the LIFE+ Biodiversity project in the pilot areas of Crete (Eastern Crete Mountains: Idi, Asterousia, Dikti). For example, the Meeting entitled «Stockbreeding and Biodiversity» was recently conducted (13<sup>th</sup> of February 2013). “SEKNH” and “KRITIKA MITATA” were the two main participants as members of the ENSAIP. The objective of this pilot action was to highlight the problem of illegal use of poisoned baits, their impact on biodiversity and its connection to the conservation and development of primary sector of Crete and especially to livestock breeding. Moreover, the major problems concerning the stockbreeders were discussed. The crucial role of a healthy environment in the sustainability of stockbreeding was analyzed. Finally, the importance of biodiversity in agricultural food chain, on economic development (e.g. tourism) and on social cohesion (e.g. by strengthening the image of stockbreeders in local communities) was pointed out (see Photo 4).



Photo 4: Meeting on «Stockbreeding and Biodiversity» with stockbreeders (members of the ENSAIP), within the framework of LIFE+ Biodiversity project. © NHMC

Another action to raise public awareness in the framework of the LIFE+ Biodiversity project was the 2-days’ festival themed “Environment-Crisis-Development” (23-24 February 2013). The University of Crete – NHMC in cooperation with the Municipality of Agios Nikolaos participated in this event with an information kiosk. The main goal of the information kiosk was to inform the citizens and visitors of the Municipality of Agios Nikolaos on the impacts of illegal use of poisoned baits on biodiversity and public health. In addition, they were acquainted with the environmental activities of the Municipality of Agios Nikolaos as a member of the ENMAIP. Visitors had the chance to learn about the problems of illegal poisoning use by representatives of the ENMAIP and the University of Crete – NHMC. Moreover, they were supplied with information material and were given the opportunity to exchange ideas and thoughts on the reduction and/or elimination of the illegal use of poisoned baits in their area (see Photo 5).

**European Canine Team (ECT)**

One of the most important aspects of the LIFE+ Biodiversity project is the inspection of the pilot areas from trained dogs specialized in identifying poisoned baits. During the periods 18-30 October 2011 and 20-31 October 2012, the University of Crete –NHMC coordinated two official inspections of the European Canine Team (ECT) from Spain, Andalusia. The European Canine Team was consisted by 1-2 dog trainers and 3-4 dogs (Labrador and Belgian Malinois pedigrees). They visited areas with intense hunting activity and tried to detect dead animals and baits. The whole operation was monitored and supported by the local Forestry Departments and Hunting Associations. During the first visit in 2011, the inspections took place in the Prefectural Units of Heraklion and Lasithi. During the second visit in 2012 the Prefectural Unit of Rethymno was searched as well. These areas were selected according to the instructions of the Hunting Associations reliant on the losses of hunting dogs and on the use of poisoned baits during the last 2 years and also with the assistance and guidance of local Forestry Departments. The relevant routes followed and areas visited by the ECT and colleagues from NHMC are shown in Figures 4a & 4b (routes for October 2011 and October 2012, respectively).



Photo 5: Participation in the Festival “Environment-Crisis-Development”, in cooperation with the Municipality of Agios Nikolaos (member of the ENMAIP), within the framework of LIFE+ Biodiversity project. © NHMC

In 2011, the European Canine Team detected 11 dead animals: 1 marten (*Martes foina*), 2 domestic cats (*Felis catus*), 6 hunting dogs (*Canis familiaris*) and 2 hedgehogs (*Erinaceus concolor*), and moreover identified 6 poisoned baits and one loop (snare). The following year, the trained dogs found 32 dead animals: 1 vulture (*Gyps fulvus*), 8 martens (*Martes foina*), 8 domestic cats (*Felis catus*), 12 hunting dogs (*Canis familiaris*), 2 hedgehogs (*Erinaceus concolor*) and 1 snake (*Telescopus falax*), while they identified 45 poisoned baits (see Photos 6a-d).

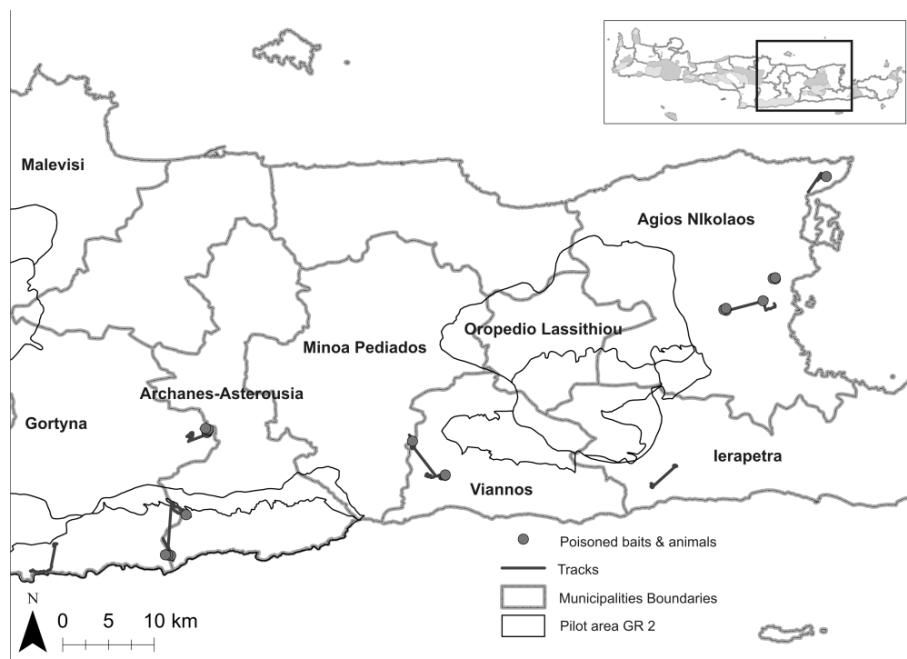


Figure 4a: Routes of the European Canine Team (ECT), poisoned baits and poisoned animals found during the inspection of October 2011 in Crete. © NHMC

The conclusions of these inspections and the on-the-spot fieldworks indicated that the use of poisoned baits is mainly used by: a) stockbreeders to control small mammals and hunting dogs (feral or not) that they prey or scatter the flocks, b) hunters at the hunting areas in order to discourage the hunting activity, due to competitive or dispute reasons, and c) beekeepers against bee predators (e.g. wasps). In addition, the number of poisoned raptors brought forward to the NHMC and the Wildlife Rehabilitation Centres due to secondary poisoning, in combination with the increase of poisoning incidences, coincides with the training period of hunting dogs, few weeks before the beginning of hunting season (August-September), and the period of birth of sheep (October-December) when poisons are used against predators, mainly ravens (*Corvus corax*).



Figure 4b: Routes of the European Canine Team (ECT), poisoned baits and poisoned animals found during the inspection of October 2012 in Crete. © NHMC

Other innovative actions against illegal poisoning

Another action in the framework of the LIFE project is the creation of a special telephone line where citizens of Crete can call without charge for complaints, information and advices for all cases of illegal poisoning of wild animals. The objective of the operation of this telephone line is the provision of direct assistance to poisoned animals, as well as the encouragement of local community to participate in the project, for becoming more efficient the establishment and operation of the foreseen networks against illegal poisoning (municipalities, stockbreeders and hunters). The line is operational since August 2012.

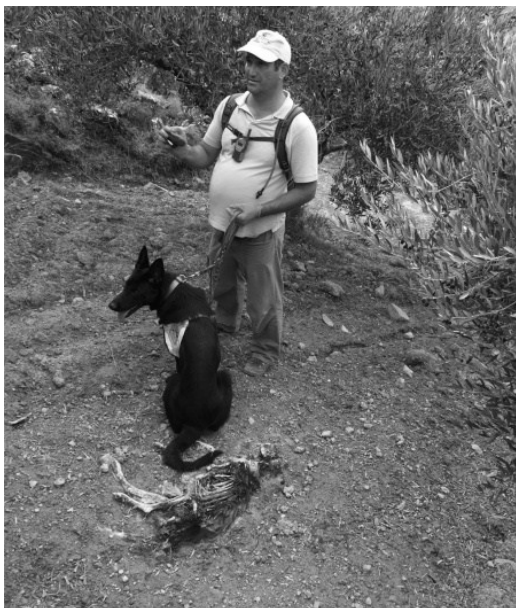


Photo 6a: Visit of the European Canine Team in Crete, October 2011. © Jesus Lopez / NHMC

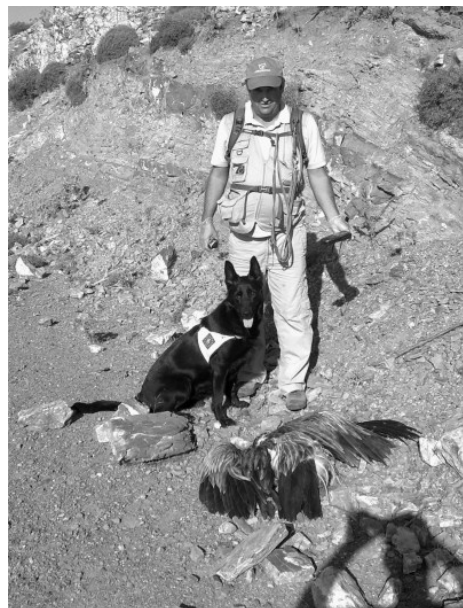


Photo 6b: Visit of the European Canine Team in Crete, October 2012. © M. Filippakis / NHMC



Photo 6c: Visit of the European Canine Team in Crete, October 2012. © Jesus Lopez / NHMC



Photo 6d: Visit of the European Canine Team in Crete, October 2012. © Jesus Lopez / NHMC

Moreover, important part of the project is to raise awareness of the illegal poisoning issue to school children. Thus, on a yearly basis, 15 visits to schools of the pilot areas are implemented (see Photo 7). A brief presentation of the project is presented and the effects of the illegal use of poisoned baits on wildlife, biodiversity and public health are discussed. In addition, the children have the opportunity to share their own experiences on the illegal use of poisoned baits and solve any queries they may have. So far, the visits of the years 2011 and 2012 are complete, while for 2013 the demand for presentations has exceeded the project's expectations.



Photo 7: Presentation of LIFE+ Biodiversity project to schools in Crete. © NHMC

In addition, a Quarterly Electronic Newsletter is uploaded in the official site of NHMC (<http://www.nhmc.uoc.gr/el/programs/life-poisons>) and also distributed to more than 300 electronic addresses all over Greece. The first issue was published in the first quarter of 2012. The aim of this online edition is to inform the public about the activities such as workshops, festivals and conferences of the LIFE project, as well as results of all actions that are being implemented in Crete, on a quarterly basis.

Finally, the release of technical guidelines for the: a) Control of Predation in Hunting Areas / Improvement of the Hunting Management in the ENHAIP, b) Control and Management of Feral Dogs and Cats, and c) Predation Minimization in Livestock Farms are under preparation.

## Discussion & Conclusion

Regarding the ENSAIP and ENHAIP networks, the University of Crete – NHMC continues the efforts to expand them, with a larger number of participants to both direct (personal contact) and indirect contacts (disclosure, information material, telephone, etc.). The ENHAIP network has not been yet fully structured and operated, due to the fact that Hunting Associations and hunters have not been persuaded for the necessity of this network, while some hunters are not fully convinced for the problem of illegal poisoning or they are not fully aware on environmental issues. In the following months we will intense our efforts for having more members participating in the ENHAIP network, with emphasis given to the remaining 10 Hunting Associations of Crete.

Moreover, we are planning to provide anti-illegal poisoning tools to livestock owners of the ENSAIP network. Such tools include the provision of shepherd dogs, stray animal control management and free legal consulting on poisoning related issues. Also, we will provide an evaluation of illegal poisoning activity in the pilot areas by means of monitored bioindicator species. For completing the monitoring of bioindicators, we have already requested a trapping and tagging permission from the Greek Ministry of Environment, Energy & Climate Change. The selected target species are: the Bearded Vulture (*Gypaetus barbatus*), the Griffon Vulture (*Gyps fulvus*), the Common Buzzard (*Buteo buteo*), the Beech Marten (*Martens foina*), the Long-eared Owl (*Asio otus*), the Common Raven (*Corvus corax*) and the Golden Eagle (*Aquila chrysaetos*). So far, one individual of *Gypaetus barbatus*, seven individuals of *Asio otus*, five individuals of *Gyps fulvus* and ten individuals of *Corvus corax* have been tagged.

Up until now, we have extracted results from the questionnaires distributed to stockbreeders and hunters of the pilot area. This has provided us with a general idea on what problems they encounter and how they address such difficulties. A following step is to gather and analyze the questionnaires which have been distributed to the personnel of municipalities and public services that have experience in environmental issues. This will grant us with another perspective concerning the problem of illegal use of poisoned baits.

To sum up, stockbreeding and good hunting practices are fully compatible with biodiversity and the conservation of natural protected areas, while they can strengthen local economy. Nevertheless, bad practices may lead into a threat for biodiversity and farming activity, while a negative contribution to game management can also be established. In order to avoid these complications, several actions have been created by the LIFE+ Biodiversity project. The University of Crete – Natural History Museum of Crete (NHMC) continues its activities in the pilot area of Eastern Crete Mountains (Idi, Asterousia and Dikti), in the framework of the LIFE+ Biodiversity project on “Innovative Actions Against Illegal Poisoning in EU Mediterranean Pilot Areas” [LIFE09 NAT/ES/000533]. As pointed out before, among the innovative actions are communication with media in local and national level and divulgation activities for local stakeholders and the general public. Future perspectives include the production and distribution of more information material for the general public, stakeholders and the three networks, the organization of several different demonstration activities addressed to specific target groups, the implementation of a series of technical and scientific workshops on issues related to poisoning and effects on biodiversity, as well as the evaluation of illegal poisoning activity in the pilot area in Crete.

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