



**LIFE
ARCPROM**



LIFE18 NAT/GR/000768

Improving human-bear coexistence in 4 National Parks of South Europe

Scenarios for stakeholder involvement in adoption of good practice (Action D5)

Σενάρια για την εμπλοκή των ενδιαφερόμενων μερών στην υιοθέτηση καλών πρακτικών



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Table of contents

<i>SUMMARY</i>	5
<i>ΠΕΡΙΛΗΨΗ</i>	5
INTRODUCTION AND OVERALL RATIONALE	6
METHODS.....	7
SCENARIOS AND NEXT STEPS	8
REFERENCES	19

SUMMARY

This deliverable focuses on the process of participatory scenario development, which is foreseen in Action D5 (Follow-up surveys on the perception and behavior of the stakeholder groups) as a mechanism for monitoring the interaction, collaboration and joint action of stakeholder groups in Platforms (see Action C1 – Stakeholder consultation and involvement) during the project in order to follow up stakeholder perceptions and behavior in terms of adopting good practice in bear conservation and management. Different scenarios have been drafted for different themes and topics where stakeholder interaction will concentrate. These involved the themes of human safety (topics: Bear Emergency Teams in Table 1; bears approaching human settlements in Table 2; waste management systems in Table 3; traffic accidents in the regional road network in Table 4), damage prevention methods and compensation of damage caused by bears (topics: electric fences in Table 5; livestock guarding dogs in Table 6; illegal poisoned baits in Table 7; compensation of local producers from damage caused by bears in Table 8) and developmental options (topics: certification of bear-friendly products/services in Table 9; development of bear tourism in Table 10). Drafted scenarios are meant to be used as a scaffold for stakeholder collaboration and do not present a fixed planning to be followed. Stakeholders in each locality will have to adapt scenarios to suit local needs and desires and prioritize them according to their shared goals and resources available.

ΠΕΡΙΛΗΨΗ

Το παρόν παραδοτέο επικεντρώνεται στη διαδικασία συμμετοχικής ανάπτυξης σεναρίων, η οποία προβλέπεται στη Δράση D5 (Ερευνες παρακολούθησης σχετικά με την αντίληψη και τη συμπεριφορά των ενδιαφερόμενων μερών) ως μηχανισμός παρακολούθησης της αλληλεπίδρασης, συνεργασίας και κοινής δράσης των ενδιαφερόμενων μερών στις Πλατφόρμες (βλέπε Δράση C1 – Διαβούλευση με τα ενδιαφερόμενα μέρη και συμμετοχή) κατά τη διάρκεια του προγράμματος, ώστε να παρακολουθηθούν οι αντιλήψεις και συμπεριφορές των ενδιαφερόμενων μερών ως προς την υιοθέτηση καλών πρακτικών στην προστασία και διαχείριση της αρκούδας. Διαφορετικά σενάρια έχουν προταθεί για διαφορετικές θεματικές, όπου θα εστιάσει η αλληλεπίδραση των ενδιαφερόμενων μερών. Αυτές περιλαμβάνουν την ανθρώπινη ασφάλεια (Ομάδες Άμεσης Επέμβασης στον Πίνακα 1, προσέγγιση αρκούδων σε οικισμούς στον Πίνακα 2, συστήματα διαχείρισης απορριμμάτων στον Πίνακα 3, οδικά ατυχήματα στο επαρχιακό δίκτυο στον Πίνακα 4), μεθόδους αποτροπής ζημιών και αποζημίωση από ζημιά που έχει προκληθεί από αρκούδα (ηλεκτροφόρες περιφράξεις στον Πίνακα 5, σκύλοι φύλαξης κοπαδιών στον Πίνακα 6, δηλητηριασμένα δολώματα στον Πίνακα 7, αποζημίωση τοπικών παραγωγών από ζημιά που έχει προκληθεί από αρκούδα στον Πίνακα 8) και αναπτυξιακές επιλογές (πιστοποίηση προϊόντων και υπηρεσιών φιλικών προς την αρκούδα στον Πίνακα 9, ανάπτυξη τουρισμού με επικέντρωση στην αρκούδα στον Πίνακα 10). Τα σενάρια που προτείνονται πρέπει να αξιοποιηθούν ως υποστηρικτικό εργαλείο για τη συνεργασία των ενδιαφερόμενων μερών και δεν αποτελούν έναν ολοκληρωμένο σχεδιασμό που τα ενδιαφερόμενα μέρη οφείλουν άκριτα να ακολουθήσουν. Σε κάθε περιοχή, τα ενδιαφερόμενα μέρη πρέπει να προσαρμόσουν τα σενάρια στις τοπικές ανάγκες και επιθυμίες και να ιεραρχήσουν τα σενάρια αυτά ανάλογα με τους κοινούς τους στόχους και τους διαθέσιμους πόρους.

Introduction and overall rationale

Action D5 (Follow-up surveys on the perception and behavior of the stakeholder groups) of LIFE ARCPROM has the objective of monitoring the interaction, collaboration and joint action of stakeholder groups in Platforms (see Action C1) during the project in order to follow up stakeholder perceptions and behavior in terms of adopting good practice in bear conservation and management. Two instruments will be used for that purpose, a questionnaire, which will be described in another deliverable, and draft scenarios to guide stakeholder interaction, which are the focus of the present deliverable. These draft scenarios will be used as input in a procedure for participatory scenario development (Hovardas, 2018; 2021).

Scenarios can be thought of as short storylines that describe possible futures under certain goals to be accomplished and resources to be allocated (Haatanen et al., 2014). Since future developments in a local context may be more or less uncertain, scenarios do not aim to predict the future but to coordinate stakeholder joint action (Peterson et al., 2003). Therefore, the overall rationale of stakeholder working together to develop scenarios is to effectively plan their goals and the resources to be mobilized for achieving these goals (Kok et al., 2007). Scenarios can be revised to take into account any past experience of stakeholder working together, which adds to the benefits of the procedure by enabling social learning (Beers et al., 2016; O'Donnell et al., 2018; Lumosi et al., 2019; Van Epp & Garside, 2019).

Diversification of scenarios may increase with local context, stakeholder synthesis and varying resources (Varum & Melo, 2010). In any case, the process of participatory scenario development will foster a long-term engagement of stakeholders in a process, which is open ended and lets all stakeholders be recognized and committed as actors working together for delivering collaborative artefacts (Newig, 2011). Participatory scenario development facilitates stakeholder involvement in an inclusionary, historical process, which can be monitored and adapted democratically.

Scenarios will describe the potential of taking up good practice in bear conservation and management in each National Park. Their joint elaboration by stakeholders will reflect the common objectives which may be attainable during the project under planned input and resources. Furthermore, scenarios should also include a planning beyond the duration of LIFE ARCPROM with a two-fold goal. First, to showcase the potential of good practice being implemented even after LIFE ARCPROM has concluded, which is expected to add substantially to the sustainability of the project. Second, to empower stakeholder to take over the planning process on their own, which will again catalyze positively the project's sustainability.

The scenarios drafted in this deliverable are meant to catalyze stakeholder interaction in the Platforms in each Park. This implies that they should not be treated as a fixed, finalized product, but as a working document, which aims to scaffold stakeholder collaboration in each location. Stakeholders are free to and should attempt to modify existing tables and their content so as to adapt scenarios to each locality, make them realistic, and fine-tune them to address needs and desires at the local/regional level. What is more, stakeholders should also reconsider scenarios during the course of LIFE ARCPROM, reassessing their feasibility and timing continuously throughout the project and making any necessary adaptation.

Methods

To develop the draft version of scenarios presented in this deliverable, the following data sources have been taken into account: (1) The Strengths, Weaknesses, Opportunities and Threats Analyses included in the first deliverable of Action C1, Sub-action C1.1 (SWOT analysis, one for each National Park); (2) the minutes of the first meeting of Platforms in all locations; (3) former participatory experiences with stakeholders in bear conservation and management in the frame of LIFE AMYBEAR (see Hovardas, 2020). Each scenario includes the main challenges to be addressed by stakeholders, the main resources to be utilized, and milestones for monitoring progress of stakeholder interaction in combating the above challenges.

Different topics under different themes have been prepared as a reference level for stakeholder interaction (see Tables 1-10 in this deliverable). These involved the themes of human safety (topics: Bear Emergency Teams in Table 1; bears approaching human settlements in Table 2; waste management systems in Table 3; traffic accidents in the regional road network in Table 4), damage prevention methods and compensation of damage caused by bears (topics: electric fences in Table 5; livestock guarding dogs in Table 6; illegal poisoned baits in Table 7; compensation of local producers from damage caused by bears in Table 8) and developmental options (topics: certification of bear-friendly products/services in Table 9; development of bear tourism in Table 10).

For each different topic, the current challenges to be addressed are described, which picture a “business-as-usual” scenario. This describes the current conditions, which needs to be overcome or improved so as to facilitate taking up of good practice in bear conservation and management. Resources available through LIFE ARCPROM and those that can be readily provided by stakeholders should be employed for a transition beyond “business-as-usual”. If the identified milestones have been achieved, then it can be concluded that stakeholder interaction has moved away from the current conditions using these resources. This would reflect a small-scale but still quite important transition towards adoption of good practice.

The best-case scenario demarcates substantial change towards taking up good practice and would necessitate additional recourses apart from these that will be offered in LIFE ARCPROM and those that can be readily supplied by stakeholders without much cost or delay. These best-case scenarios for different topics may not be achievable within the frame of LIFE ARCPROM, however, they will point towards the direction that future stakeholder interaction would need to orient to safeguard the sustainability of LIFE ARCPROM outcomes. Overall, drafted scenarios will provide a scaffold for steering stakeholder interaction in the short, mid- and long-term, assisting them in allocating resources optimally.

Scenarios and next steps

Tables 1-10 present the drafted scenarios for the themes and topics which will attract stakeholder interaction in the frame of LIFE ARCPROM. We need to highlight, once again, that these scenarios only aim to scaffold stakeholder collaboration in Platforms in each location and do not represent any fixed form of planning. The same set of tables can be elaborated upon in each park, where stakeholders will need to single out topics of primary interest to work with. It goes without saying that not all items need to be processed everywhere, not least because LIFE ARCPROM does not foresee that all its actions will be implemented in all localities (all four national parks).

A first major task of stakeholders will be to plan for small-wins starting with objectives within reach to create favorable background conditions for working relations, trust building and keeping stakeholders engaged. Such small-wins should be achievable in the frame of the small-effort scenarios sketched using LIFE ARCPROM resources. Workshops planned in Action C1 should be exploited for exchange of experiences in the procedure of participatory scenario development, so that benefits achieved in a locality can be communicated and imitated by stakeholders elsewhere.

Another crucial point, which runs across all tables but has not been included there, is the fact that many different measures that can be implemented for promoting good practice in bear conservation and management (e.g., installment of bear-proof garbage bins/containers; establishing electric fences; using livestock guarding dogs, etc.) are still considered at the level of individual beneficiaries/users. What is missing is a demanding and long-term, integrated approach at the landscape level, which would shed light on synergies and inconsistencies between these measures and which would allow stakeholders identify and address spill-over effects (e.g., bears being locally deterred but causing excessive damage elsewhere or impacting a producer/resident who has not yet adapted any of these measures).

Table 1. Scenarios for Bear Emergency Teams (BETs)

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	<ul style="list-style-type: none">• Several gaps hinder an optimal operation of BETs, for instance, availability and usage of deterring equipment;• Members of the Forest Service need to be adequately trained for using all necessary deterring equipment optimally;• Complementarities and incompatibilities between new existing BETs need to be studied;• The BET adds workload to institutions operating already near to their capacity limit	Records (protocols) completed after the intervention of BETs have not been analyzed to improve the operation of BETs
Main resources to be utilized	Resources available through LIFE ARCPROM, Actions A1, C2, C4,C5, C9, D1, & D2	Additional resources to be sought through other funding instruments, which will be needed for the analysis of BET records as well as the restoration and management of abandoned orchards
Milestones for monitoring progress	<ul style="list-style-type: none">• A guide of good practice in avoiding an unwanted, surprise human-bear encounter is available online;• All BETs have received all necessary deterring equipment and can readily use it upon demand when operating;• Members of all competent authorities have been trained to optimally use the special equipment available for BETs;• Current planning has been updated to account for the establishment and operational capacity of the new BETs	<ul style="list-style-type: none">• Records have been gathered and analyzed to reveal trends in several variables recorded regularly in BET operation;• Analysis of records has delivered decision trees showcasing good practice in diagnosis and interventions in BET operation;• BET operation has been reconsidered and revised, when necessary, according to the analysis of records;• The content and structure of records has been reconsidered and revised, when necessary, according to the analysis of records

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 2. Scenarios for bears approaching human settlements

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	Livestock carcasses not disposed of properly attract bears close to human settlements	Food availability decreases with distance from human settlements
Main resources to be utilized	Resources available through LIFE ARCPROM, Actions A1, C7, & D1; resources available through LIFE AMYBEAR	Additional resources to be sought through other funding instruments, which will be needed for the restoration and management of abandoned orchards
Milestones for monitoring progress	Disposal of livestock carcasses has been properly controlled	Abandoned orchards are restored and managed for offering food sources to bears at a distance from human settlements.

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 3. Scenarios for waste management systems

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	Bears feed on garbage stored in conventional garbage bins	<ul style="list-style-type: none"> • Bear-proof garbage bins/containers may increase the time for collecting waste; • The adaptation of waste management systems necessitates a thorough redesign of logistics; • Bear-proof containers supplied by LIFE ARCPROM may not be enough to cover existing demand
Main resources to be utilized	Resources available through LIFE ARCPROM, Actions A1, C7, & D1; resources available through LIFE AMYBEAR	Resources that can be readily provided by local authorities; additional resources to be sought through other funding instruments, which will be needed for obtaining more bear-proof garbage bins/containers than the ones available through LIFE ARCPROM to cover existing demand
Milestones for monitoring progress	<ul style="list-style-type: none"> • Bear-proof garbage bins/containers have been installed in hot-spots of human-bear conflict; • Local residents have been properly informed about the installation and use specifications of bear-proof garbage bins/containers 	<ul style="list-style-type: none"> • Bear-proof garbage bins/containers have been optimally integrated in existing waste management systems without increasing waste collection time; • Installed Bear-proof garbage bins/containers cover existing demand

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 4. Scenarios for traffic accidents in the regional road network

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	Traffic accidents with bears are frequent in the regional road network	Although the drivers' behavior has been optimized so as to avoid traffic accidents with bears, the bears' behavior has not been addressed
Main resources to be utilized	Resources available through LIFE ARCPROM, Actions A1 & D1; resources that can be readily provided by local authorities	Resources available through LIFE SAFECROSSING and LIFE AMYBEAR; additional resources to be sought through other funding instruments, which will be needed for obtaining and installing warning signs and deterrents for safer road network
Milestones for monitoring progress	Visibility of car drivers in the regional road network has been increased through small-scale interventions	The frequency of traffic accidents with bears in the regional road network has been decreased

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 5. Scenarios for electric fences

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	<ul style="list-style-type: none"> • Many local producers who have suffered damage from bear attacks are still vulnerable; • Good practice for establishing and operating electric fences is not systematically recorded; • Producers may deviate from good practice in obtaining and setting up the electric fence to decrease overall cost; • Certain specifications of imported equipment may not fit in the local context and need to be reconfigured; • Tension between local producers, when livestock is guided through fenced areas 	<ul style="list-style-type: none"> • Electric fences removed as a damage prevention measure from the Greek Rural Development Programme (RDP); • Local residents who start bee keeping and are not registered farmers are not eligible for the Greek RDP; • A beekeeper may need more than one electric fences, if bee hives are placed in more than one area; • Local manufacturers of electric fences are not certified
Main resources to be utilized	Resources available through LIFE ARCPROM, Actions A1, C7 & D1	Additional resources to be sought through other funding instruments, which will be needed for covering bee keepers who are not registered farmers
Milestones for monitoring progress	<ul style="list-style-type: none"> • Local producers most impacted by bear attacks have established an electric fence; • A guide for good practice in establishing and operating electric fences is available online; • Local experience of bee keepers with an electric fence, who have innovated after having suffered damage by the bear, has been assessed and incorporated in the guide; • Livestock breeders and bee keepers reach an agreement so that livestock is not guided through fenced areas 	<ul style="list-style-type: none"> • Electric fences are again included as a damage prevention measure in the Greek RDP; • Both registered and non-registered bee keepers have obtained an electric fence; • Bee keepers who need more than one electric fence can be subsidized to obtain a second fence; • Local manufacturers of electric fences have been certified

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 6. Scenarios for livestock guarding dogs

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	<ul style="list-style-type: none">• Many livestock breeders do not follow good practice in veterinarian care of livestock guarding dogs;• Many livestock breeders do not train their livestock guarding dogs properly	The network for exchanging livestock guarding dogs is initiated and maintained by environmental non-governmental organizations
Main resources to be utilized	Resources available through LIFE ARCPROM, Actions C8 & D3	Resources that can be readily provided by local associations of livestock breeders
Milestones for monitoring progress	<ul style="list-style-type: none">• A guide for good practice in veterinarian care of livestock guarding dogs is available online;• A guide for good practice in training livestock guarding dogs is available online	Local livestock breeders have taken over the network for exchanging livestock guarding dogs

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 7. Scenarios for illegal poisoned baits

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	Many livestock guarding dogs, hunting dogs, and domestic dogs are lost due to the use of illegal poisoned baits	Illegal poisoned baits are tolerated within local communities
Main resources to be utilized	Resources available through LIFE ARCPROM, Actions C3, C6, D4, E1, E2, & E5;	Resources available through LIFE ARCPROM, Actions C3, C6, D4, E1, E2, & E5; additional resources to be sought through other funding instruments, which will be needed for communication and outreach initiatives
Milestones for monitoring progress	<ul style="list-style-type: none">• Stakeholders have signed and distributed a Common Statement for denouncing illegal poisoned baits;• Events of livestock guarding dogs, hunting dogs, and domestic dogs poisoned on illegal poisoned baits have decreased	Tolerance for the use of illegal poisoned baits has decreased

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 8. Scenarios for compensation of local producers from damage caused by bears

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	<ul style="list-style-type: none">• Compensation is paid at a much lower than the actual damage caused to local producers;• Compensation needs to take into account all collateral impacts of damage cause by bears;• Compensation does not take into account the long-term implications of damage caused by bears;• Local producers feel that the compensation system does not recognize their loss	Compensation is given for damage already incurred and does not promote damage prevention
Main resources to be utilized	Resources to be sought in collaboration with the Greek Agricultural Insurance Organization	Resources to be sought in collaboration with the Greek Agricultural Insurance Organization
Milestones for monitoring progress	<ul style="list-style-type: none">• A detailed comparison of compensation systems in European countries with bear presence has been drafted and submitted to the Greek Agricultural Insurance Organization;• A detailed plan for presenting collateral impacts of damage caused by bears to livestock has been drafted and submitted to the Greek Agricultural Insurance Organization	Compensation of damage caused by bears has been linked to damage prevention

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 9. Scenarios for certification of bear-friendly products/services

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	<ul style="list-style-type: none">• Products and services in the area do not capture the added value due to bear presence;• Complementarities and incompatibilities with other certification schemes need to be carefully considered (e.g., LIFE AMYBEAR scheme; protected areas' scheme);• Certification may be hindered by lack of product standardization and packaging;• Sustainability of the certification scheme highlighted as a major concern;• A Certifying Body needs to have taken over the certification process after LIFE ARCPROM expires	The certifying process needs to link local products/services with major national and international markets
Main resources to be utilized	Resources available through LIFE ARCPROM, Actions A3, C10, & D3	Additional resources to be sought in collaboration with Developmental Companies and Chambers of Commerce
Milestones for monitoring progress	<ul style="list-style-type: none">• The first bear-friendly products have been certified during the course of LIFE ARCPROM;• Bear-friendly products and services can be certified in the area after LIFE ARCPROM expires	Certified products and services have captured the added value in major markets

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

Table 10. Scenarios for developing bear tourism

Challenges, resources and milestones	Small-effort scenario	Best-case scenario
Main challenges to be addressed	<ul style="list-style-type: none">• The area currently does not exploit bear presence as a competitive advantage for enriching its tourism product;• Any planning for alternative tourism development needs to respect the current character of selected destinations;• Any planning for alternative tourism development needs to incorporate a substantial dimension of visitor training and education;• Any planning for tourism development based on the presence of bears need to plan for a fair diffusion of anticipated benefits	<ul style="list-style-type: none">• No tourist guide is currently certified for bear tourism;• Bear tourism is detached from other tourist packages offered;• Bear tourism does not influence the number of overnight stays;• Bear tourism does not take advantage of the transborder area
Main resources to be utilized	Resources available through LIFE AMYBEAR, Action A5	Additional resources to be sought in collaboration with Developmental Companies and Chambers of Commerce
Milestones for monitoring progress	<ul style="list-style-type: none">• Realistic opportunities for bear tourism have been identified based on bear signs and LIFE ARCPROM Actions;• Local producers have been adequately engaged in the identification of bear tourism opportunities and in enriching the current tourism product	<ul style="list-style-type: none">• Local tourist guides have been certified for bear tourism;• Bear tourism has been added as an option to the existing tourism product offered in the area;• Bear-tourism has increased the number of visitors who would be willing to stay overnight in the area;• Bear tourism has taken advantage of the transborder area

Note: The table presents a draft version of scenarios, which have not yet been finalized by stakeholders within the LIFE ARCPROM project.

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