LIFE AMYBEAR (LIFE15 NAT/GR/001108)

Action D1. Follow-up surveys on stakeholder perceptions and behavior

Scenarios of adopting best practice

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Summaries in English and Greek

Summary

Action D1 (Follow-up surveys on stakeholder perceptions and behavior) aims to develop and critically examine a set of scenarios for stakeholder collaboration for the adoption of best practice in bears approaching human settlements (including the Bear Emergency Team and waste management), establishment and operation of electric fences and establishing a stock breeder network for exchanging livestock guarding dogs. To this end, the mixed-motive perspective delivered in Action C1 (Stakeholder consultation and involvement) has been exploited by the Coordinator of Actions C1 and D1 for the development of draft scenarios, which are presented in this deliverable. It should be highlighted that these scenarios have not yet been finalized. Scenarios will be critically examined in terms of their feasibility during Action D1, under the feedback of thematic groups with participation of stakeholder members. Thematic groups will continue their operation throughout Action D1, under the leadership and guidance of the Coordinator of Action D1, in order to contribute with stakeholder feedback in the implementation of best practice. Another point το be highlighted is that the content of this deliverable has been incorporated in a manuscript published in *Frontiers in Ecology and Evolution* (Hovardas, 2020)[1], where the rationale for all human dimension actions of LIFE-AMYBEAR is exemplified.

Περίληψη

Η Δράση D1 (Παρακολούθηση αντιλήψεων και συμπεριφορών εμπλεκόμενων κοινωνικών ομάδων/ενδιαφερόμενων μερών) αποσκοπεί στην ανάπτυξη και κριτική επισκόπηση μιας σειράς σεναρίων για τη συνεργασία των εμπλεκόμενων κοινωνικών ομάδων/ενδιαφερόμενων μερών με αντικείμενο την υιοθέτηση βέλτιστων πρακτικών ως προς την προσέγγιση των αρκούδων σε οικισμούς (συμπεριλαμβανομένης της Ομάδας Άμεσης Επέμβασης και τις διαχείρισης απορριμμάτων), την εγκατάσταση και λειτουργία ηλεκτροφόρων περιφράξεων και την οργάνωση ενός δικτύου κτηνοτρόφων για την ανταλλαγή σκύλων φύλαξης κοπαδιών. Προς την κατεύθυνση αυτή, η στρατηγική μικτών κινήτρων που έχει ολοκληρωθεί στο πλαίσιο της Δράσης C1 (Διαβούλευση και συμμετοχή κοινωνικών εταίρων), έχει αξιοποιηθεί από τον Συντονιστή των Δράσεων C1 και D1 για την ανάπτυξη του προσχεδίου των σεναρίων, το οποίο παρουσιάζεται στο παρόν παραδοτέο. Πρέπει να σημειωθεί ότι τα σενάρια αυτά δεν έχουν λάβει ακόμη την τελική τους μορφή. Τα συγκεκριμένα σενάρια θα υποστούν κριτική επεξεργασία ως προς την εφαρμοσιμότητά τους κατά τη διάρκεια της Δράσης D1 στο πλαίσιο των θεματικών ομάδων με τη συμμετοχή μελών των εμπλεκόμενων κοινωνικών ομάδων/ενδιαφερόμενων μερών που θα παρέχουν σχετική ανατροφοδότηση. Οι θεματικές ομάδες θα συνεχίσουν τη λειτουργία τους στη Δράση D1, υπό την εποπτεία και καθοδόγηση του Συντονιστή της δράσης, ώστε να συνεισφέρουν με την παροχή ανατροφοδότησης από τις εμπλεκόμενες κοινωνικές ομάδες/ενδιαφερόμενα μέρη στην υλοποίηση των βέλτιστων πρακτικών. Ακόμη ένα σημείο που πρέπει να επισημανθεί είναι ότι το περιεχόμενο αυτού του παραδοτέου έχει συμπεριληφθεί σε μια εργασία που δημοσιεύτηκε στο επιστημονικό περιοδικό *Frontiers in Ecology and Evolution* (Hovardas, 2020)[2], όπου παρουσιάζεται η συνολικότερη προσέγγιση όλων των δράσεων των κοινωνικών διαστάσεων (human dimension actions) του προγράμματος LIFE-AMYBEAR.

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[1] The manuscript is open-access and can be downloaded from https://www.frontiersin.org/articles/10.3389/fevo.2020.525278/full.

[2] Η εργασία είναι ελεύθερα προσβάσιμη στον σύνδεσμο https://www.frontiersin.org/articles/10.3389/fevo.2020.525278/full.

1. Introduction

Action D1 (Follow-up surveys on stakeholder perceptions and behavior) aims to develop and critically examine a set of scenarios for stakeholder collaboration for the adoption of best practice in bears approaching human settlements (including the Bear Emergency Team and waste management), establishment and operation of electric fences and establishing a stock breeder network for exchanging livestock guarding dogs. The main objective of this action is to scaffold a participatory scenario development procedure, where stakeholder feedback and input is sought for monitoring the adoption of best practice. The scenarios will be used as a basic tool for steering stakeholder interaction and resource allocation, while they will be also decisive in taking corrective action, anytime this will be needed. Such a provision will be operationalized by means of thematic groups, which have been established in Action C1 (Stakeholder consultation and involvement) and will continue their operation throughout Action D1. An added value of the approach described is that it may empower local stakeholders for taking ownership of the whole process and plan future interventions in the project area accordingly.

Scenarios have the form of short storylines describing possible futures under certain assumptions, primarily, resource allocation for accomplishing certain goals (e.g., Haatanen et al., 2014). Given that future developments often involve a high degree of uncertainty, future conditions may not be readily discernable as projection from the present context and current expectations (see for instance, Peterson et al., 2003). Given this challenge, the main rationale of scenario development is not to forecast the future but to help stakeholders plan their joint action and coordinate resource allocation and investment to pursue common goals (Kok et al., 2007). Thereby, different scenarios can be formulated under varying stakeholder input (Varum & Melo, 2010). When elaborated upon within the frame of a participatory approach, scenarios can comprise a collaborative artefact committing stakeholders in working together (e.g., Newig, 2011). Such a commitment is a necessary starting point for acknowledging unsustainable baseline conditions and the need to adopt best practice for moving away from these current, unsustainable conditions.

2. Methods

The background material on which the development of draft scenarios has been based includes the reports of the workshops, the report of questionnaire analysis and the first meetings of thematic groups in Action C1 (Stakeholder consultation and involvement). These documents led to the mixed-motive perspective templates completed in Action C1, which then have been further processed by the Human Dimensions (HD) Expert responsible for Actions C1 and D1 to develop the draft scenarios presented in this deliverable[3]. For each topic (bears approaching human settlements, including the Bear Emergency Team and waste management, establishment and operation of electric fences and establishing a stock breeder network for exchanging livestock guarding dogs), four different scenarios have been drafted. These escalate in terms of stakeholder input and resources needed, and present a gradient from the current situation to an ideal case of stakeholder collaboration with maximum resource allocation for adoption of best practice. A first, "business-as-usual" scenario, is a projection of the current conditions and stakeholder relations in the future. The "small-effort" scenario describes an adoption of best practice, which is small-scale, but,

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[3] The content of this deliverable has been incorporated in a manuscript published in *Frontiers in Ecology and Evolution* (Hovardas, 2020), where the rationale for all human dimension actions of LIFE-AMYBEAR is exemplified: https://www.frontiersin.org/articles/10.3389/fevo.2020.525278/full.

nevertheless, demarcates a departure from "business-as-usual". The "high-effort" scenario involves an increased investment allocated by stakeholders to adopt best practice. The "best-case" scenario depicts an ideal future situation. Although this may not be readily achievable, it is instrumental in steering stakeholder interaction towards future investments and needs to be also included in the template. It should be highlighted that the draft scenarios presented in this deliverable have not yet been finalized. Scenarios will be critically examined in terms of their feasibility during Action D1, under the feedback of thematic groups with participation of stakeholder members. Thematic groups will continue their operation throughout Action D1, under the leadership and guidance of the Coordinator of Action D1, in order to contribute with stakeholder feedback in the implementation of best practice.

3. Participatory scenario development for bears approaching human settlements

Table 1 presents draft scenarios for bears approaching human settlements. It showcases how stakeholder collaboration can be steered, under increasing input and resources, to move toward the accomplishment of shared goals across a set of themes. A first necessary step to depart from business-as-usual in how the Bear Emergency Team (BET) works is that the team is properly equipped and team members are properly trained to use equipment effectively (Table 1; BET; Small-effort scenario). This is expected within the frame of LIFE AMYBEAR. A more demanding adjustment is necessary so that stakeholders incorporate the operation of the BET in their organizational structure, which will allow for a timely and effective mobilization of the team (Table 1; BET; High-effort scenario). The best-case scenario for the BET will also encompass keeping a record of the events it has handled, namely, collecting data across an array of pre-specified parameters for each emergency situation. Such a detailed documentation will enable the examination of these events and the regular update of the decision trees currently determining how the BET works. Practical knowledge on how to react in a human–bear encounter was also underlined by stakeholders as a priority theme for joint action. Here, a good practice guide needs to be developed by experts and made available to stakeholders (small-effort scenario). Ideally, the refinement and update of this practical knowledge should not only build on expert input alone but engage local stakeholders, who may ultimately take ownership of the process. In the themes of waste management systems and forest management plans, scenarios foresee a gradual progression toward integrated planning at the landscape level.

4. Participatory scenario development for electric fences

Table 2 summarizes scenarios drafted for the topic of electric fences across four different themes: (1) supply and demand, (2) local context, (3) eligibility, and (4) outreach. A challenge for supply and demand is if equipment necessary for setting up a fence could be locally manufactured and certified. A next challenge is if local institutions could own and manage electric fences, so that they could experiment with different devices and installations to improve this damage prevention method. With regard to the local context, stakeholders would benefit from a good local practice guide, which would ideally be incorporated into an integrated planning at the landscape level. In terms of eligibility, stakeholders should examine the odds of adding electric fences as a measure in the Greek Rural Development Programme as well as explore additional funding sources to ensure that all different types of producers are covered. A more demanding planning would take damage prevention as a prerequisite for compensation. Finally, the planning and execution of outreach would preferably engage stakeholders or even be managed by stakeholders themselves.

5. Participatory scenario development for livestock guarding dogs

The scenarios drafted for the topic of livestock guarding dogs (LGDs) related to (1) the local LGD network; (2) veterinarian care, nutrition, and training; (3) illegal poisoned baits; and (4) dog breeds (Table 3). With regard to the local LGD network, a small-effort scenario was organized around the relevant action in LIFE AMYBEAR, with stockbreeders entering the network after an eNGO initiative. Given that more input and resources could be recruited, the local network could gradually be co-managed or even taken over by local stakeholders themselves A closely related theme was veterinarian care, nutrition, and training, for which low-cost guidelines could be readily developed and made available. A more extended institutional support could be provided to stockbreeders for monitoring good practice in veterinarian care, nutrition, and training (e.g., local authorities, veterinarians employed by competent authorities at the regional level). The best-case scenario here would be based on good practice being established as a social norm among stockbreeders. A similar end result was envisaged for banning illegal poisoned baits. This scenario could start from an agreement, which all competent institutions were ready to sign, and progress through a drop in the use of this practice, to an effective sanctioning of illegal poisoned baits by social norms. A last theme was related to a trend observed lately when some stockbreeders got big dogs from breeds developed in foreign countries. This was preferred as a supposedly safer, lump-sum investment on getting these big dogs over a more risky longer-term commitment to the LGD network. A relatively small-effort priority in this case was to avoid mixing other breeds with the local breed of LGDs in reproduction, so that the gene pool of local LGDs is not degenerated. High-effort and best-case scenarios once again involved social norms in acknowledging breeds of LGDs developed and maintained locally as more effective in preventing damage from bears than other breeds as well as establishing local LGD breeds as necessary and sufficient for preventing damage.

6. References

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Table 1. Template for participatory scenario development for bears approaching human settlements

Themes	Business-as-usual scenario	Small-effort scenario	High-effort scenario	Best-case scenario
Bear Emergency Team (BET)	The BET lacks necessary equipment and may not always act as timely as needed	The BET is properly equipped and its members are trained to use equipment effectively	Competent institutions proceed to all necessary adjustments so that the BET operates timely	The BET is equipped, acts timely, and keeps a record of pre-specified parameters for each event
Practical knowledge on how to react in a human-bear encounter	Stakeholders lack practical knowledge on how to react in a human-bear encounter	Good practice guide developed by experts and made available to local stakeholders	Stakeholder engagement in revisiting and regularly updating good practice	Stakeholder ownership of the processes needed to revisit and regularly update good practice
Waste management systems	Waste management systems not adapted to prevent bears from feeding on garbage	Bear-proof garbage containers developed and established in pre-selected points	Bear-proof garbage containers effectively integrated in waste management systems	Waste management systems redesigned to address integrated planning at the landscape level
Forest management plans	Forest management plans include measures for increasing the provision of natural food sources for bears in forests	Spatial information integrated in updating forest management plans	Stakeholder engagement in updating forest management plans	Forest management plans updated to address integrated planning at the landscape level

Note: Scenarios have not yet been finalized by stakeholders in the LIFE-AMYBEAR project area; this table features as Table 3 in Hovardas (2020).

Table 2. Template for participatory scenario development for electric fences

Themes	Business-as-usual	Small-effort	High-effort	Best case
Supply and demand	Local demand not satisfied	Local demand satisfied by imported equipment	Equipment manufactured locally and certified	Number of electric fences owned, managed and improved by local institutions
Local context	Local context not adequately addressed	Good local practice guide developed and made available to stakeholders	Stakeholder engagement in revisiting and regularly updating good local practice guide	Good local practice guide incorporated into an integrated planning at the landscape level
Eligibility	Eligibility covering registered producers only in different calls	Eligibility covering registered producers in the frame of the Greek Rural Development Programme	Using additional funding to cover all producers	Damage prevention as prerequisite for compensation
Outreach	Outreach not planned	Outreach planned and executed by competent authorities	Stakeholder engagement in outreach planning and execution	Outreach planning and execution taken over by stakeholders

Note: Scenarios have not yet been finalized by stakeholders in the LIFE-AMYBEAR project area; this table features as Table 6 in Hovardas (2020).

Table 3. Template for participatory scenario development for livestock guarding dogs (LGDs)

Themes	Business-as-usual	Small-effort	High-effort	Best case
Network for exchanging livestock guarding dogs	Stock breeders enter the network after an eNGO initiative	Stakeholder interaction for sustaining good practice in the local LGD network	Stakeholder engagement in managing the network for exchanging LGDs	Stakeholder ownership of the network for exchanging LGDs
Veterinarian care, nutrition, and training	Veterinarian care, nutrition, and training incomplete and/or incorrect	Low cost guidelines developed and made available to stakeholders for good practice in veterinarian care, nutrition, and training	Institutional support provided to stock breeders for monitoring good practice in veterinarian care, nutrition, and training	Good practice in veterinarian care, nutrition, and training established as a social norm among stock breeders
Illegal poisoned baits	Illegal poisoned baits threaten livestock guarding dogs and wildlife	Competent institutions sign an agreement for banning illegal poisoned baits	Illegal poisoned baits drop in frequency and range	Illegal poisoned baits effectively sanctioned by social norms
Dog breeds	Some stock breeders obtained big dogs breeds from other areas of the world	Other breeds are not mixed with LGDs in reproduction	Breeds of LGDs developed and maintained locally acknowledged as more effective in preventing damage from bears than other breeds	Breeds of LGDs developed and maintained locally established as necessary and sufficient for preventing damage from bears

Note: Scenarios have not yet been finalized by stakeholders in the LIFE-AMYBEAR project area; this table features as Table 9 in Hovardas (2020).