LIFE Bear-Smart Corridors (LIFE20 NAT/NL/001107)

Report of the ex-ante survey (Sub-action A4.2)

The present deliverable is titled “Report of the ex-ante survey (Sub-action A4.2)” and was prepared in the frame of Action A4 – Ex-ante survey of public attitudes and stakeholder opinions, Task A4.2 – Quantitative survey, of LIFE Bear-Smart Corridors (LIFE20 NAT/NL/001107).

The deliverable includes two components: One part referring to the Abruzzo, Lazio, and Molise National Park (PNALM) and corridors in Italy, and another part referring to Trikala-Meteora area in Greece. For each part, summaries in either Italian or Greek, respectively, as well as in English are provided, together with the methodological approach followed, results, and implications.

The instruments used for the Italian and Greek project areas were different to address the different needs of local teams and the results of Task A4.1 – Qualitative study, on which the development of quantitative instruments (questionnaires) were based.

LIFE Bear-Smart Corridors project

ACTION A.4: Report of the ex-ante survey (Sub-action A4.2)

Umana Analytics S.r.l.
Via Luigi Polacchi 11 – 66100 – Chieti – Italia
Partita IVA e Codice Fiscale 02739250690
info@umana-analytics.it | www.umana-analytics.com

Summary [EN]

This survey conducted in the Abruzzo, Lazio, and Molise National Park (PNALM) and corridors in the context of Life Bear Smart Corridors Sub-action A4.2 yielded valuable insights into the perceptions and experiences of local residents and stakeholders regarding human-bear coexistence. Based on these survey findings, several conclusions can be drawn.

In general, most of respondents do not perceive bears as causing excessive harm to livestock, beehives, and agricultural products, which may be the reason why only a limited portion of respondents (31%) claim to have detailed knowledge of compensation schemes for bear-related damages. While the majority of respondents acknowledge having heard about these compensation programs, they admit to needing more information. This underscores the importance of initiatives aimed at educating citizens and various park stakeholders (especially those in the primary sector) about the bear damage compensation schemes, outlining all the specific measures involved. Such efforts could also serve as an opportunity to gather feedback from citizens themselves, fostering improvements in these compensation programs. Among the measures aimed at gauging participants' opinions on the effectiveness of various actions in mitigating human-bear conflicts, three key strategies emerged as particularly impactful. Firstly, informing local people on how to behave during unexpected encounters with bears was considered the most effective. Educating communities on appropriate responses to bear encounters can significantly reduce conflict and enhance safety for both humans and bears. Secondly, the use of electric fences garnered strong support. Electric fences act as a reliable deterrent, preventing bears from accessing human settlements and agricultural areas, thereby reducing conflict incidents. Lastly, increasing food availability that can also be found in the wild was seen as effective. By providing alternative food sources within natural bear habitats, the likelihood of bears seeking out human-provided food diminishes, lowering conflict risk. These findings highlight the importance of proactive education, physical barriers, and habitat management as key strategies in minimizing human-bear conflicts and promoting coexistence. A sense of community involvement and shared responsibility in bear coexistence efforts should be fostered and residents should be encouraged to share their experiences and insights.

Overall, the majority of participants does not believe that their municipality benefits from bears through money from tourists coming to see them, however, the more participants live near places where the bear is actually present, the more their opinion on this matter improves.

The actions participants feel should be most supported by the LIFE Bear-Smart Corridors are an increase in knowledge about bears, followed by the promotion of damage prevention measures and, the promotion of alternative forms of tourism based on bear presence. The stakeholder groups participants can best work with and trust more when it comes to issues concerning bears are foresters, protected area management authorities, farmers and stockbreeders, and beekeepers. Overall people believe that both Regional Authorities and The Ministry of the Environment Authorities do not provide adequate information about bears, while collaborating with reputable organizations such as the Forest Service and environmental NGOs can significantly boost the impact of awareness campaigns and safety initiatives. Of note, most of the representatives believe that stakeholders would be willing to cooperate in the frame of the LIFE Bear-Smart Corridors project and that local people benefit from actions undertaken in the frame of the LIFE Bear-Smart project.

Summary [IT]

Questa indagine condotta nel Parco Nazionale d'Abruzzo, Lazio e Molise (PNALM) e nei corridoi nell'ambito dell'azione Life Bear Smart Corridors Sub-action A4.2 ha fornito preziosi contributi sulle percezioni e le esperienze dei residenti locali e degli stakeholder riguardo alla convivenza tra esseri umani e orsi. Sulla base di questi risultati dell'indagine, è possibile trarre diverse conclusioni.

In generale, la maggior parte dei partecipanti non percepisce gli orsi come causa di danni eccessivi al bestiame e ai prodotti agricoli, il che potrebbe spiegare il motivo per cui solo una limitata parte dei partecipanti (31%) sostiene di avere una conoscenza dettagliata dei programmi di compensazione per i danni causati dagli orsi. Sebbene la maggioranza dei partecipanti abbia sentito parlare di questi programmi di compensazione, ammettono di avere bisogno di ulteriori informazioni. Ciò sottolinea l'importanza di iniziative volte a educare i cittadini e vari stakeholder del parco (soprattutto quelli nel settore primario) sui programmi di compensazione per i danni causati dagli orsi, delineando tutte le misure specifiche coinvolte. Tali sforzi potrebbero anche rappresentare un'opportunità per raccogliere feedback dai cittadini stessi, favorendo miglioramenti in questi programmi di compensazione. Rispetto alle azioni per mitigare i conflitti tra esseri umani e orsi, tre strategie chiave sono emerse come particolarmente impattanti. In primo luogo, informare le persone su come comportarsi durante incontri imprevisti con gli orsi è stata considerata l'azione più efficace, questo in prospettiva di ridurre significativamente i conflitti e migliorare la sicurezza sia per gli esseri umani che per gli orsi. In secondo luogo, l'uso di recinzioni elettriche è un'azione che ha ottenuto un forte sostegno. Le recinzioni elettriche agiscono come deterrente affidabile, impedendo agli orsi di accedere a insediamenti umani e aree agricole, riducendo così gli incidenti di conflitto. Anche l'aumento della disponibilità di cibo che si trova anche in natura è considerato efficace dai partecipanti. Fornendo fonti alternative di cibo all'interno degli habitat naturali degli orsi, si riduce la probabilità che gli orsi cerchino cibo fornito dall'uomo, diminuendo il rischio di conflitti.

Questi risultati sottolineano l'importanza dell'educazione proattiva, delle barriere fisiche e della gestione degli habitat come strategie chiave per minimizzare i conflitti tra esseri umani e orsi e promuovere la convivenza.

Nel complesso, la maggioranza dei partecipanti non ritiene che il loro comune tragga benefici economici dai turisti che vengono a vedere gli orsi, tuttavia, più i partecipanti vivono vicino a luoghi in cui gli orsi sono effettivamente presenti, più migliora la loro opinione a riguardo.

Le azioni che i partecipanti ritengono dovrebbero essere maggiormente supportate dal progetto LIFE Bear-Smart Corridors sono l'aumento della conoscenza sugli orsi, seguito dalla promozione delle misure di prevenzione dei danni e la promozione di forme alternative di turismo basate sulla presenza degli orsi. I gruppi di stakeholder con i quali i partecipanti ritengono di poter lavorare meglio e in cui hanno maggiore fiducia per quanto riguarda le questioni legate agli orsi sono i guardiaparchi, le autorità di gestione delle aree protette, gli agricoltori e gli allevatori, e gli apicoltori.

Nel complesso, le persone ritengono che sia le Autorità Regionali che le Autorità del Ministero dell'Ambiente non forniscono informazioni adeguate sugli orsi, mentre la collaborazione con organizzazioni affidabili come il servizio forestale e le ONG ambientali può aumentare significativamente l'impatto delle campagne di sensibilizzazione e delle iniziative per la sicurezza.

Va notato che la maggior parte dei rappresentanti ritiene che gli stakeholder sarebbero disposti a cooperare nell'ambito del progetto LIFE Bear-Smart Corridors e che la popolazione locale possa trarre benefici delle azioni intraprese nell'ambito del progetto LIFE Bear-Smart.

1. Introduction

This questionnaire was developed within the frame of the LIFE Bear-Smart Corridors project (LIFE20 NAT/NL/001107), which is implemented in Central Italy and Greece. In Italy, the project aims to support the viability of the Marsican brown bear (Ursus arctos marsicanus) through the development of corridors for its coexistence with the human communities that share its habitat. The project also aims to decrease damages caused by the Brown bear (*Ursus arctos*), transfer good practices for coexistence of bears with local communities, and facilitate environmentally compatible developmental options based on bear presence.

The Project leader is the Rewilding Europe foundation, based in Nijmegen, the Netherlands. In Italy the beneficiary partners of the project are: The Abruzzo, Lazio and Molise National Park, The Gran Sasso and Monti della Laga National Park, The Monte Genzana Alto Gizio Regional Nature Reserve, The Rewilding Apennines ETS Association, Salviamo l'Orso (Save the Bear) Association, and The Sirente Velino Regional Park.

Questionnaire data are gathered and analysed in Action A4 "Ex-ante survey of public attitudes and stakeholder opinions" of the LIFE Bear-Smart Corridors project.

2. Survey and data collection

This study used a questionnaire containing 27 closed-questions and 1 open-ended question aimed at gathering comments or remarks concerning the questionnaire, or the project LIFE Bear-Smart Corridors.

The survey instrument was prepared in English, based on an initial phase of qualitative interviews to identify the key issues, their nature, and their importance from the perspective of various interest groups.
The questionnaire was translated into Italian and back-translated into English to ensure the accuracy of the concepts being tested and was then uploaded into a Google Form. The survey instrument was pre-tested and final adjustments were made accordingly. The survey required around 10 minutes to be completed. Data were collected during May and June 2023.

The questionnaire was administered to two different subjects: representatives of the local area belonging to the Abruzzo, Lazio, and Molise National Park (PNALM) and corridor areas between this Park and other protected areas around it, and local stakeholders. The representatives of the local areas PNALM and corridors were contacted either by email or by phone as a personal structured interview (7 participants). In this case, the principal researcher completed all the structured interviews by phone in order to control for potential biases. The structured interviews were carried out by native Italian speakers.

To reach local stakeholders a sponsored campaign on Facebook with the link to the survey was shared among people residing in the area of interest. In the next paragraph, the main characteristics of the Facebook campaign are detailed.

2.1 Facebook advertising campaign

To encourage responses to the questionnaire, two advertising campaigns were activated on Facebook, each with a budget of 100€. The first campaign ran in the period between 19 and 23 May 2023, during which an A/B test was also activated to determine the best advertisement between two options; the second campaign, which used the best-performing advertisement, ran in the period between 23 May and 1 June.

Here below are listed the main characteristics of the campaigns and the major results obtained.

Target

• Geographical location: Vastogirardi, San Pietro Avellana, Castel del Giudice, Pescopennataro, Sant'Angelo del Pesco, Carovilli, Agnone, Castel di Sangro, Roccaraso, Alfedena, Barrea, Pizzone, Villetta Barrea, Scanno, Rocca Pia, Pettorano sul Gizio, Introdacqua, Bugnara, Anversa degli Abruzzi, Ortona dei Marsi, Gioia dei Marsi, Aielli, Collarmele, Cocullo, Goriano Sicoli, Castelvecchio Subequo, Gagliano Aterno, Molina Aterno, Lecce nei Marsi, Villavallelonga, Collelongo, Luco dei Marsi, Trasacco, Canistro, Capistrello, Civitella Roveto, Civita D'Antino, San Vincenzo Valle Roveto, Pescosolido, Morino, Campoli Apennino, Alvito, Settefrati, San Biagio Saracinisco, Ortucchio

Age:
• 18+

Occupation:
• Farm (agriculture), Agriculture (sector), Beekeeper, Veterinary medicine, Vet assistant, Non-governmental organization, Business decision maker, Tourism (sector), Small business

Interests:
• Tourism (sector), Agriculture (sector), Hunting (sport), Livestock (agriculture), Beekeeping, Community and social services

Results:
• Reach (number of unique users reached): 24788
• Impressions (number of times the advertisement was viewed): 130711
• Clicks on the link (number of times a user clicked on the ad and opened the questionnaire): 752
• CTR (clickthrough rate, rate of clicks over total number of impressions): 0.57%
• Responses (total number of questionnaires recorded): 38

3. Sample

The total sample of the survey includes 90 participants. 53 participants are representatives, that are individuals elected by residents in the local areas belonging to the Abruzzo, Lazio, and Molise National Park (PNALM) and corridors (mayors and municipal councilors). 37 participants are different stakeholders of the local community (people who reside and engage in local activities such as hunting, beekeeping, tourism-related services, etc. within areas of interest).

3.1 Sample's demographic characteristics

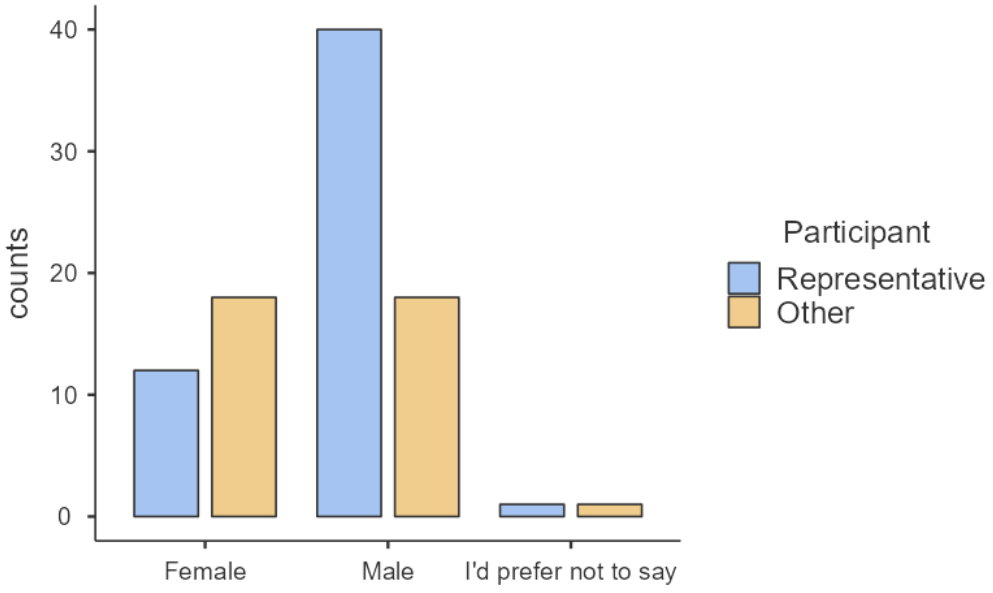
3.1.1 Gender

The table below provides a summary of respondents based on gender. Females account for 30 individuals, representing 33.3% of the total participants. Males account for 58 individuals, representing 64.4%. The "I'd prefer not to say" category consists of 2 individuals, making up 2.2% of the total.

By looking at the split sample, among the representatives, 12 individuals (13.3%) identified as female, while 40 individuals (44.4%) identified as male. Among the other stakeholders, 18 individuals (20.0%) identified as male, and 18 (20.0%) individuals identified as female. For both types of participants, there was one individual (1.1%) who preferred not to disclose their gender (1.1%).

Gender's frequencies

	Participant	Counts	% of Total
Female	Representative	12	13.3 %
	Other	18	20.0 %
	Total	30	33.3%
Male	Representative	40	44.4 %
	Other	18	20.0 %
	Total	58	64.4 %
I'd prefer not to say	Representative	1	1.1 %
	Other	1	1.1 %
	Total	2	2.2 %



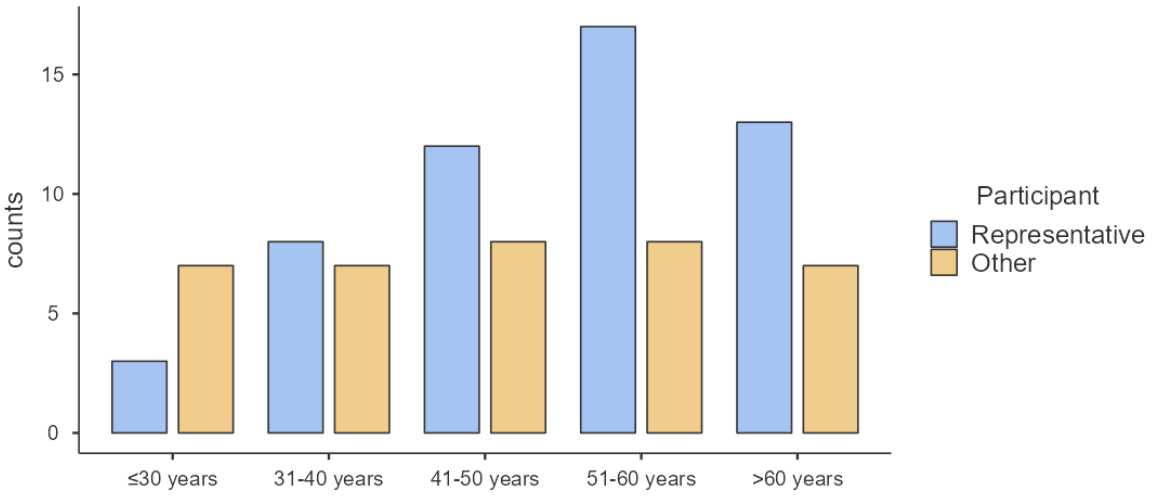
Participants' gender distribution

3.1.2 Age

According to the table below, 10 individuals (11.1%) are aged ≤30 years, 15 individuals (16.7%) are aged 31-40 years, 20 individuals (22.2%) are aged 41-50 years, 25 individuals (27.8%) are aged 51-60 years, and 20 individuals (22.2%) are above 60 years old. 27.8% fall within the first two categories (≤40 years), and 72.2% of participants are above 40 years old.

The results below provide insights into the distribution of participants based on age groups and their representation within each category (representative vs other stakeholders).
In the ≤30 years group, 3 participants (3.3%) are representatives, while 7 participants (7.8%) are classified as other stakeholders. A similar pattern is observed in the 31-40 years group, where 8 participants (8.9%) are representatives and 7 participants (7.8%) fall into the other stakeholder category. Moving to the 41-50 years and 51-60 years groups, the number of representative participants increases to 12 (13.3%) and 17 (18.9%) respectively, while 8 participants (8.9%) in each group are classified as other stakeholders. In the >60 years group, 13 participants (14.4%) are representatives, with 7 participants (7.8%) falling into the other stakeholders category.

Ages' frequencies			
	Participant	**Counts**	**% of Total**
≤30 years	Representative	3	3.3 %
	Other	7	7.8 %
	Total	10	11.1%
31-40 years	Representative	8	8.9 %
	Other	7	7.8 %
	Total	15	16.7%
41-50 years	Representative	12	13.3 %
	Other	8	8.9 %
	Total	20	22.2%
51-60 years	Representative	17	18.9 %
	Other	8	8.9 %
	Total	25	27.8%
>60 years	Representative	13	14.4 %
	Other	7	7.8 %
	Total	20	22.2%



Participants' age distribution

3.1.3 Municipality of residence

Most of the participants reside in the municipalities of Villetta Barrea, Pizzone, Aielli, Scanno Pettorano sul Gizio, San Pietro Avellano, Villalago, Castel di Sangro e San Vincenzo Valle Roveto. The majorities of municipalities (29) have only one participant.

Going into detail, comparing the two samples, we note that in Villetta Barrea and Pizzone, all six participants belong to the group of representatives, similarly, we have just representatives for Vastogirardi (1), Civita d'Antino (1), Montesilvano (1), Gioia dei Marsi (2), San Pietro Avellana (4), Isernia (1), Campoli Appennino (1), Agnone (1), Ortona dei Marsi (1), Barrea (1), Ortucchio (1), Morino (2), Pescosolido (2), Carovilli (2), Anversa degli Abruzzi (1), Cocullo (1), Collermele (1), Castel del Giudice (1), Pescasseroli (1).

While no representative and only other stakeholders participated in: Castel di Sangro (4), Introdacqua (2), Avezzano (1), Scontrone (1), Trasacco (1), Castelvecchio Subequo (1), Minturno (1), Pescara (1), Luco dei Marsi (2), Ripa Teatina (1), Civitella Alfedena (1), Pettorano (1), Civitella Rovereto (1), Schiavi Di Abruzzo (1), Celano (1), Aielli (1), San Vincenzo Valle Roveto (1), San Vincenzo Vecchio (1).

It should be noted that Montesilvano, Pescara, Ripa Teatina, and Campobasso are municipalities outside the project areas. Four participants have identified them as place of residence, however, it is likely that they live or have their domicile in the areas of interest.

Municipalities' frequencies

	Participant	Counts	% of Total
Pettorano Sul Gizio	Representative	3	3.3 %
	Other	1	1.1 %
	Total	4	4.4%
Rocca Pia	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Villetta Barrea	Representative	6	6.7 %
	Other	0	0.0 %
	Total	6	6.7%
Pizzone	Representative	6	6.7 %
	Other	0	0.0 %
	Total	6	6.7%
Campobasso	Representative	1	1.1 %

Municipalities' frequencies			
	Participant	**Counts**	**% of Total**
	Other	0	0.0 %
	Total	1	1.1%
Vastogirardi	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Civita D'Antino	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Capistrello	Representative	2	2.2 %
	Other	1	1.1 %
	Total	3	3.3%
Montesilvano	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Gioia Dei Marsi	Representative	2	2.2 %
	Other	0	0.0 %
	Total	2	2.2%
Lecce Nei Marsi	Representative	1	1.1 %
	Other	1	1.1 %
	Total	2	2.2%
San Pietro Avellana	Representative	4	4.4 %
	Other	0	0.0 %
	Total	4	4.4%
Isernia	Representative	1	1.1 %
	Other	0	0.0 %
	Total		
Campoli Appennino	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Agnone	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Ortona Dei Marsi	Representative	1	1.1 %
	Other	0	0.0 %

Municipalities' frequencies			
	Participant	**Counts**	**% of Total**
	Total	1	1.1%
Barrea	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Ortucchio	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Alfedena	Representative	1	1.1 %
	Other	1	1.1 %
	Total	2	2.2%
Morino	Representative	2	2.2 %
	Other	0	0.0 %
	Total	2	2.2%
Pescosolido	Representative	2	2.2 %
	Other	0	0.0 %
	Total	2	2.2%
Scanno	Representative	3	3.3 %
	Other	2	2.2 %
	Total	5	5.6%
Carovilli	Representative	2	2.2 %
	Other	0	0.0 %
	Total	2	2.2%
Anversa Degli Abruzzi	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Cocullo	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Collarmele	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Castel Del Giudice	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%

Municipalities' frequencies			
	Participant	**Counts**	**% of Total**
Pescasseroli	Representative	1	1.1 %
	Other	0	0.0 %
	Total	1	1.1%
Villalago	Representative	3	3.3 %
	Other	1	1.1 %
	Total	4	4.4%
Castel Di Sangro	Representative	0	0.0 %
	Other	4	4.4 %
	Total	4	4.4%
Introdacqua	Representative	0	0.0 %
	Other	2	2.2 %
	Total	2	2.2%
Avezzano	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Scontrone	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Trasacco	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Castelvecchio Subequo	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Minturno	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Pescara	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Luco Dei Marsi	Representative	0	0.0 %
	Other	2	2.2 %
	Total	2	2.2%
Ripa Teatina	Representative	0	0.0 %

Municipalities' frequencies			
	Participant	**Counts**	**% of Total**
	Other	1	1.1 %
	Total	1	1.1%
Civitella Alfedena	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Pettorano	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Civitella Roveto	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Schiavi Di Abruzzo	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Celano	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1%
Aielli	Representative	0	0.0 %
	Other	5	5.6 %
	Total	5	5.6%
San Vincenzo Valle Roveto	Representative	0	0.0 %
	Other	4	4.4 %
	Total	4	4.4 %
San Vincenzo Vecchio	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1 %

3.1.4 Municipality of residence number of inhabitants

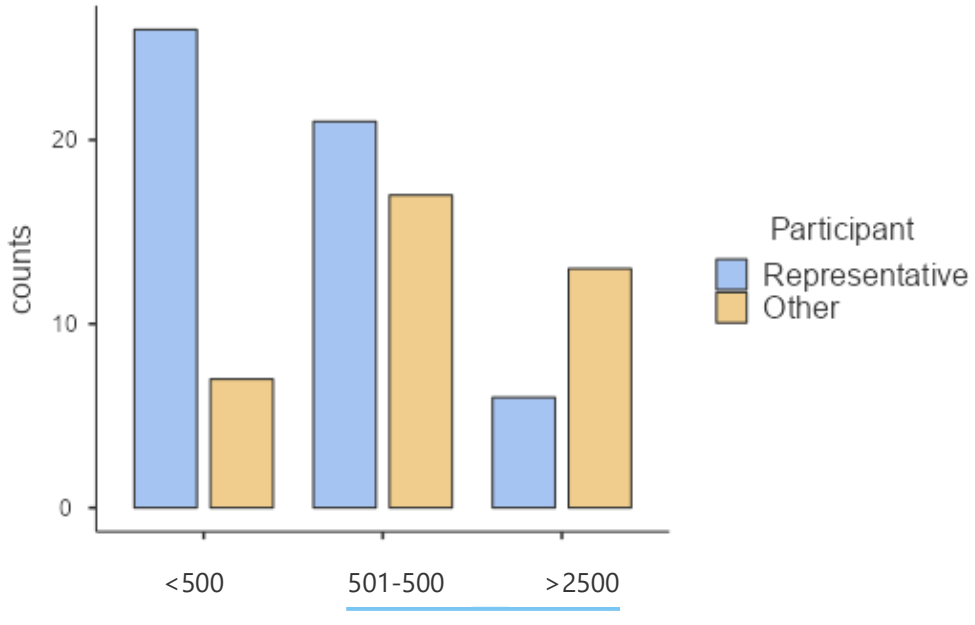
The table below presents data on the distribution of population size for the municipality of residence. Out of the total population considered, 36.7% consists of municipalities with 500 inhabitants or less, while 42.2% falls within the range of 501 to 2500 residents. The remaining 21.1% comprises municipalities with more than 2500 inhabitants. In summary, a significant portion of the population

(78.9%) is concentrated in municipalities with populations ranging from 501 to more than 2500 residents, while smaller populations (36.7%) are found in small towns with 500 inhabitants or less.

The data also provides the representation of different categories of villages or towns based on their population size. In the category of villages with 500 inhabitants or less, 28.9%, that is 26 individuals are representative, while 7.8% are classified as other stakeholders. For municipalities with a population ranging from 501 to 2500 residents, 23.3%, that is 21 individuals are representatives, and 18.9% are the other stakeholders. Regarding small towns with more than 2500 inhabitants, 6.7% (6) are representatives, while 14.4% are classified as other stakeholders.

Municipality Populations size's frequencies

	Participant	Counts	% of Total
Villages with 500 inhabitants or less	Representative	26	28.9 %
	Other	7	7.8 %
	Total	33	36.7%
Small town with a population ranging from 501 to 2500 residents	Representative	21	23.3 %
	Other	17	18.9 %
	Total	38	42-2%
Town with more than 2500 inhabitants	Representative	6	6.7 %
	Other	13	14.4 %
	Total	19	21.1%

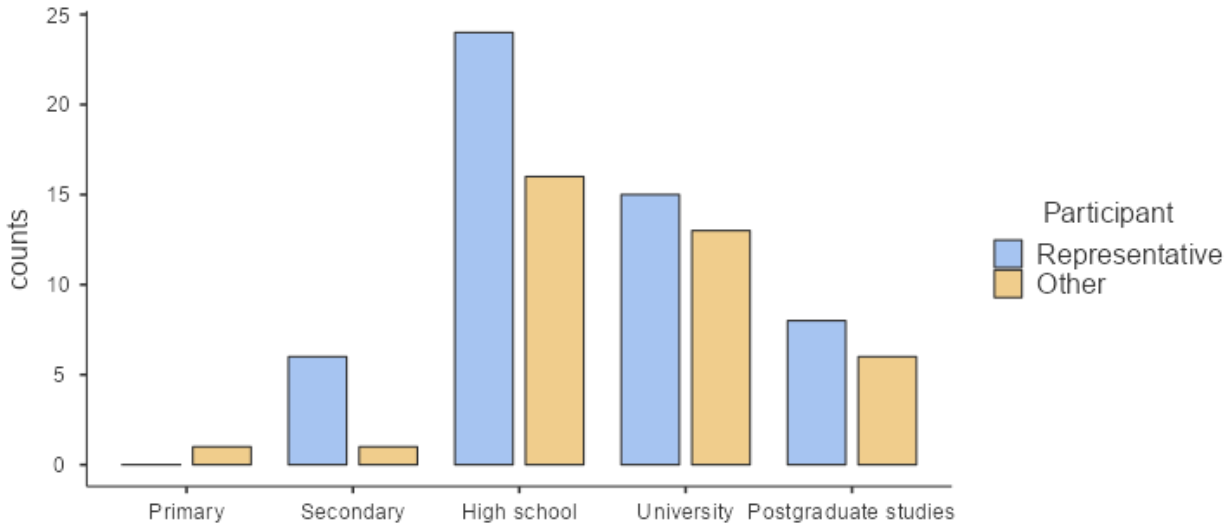


3.1.5 Education

The table represents the distribution of individuals based on their education levels. Primary education accounts for 1.1% of the total, secondary education for 7.8%, high school for 44.4%, university for 31.1%, and postgraduate studies for 15.6%.

The table illustrates the distribution of participants based on their education levels and whether they are representatives or fall into the other stakeholder category. The majority of representatives are found in the high school category (26.7%), followed by university (16.7%) and postgraduate studies (8.9%). Overall, participants with high school education comprise the largest group (44.5%), while primary education has no representatives. The table provides a snapshot of the representation of participants across various education levels.

Education's frequencies			
	Participant	**Counts**	**% of Total**
Primary	Representative	0	0.0 %
	Other	1	1.1 %
	Total	1	1.1 %
Secondary	Representative	6	6.7 %
	Other	1	1.1 %
	Total	7	7.8%
High school	Representative	24	26.7 %
	Other	16	17.8 %
	Total	40	44.4%
University	Representative	15	16.7 %
	Other	13	14.4 %
	Total	28	31.1%
Postgraduate studies	Representative	8	8.9 %
	Other	6	6.7 %
	Total	14	15.6%



Participants' education distribution

3.2 Years of experience as a representative (only for representatives)

The frequencies below provide an overview of the experience levels reported by each of the representatives, for those participants who provided an answer.

Counts	% of total
5	10.4 %
3	6.3 %
2	4.2 %
2	4.2 %
3	6.3 %
2	4.2 %
4	8.3 %
5	10.4 %
3	6.3 %
2	4.2 %
1	2.1 %
3	6.3 %
1	2.1 %
2	4.2 %

1	2.1 %
4	8.3 %
1	2.1 %
2	4.2 %
1	2.1 %
1	2.1 %

3.3 Stakeholder group

Question 27: Please state if you are also part of some of these stakeholder groups.

The table below provides information on the stakeholder groups to which participants belong. Here is a summary of the data:

- Out of the total participants (90), stakeholder groups with the highest representation include:
- Representative of local people at the Municipality level: 40 participants (44.4%)
- Representative of local people in a local village Council: 21 participants (23.3%)
- Other stakeholders: 26 participants (28.9%)

Additionally, there are varying numbers of participants from stakeholder groups such as farmers (7), entrepreneurs/employees in tourism (8), hunters (5), stock breeders (4), beekeepers (4), protected area management authorities (4), veterinarians (2), environmental non-governmental organizations (2), researchers/scientists (1), and representatives of local people at the regional level (1). Each of these groups accounts for a smaller percentage (ranging from 1.1% to 8.9%) of the total participants.

This table showcases the distribution of participants across various stakeholder groups, highlighting the number of representatives and other participants within each group. Researchers/scientists, environmental non-governmental organizations are only participants categorized as other stakeholders, while beekeeper, protected area management authority and veterinarian are represented by only participants categorized as representatives.

Stakeholder's group frequencies

Stakeholder	Participant	Counts	Total	% of total
Stock breeder	Representative	2	53	3.8%
	Other	2	37	5.4%
	Total	4	90	4.4%
Other	Representative	26	37	70.3%
	Other	2	53	3.8%
	Total	28	90	31.11%

Beekeeper	Representative	2	37	5.4%
	Total	2	90	2.22%
Hunter	Representative	3	53	5.7%
	Other	2	37	5.4%
	Total	5	90	5.55%
Farmer	Representative	4	53	7.5%
	Other	3	37	8.1%
	Total	7	90	7.77%
Protected Area Management Authority	Representative	4	53	7.5%
	Total	4	90	4.44%
Entrepreneur/employee in Tourism	Representative	5	53	9.4%
	Other	3	37	8.1%
	Total	8	90	8.88%
Environmental NGO	Other	2	37	5.4%
	Total	2	90	2.22%
Representative at the Municipality level	Representative	39	53	73.6%
	Other	1	37	2.7%
	Total	40	90	44.4%
Representative at the Regional level	Representative	1	53	1.9%
	Total	1	90	1.11%
Representative in a local village Council	Representative	20	53	37.7%
	Other	1	37	2.7%
	Total	21	90	23.33%
Researcher/ Scientist	Other	1	37	2.7%
	Total	1	90	1.11%
Veterinarian	Representative	2	53	3.8%
	Total	2	90	2.22%

4. Results

4.1 Question 1. Proud and value of having bears in the area

The first question of the study was aimed at understanding the perceived value of a bear population in the area, measuring pride, awareness, and ecological importance, even if personal sightings are absent. The question included three statements and participants could choose more than one item.

Options:

- I am proud of having/ I would be proud of having a bear population in my area.
- Even if I never see a bear in the wild, it is important for me to know they exist in my area.
- Bears are one of the most valuable assets of the natural environment in my area.

The table below presents the results of a question regarding participants' perspectives on the bear population in their area. 43.4% of representatives and 62.2% of other participants expressed pride in having a bear population. 50.9% of representatives and 43.2% of other participants considered it important to know that bears exist in their area. Finally, the third option indicated that 45.3% of representatives and 48.6% of other participants viewed bears as valuable assets in the natural environment.

Option	Participant	n	total	%
I am proud of having/ I would be proud of having a bear population in my area	Representative	23	53	43.4%
	Other	23	37	62.2%
	Total	46	90	51.1%
Even if I never see a bear in the wild, it is important for me to know they exist in my area	Representative	27	53	50.9%
	Other	16	37	43.2%
	Total	43	90	47.8%
Bears are one of the most valuable assets of the natural environment in my area	Representative	24	53	45.3%
	Other	18	37	48.6%
	Total	42	90	46.7%

4.2. Question 2. Human-bear conflict

Question n. 2 is a validated scale composed by four items and adapted from Sakurai et al. (2013) that measures risk perceptions on a 5-point scale from 1 "strongly disagree" to 5 "strongly agree":

1. *Human–bear conflicts are increasing*
2. *I am concerned about the safety of children*
3. *I am concerned about agricultural damage*
4. *I am worried about walking outside in my neighborhood*

4.2.1 Overall (mean among the items)

The table below presents the descriptive statistics and reliability analysis of the construct as a whole, by averaging the items. A t-test is then conducted to compare the responses given by representatives

and other stakeholders. Descriptive statistics and t-tests are reported for each individual item of the construct.

Descriptives	
Mean	1.98
Std. error mean	0.0790
Median	2.00
Standard deviation	0.750
Cronbach's Alpha	0.69

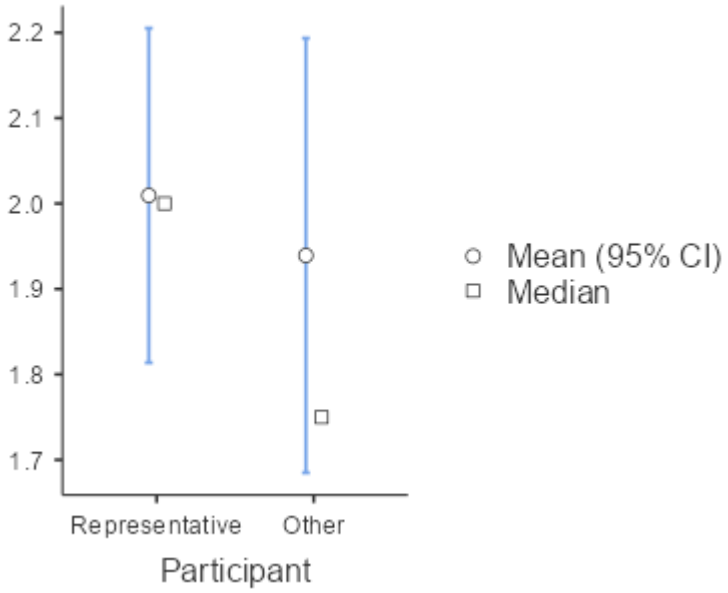
Independent Samples T-Test

	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	0.435	88.0	0.664	0.0702	0.161	Cohen's d	0.0933

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.01	2.00	0.727	0.0999
Other	37	1.94	1.75	0.789	0.130



4.2.2 Single item analysis

4.2.2.1 Q2, item 1. Human–bear conflicts are increasing

Full sample

Descriptives	
Mean	2.23
Std. error mean	0.121
Median	2.00
Mode	2.00
Standard deviation	1.15
Range	4
Minimum	1
Maximum	5

Split sample

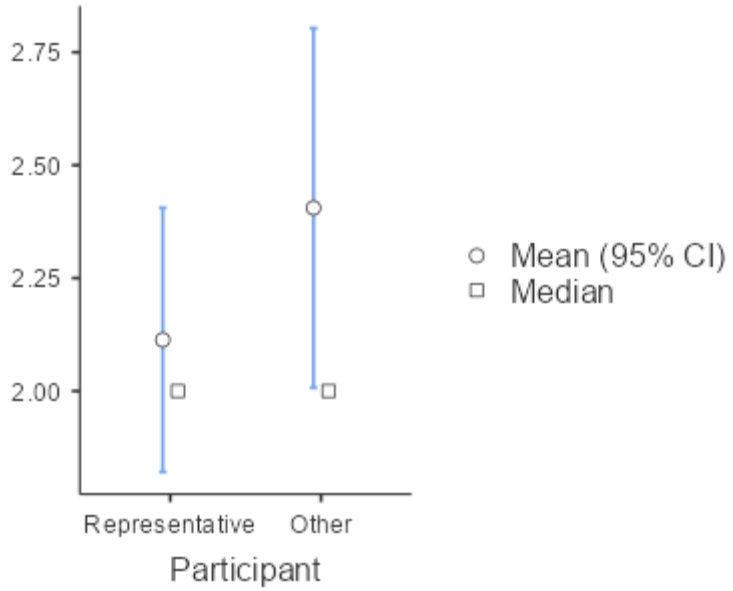
Independent Samples T-Test

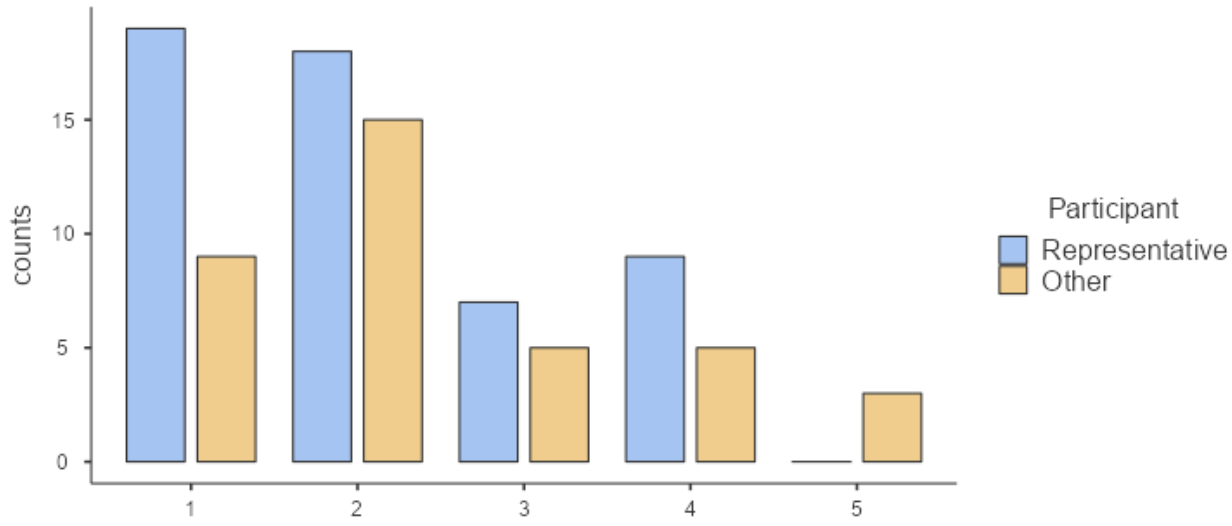
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	-1.19	88.0	0.239	-0.292	0.246	Cohen's d	-0.254

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.11	2.00	1.09	0.149
Other	37	2.41	2.00	1.24	0.203





Distribution of answers for Q2, item 1. Human–bear conflicts are increasing

4.2.2.2 Q2, item 2. I am concerned about the safety of children

Full sample

Descriptives	
Mean	1.82
Std. error mean	0.110
Median	2.00
Mode	1.00
Standard deviation	1.04
Range	4
Minimum	1
Maximum	5

Split sample

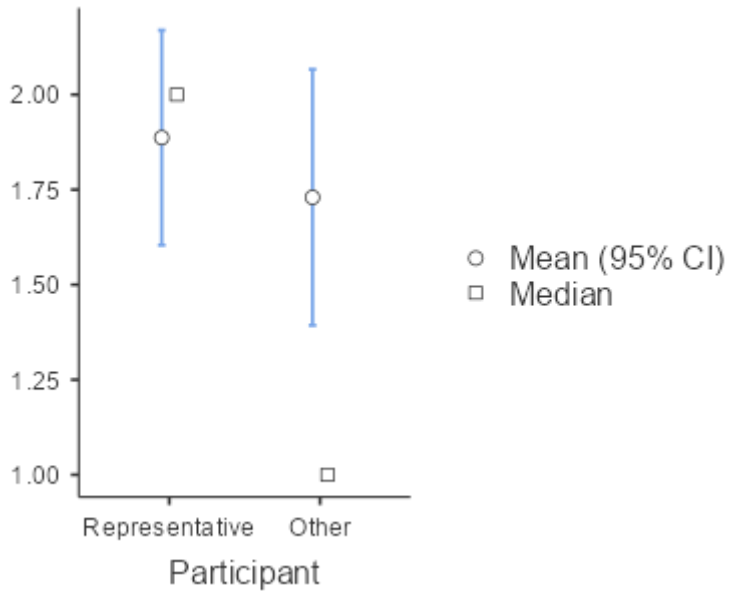
Independent Samples T-Test

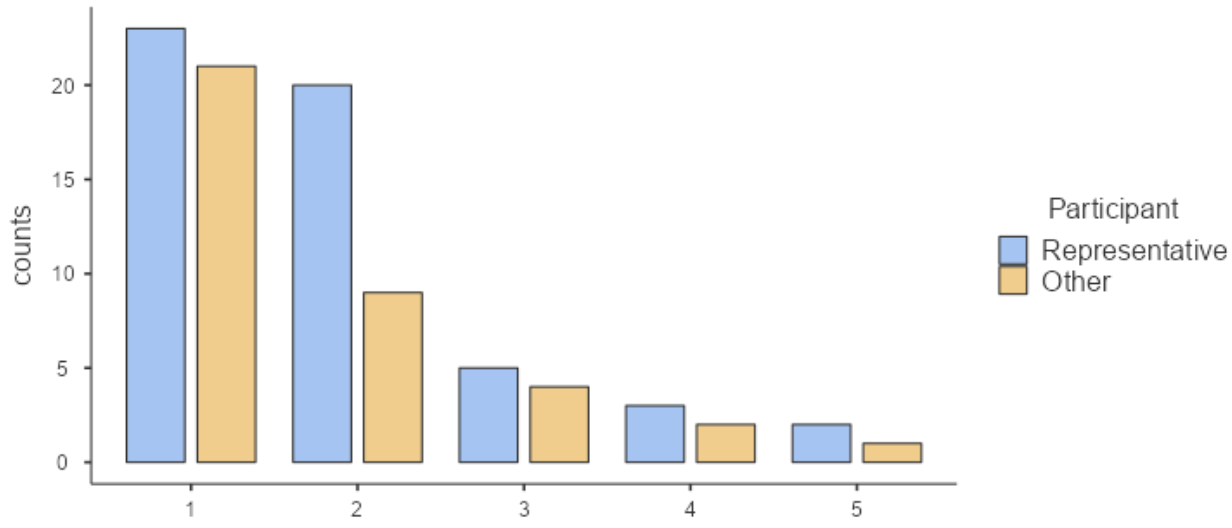
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	0.700	88.0	0.486	0.157	0.224	Cohen's d	0.150

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	1.89	2.00	1.05	0.144
Other	37	1.73	1.00	1.04	0.172





Distribution of answers for Q2, item 2. I am concerned about the safety of children

4.2.2.3 Q2, item 3. I am concerned about the safety of children

Full sample

Mean	2.42
Std. error mean	0.125
Median	2.00
Mode	2.00
Standard deviation	1.19
Range	4
Minimum	1
Maximum	5

Split sample

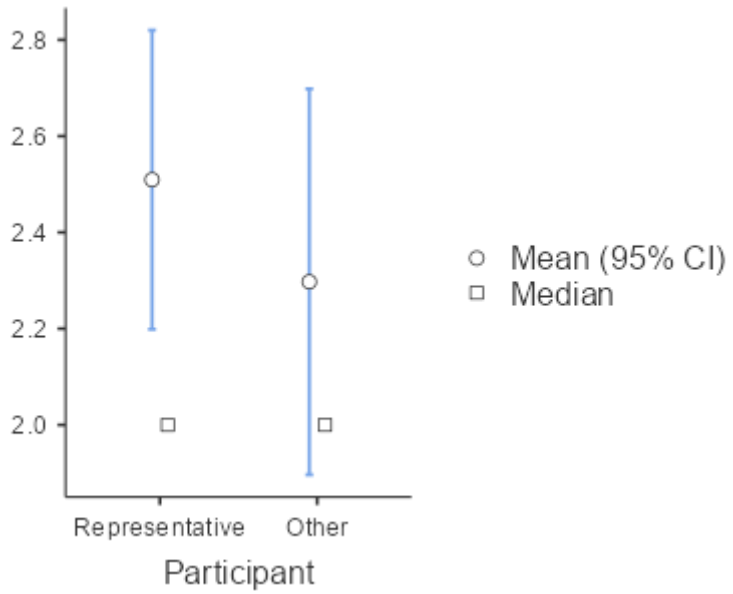
Independent Samples T-Test

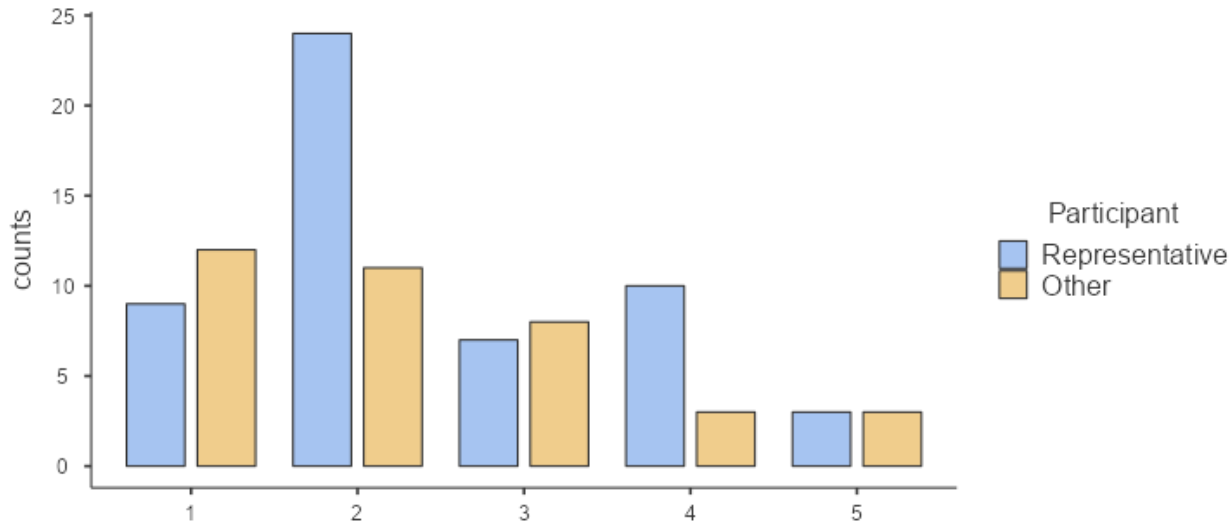
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	0.831	88.0	0.408	0.212	0.255	Cohen's d	0.178

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.51	2.00	1.15	0.159
Other	37	2.30	2.00	1.24	0.205





Distribution of answers for Q2, item 3. I am concerned about the safety of children

4.2.2.4 Q2, item 4. I am worried about walking outside in my neighborhood

Full sample

Descriptives	
Mean	1.44
Std. error mean	0.0807
Median	1.00
Mode	1.00
Standard deviation	0.766
Range	4
Minimum	1
Maximum	5

Split sample

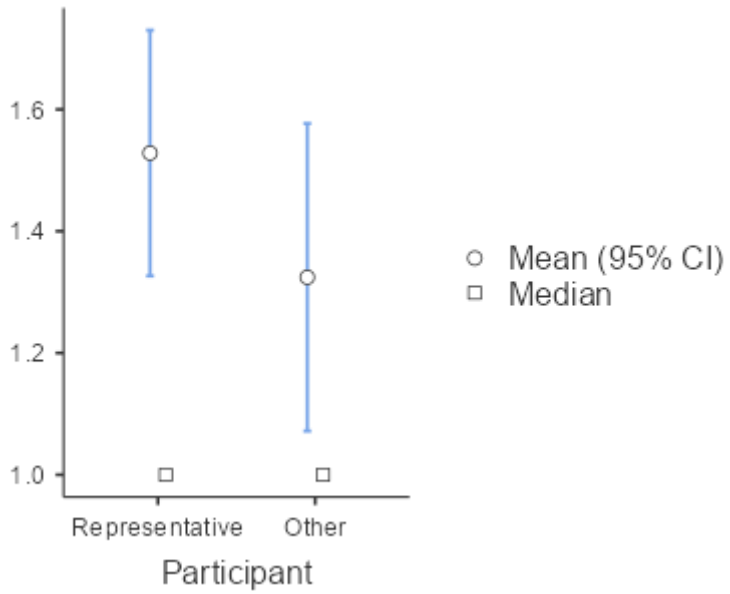
Independent Samples T-Test

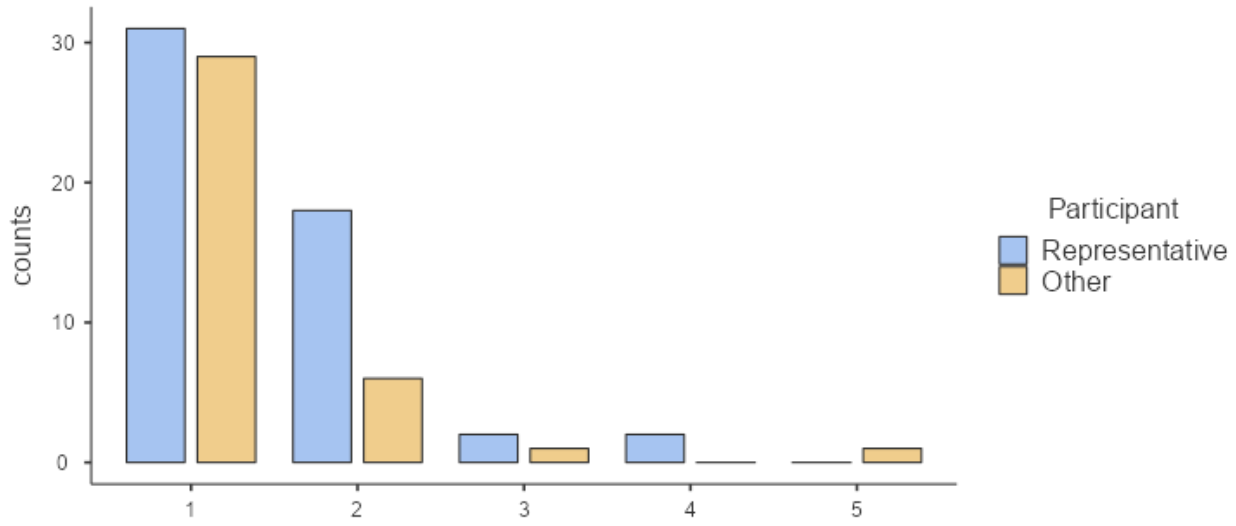
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	1.25	88.0	0.216	0.204	0.164	Cohen's d	0.267

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	1.53	1.00	0.749	0.103
Other	37	1.32	1.00	0.784	0.129





Distributions of answers for Q2, item 4. I am worried about walking outside in my neighborhood

4.3 Question 3. Damages from bears

Question n. 3 is a validated three-item scale adapted from Gilkman et al. (2019) that measures *beliefs about costs* on a 5-point scale from 1 "strongly disagree" to 5 "strongly agree":

1. *Bears cause abundant damages to livestock*
2. *Bears cause abundant damages to beehives*
3. *Bears cause abundant damages to orchards and agriculture crops*

4.3.1 Question 3: Overall (mean among the items)

The table below presents the descriptive statistics and reliability analysis of the construct as a whole, by averaging the items. A t-test is then conducted to compare the responses given by representatives and other stakeholders. Subsequently, descriptive statistics and t-tests are reported for each individual item of the construct.

Descriptives	
Mean	2.46
Std. error mean	0.103
Median	2.33
Standard deviation	0.974

Descriptives	
Cronbach's Alpha	0.84

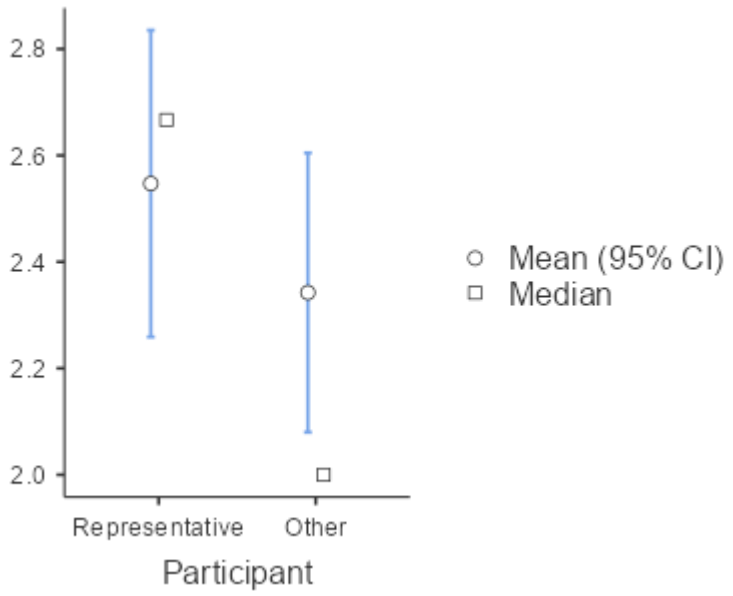
Independent Samples T-Test

	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	0.982	88.0	0.329	0.205	0.209	Cohen's d	0.210

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.55	2.67	1.07	0.147
Other	37	2.34	2.00	0.815	0.134



4.3.2 Single item analysis

4.3.2.1 Q3, item 1. Bears cause abundant damages to livestock

Full sample

Descriptives	
Mean	2.19
Median	2.00
Mode	2.00
Standard deviation	1.09
Range	4
Minimum	1
Maximum	5

Split sample

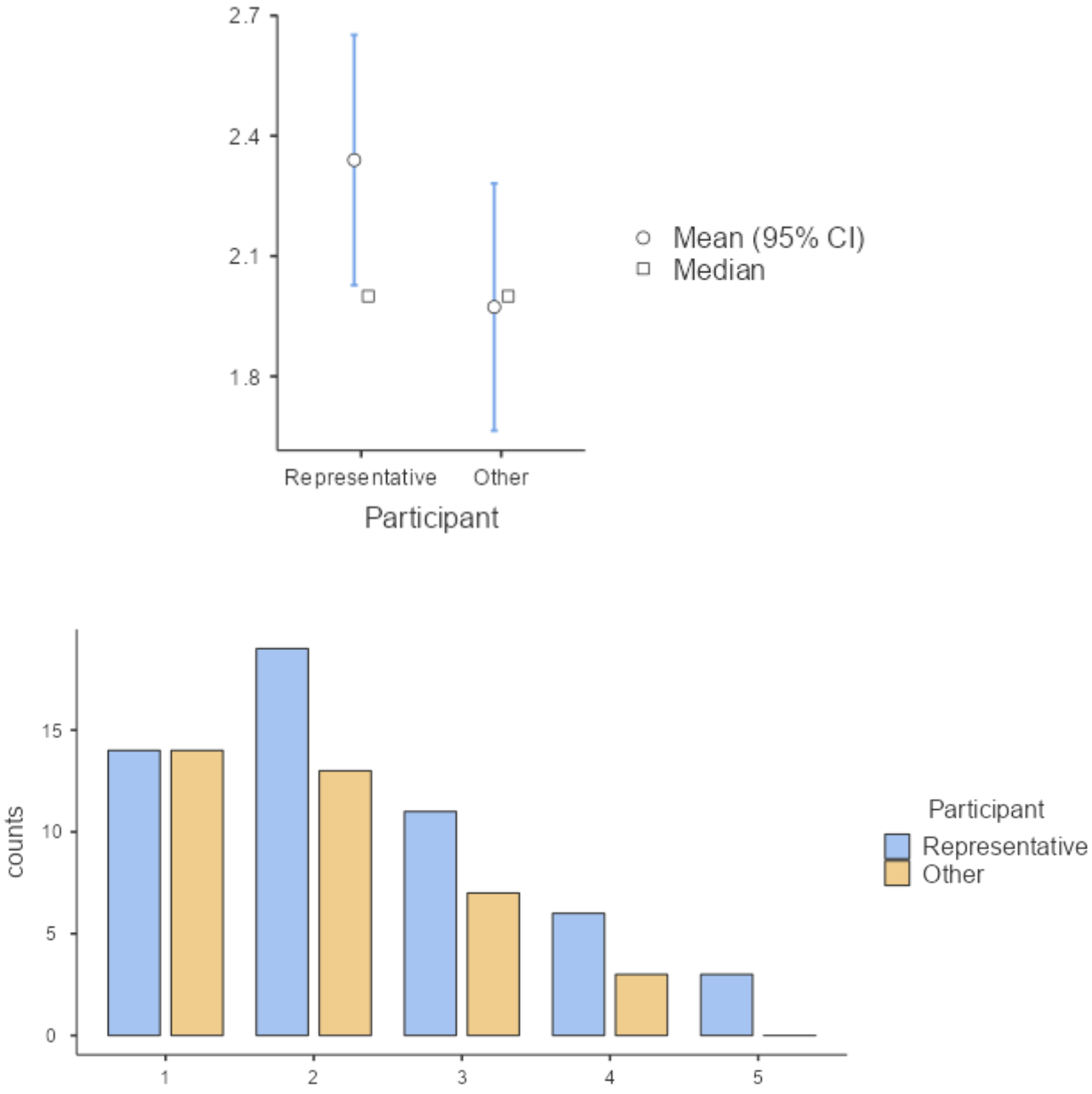
Independent Samples T-Test

	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	1.58	88.0	0.117	0.367	0.232	Cohen's d	0.339

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.34	2.00	1.16	0.159
Other	37	1.97	2.00	0.957	0.157



Distributions of answers for Q3, item 1. Bears cause abundant damages to livestock

4.3.2.2 Q3, item 2. Bears cause abundant damages to beehives

Full sample

Descriptives	
Mean	2.64
Std. error mean	0.120
Median	2.50
Mode	2.00
Standard deviation	1.13
Range	4
Minimum	1
Maximum	5

Split sample

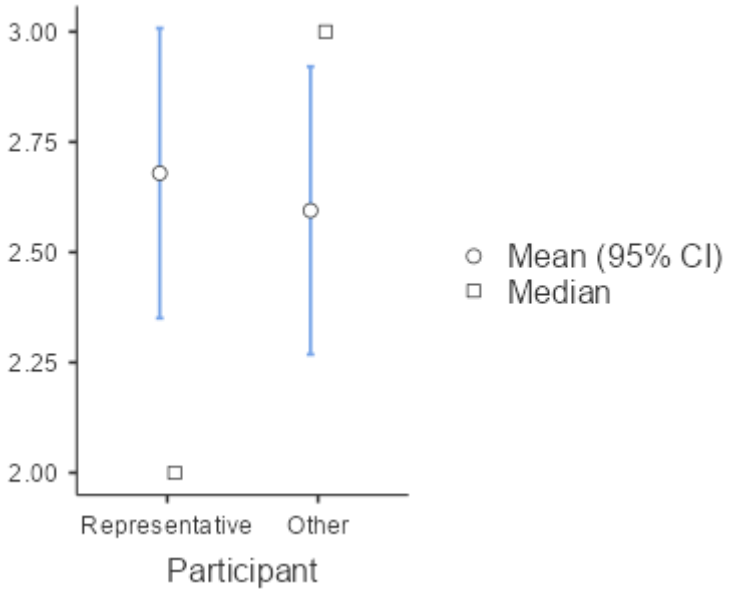
Independent Samples T-Test

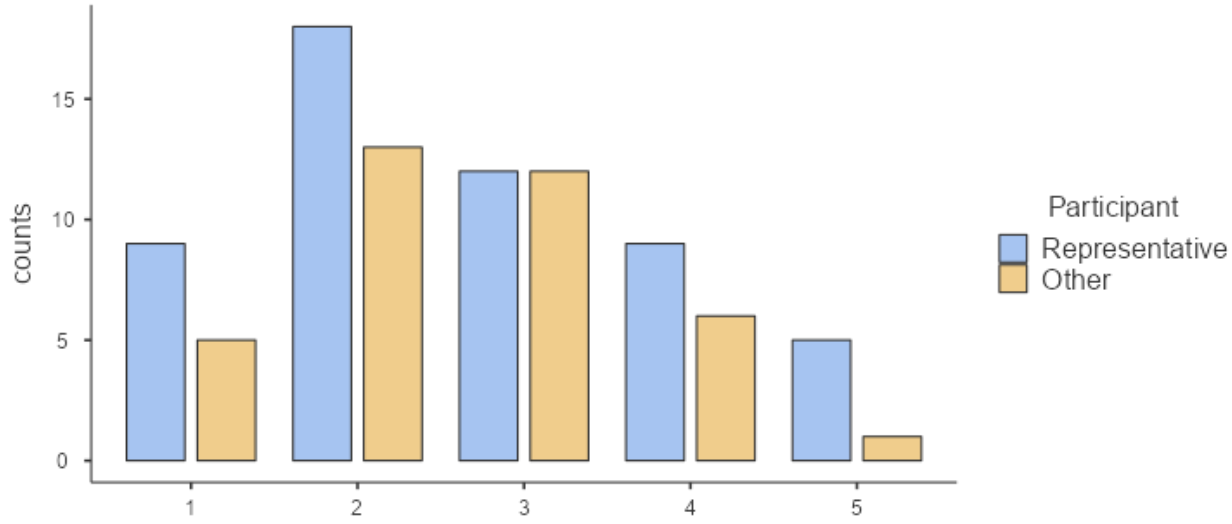
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	0.346	88.0	0.730	0.0847	0.244	Cohen's d	0.0742

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.68	2.00	1.22	0.168
Other	37	2.59	3.00	1.01	0.166





Distributions of answers for Q3, item 2. Bears cause abundant damages to beehives

4.3.2.3 Q3, item 3. Bears cause abundant damages to orchards and agriculture crops

Full sample

Descriptives	
Mean	2.56
Std. error mean	0.118
Median	2.00
Mode	2.00
Standard deviation	1.12
Range	4
Minimum	1
Maximum	5

Split sample

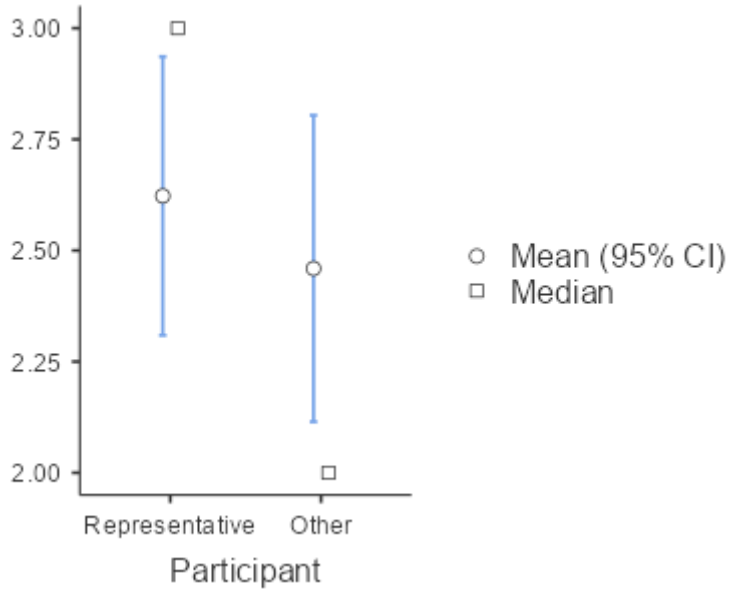
Independent Samples T-Test

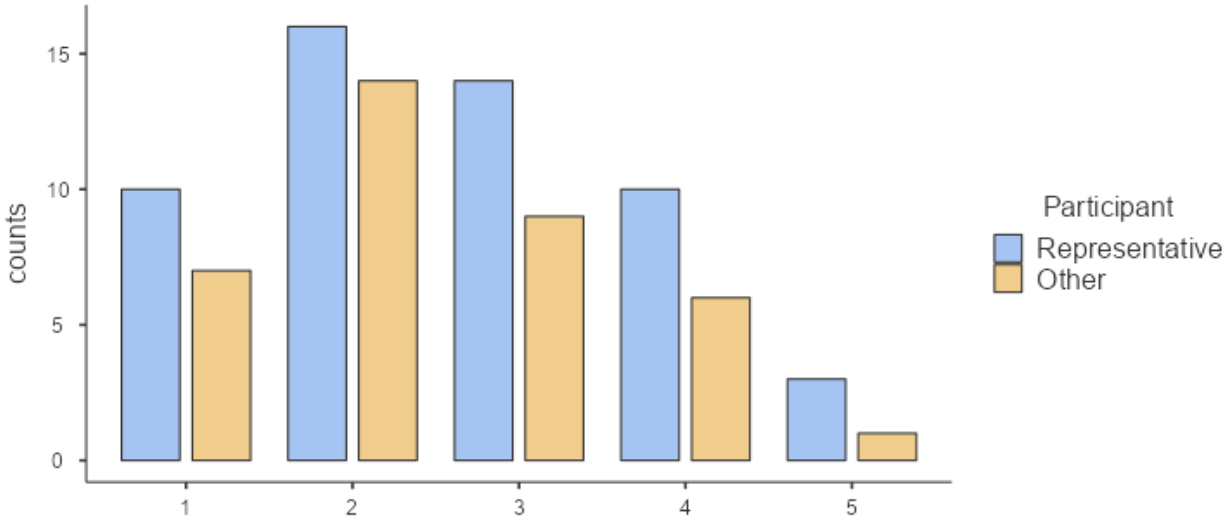
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	0.676	88.0	0.501	0.163	0.241	Cohen's d	0.145

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.62	3.00	1.16	0.160
Other	37	2.46	2.00	1.07	0.176





Distributions of answers for Q3, item 3. Bears cause abundant damages to orchards and agriculture crops

4.4 Question 4. Awareness of compensation schemes

In this question, participants were invited to select one only answer among 4 options regarding awareness about the compensation scheme for bear damages.

Q4: Are you aware about the compensation scheme for bear damages? (Choose one item)

Full sample

The table displays the responses to a set of questions regarding participants' knowledge of compensation schemes. Overall, 32.2% of respondents have heard of the scheme but lack specific details. 31.1% of participants are well-informed about the scheme. In contrast, 14.4% of respondents have never heard of the compensation scheme. Lastly, Option 4 shows that 22.2% of participants possess partial knowledge and are interested in learning more. The table highlights varying levels of awareness and understanding regarding the compensation scheme among the surveyed individuals.

Option	Counts	% of Total
1 I have heard about the scheme but I am not aware of any details	29	32.2 %
2 Yes, in detail	28	31.1 %
3 No, I have never heard of such a compensation scheme	13	14.4 %
4 I know some aspects of this scheme but I would like to know more	20	22.2 %

Split sample

As shown by the table and the figure below, only 5 representatives declare to have never heard of a compensation scheme for bear damages, and the majority of representatives (22) declare to know such compensation scheme in detail. While the majority of other stakeholders (17) report having heard about the scheme but not in detail.

Participant	1	2	3	4	Total
Representative	12	22	5	14	53
Other	17	6	8	6	37
Total	29	28	13	20	90

Distribution of answers for awareness of compensation schemes

4.5 Question 5. Damages compensation

Question 5 aimed at understanding knowledge about the authority that compensates for the bear damages. Two different authorities were included in the items: 1) The Regional Authority and 2) the Park Authority.

4.5.1 Q5, item 1: Regional Authorities compensate bear damages where I live

The responses to this question show ambiguous results. Overall, the majority of participants declare to not know whether Regional Authorities compensate bear damages where they live. In the representative sub-sample, 14 participants answered "Yes," 20 answered "No," and 19 answered "I do not know,", while in the other stakeholders sub-sample, the majority of participants (43) does not know whether Regional Authorities compensate bear damages where they live.

Full sample

Frequencies

	Counts	% of Total
Yes	23	25.6 %
No	24	26.7 %
I do not know	43	47.8 %

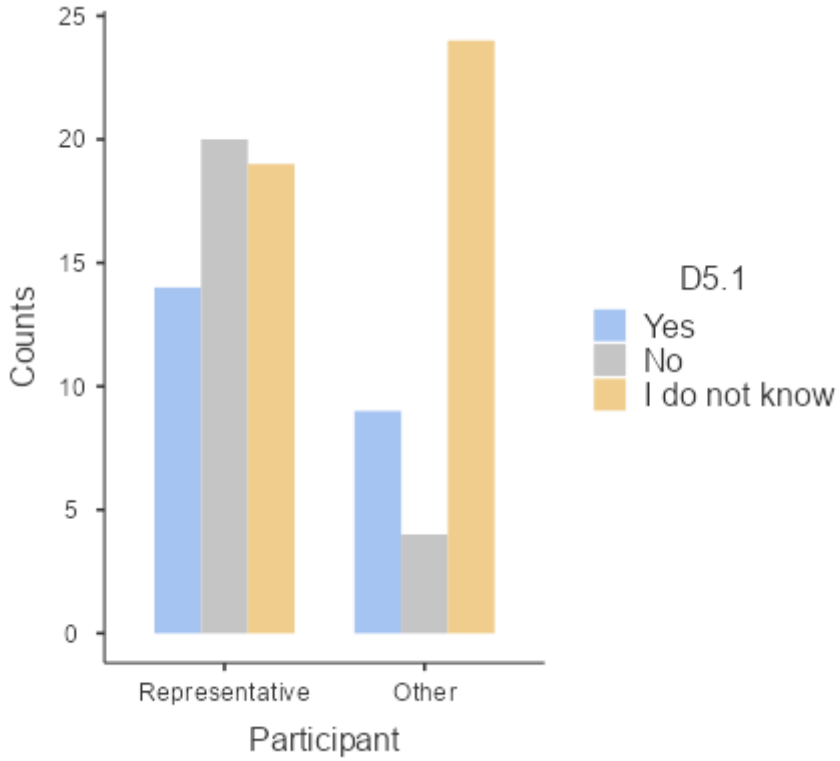
Split sample

Contingency Tables

Participant	Yes	No	I do not know	Total
Representative	14	20	19	53
Other	9	4	24	37
Total	23	24	43	90

χ^2 Tests

	Value	df	p
χ^2	9.80	2	0.007
N	90		



Distribution of answers for Q5, item 1: Regional Authorities compensate bear damages where I live

4.5.2. Q5, item 2: Park Authorities compensate bear damage in the area where I live

In this case, overall, only a few participants (3) declare that according to their opinion, Park Authorities do not compensate for bear damage in the area where they live, while the majority (54) believe that Park Authorities compensate for bear damage in the area where they live. 33 participants do not feel they know the answer. By having a look at the split dataset, only 1 representative answered "no" to the question, the majority replied "yes", and 14 representatives declared to not know the answer. Among other stakeholders, only 2 participants replied "no", the majority of them declare not to know the answer (19), while 16 participants in this subsample believe that Park Authorities compensate for bear damage in the area where they live.

Full sample

Frequencies

	Counts	% of Total
Yes	54	60.0 %
No	3	3.3 %
I do not know	33	36.7 %

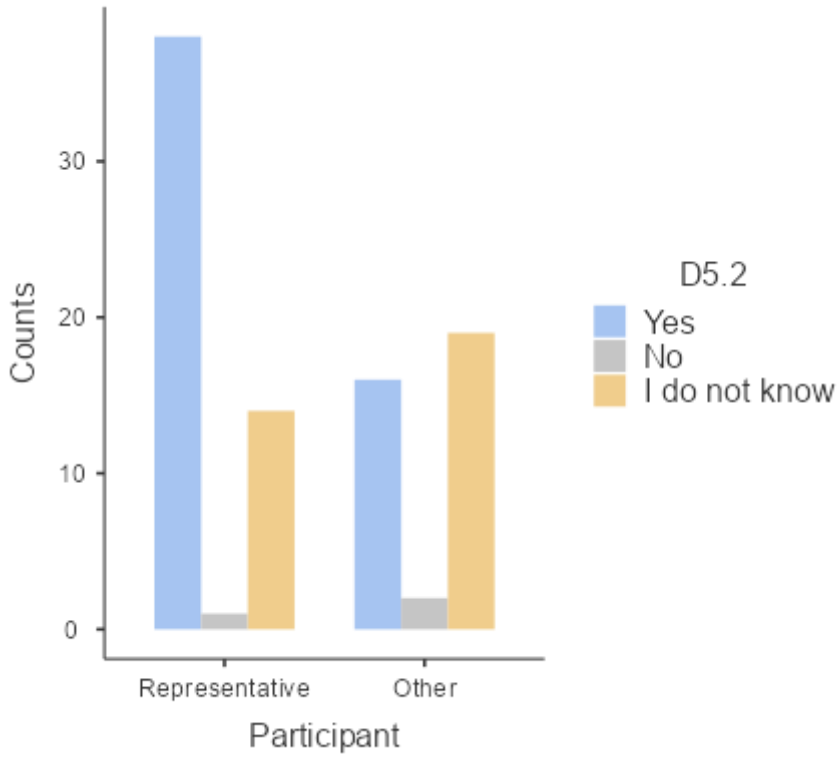
Split sample

Contingency Tables

Participant	Yes	No	I do not know	Total
Representative	38	1	14	53
Other	16	2	19	37
Total	54	3	33	90

χ^2 Tests

	Value	df	p
χ^2	7.44	2	0.024
N	90		



Distributions of answers for Q5, item 2: Park Authorities compensate bear damage in the area where I live

4.6 Question 6. Opinion on the possibilities of managing bears' damages

Question 6 aimed at understanding participants' opinion regarding the different possibilities of managing the damage caused by bears. They were asked to indicate whether they agree with each statement.

4.6.1. Q6, item 1. Subsidy for living in an area where there are bears

Local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) should receive a subsidy for living in an area where there are bears instead of receiving compensation for losses that bears cause

Full sample

Overall, the majority of participants (53) does not believe that local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) should receive a subsidy for living in an area where there are bears instead of receiving compensation for losses that bears causes.

	Counts	% of Total
I agree	24	26.7 %
I do not agree	53	58.9 %
Maybe	13	14.4 %

Split sample

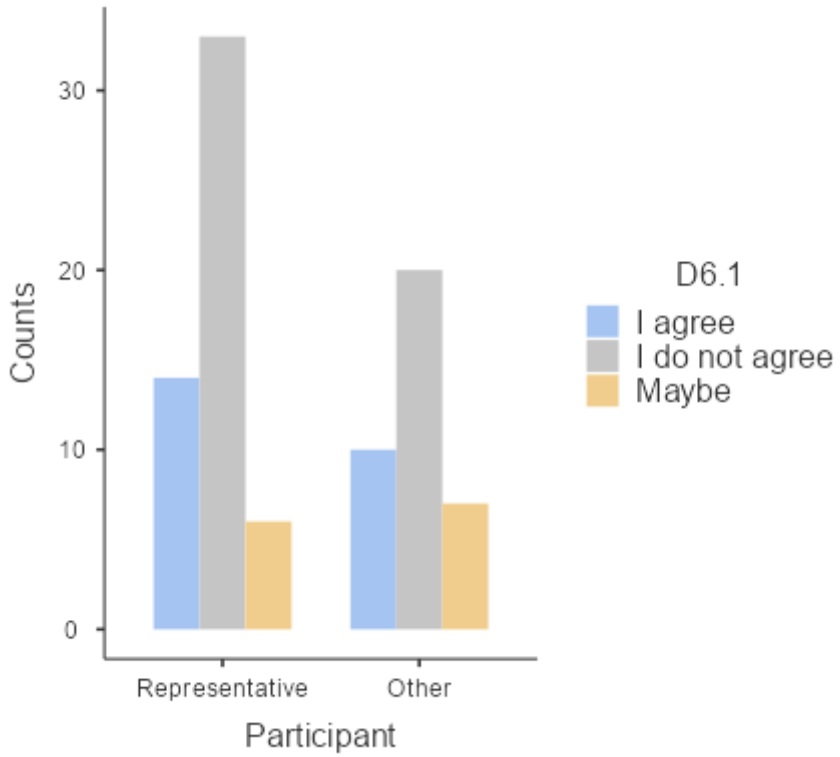
By looking at the split sample, the results between representatives and other stakeholders are quite balanced. Both the majority of representatives (33) and other stakeholders (20) do not believe that local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) should receive a subsidy for living in an area where there are bears instead of receiving compensation for losses that bears causes.

Contingency Tables

Participant	I agree	I do not agree	Maybe	Total
Representative	14	33	6	53
Other	10	20	7	37
Total	24	53	13	90

χ^2 Tests

	Value	df	p
χ^2	1.12	2	0.570
N	90		



Distributions of answers for Q6, item 1. Subsidy for living in an area where there are bears

4.6.2. Q6, item 2. Compensations for those who use prevention measures

Compensation for the damage caused by bears should be paid only to local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) who use prevention measures to reduce bear attack (e.g. electric fences, guard dogs)

Full sample

Overall, the majority of participants (48) agree that compensation for the damage caused by bears should be paid only to local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) who use prevention measures to reduce bear attack (e.g. electric fences, guard dogs).

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Frequencies

	Counts	% of Total
I agree	48	53.3 %
I do not agree	29	32.2 %
Maybe	13	14.4 %

Split sample

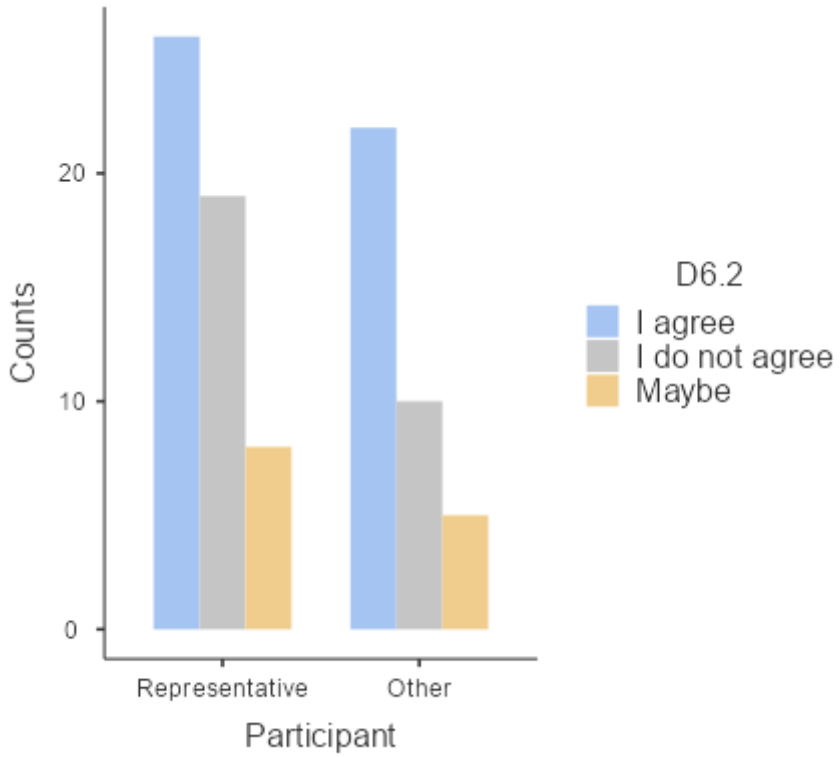
By giving a look at the split sample, results between representatives and other stakeholders are again quite balanced. Both the majority of representatives (26) and other stakeholders (22) agree that compensation for the damage caused by bears should be paid only to local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) who use prevention measures to reduce bear attack (e.g. electric fences, guard dogs).

Contingency Tables

Participant	I agree	I do not agree	Maybe	Total
Representative	26	19	8	53
Other	22	10	5	37
Total	48	29	13	90

χ^2 Tests

	Value	df	p
χ^2	1.01	2	0.605
N	90		



Distributions for answers for Q6, item 2. Compensations for those who use prevention measures

4.6.3. Q6, item 3. Animals lost for bears attacks

Local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) who lose animals because of bear attacks should receive compensation.

Full sample

Overall, the majority of participants (77) agree that local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) who lose animals because of bear attacks should receive compensation.

	Counts	% of Total
I agree	77	85.6 %
I do not agree	7	7.8 %

	Counts	% of Total
Maybe	6	6.7 %

Split sample

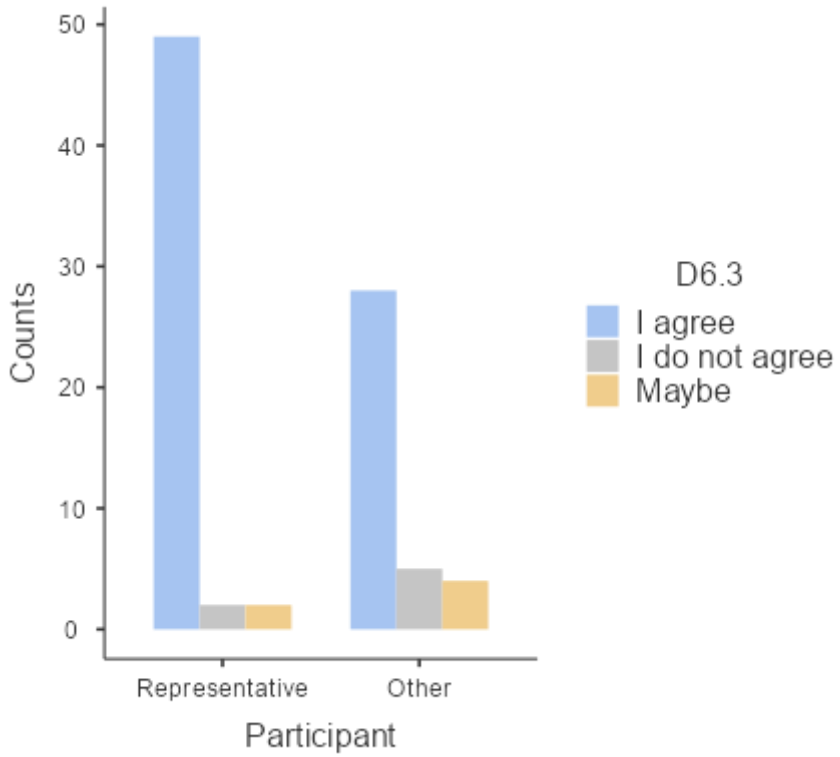
By looking at the split sample, results between representatives and other stakeholders are again quite balanced. Both the majority of representatives (49) and other stakeholders (28) agree that local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) who lose animals because of bear attacks should receive compensation.

Contingency Tables

Participant	I agree	I do not agree	Maybe	Total
Representative	49	2	2	53
Other	28	5	4	37
Total	77	7	6	90

χ^2 Tests

	Value	df	p
χ^2	4.99	2	0.082
N	90		



Distributions of answers for Q6, item 3. Animals lost for bears attacks

4.6.4. Q6, item 4. Taxes to pay compensation for bears' damages

I would agree if part of my taxes were used to pay compensation for the damages caused by bears.

Full sample

Overall, the majority of participants (52) agree if part of their taxes were used to pay compensation for the damages caused by bears.

Frequencies

	Counts	% of Total
I agree	52	57.8 %
I do not agree	29	32.2 %
Maybe	9	10.0 %

Split sample

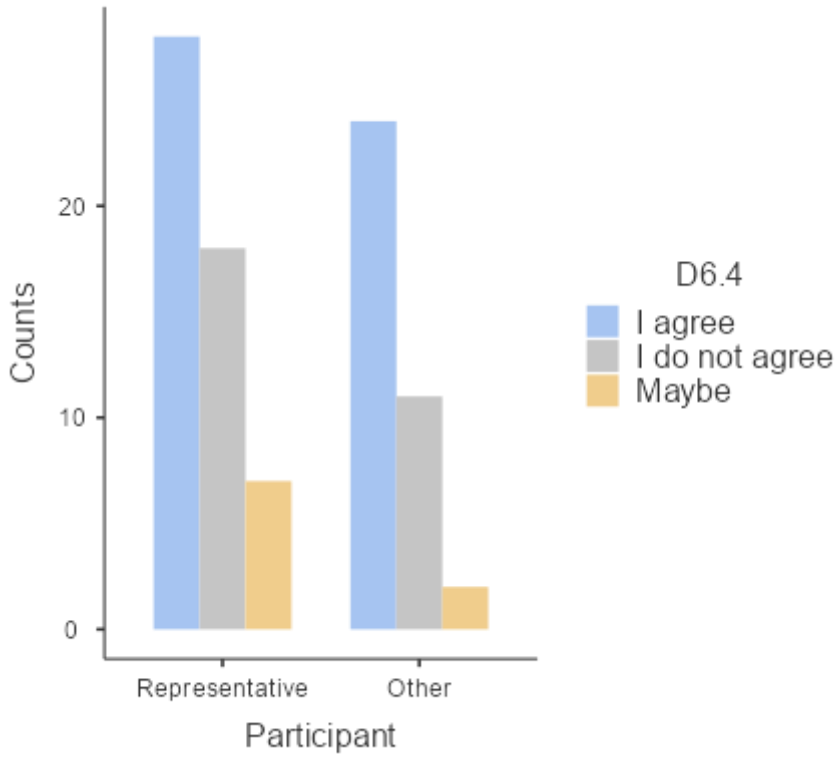
By giving a look at the split sample, results between representatives and other stakeholders are also quite balanced. Both the majority of representatives (28) and other stakeholders (24) would agree if part of their taxes were used to pay compensation for the damages caused by bears.

Contingency Tables

Participant	I agree	I do not agree	Maybe	Total
Representative	28	18	7	53
Other	24	11	2	37
Total	52	29	9	90

χ^2 Tests

	Value	df	p
χ^2	1.99	2	0.369
N	90		



Distributions of answers for Q6, item 4. Taxes to pay compensation for bears' demages

4.7 Question 7. Opinions on actions for mitigating human-bear conflicts

Question 7 aimed at understanding participants' opinion regarding the effectiveness of a series of eight actions in mitigating human-bear conflicts.

4.7.1. Q7, item 1. Use of livestock guarding dogs

Out of the total respondents, 52.2% consider using livestock guarding dogs effective, while 20.0% deemed it not effective. A significant portion, 27.8%, responded "I do not know." These results indicate a mixed perception of the effectiveness, with a majority leaning towards it being effective, a smaller proportion perceiving it as ineffective, and a notable number unsure about its effectiveness.

By giving a look at the split sample, among the representatives, 28 participants consider using livestock guarding dogs effective, 10 consider it not effective, and 15 are unsure. Among the other stakeholders participants, 19 consider using livestock guarding dogs effective, 8 consider it not effective, and 10 are unsure, totaling 37.

Full sample

	Counts	% of Total
Effective	47	52.2 %
Not effective	18	20.0 %
I do not know	25	27.8 %

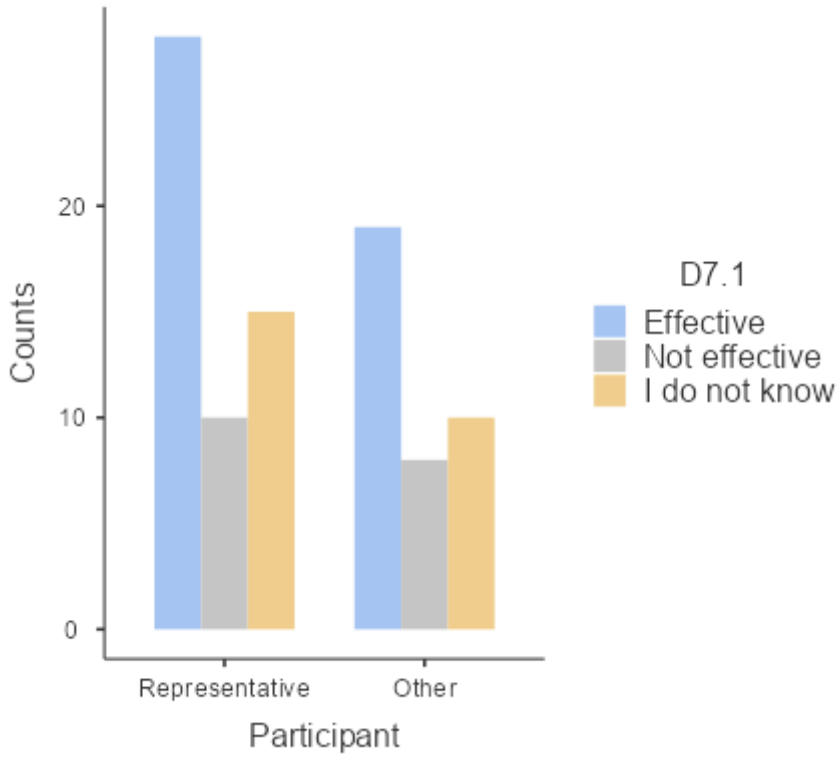
Split sample

Contingency Tables

Participant	Effective	Not effective	I do not know	Total
Representative	28	10	15	53
Other	19	8	10	37
Total	47	18	25	90

χ^2 Tests

	Value	df	p
χ^2	0.104	2	0.949
N	90		



Distribution of answers for Q7, item 1. Use livestock guarding dogs

4.7.2. Q7, item 2. Use of electric fences

Overall, out of the total 90 participants, 71 perceive using electric fences as effective, 10 consider it not effective, and 9 are unsure. The table indicates a majority perception of effectiveness among the participants.

Then, the contingency table provides a breakdown of participant responses concerning effectiveness, lack of effectiveness, and uncertainty. Among the representatives, 42 participants perceive using electric fences as effective, while 6 participants consider it not effective, and 5 are unsure. Among the other participants, 29 perceive using electric fences as effective, 4 considered it not effective, and 4 were unsure.

Full sample

Frequencies

	Counts	% of Total
Effective	71	78.9 %
Not effective	10	11.1 %

Frequencies

	Counts	% of Total
I do not know	9	10.0 %

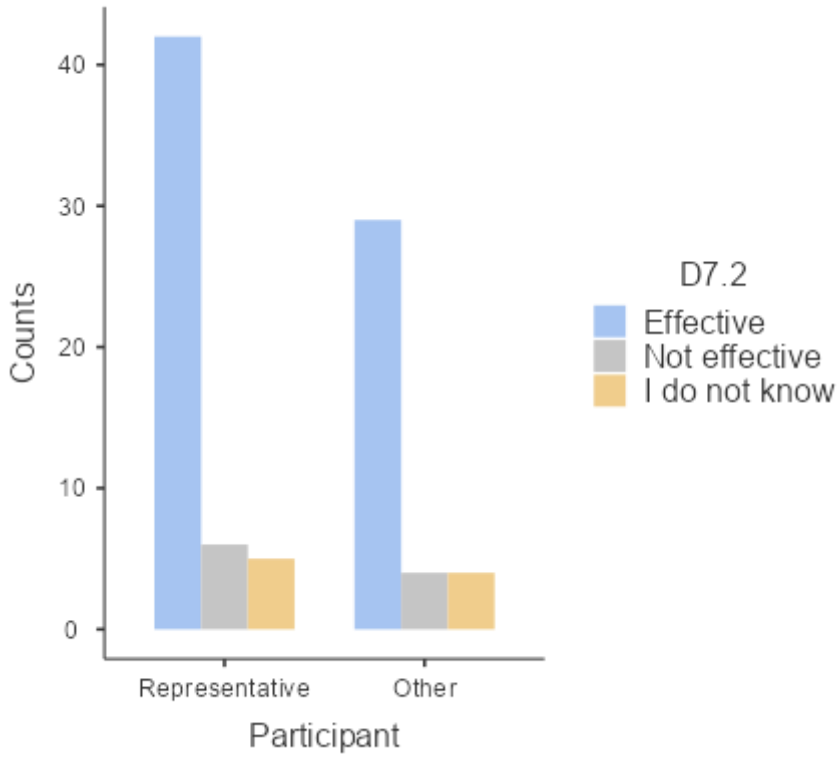
Split sample

Contingency Tables

Participant	Effective	Not effective	I do not know	Total
Representative	42	6	5	53
Other	29	4	4	37
Total	71	10	9	90

χ^2 Tests

	Value	df	p
χ^2	0.0485	2	0.976
N	90		



Distribution of answers for Q7, item 2. Use electric fences

4.7.3. Q7, item 3. Use of bear-proof garbage bins

Overall, out of the total 90 participants, 62 perceive using bear-proof garbage bins as effective, 11 consider it not effective, and 17 are unsure.

By giving a look at the split sample, among the representatives, 37 participants perceive using bear-proof garbage bins as effective, 7 consider it not effective, and 9 are unsure. Among the other participants, 25 perceive using bear-proof garbage bins as effective, 4 consider it not effective, and 8 are unsure.

Full sample

Descriptives

	Counts	% of Total
Effective	62	68.9 %
Not effective	11	12.2 %

Descriptives

	Counts	% of Total
I do not know	17	18.9 %

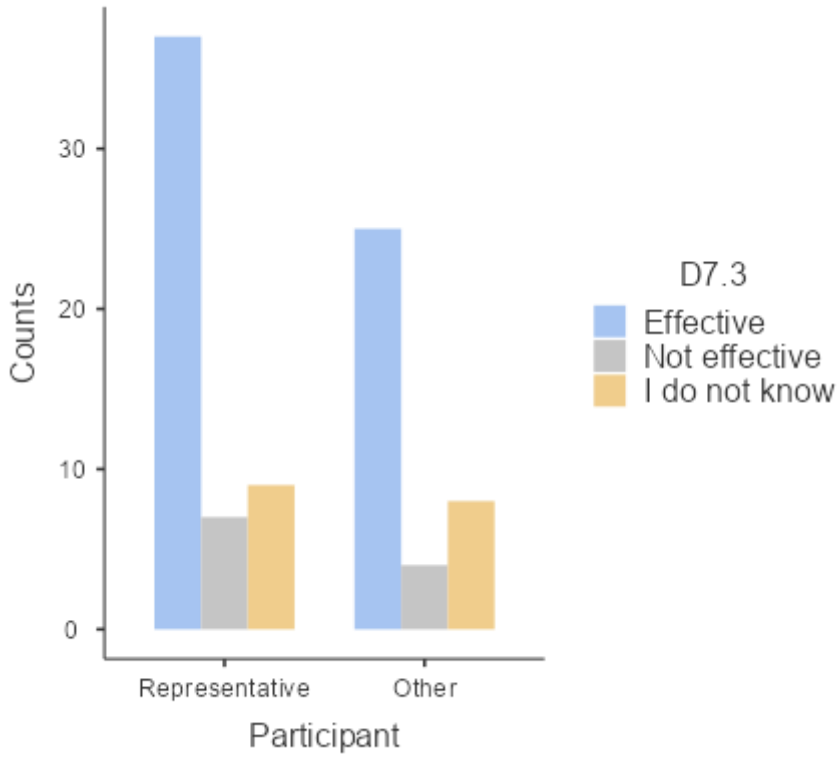
Split sample

Contingency Tables

Participant	Effective	Not effective	I do not know	Total
Representative	37	7	9	53
Other	25	4	8	37
Total	62	11	17	90

χ^2 Tests

	Value	df	p
χ^2	0.367	2	0.832
N	90		



Distribution of answers for Q7, item 3. Use bear-proof garbage bins

4.7.4. Q7, item 4. Increase food availability that can be also found in the wild

Overall, out of the total 90 participants, 69 perceive increasing food availability that can be also found in the wild as effective, 10 consider it not effective, and 11 are unsure. Among the representatives, 39 participants perceive increasing food availability that can be also found in the wild as effective, 8 consider it not effective, and 6 are unsure. Among the other participants, 30 perceive increasing food availability that can be also found in the wild as effective, 2 consider it not effective, and 5 are unsure.

Full sample

Frequencies

	Counts	% of Total
Effective	69	76.7 %
Not effective	10	11.1 %
I do not know	11	12.2 %

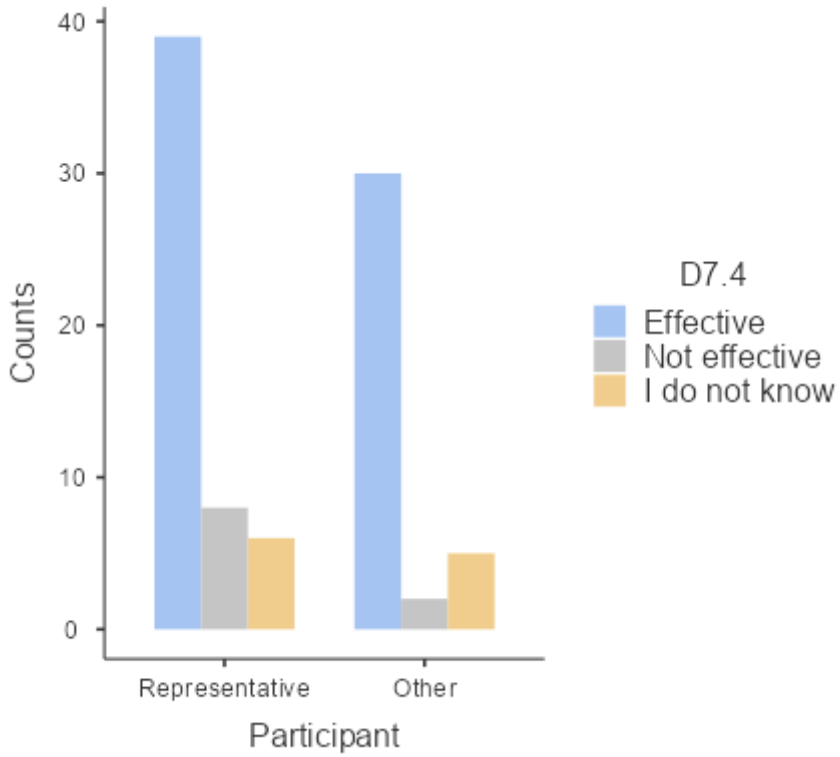
Split sample

Contingency Tables

Participant	Effective	Not effective	I do not know	Total
Representative	39	8	6	53
Other	30	2	5	37
Total	69	10	11	90

χ^2 Tests

	Value	df	p
χ^2	2.09	2	0.352
N	90		



Distribution of answers for Q7, item 4. Increase food availability that can be also found in the wild

4.7.5. Q7, item 5. Deliberately increase food availability for bears in the form of corn

Overall, out of the total 90 participants, 13 perceive that deliberately increase food availability for bears in the form of corn as effective, 54 consider it not effective, and 23 are unsure. Among the representatives, 8 participants perceive that deliberately increase food availability for bears in the form of corn is effective, 31 consider it not effective, and 14 are unsure. Among the other participants, 5 perceive that deliberately increase food availability for bears in the form of corn is an effective strategy, while 23 participants consider it not effective, and 9 are unsure.

Full sample

Frequencies

	Counts	% of Total
Effective	13	14.4 %
Not effective	54	60.0 %

Frequencies

	Counts	% of Total
I do not know	23	25.6 %

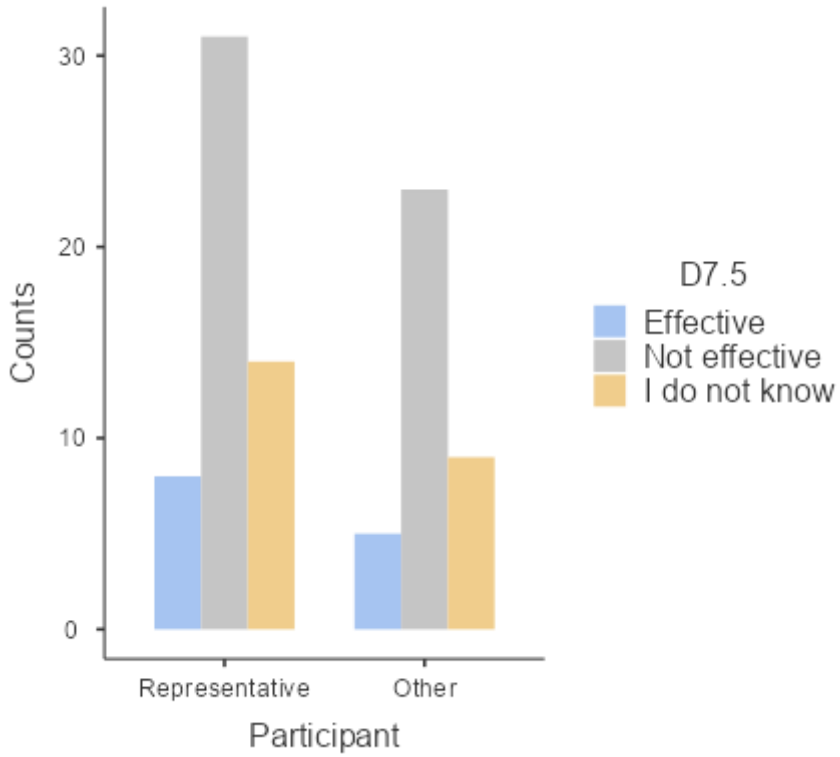
Split sample

Contingency Tables

Participant	Effective	Not effective	I do not know	Total
Representative	8	31	14	53
Other	5	23	9	37
Total	13	54	23	90

χ^2 Tests

	Value	df	p
χ^2	0.124	2	0.940
N	90		



Distribution of answers for Q7, item 5. Deliberately increase food availability for bears in the form of corn

4.7.6. Q7, item 6. Clear vegetation around villages

Overall, out of the total 90 participants, 23 perceive that clearing vegetation around villages is effective, 52 consider it not effective, and 15 are unsure.

Among the representatives, 13 participants perceive that clearing vegetation around villages is an effective strategy, 30 consider it not effective, and 10 are unsure. Among the other participants, 10 perceive clearing vegetation around villages as effective, 22 consider it not effective, and 5 are unsure.

Full sample

Frequencies

	Counts	% of Total
Effective	23	25.6 %
Not effective	52	57.8 %
I do not know	15	16.7 %

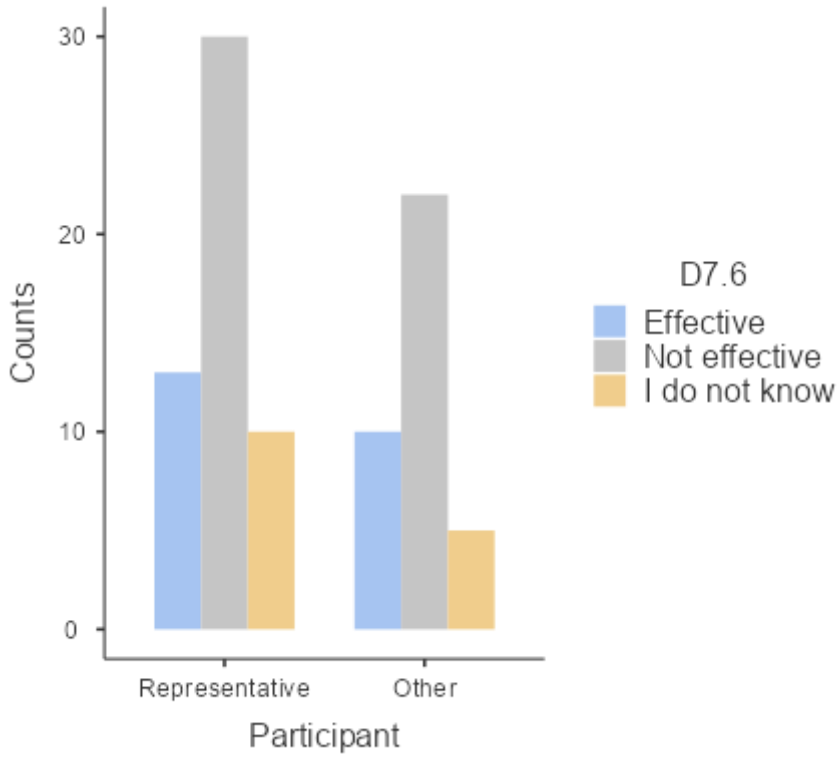
Split sample

Contingency Tables

Participant	Effective	Not effective	I do not know	Total
Representative	13	30	10	53
Other	10	22	5	37
Total	23	52	15	90

χ^2 Tests

	Value	df	p
χ^2	0.459	2	0.795
N	90		



Distribution of answers for Q7, item 6. Clear vegetation around villages

4.7.7. Q7, item 7. Inform local people of how to behave with bears in unexpected encounters

Overall, out of the total 90 participants, 89 perceive that informing local people of how to behave in bears an unexpected encounter is an effective strategy, and 1 participant is unsure. No one believes that this option is not effective.

By giving a look at the split sample, among the representatives, all 53 participants perceive it as effective, with none expressing uncertainty. Among the other participants, 36 perceive that informing local people of how to behave in bears an unexpected encounter is an effective strategy, while only one participant is unsure.

Full sample

	Counts	% of Total
Effective	89	98.9 %
I do not know	1	1.1 %

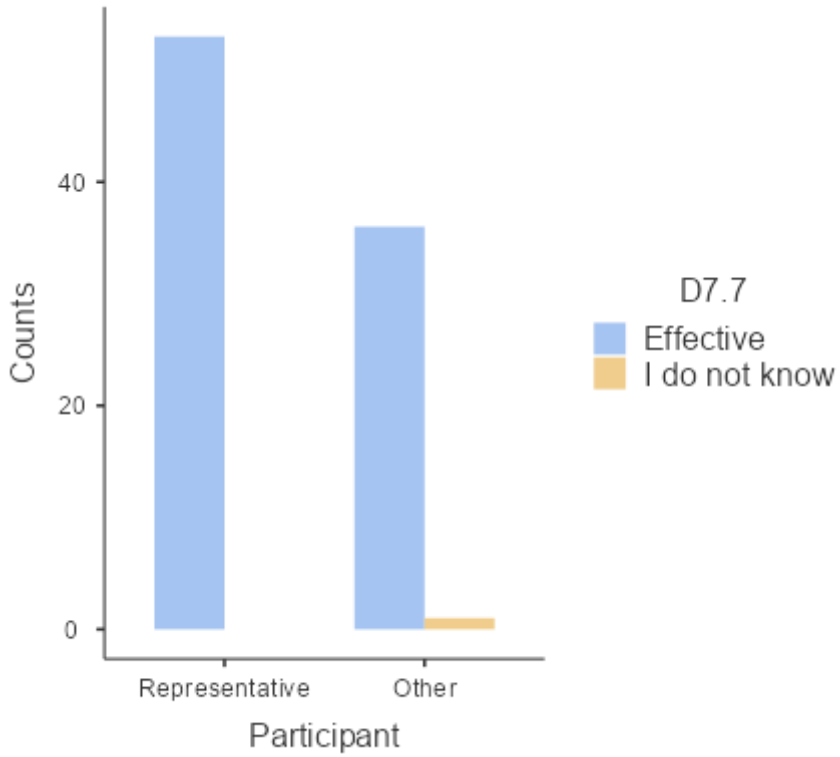
Split sample

Contingency Tables

Participant	Effective	I do not know	Total
Representative	53	0	53
Other	36	1	37
Total	89	1	90

χ^2 Tests

	Value	df	p
χ^2	1.45	1	0.229
N	90		



Distribution of answers for Q7, item 7. Inform local people of how to behave in bears an unexpected encounter

4.7.8. Q7, item 8. Relocate "problematic" bears

Regarding the last item, overall, out of the total 90 participants, 28 perceive that relocating "problematic" bears is effective, 42 consider it not effective, and 20 are unsure. Among the representatives, 19 participants perceive that relocating problematic bears is effective, 20 consider it not effective, and 14 are unsure. Among the other participants, 9 perceive it as an effective strategy, 22 consider it not effective, and 6 are unsure.

Full sample

Frequencies

	Counts	% of Total
Effective	28	31.1 %
Not effective	42	46.7 %

Frequencies

	Counts	% of Total
I do not know	20	22.2 %

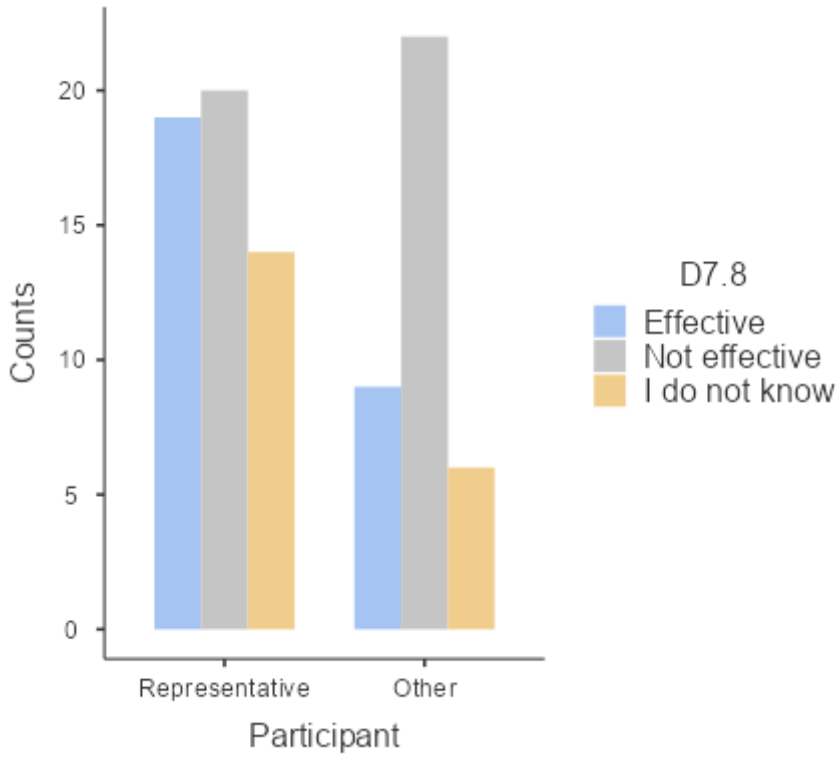
Split sample

Contingency Tables

Participant	Effective	Not effective	I do not know	Total
Representative	19	20	14	53
Other	9	22	6	37
Total	28	42	20	90

χ^2 Tests

	Value	df	p
χ^2	4.15	2	0.125
N	90		



Distribution of answers for Q7, item 8. Relocate "problematic" bears

4.8 Question 8. Poaching incidents

Question n. 8 aimed at understanding the participants' perceptions regarding bear poaching incidents. The question included five statements and participants could choose more than one item.

Options:

- Self-defense
- Accident during hunting
- Trophy hunting
- Protection of livestock or beehives or crops
- Retaliation due to damage caused by the bear

The table below shows that from the representatives' perspective, poaching incidents are mainly related to the protection of livestock or beehives, or crops (24), following the retaliation due to damage caused by the bear (21). Among this sample, only one representative believes that trophy hunting could be a cause of poaching incidents. Considering the other stakeholders, the most frequent selected option was retaliation due to damage caused by the bear (26), followed by

Protection of livestock or beehives or crops. In this case, more participants (8) believe that trophy hunting could be a cause of poaching incidents

Option	Participant	n	total	%
Trophy hunting	Representative	1	53	1.9%
	Other	8	37	21.6%
	Total	9	90	10.0%
Self-defense	Representative	8	53	15.1%
	Other	5	37	13.5%
	Total	13	90	14.4%
Accident during hunting	Representative	16	53	30.2%
	Other	6	37	16.2%
	Total	22	90	24.4%
Protection of livestock or beehives or crops	Representative	24	53	45.3%
	Other	10	37	27.0%
	Total	34	90	37.8%
Retaliation due to damage caused by the bear	Representative	21	53	39.6%
	Other	26	37	70.3%
	Total	47	90	52.2%

4.9 Question 9. Benefits from bears

Question 9 aimed at understanding participants' perceptions regarding the economic benefits of having bears in their municipality, including tourist revenue and job opportunities in tourism and conservation. They also assess how the prospect of seeing bears influences people's choice to visit the area.

Given the type of question, which is related to the municipality of residence, participants' responses to each item were grouped and analyzed based on their place of residence. Considering the small sample size, only municipalities with more than three participants were taken into account for this analysis.

4.9.1. Q9, item 1: My municipality benefits from bears through money from tourists coming to see them

Overall, the majority of participants (51) does not believe that their municipality benefits from bears through money from tourists coming to see them. This is true for both samples.

Full sample

Frequencies

	Counts	% of Total
Yes	29	32.2 %
No	51	56.7 %
I do not know	10	11.1 %

Split sample

Contingency Tables

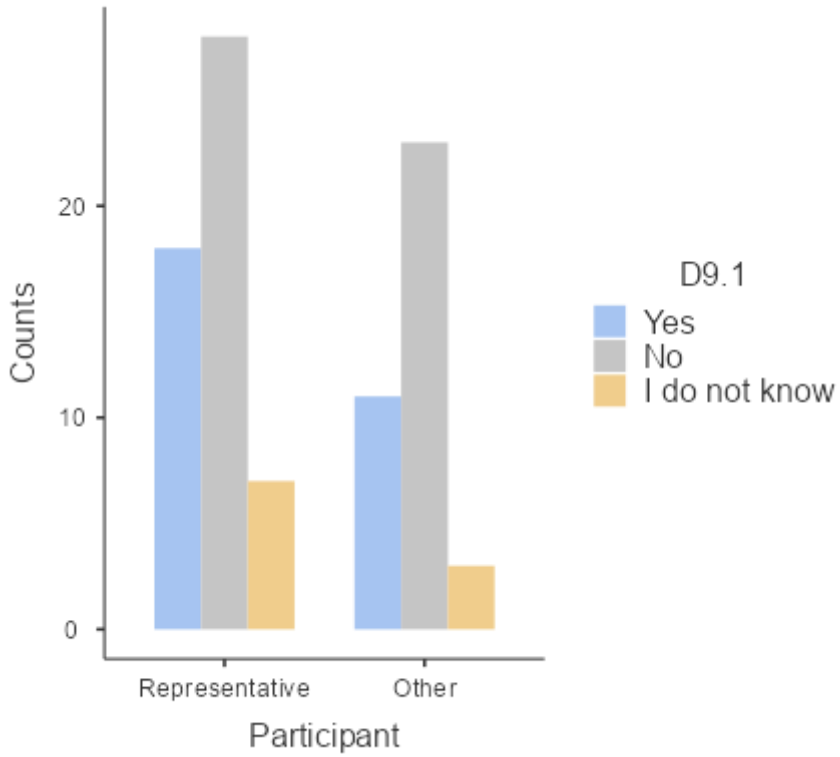
Participant	Yes	No	I do not know	Total
Representative	18	28	7	53
Other	11	23	3	37
Total	29	51	10	90

χ^2 Tests

	Value	df	p
χ^2	0.966	2	0.617
N	90		

χ^2 Tests

	Value	df	p



Distribution of answers for Q9, item 1: My municipality benefits from bears through money from tourists coming to see them

Municipality split

The table displays the responses from different municipalities regarding their opinion on the benefits they receive from bears, particularly through tourism. As shown in the table below, in Aielli, there were no participants who acknowledge these benefits, same as in San Pietro Avellana. Also in Capistrello and Pizzone, no one acknowledges benefits, but some answers display uncertainty.

In Castel di Sangro two participants recognize the benefits and two were uncertain. Pettorano Sul Gizio has one representative and one other participant acknowledging the benefits. Pizzone has one representative and one other participant unsure. San Vincenzo Valle Roveto has only one participant acknowledging the benefits. Interestingly, in Scanno, Villalago, and Villetta Barrea, most of the participants acknowledge the benefits from bears through money from tourists coming. More in detail, Scanno had four participants (2 representatives) recognizing the benefits and one unsure.

Villalago had three representatives acknowledging the benefits, and Villetta Barrea had four representatives recognizing the benefits.

My Municipality benefits from bears through money from tourists coming to see them				
Municipality	Participant	Yes	No	Don't Know
Aielli	Other	0	5	0
	Total	0	5	0
Capistrello	Representative	0	1	1
	Other	0	1	0
	Total	0	2	1
Castel di Sangro	Other	2	2	0
	Total	2	2	0
Pettorano Sul Gizio	Representative	1	1	1
	Other	1	1	0
	Total	2	2	1
Pizzone	Representative	0	5	1
	Total	0	5	1
San Pietro Avellana	Representative	0	4	0
	Total	0	4	0
San Vincenzo Valle Roveto	Other	1	3	0
	Total	1	3	0
Scanno	Representative	2	0	1
	Other	2	0	0
	Total	4	0	1
Villalago	Representative	3	0	0
	Other	1	0	0
	Total	4	0	0

My Municipality benefits from bears through money from tourists coming to see them				
Municipality	Participant	Yes	No	Don't Know
Villetta Barrea	Representative	4	1	1
	Total	4	1	1
Other	Representative	8	16	2
	Other	4	11	3
	Total	12	27	5

4.9.2 Q9, item 2: My municipality benefits from bears through jobs in tourism or conservation

Similarly to the previous question, the majority of participants (56) does not believe that their municipality benefits from bears through jobs in tourism or conservation. This is true for both samples.

Full sample

Frequencies

	Counts	% of Total
Yes	25	27.8 %
No	56	62.2 %
I do not know	9	10.0 %

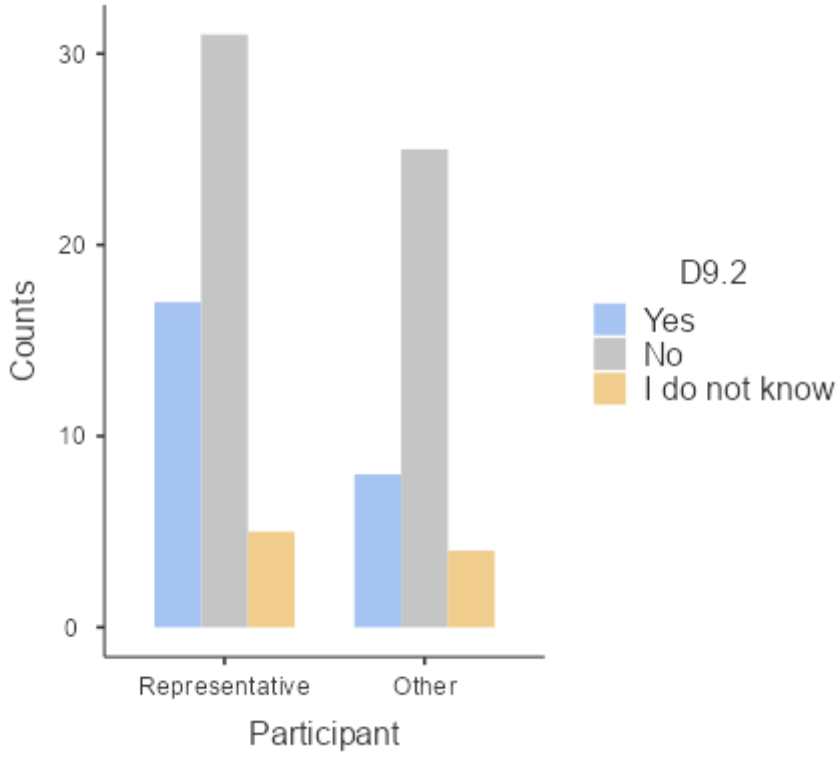
Split sample

Contingency Tables

Participant	Yes	No	I do not know	Total
Representative	17	31	5	53
Other	8	25	4	37
Total	25	56	9	90

χ^2 Tests

	Value	df	p
χ^2	1.19	2	0.552
N	90		



Distributions of answers for Q9, item 2: My municipality benefits from bears through jobs in tourism or conservation

Municipality split

As shown in the table below, in Aielli, Capistrello, Pizzone, San Pietro Avellana, and San Vincenzo Roveto there are no participants who acknowledge the benefits of having bears through job opportunities in tourism or conservation. Villetta Barrea is a unique place where all participants (only representatives) fully believe that their Municipality benefits from bears through job opportunities in tourism or conservation.

My Municipality benefits from bears through jobs in tourism or conservation				
Municipality	Participant	Yes	No	Don't Know
Aielli	Other	0	5	0
	Total	0	5	0
Capistrello	Representative	0	1	1
	Other	0	1	0
	Total	0	2	1
Castel di Sangro	Other	1	3	0
	Total	1	3	0
Pettorano Sul Gizio	Representative	2	1	0
	Other	1	1	0
	Total	3	2	0
Pizzone	Representative	0	5	1
	Total	0	5	1
San Pietro Avellana	Representative	0	4	0
	Total	0	4	0
San Vincenzo Valle Roveto	Other	0	4	0
	Total	0	4	0
Scanno	Representative	1	1	1
	Other	1	1	0
	Total	2	2	1

My Municipality benefits from bears through jobs in tourism or conservation				
Municipality	Participant	Yes	No	Don't Know
Villalago	Representative	2	1	0
	Other	1	0	0
	Total	3	1	0
Villetta Barrea	Representative	6	0	0
	Total	6	0	0
Other	Representative	6	18	2
	Other	4	10	4
	Total	10	28	6

4.9.3 Q9, item 3: The expectation of seeing bears in the wild influences people's decision to visit my municipality

Contrary to the previous questions, the majority of representatives (32) believe that the expectation of seeing bears in the wild influences people's decision to visit my municipality, however, other stakeholders have a different opinion on the matter, as only 14 out of 46 agree with the statement, while 16 of them do not believe that the expectation of seeing bears in the wild influence people's decision to visit their municipality.

Full sample

Frequencies

	Counts	% of Total
Yes	46	51.1 %
No	27	30.0 %
I do not know	17	18.9 %

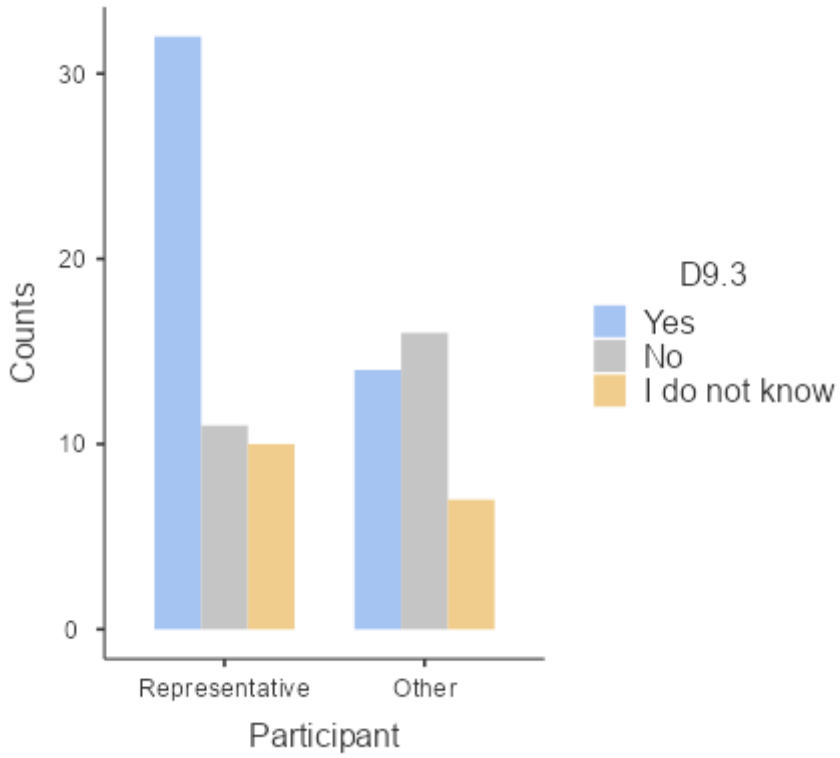
Split sample

Contingency Tables

Participant	Yes	No	I do not know	Total
Representative	32	11	10	53
Other	14	16	7	37
Total	46	27	17	90

χ^2 Tests

	Value	df	p
χ^2	5.84	2	0.054
N	90		



Distribution of answers for Q9, item 3: The expectation of seeing bears in the wild influence people's decision to visit my municipality

Municipality split

As shown in the table below, according to the respondents the expectation of seeing bears in the wild influences people's decision to mostly visit Villetta Barrea (5), Villalago (4), Scanno (4), but also Capistrello (1), Castel di Sangro (1), Pettorano Sul Gizio Pizzone (3) San Pietro Avellana (2) San Vincenzo Valle Roveto (2). While in Castel di Sangro, the majority of participants (3) think that the expectation of seeing bears in the wild does not influence people's decision to mostly visit the Municipality, in Aielli, no one agrees with the statement.

The expectation of seeing bears in the wild influences people's decision to visit my Municipality				
Municipality	Participant	Yes	No	Don't Know
Aielli	Other	0	5	0
	Total	0	5	0
Capistrello	Representative	0	0	2
	Other	1	0	0
	Total	1	0	2
Castel di Sangro	Other	1	3	0
	Total	1	3	0
Pettorano Sul Gizio	Representative	2	0	1
	Other	1	0	1
	Total	3	0	2
Pizzone	Representative	3	3	0
	Total	3	3	0
San Pietro Avellana	Representative	2	0	2
	Total	2	0	2
San Vincenzo Valle Roveto	Other	2	2	0
	Total	2	2	0
Scanno	Representative	2	0	1
	Other	2	0	0

The expectation of seeing bears in the wild influences people's decision to visit my Municipality				
Municipality	Participant	Yes	No	Don't Know
	Total	4	0	1
Villalago	Representative	3	0	0
	Other	1	0	0
	Total	4	0	0
Villetta Barrea	Representative	5	0	1
	Total	5	0	1
Other	Representative	15	8	3
	Other	6	6	6
	Total	21	14	9

4.10 Question 10. Actions to be supported by the project

Question n. 10 aimed at understanding the participants' opinions regarding which action they feel should be most supported by the LIFE Bear-Smart Corridors project. The question included 9 statements and participants could choose more than one item.

Options:

- Increase knowledge about bears
- Decrease damages caused by bears
- Promote damage prevention measures
- Improve compensation for damage caused by bears
- Promote bear-proof constructions
- Address issues related to human safety
- Improve stakeholder collaboration
- Promote certification of bear-friendly products
- Promote alternative forms of tourism based on bear presence

According to the table below, the action participants feel should be most supported by the LIFE Bear-Smart Corridors project are 1) Increase knowledge about bears (78), 2) Promote damage prevention measures (65), and 3) Promote alternative forms of tourism based on bear presence (56). For representatives, the most selected options are: Increase knowledge about bears (47), Promote damage prevention measures (39) and Promote alternative forms of tourism based on

bear presence (33). For the other stakeholders, the options selected are the same: Increase knowledge about bears (31), followed by Promote damage prevention measures (26), and Promote alternative forms of tourism based on bear presence (23).

Option	Participant	n	total	%
Address issues related to human safety	Representative	17	53	32.1%
	Other	14	37	37.8%
	Total	31	90	34.4%
Increase knowledge about bears	Representative	47	53	88.7%
	Other	31	37	83.8%
	Total	78	90	86.7%
Decrease damages caused by bears	Representative	13	53	24.5%
	Other	8	37	21.6%
	Total	21	90	23.3%
Improve stakeholder collaboration	Representative	25	53	47.2%
	Other	20	37	54.1%
	Total	45	90	50%
Improve compensation of damage caused by bears	Representative	20	53	37.7%
	Other	12	37	32.4%
	Total	32	90	35.6%
Promote bear-proof constructions	Representative	23	53	43.4%
	Other	18	37	48.6%
	Total	41	90	45.6%
Promote alternative forms of tourism based on bear presence	Representative	33	53	62.3%
	Other	23	37	62.2%
	Total	56	90	62.2%
Promote certification of bear-friendly products	Representative	17	53	32.1%
	Other	14	37	37.8%
	Total	31	90	34.4%
Promote damage prevention measures	Representative	39	53	73.6%
	Other	26	37	70.3%
	Total	65	90	72.2%

4.11 Question 11. Promotion of bear-friendly products

Question n. 11 aimed at understanding participants' knowledge about whether their Municipality promotes bear-friendly labelled products.

The majority of participants (58), for both sample, do not believe that their Municipality promote bear-friendly products.

Full sample

Frequencies

	Counts	% of Total
Yes	11	12.2 %
No	58	64.4 %
I do not know	21	23.3 %

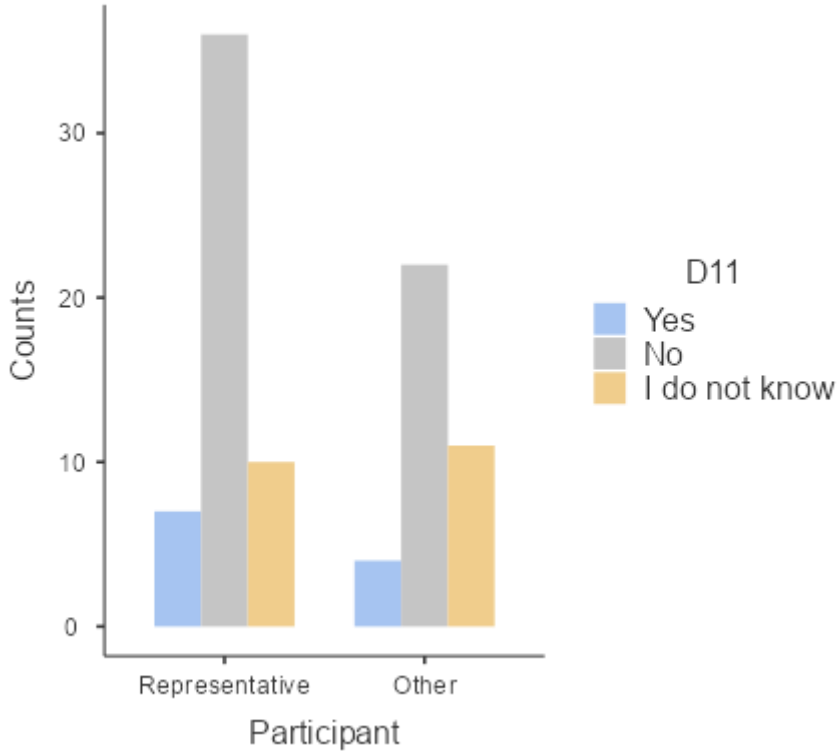
Split sample

Contingency Tables

Participant	Yes	No	I do not know	Total
Representative	7	36	10	53
Other	4	22	11	37
Total	11	58	21	90

χ^2 Tests

	Value	df	p
χ^2	1.45	2	0.485
N	90		



Distribution of answers for Question 11. Promotion of bear-friendly products

Municipality split

The table below displays the responses from different municipalities regarding their knowledge about whether their Municipality promotes bear-friendly labelled products.

Given the type of question, which is related to the Municipality of residence, participants' responses to each item were grouped and analyzed based on their place of residence. Considering the small sample size, only municipalities with more than three participants were taken into account for this analysis.

Only in Pettorano sul Gizio (2) and San Pietro Avellana (2) participants declare to know that their Municipality promotes bear-friendly labelled products. In most cases, participants answered "no" to the question, and only in Pettorano sul Gizio, Pizzone, San Vincenzo Valle Roveto, Scanno, Villalago, and Villetta Barrea participants show some uncertainty in replying to the question.

Knowledge about whether their Municipality promotes bear-friendly labelled products				
Municipality	Participant	Yes	No	Don't Know
Aielli	Other	0	5	0
	Total	0	5	0
Capistrello	Representative	0	2	0
	Other	0	1	0
	Total	0	3	0
Castel di Sangro	Other	0	4	0
	Total	0	4	0
Pettorano Sul Gizio	Representative	2	1	0
	Other	0	0	2
	Total	2	1	2
Pizzone	Representative	0	4	2
	Total	0	4	2
San Pietro Avellana	Representative	2	2	0
	Total	2	2	0
San Vincenzo Valle Roveto	Other	0	1	3
	Total	0	1	3
Scanno	Representative	0	3	0
	Other	0	1	1
	Total	0	4	1
Villalago	Representative	0	1	2
	Other	0	1	0
	Total	0	2	2
Villetta Barrea	Representative	0	5	1
	Total	0	5	1
Other	Representative	2	16	8

Knowledge about whether their Municipality promotes bear-friendly labelled products				
Municipality	Participant	Yes	No	Don't Know
	Other	5	11	2
	Total	7	27	10

4.12 Question 12. Number of known bear-friendly labelled products

Question n. 12 aimed at understanding participants' knowledge about the number of bear-friendly labelled products present in their Municipality.

Tha majority of participants' answer was "0" (57), both for representatives and other stakeholders. Many participants (24) do not know or do not feel sure about replying to the question.

Full sample

Frequencies

	Counts	% of Total
0	57	63.3 %
1-3	6	6.7 %
4-6	3	3.3 %
I do not know / Not sure	24	26.7 %

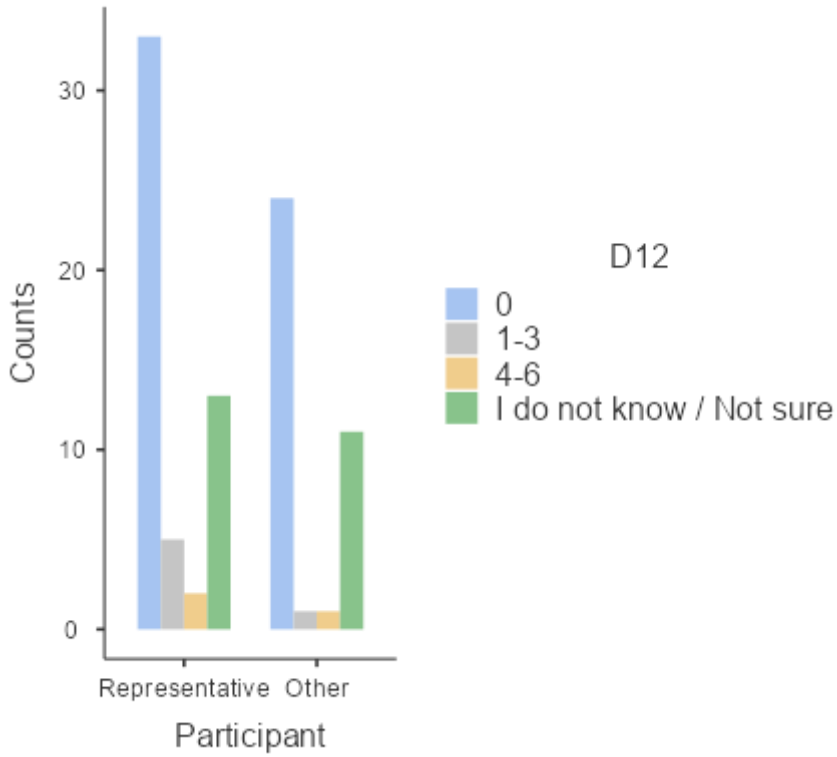
Split sample

Contingency Tables

Participant	0	1-3	4-6	I do not know / Not sure	Total
Representative	33	5	2	13	53
Other	24	1	1	11	37
Total	57	6	3	24	90

χ^2 Tests

	Value	df	p
χ^2	1.80	3	0.615
N	90		



Distribution of answers for Question 12. Number of known bear-friendly labelled products

Municipality split

Given the type of question, which is related to the Municipality of residence, participants' responses to each item were grouped and analyzed based on their place of residence. Considering the small sample size, only municipalities with more than three participants were taken into account for this analysis.

The table displays the responses from different municipalities regarding their knowledge about the number of bear-friendly labelled products present in their Municipality.

Most of the responses identified no bear-friendly labelled products in the Municipality. In Aielli, Pizzone, San Pietro Avellana, San Vincenzo Valle Roveto, Villalago, Capistrello, Castel di Sangro, and Villetta Barrea all participants stated that there are no bear-friendly labelled products. Pettorano Sul Gizio has one representative who is aware of one to three and four to six bear-friendly products, while in Sanno, a representative indicates 4-6 bear-friendly labelled products in the Municipality.

Knowledge about the number of bear-friendly labelled products present in their Municipality					
Municipality	Participant	0	1-3	4-6	Don't Know
Aielli	Other	5	0	0	0
	Total	5	0	0	0
Capistrello	Representative	2	0	0	0
	Other	1	0	0	0
	Total	3	0	0	0
Castel di Sangro	Other	4	0	0	0
	Total	4	0	0	0
Pettorano Sul Gizio	Representative	1	1	1	0
	Other	0	0	0	2
	Total	1	1	1	2
Pizzone	Representative	5	0	0	1
	Total	5	0	0	1
San Pietro Avellana	Representative	2	0	0	2
	Total	2	0	0	2
San Vincenzo Valle Roveto	Other	2	0	0	2
	Total	2	0	0	2
Scanno	Representative	2	0	1	0
	Other	1	0	0	1
	Total	3	0	1	1
Villalago	Representative	2	0	0	1
	Other	1	0	0	0

Knowledge about the number of bear-friendly labelled products present in their Municipality					
Municipality	Participant	0	1-3	4-6	Don't Know
	Total	3	0	0	1
Villetta Barrea	Representative	5	0	0	1
	Total	5	0	0	1
Other	Representative	15	1	1	9
	Other	9	4	0	5
	Total	24	5	1	14

4.13 Question 13. Willingness to pay extra money for bear-friendly labelled products

Question n. 13 aimed at understanding participants' opinions about individuals' willingness to pay extra money for bear-friendly labelled products produced in their Municipality.

Overall, the majority of participants (36) believe that people would be willing to pay extra money for bear-friendly labelled products, however, 31 participants are unsure about the answer. By looking at the split sample, we see that representatives are more optimistic (24) but also unsure (20) compared to other stakeholders.

Full sample

Frequencies

	Counts	% of Total
Yes	36	40.0 %
No	23	25.6 %
I do not know	31	34.4 %

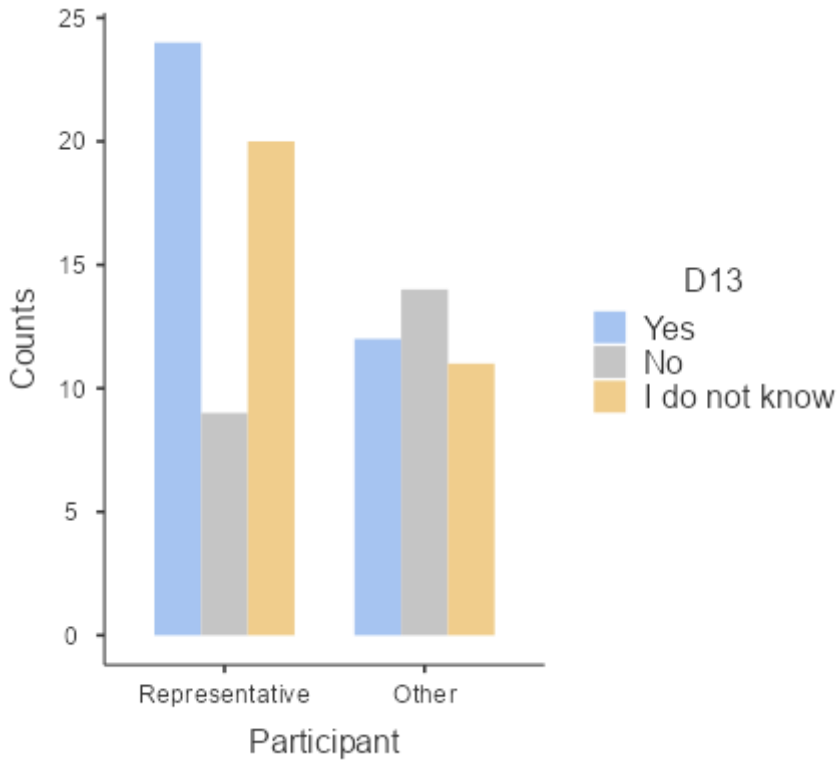
Split sample

Contingency Tables

Participant	Yes	No	I do not know	Total
Representative	24	9	20	53
Other	12	14	11	37
Total	36	23	31	90

χ^2 Tests

	Value	df	p
χ^2	5.01	2	0.082
N	90		



Distribution of answers for Question 13. Willingness to pay extra money for bear-friendly labelled products

Municipality split

Same as in the previous question, given the type of question, which is related to the Municipality of residence, participants' responses to each item were grouped and analyzed based on their place of residence. Considering the small sample size, only municipalities with more than three participants were taken into account for this analysis.

The table below displays the responses from different municipalities regarding their opinions about individuals' willingness to pay extra money for bear-friendly labelled products produced in their Municipality.

As reported in the table, only in Capistrello and Pizzone no one believes that people would be to pay extra money for bear-friendly labelled products produced in their Municipality. On the contrary, in Aielli, Castel di Sangro, Pettorano sul Gizio no one disagrees with the statement.

Opinions about individuals' willingness to pay extra money for bear-friendly labelled products produced in their Municipality

Municipality	Participant	Yes	No	Don't Know
Aielli	Other	4	0	1
	Total	4	0	1
Capistrello	Representative	0	0	2
	Other	0	0	1
	Total	0	0	3
Castel di Sangro	Other	2	0	2
	Total	2	0	2
Pettorano Sul Gizio	Representative	3	0	0
	Other	1	0	1
	Total	4	0	1
Pizzone	Representative	0	3	3
	Total	0	3	3
San Pietro Avellana	Representative	2	2	0
	Total	2	2	0

Opinions about individuals' willingness to pay extra money for bear-friendly labelled products produced in their Municipality				
Municipality	Participant	Yes	No	Don't Know
San Vincenzo Valle Roveto	Other	1	3	0
	Total	1	3	0
Scanno	Representative	0	2	1
	Other	1	0	1
	Total	1	2	2
Villalago	Representative	1	1	1
	Other	0	1	0
	Total	1	2	1
Villetta Barrea	Representative	4	1	1
	Total	4	1	1
Other	Representative	12	6	8
	Other	5	4	9
	Total	17	10	17

4.14 Question 14. Cooperation with stakeholders

Question n. 14 aimed at understanding the stakeholder groups participants can best work with when it comes to issues concerning bears. The question included 16 different stakeholders and participants could choose more than one item.

Options:

- Farmers
- Stock breeders
- Beekeepers
- Foresters
- Protected area management authority

- Municipalities
- Prefecture
- Hunters
- Veterinarians
- Scientists
- Environmental non-governmental organisations
- Developmental companies
- Chambers of commerce
- Entrepreneurs/employees in tourism
- Visitors/tourists in the region
- Local/regional media

According to the table below, the most selected options by representatives are: foresters (38), followed by municipalities (35), Protected area management authority (33), farmers and stockbreeders (31), and beekeepers (30). For the other stakeholders, preferences are slightly different: foresters (26), Protected area management authority (23), beekeepers (19), Environmental non-governmental organizations and Stock breeders (17).

Option	Participant	n	total	%
Developmental companies	Representative	6	53	11.3%
	Other	3	37	8.1%
	Total	9	90	10%
Farmers	Representative	31	53	58.5%
	Other	16	37	43.2%
	Total	47	90	52.2%
Stock breeders	Representative	31	53	58.5%
	Other	17	37	45.9%
	Total	48	90	53.3%
Beekeepers	Representative	30	53	56.6%
	Other	19	37	51.4%
	Total	49	90	54.4%
Protected area management authority	Representative	33	53	62.3%
	Other	23	37	62.2%
	Total	56	90	62.2%
Hunters	Representative	13	53	24.5%
	Other	9	37	24.3%

Option	Participant	n	total	%
	Total	22	90	24.4%
Chambers of commerce	Representative	2	53	3.8%
	Other	1	37	2.7%
	Total	3	90	3.3%
Foresters	Representative	38	53	71.7%
	Other	26	37	70.3%
	Total	64	90	71.1%
Municipalities	Representative	35	53	66.0%
	Other	16	37	43.2%
	Total	51	90	56.7%
Entrepreneurs/employees in tourism	Representative	20	53	37.7%
	Other	13	37	35.1%
	Total	33	90	36.7%
Local/regional media	Representative	13	53	24.5%
	Other	7	37	18.9%
	Total	20	90	22.2%
Environmental non-governmental organisations	Representative	12	53	22.6%
	Other	17	37	45.9%
	Total	29	90	32.2%
Prefecture	Representative	5	53	9.4%
	Other	2	37	5.4%
	Total	7	90	7.8%
Scientists	Representative	14	53	26.4%
	Other	9	37	24.3%
	Total	23	90	25.6%
Veterinarians	Representative	18	53	34.0%
	Other	14	37	37.8%
	Total	32	90	35.6%
Visitors/tourists in the region	Representative	16	53	30.2%
	Other	10	37	27.0%
	Total	26	90	28.9%

4.15 Question 15. Trustworthiness towards stakeholders

Similarly to the previous question, question n. 15 aimed at understanding the stakeholder groups participants trust most when it comes to issues concerning bears The question included the same 16 different stakeholders as in question n.14 and participants could choose more than one item.

Options:

- Farmers
- Stock breeders
- Beekeepers
- Foresters
- Protected area management authority
- Municipalities
- Prefecture
- Hunters
- Veterinarians
- Scientists
- Environmental non-governmental organizations
- Developmental companies
- Chambers of commerce
- Entrepreneurs/employees in tourism
- Visitors/tourists in the region
- Local/regional media

In this case, the most trusted stakeholder for representatives is foresters (34), followed by Protected area management authority (29), farmers (19), stock breeders and beekeepers (18), scientists, and veterinarians (18). For the other stakeholders, the most trusted are: Foresters (25), Protected area management authority (19), veterinarians (12), Environmental non-governmental organizations (11), and scientists (9).

Option	Participant	n	total	%
Developmental companies	Representative	2	53	3.8%
	Total	2	90	2.2%
Farmers	Representative	19	53	35.8%
	Other	1	37	2.7%
	Total	20	90	22.2%
Stock breeders	Representative	18	53	34.0%

Option	Participant	n	total	%
	Other	3	37	8.1%
	Total	21	90	23.3%
Beekeepers	Representative	18	53	34.0%
	Other	6	37	16.2%
	Total	24	90	26.7%
Protected area management authority	Representative	29	53	54.7%
	Other	19	37	51.4%
	Total	48	90	53.3%
Hunters	Representative	6	53	11.3%
	Other	2	37	5.4%
	Total	8	90	8.9%
Chambers of commerce	Representative	1	53	1.9%
	Total	1	90	1.1%
Foresters	Representative	34	53	64.2%
	Other	25	37	67.6%
	Total	59	90	65.6%
Municipalities	Representative	18	53	34.0%
	Other	7	37	18.9%
	Total	25	90	27.8%
Entrepreneurs/employees in tourism	Representative	9	53	17.0%
	Other	6	37	16.2%
	Total	15	90	16.7%
Local/regional media	Representative	4	53	7.5%
	Other	3	37	8.1%
	Total	7	90	7.8%
Environmental non-governmental organisations	Representative	13	53	24.5%
	Other	11	37	29.7%
	Total	24	90	26.7%
Prefecture	Representative	6	53	11.3%
	Other	3	37	8.1%
	Total	9	90	10%
Scientists	Representative	17	53	32.1%

Option	Participant	n	total	%
	Other	9	37	24.3%
	Total	26	90	28.9%
Veterinarians	Representative	17	53	32.1%
	Other	12	37	32.4%
	Total	29	90	32.2%
Visitors/tourists in the region	Representative	3	53	5.7%
	Other	4	37	10.8%
	Total	7	90	7.8%

4.16. Question 16. Trust in case of problematic situations with bears

Question n. 16 is a validated scale composed of four items and adapted from Johansson et al. (2019) that measures social trust in case of problematic situations with bears on a 5-point scale from 1 "strongly disagree" to 5 "strongly agree":

1. *I trust the Regional Authorities to manage problematic situations involving brown bears with consideration for people who live in bear areas*
2. *I trust the Protected Areas Management Authorities to manage problematic situations involving brown bears with consideration for people who live in bear areas*
3. *I trust the environmental Non-Governmental Organizations (NGOs) to manage problematic situations involving brown bears with consideration for people who live in bear areas*
4. *I trust the Ministry of the Environment to manage problematic situations involving brown bears with consideration for people who live in bear areas*

4.16.1 Overall (mean among the items)

The table below presents the descriptive statistics and reliability analysis of the construct as a whole, by averaging the items. A t-test is then conducted to compare the responses given by representatives and other stakeholders. Subsequently, descriptive statistics and t-tests are reported for each individual item of the construct.

Descriptives	
Mean	2.73
Std. error mean	0.0972
Median	2.75

Descriptives	
Standard deviation	0.922
Cronbach's Alpha	0.83

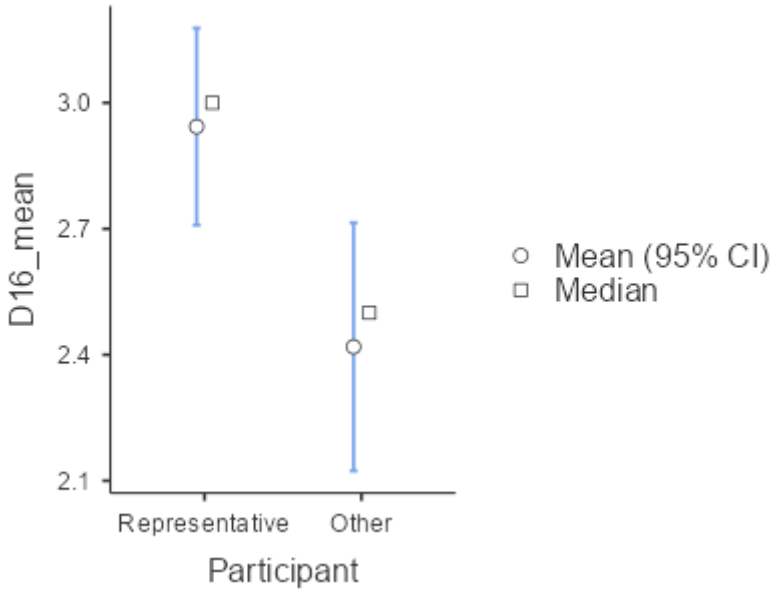
Independent Samples T-Test

	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	2.75	88.0	0.007	0.524	0.191	Cohen's d	0.589

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.94	3.00	0.871	0.120
Other	37	2.42	2.50	0.917	0.151



4.16.2 Single item analysis

4.16.2.1 Q16, item 1. Trust toward Regional Authorities

I trust the Regional Authorities to manage problematic situations involving brown bears with consideration for people who live in bear areas

Full sample

Mean	2.36
Std. error mean	0.109
Median	2.00
Mode	2.00
Standard deviation	1.03
Minimum	1
Maximum	4

Split sample

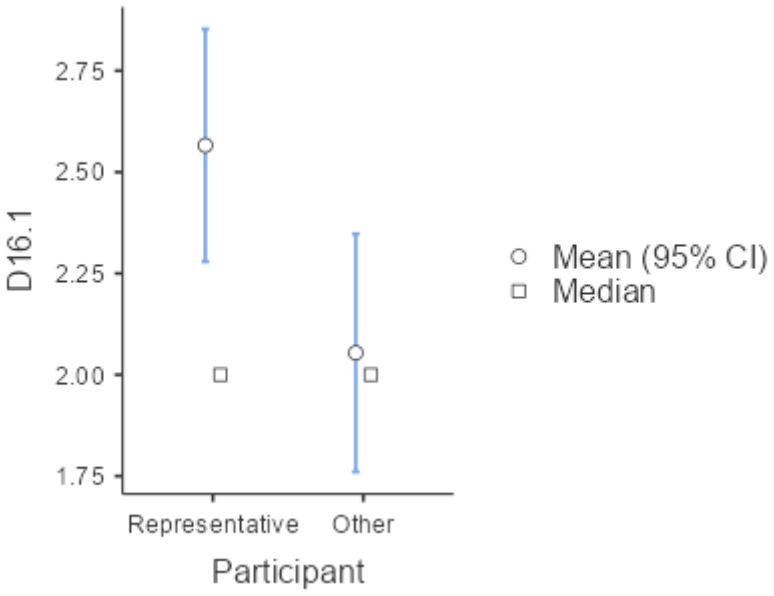
Independent Samples T-Test

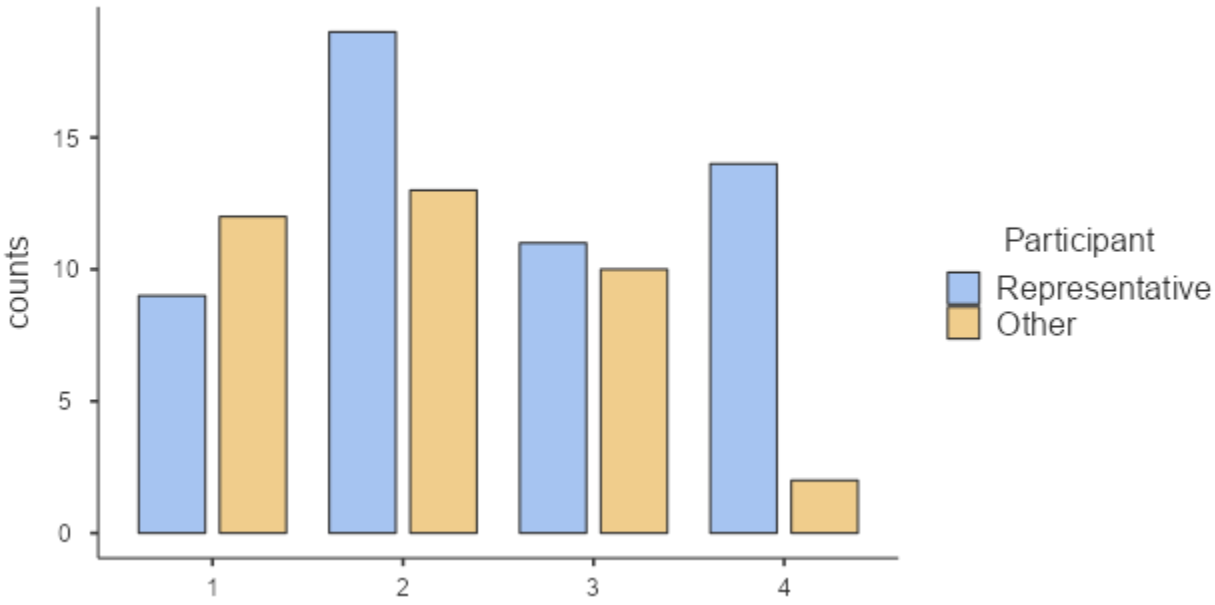
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	2.38	88.0	0.020	0.512	0.215	Cohen's d	0.509

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	N	Mean	Median	SD	SE
Representative	53	2.57	2.00	1.07	0.146
Other	37	2.05	2.00	0.911	0.150





Distribution of answers for Q16, item 1. Regional Authorities

4.16.2.2 Q16, item 2. Trust toward Protected Areas Management

I trust the Protected Areas Management Authorities to manage problematic situations involving brown bears with consideration for people who live in bear areas

Full sample

Descriptives

Mean	3.16
Std. error mean	0.125
Median	3.50
Mode	4.00
Standard deviation	1.19
Minimum	1
Maximum	5

Split sample

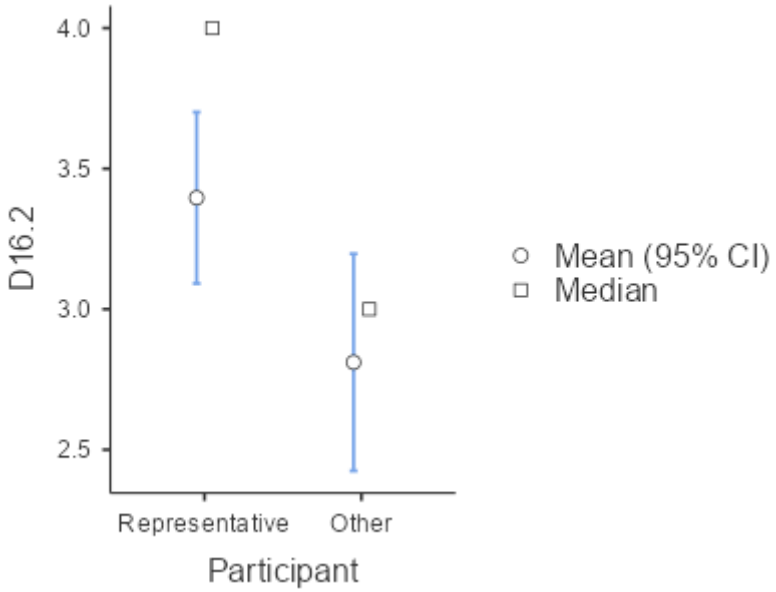
Independent Samples T-Test

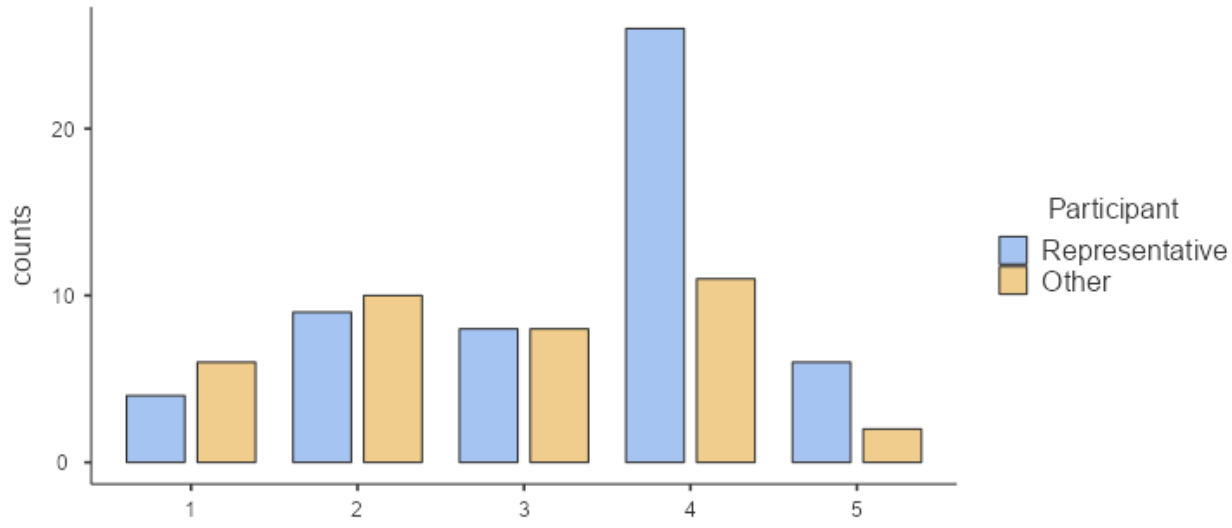
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	2.36	88.0	0.021	0.585	0.248	Cohen's d	0.505

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	3.40	4.00	1.13	0.156
Other	37	2.81	3.00	1.20	0.197





Distribution of answers for Q16, item 2. Protected Areas Management

4.16.2.3 Q16, item 3. Trust toward Non-Governmental Organizations (NGOs)

I trust the environmental Non-Governmental Organizations (NGOs) to manage problematic situations involving brown bears with consideration for people who live in bear areas

Full sample

Descriptives

Mean	2.86
Std. error mean	0.120
Median	3.00
Mode	4.00
Standard deviation	1.14
Minimum	1
Maximum	5

Split sample

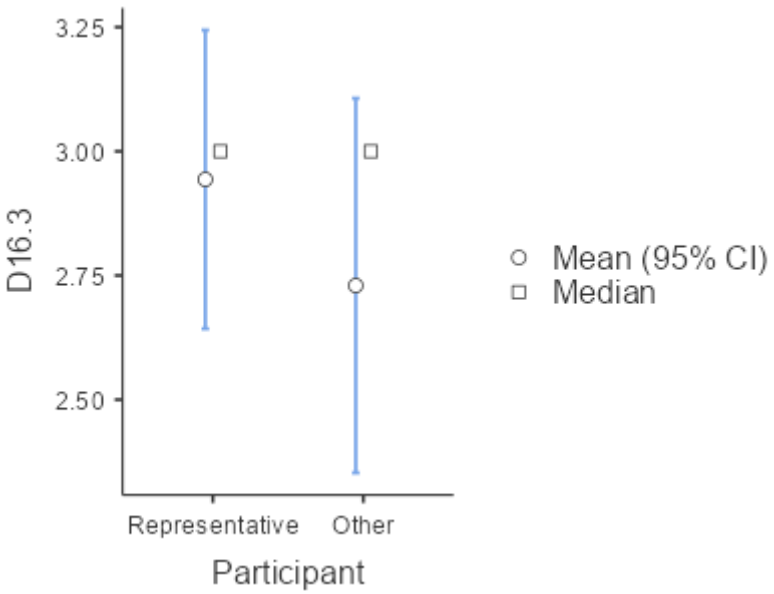
Independent Samples T-Test

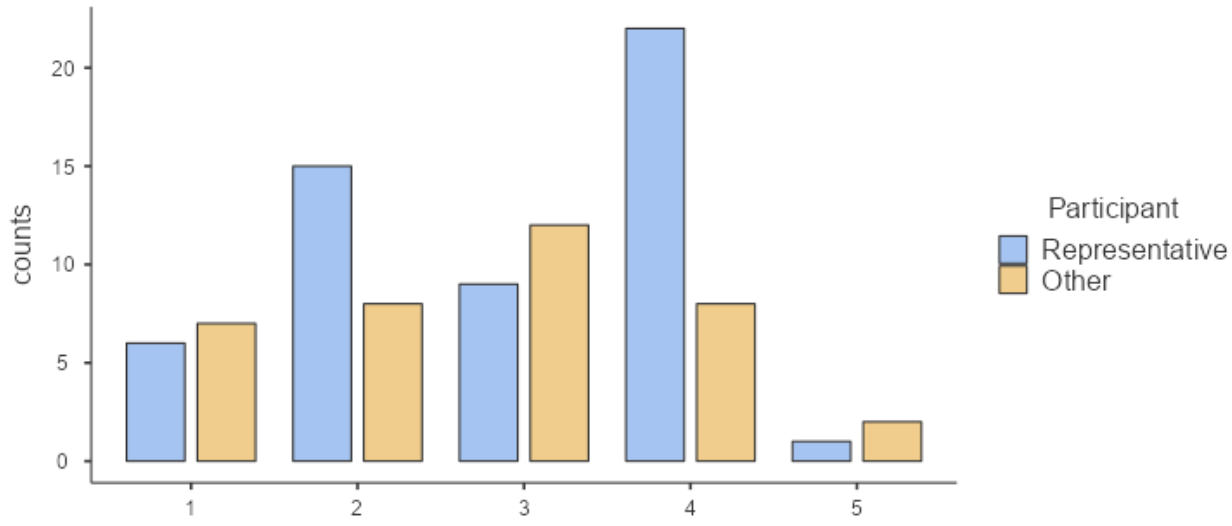
		Statistic	df	p	Mean difference	SE difference		Effect Size
D16.3	Student's t	0.876	88.0	0.384	0.214	0.244	Cohen's d	0.188

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	n	Mean	Median	SD	SE
Representative	53	2.94	3.00	1.12	0.153
Other	37	2.73	3.00	1.17	0.192





Distribution of answers for Q16, item 3. Non-Governmental Organizations (NGOs)

4.16.2.4 Q16, item 4. Trust toward the Ministry of the Environment

I trust the Ministry of the Environment to manage problematic situations involving brown bears with consideration for people who live in bear areas

Full sample

Descriptives	
Mean	2.54
Std. error mean	0.123
Median	3.00
Mode	3.00
Standard deviation	1.16
Minimum	1
Maximum	5

Split sample

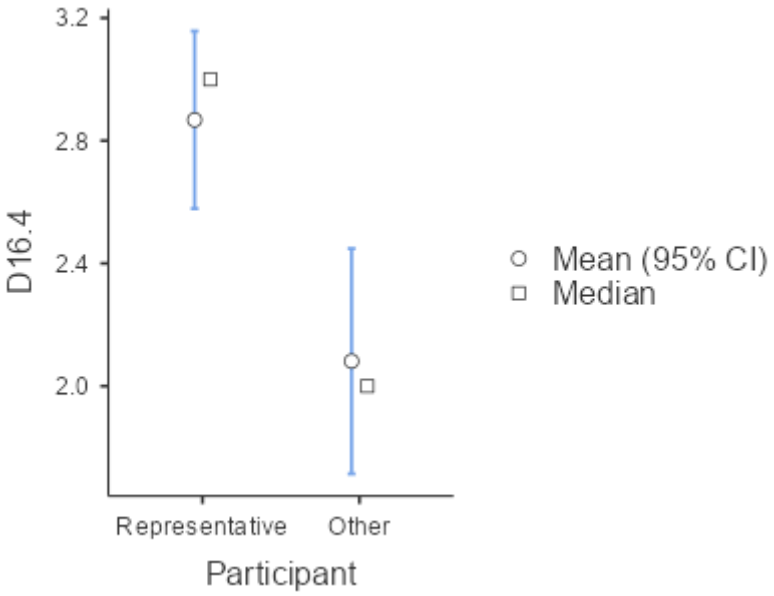
Independent Samples T-Test

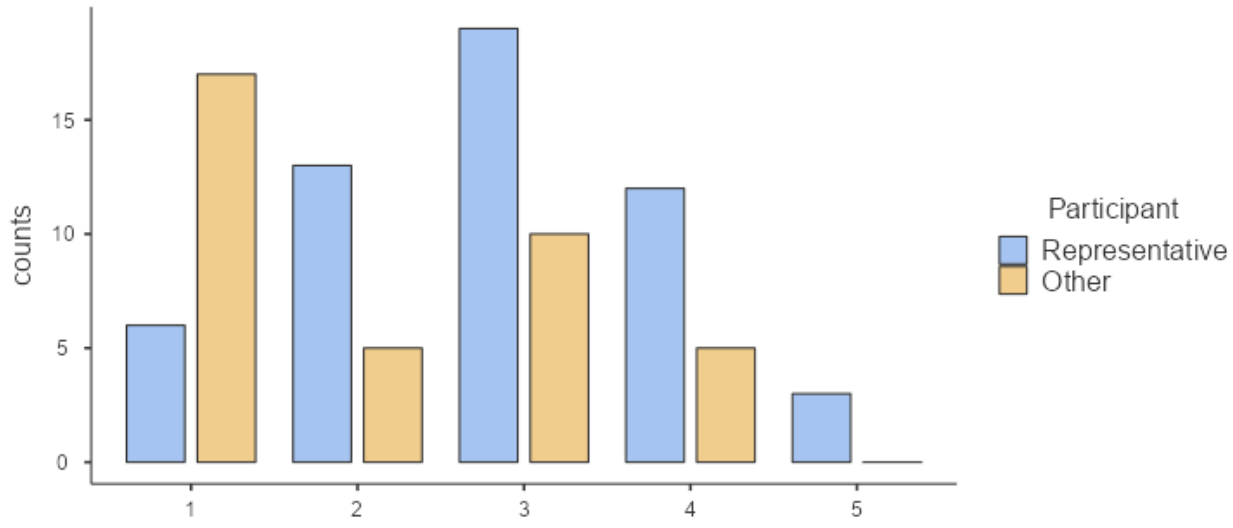
	Statistic	df	p	Mean difference	SE difference		Effect Size
Student's t	3.33	88.0	0.001	0.787	0.236	Cohen's d	0.714

Note. H_a $\mu_{Representative} \neq \mu_{Other}$

Group Descriptives

Group	N	Mean	Median	SD	SE
Representative	53	2.87	3.00	1.07	0.148
Other	37	2.08	2.00	1.14	0.187





Distribution of answers for Q16, item 4. Ministry of the Environment

4.17 Question 17. Relationships between stakeholders

In question n.17 participants were invited to select one only answer among 3 sets of options regarding the relationships between stakeholders in the past year when it comes to bear issues.

In this question, participants were invited to select one only answer among 4 options regarding awareness about the compensation scheme for bear damages.

Q17: Which answer best characterizes relationships between stakeholders in the past year, when it comes to bear issues? (Please select only one response)

Options:

- Conflict predominates
- Conflict predominates
- Collaboration predominates

This question provides very interesting and dissimilar findings among the different samples. While representatives (29) mostly believe that collaboration predominates, the majority of other stakeholders (22) believes that it is conflict to predominate.

Full sample

	Counts	% of Total
1 Conflict predominates	41	45.6 %
2 Collaboration predominates	38	42.2 %
3 Negotiation predominates	11	12.2 %

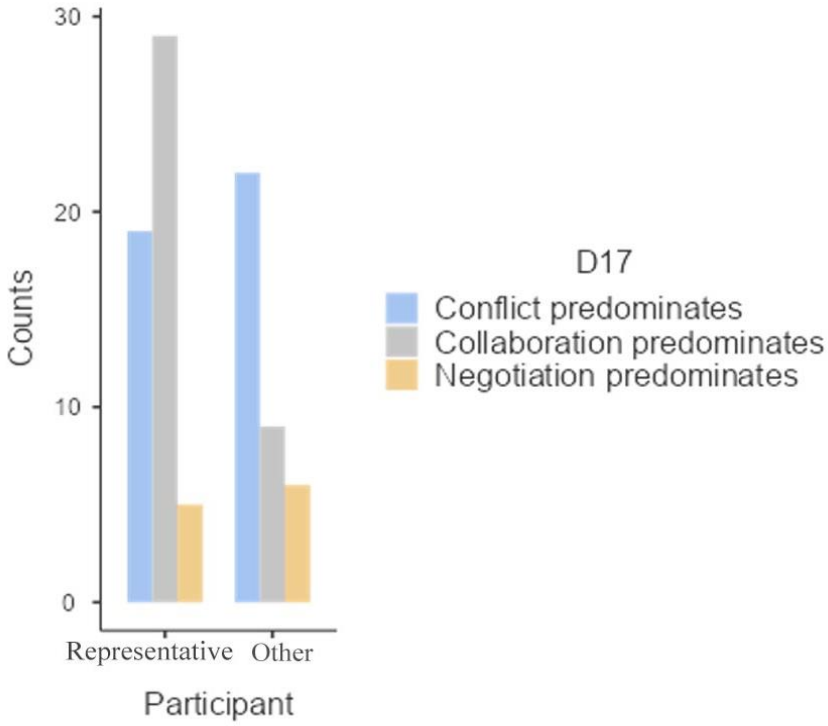
Split sample

Contingency Tables

Participant	Conflict predominates	Collaboration predominates	Negotiation predominates	Total
Representative	19	29	5	53
Other	22	9	6	37
Total	41	38	11	90

χ^2 Tests

	Value	df	p
χ^2	8.25	2	0.016
N	90		



Distribution of answers for Question 17. Relationships between stakeholders

4.18. Question 18. Cooperation among stakeholders

In question n. 18 participants were asked for their opinion on the stakeholders' willingness to cooperate in the frame of the LIFE Bear-Smart Corridors project. Two options were provided: Agree and Disagree. Next, they were asked to guess on a percentage of 0-100% (measured on a scale 1 - 10) what percentage of the stakeholder group would agree with the statement expressed by the respondent.

a) Most stakeholders will be willing to cooperate in the frame of the LIFE Bear-Smart Corridors project

Most of the representatives (45) believe that stakeholders would be willing to cooperate in the frame of the LIFE Bear-Smart Corridors project. The sub-sample made up of other stakeholders is less optimistic, as almost half of them (16) believe that stakeholders would not be willing to cooperate in the frame of the LIFE Bear-Smart Corridors project.

Full sample

Frequencies

	Counts	% of Total
Yes	66	73.3 %
No	24	26.7 %

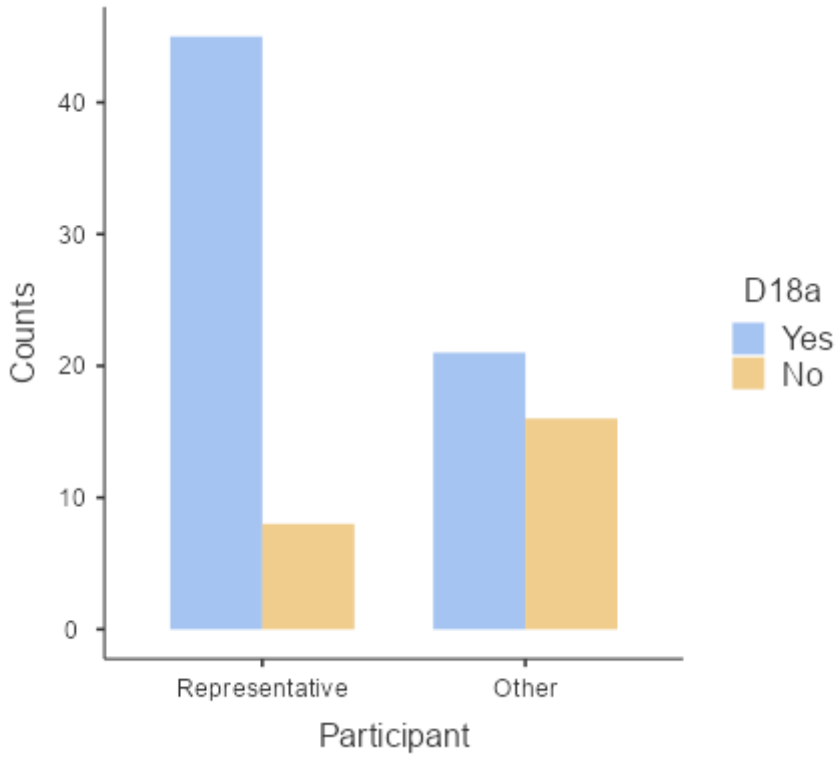
Split sample

Contingency Tables

Participant	Yes	No	Total
Representative	45	8	53
Other	21	16	37
Total	66	24	90

χ^2 Tests

	Value	df	p
χ^2	8.83	1	0.003
N	90		



Distribution of answers for Question 18. Cooperation among stakeholders

b) Independently of your above response, what percentage of your own stakeholder group do you believe would AGREE with the above statement?

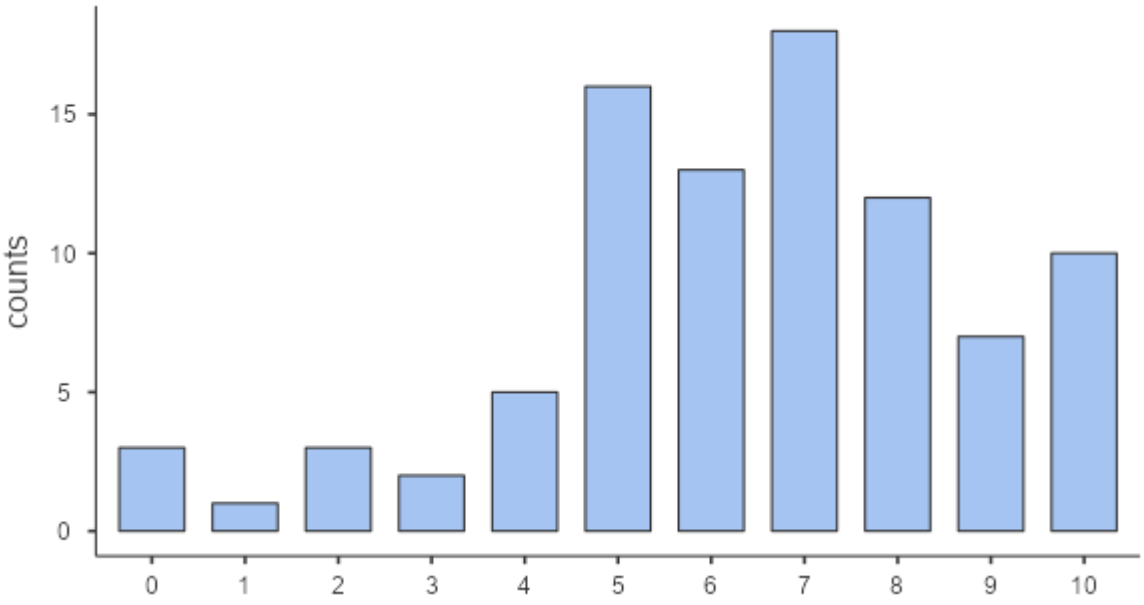
To simplify, the percentage range of 0-100 for measuring agreement with the statement has been converted to a scale of 1 to 10. Therefore, the values should be multiplied by 10 to calculate the corresponding percentage.

As shown by the table below, overall, the most selected percentage in this case is 70%. By giving a look at the split sample we have representatives 70% and other stakeholders 50%.

Full sample

	Counts	% of Total
0	3	3.3 %
1	1	1.1 %
2	3	3.3 %
3	2	2.2 %

	Counts	% of Total
4	5	5.6 %
5	16	17.8 %
6	13	14.4 %
7	18	20.0 %
8	12	13.3 %
9	7	7.8 %
10	10	11.1 %



Distribution of answers for the total percentage (0-100 %) believed stakeholders' agreement with the above statement

Split sample

Contingency Tables

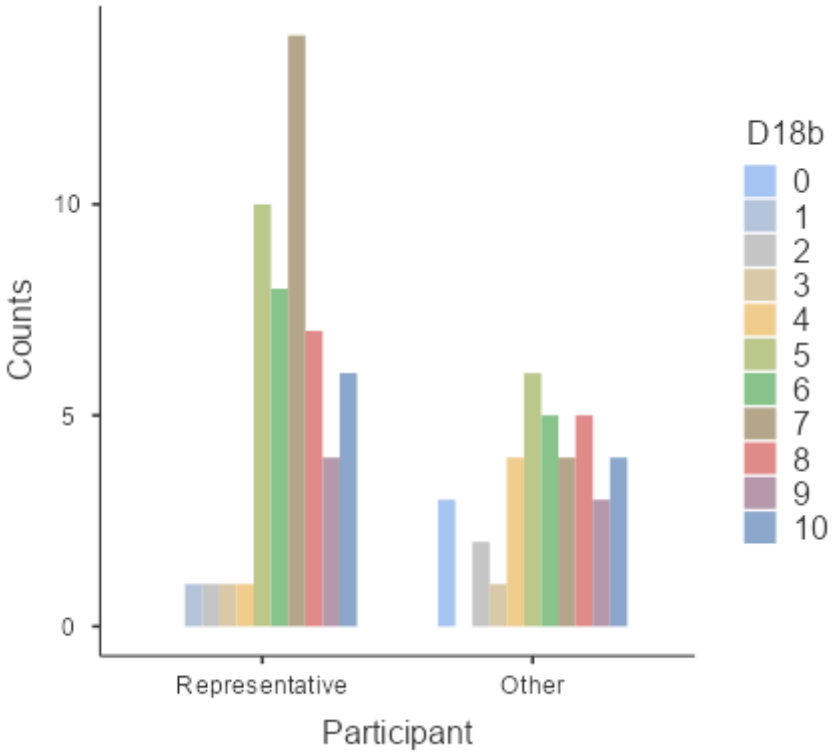
Participant	0	1	2	3	4	5	6	7	8	9	10	Total
Representative	0	1	1	1	1	10	8	14	7	4	6	53
Other	3	0	2	1	4	6	5	4	5	3	4	37

Contingency Tables

Participant	0	1	2	3	4	5	6	7	8	9	10	Total
Total	3	1	3	2	5	16	13	18	12	7	10	90

χ^2 Tests

	Value	df	p
χ^2	11.8	10	0.300
N	90		



Distribution of split answers for the percentage believed stakeholders' agreement with the above statement

4.19. Question 19. Local people benefits from LIFE actions

Similarly to the previous question, in question n. 18 participants were asked their opinion on whether local people benefit from actions undertaken in the frame of the LIFE Bear-Smart project. Two options were provided: Agree and Disagree. Next, they were asked to guess on a percentage 0-100% (measured on a scale 1-10) what percentage of the stakeholder group would agree with the statement expressed by the respondent.

a) Many local people will benefit from actions undertaken in the frame of the LIFE Bear-Smart project.

Most of representatives (44) believe that local people benefit from actions undertaken in the frame of the LIFE Bear-Smart project. Also the majority of people in the sub-sample made up of other stakeholders (24) believe the same.

Full sample

	Counts	% of Total
Yes	68	75.6 %
No	22	24.4 %

Split sample

Contingency Tables

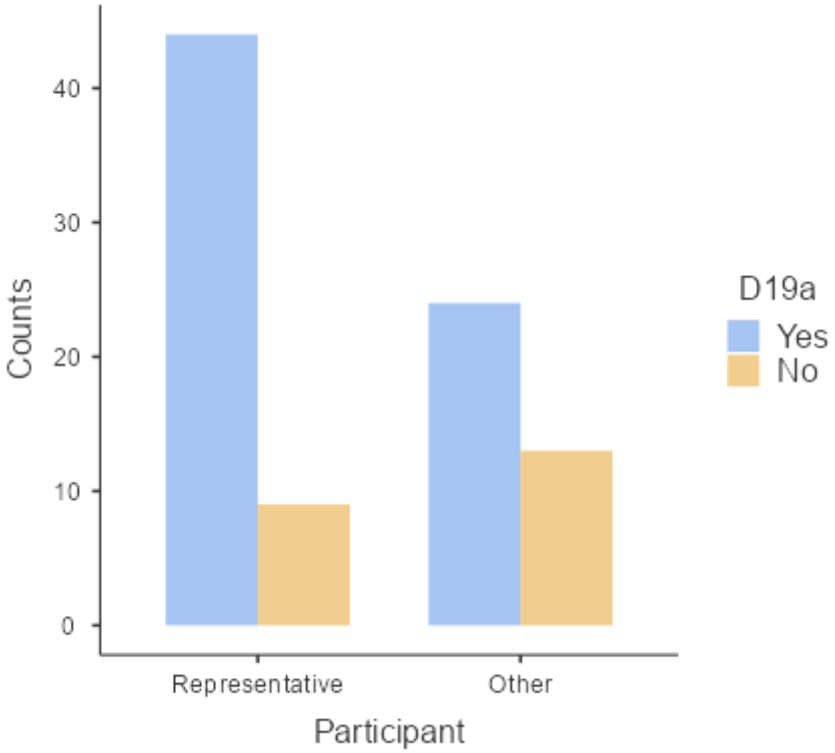
Participant	Yes	No	Total
Representative	44	9	53
Other	24	13	37
Total	68	22	90

χ^2 Tests

	Value	df	p
χ^2	3.89	1	0.049

χ^2 Tests

	Value	df	p
N	90		



Distribution of answers for Question 19. Local people benefits from LIFE actions

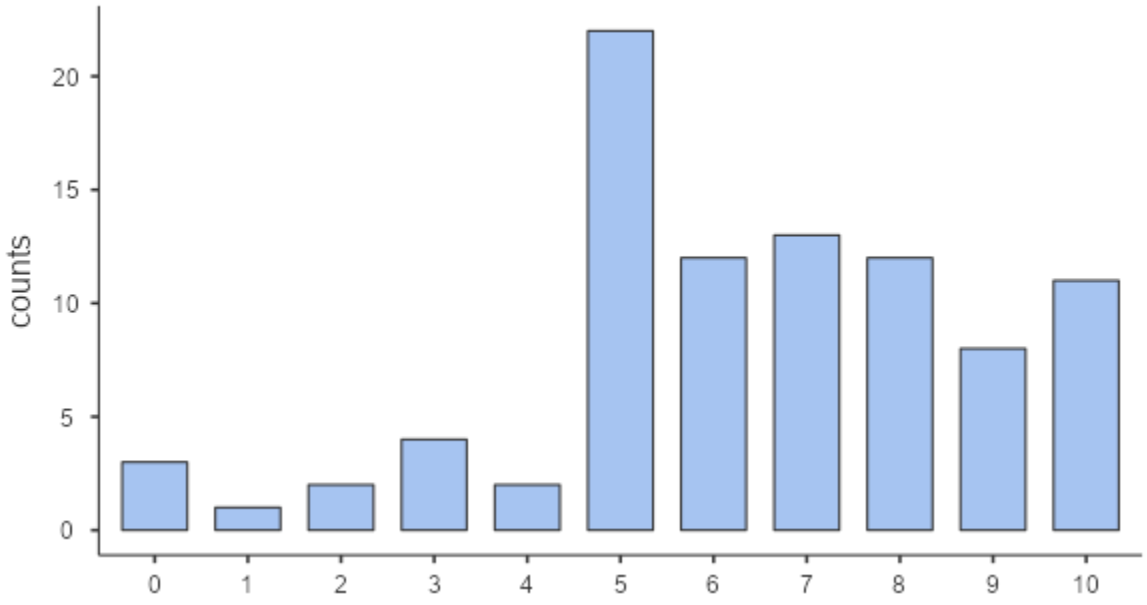
b) Independently of your above response, what percentage of your own stakeholder group do you believe would AGREE with the above statement?

As for the previous question, to simplify, the percentage range of 0-100 for measuring agreement with the statement has been converted to a scale of 1 to 10. Therefore, the values should be multiplied by 10 to calculate the corresponding percentage.

As shown by the table below, overall, the most selected percentage in this case is 50%. The same percentage is reflected in the most frequent choice by both representatives and other stakeholders.

Full sample

	Counts	% of Total
0	3	3.3 %
1	1	1.1 %
2	2	2.2 %
3	4	4.4 %
4	2	2.2 %
5	22	24.4 %
6	12	13.3 %
7	13	14.4 %
8	12	13.3 %
9	8	8.9 %
10	11	12.2 %



Distribution of answers for the total percentage (0-100 %) believed stakeholders' agreement with the above statement

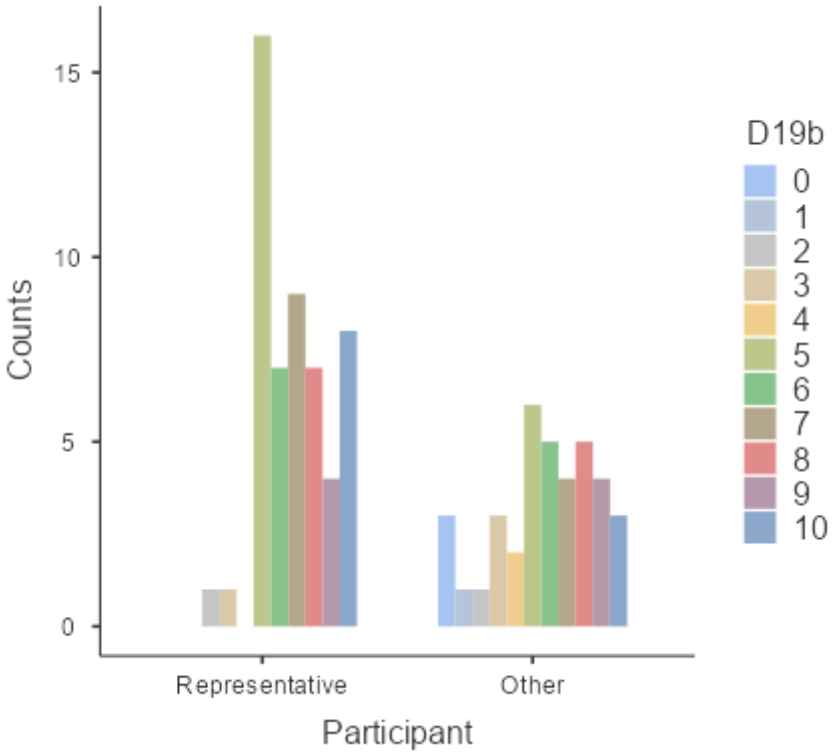
Split sample

Contingency Tables

Participant	0	1	2	3	4	5	6	7	8	9	10	Total
Representative	0	0	1	1	0	16	7	9	7	4	8	53
Other	3	1	1	3	2	6	5	4	5	4	3	37
Total	3	1	2	4	2	22	12	13	12	8	11	90

χ^2 Tests

	Value	df	p
χ^2	14.0	10	0.173
N	90		



Distribution of split answers for the percentage believed stakeholders' agreement with the above statement

4.20 Question 20 Opinion on Authorities' information sharing

Question 20 aimed at understanding which authorities provide adequate information about bears. four different authorities were included in the items: 1) Regional Authority and 2) Protected Areas Management Authorities 3) Non-Governmental Organizations, and 4) Ministry of the Environment

4.20.1 Q5, item 1: Regional Authorities provide adequate information

The Regional Authorities provide adequate information about bears

Overall people in both sample (71) believe that the Regional Authorities does not provide adequate information about bears.

Full sample

Frequencies

	Counts	% of Total
Yes	19	21.1 %
No	71	78.9 %

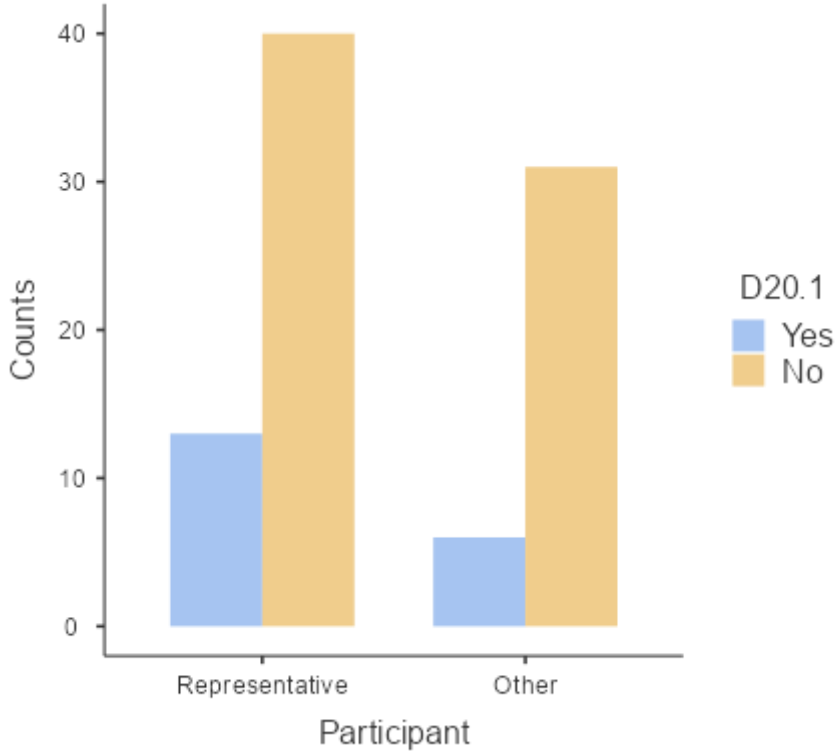
Split sample

Contingency Tables

Participant	Yes	No	Total
Representative	13	40	53
Other	6	31	37
Total	19	71	90

χ^2 Tests

	Value	df	p
χ^2	0.904	1	0.342
N	90		



Distribution of answers for Q5, item 1: Regional Authorities information sharing

4.20.2 Q5, item 2: Protected Areas Management Authorities provide adequate information

The Protected Areas Management Authorities provide adequate information about bears

Overall people in both samples (62) believe that the Protected Areas Management Authorities provide adequate information about bears. This is particularly true for representatives (42) rather than other stakeholders (20).

Full sample

	Counts	% of Total
Yes	62	68.9 %
No	28	31.1 %

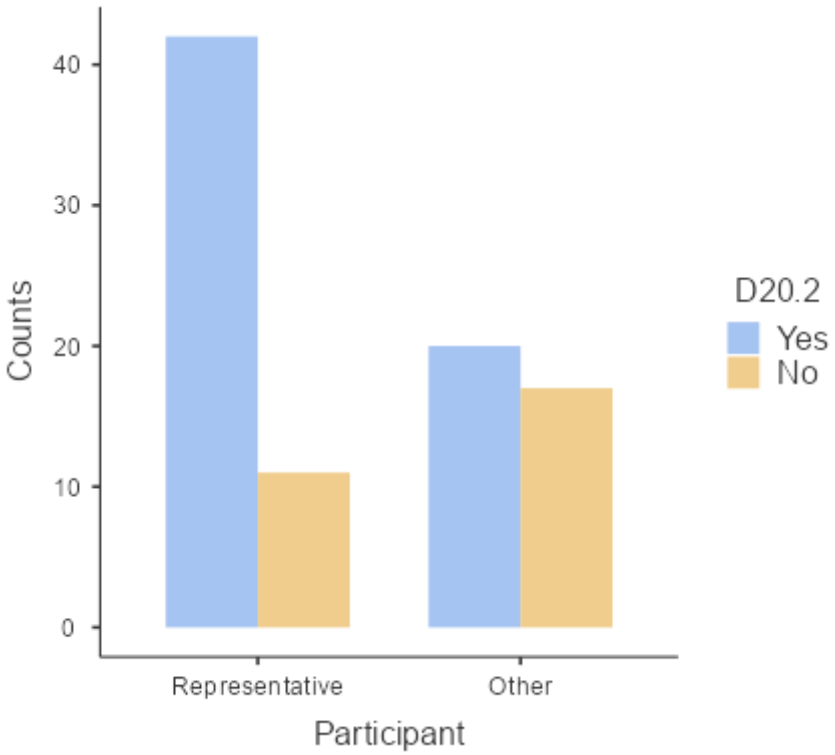
Split sample

Contingency Tables

Participant	Yes	No	Total
Representative	42	11	53
Other	20	17	37
Total	62	28	90

χ^2 Tests

	Value	df	p
χ^2	6.45	1	0.011
N	90		



Distribution of answers for Q5, item 2: Protected Areas Management Authorities information sharing

4.20.3 Q5, item 3: Non-Governmental Organizations (NGOs) Authorities provides adequate information

Non-Governmental Organizations (NGOs) provide adequate information about bear

The answers to the question are rather balanced, with 47 yes and 43 no. More in detail, most of the representatives (33) believe that Non-Governmental Organizations (NGOs) Authorities provide adequate information, however, most of the other stakeholders (23) do not agree with representatives.

Full sample

Frequencies

	Counts	% of Total
Yes	47	52.2 %
No	43	47.8 %

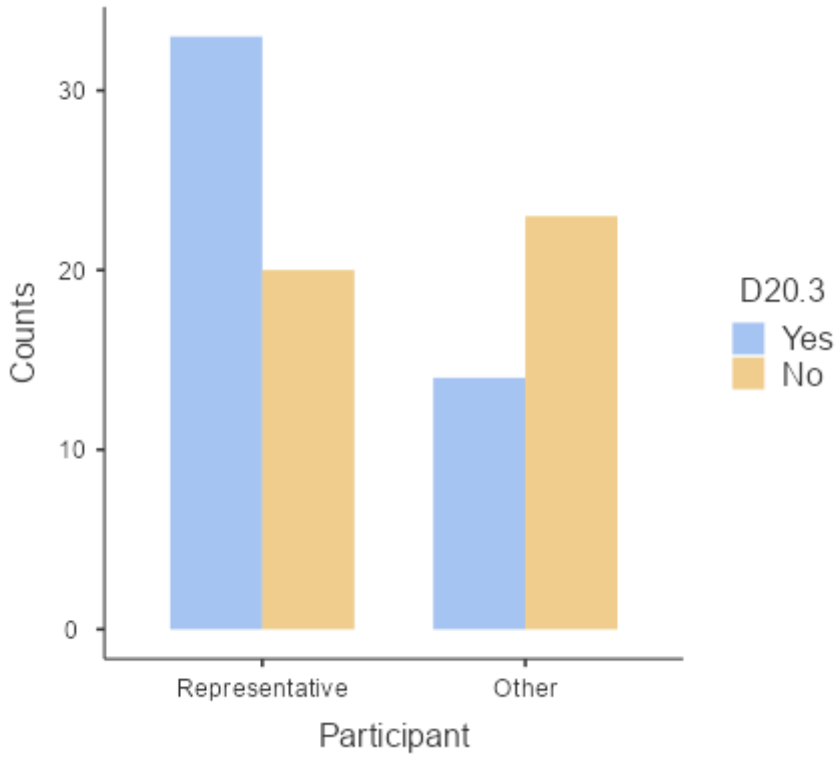
Split sample

Contingency Tables

Participant	Yes	No	Total
Representative	33	20	53
Other	14	23	37
Total	47	43	90

χ^2 Tests

	Value	df	p
χ^2	5.21	1	0.022
N	90		



Distribution of answers for Q5, item 3: Non-Governmental Organizations (NGOs) information sharing

4.20.4 Q5, item 4: The Ministry of the Environment Authorities provides adequate information

The Ministry of the Environment provides adequate information about bear

Lastly, both representatives (35) and other stakeholders (31) do not believe that The Ministry of the Environment Authorities provides adequate information.

Full sample

Frequencies

	Counts	% of Total
Yes	24	26.7 %
No	66	73.3 %

Frequencies

	Counts	% of Total

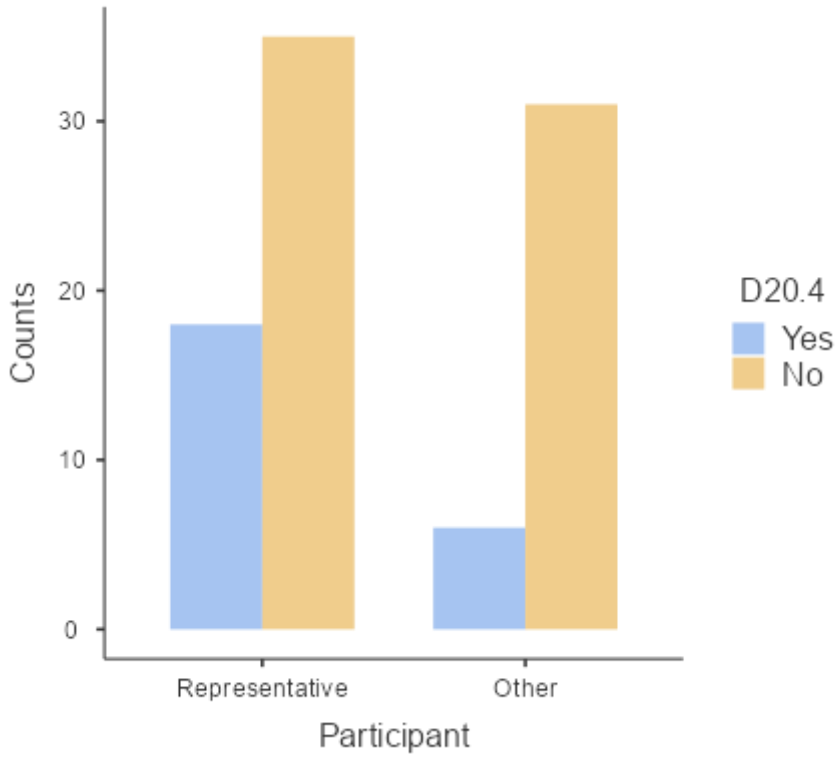
Split sample

Contingency Tables

Participant	Yes	No	Total
Representative	18	35	53
Other	6	31	37
Total	24	66	90

χ^2 Tests

	Value	df	p
χ^2	3.51	1	0.061
N	90		



Distribution of answers for Q5, item 4: The Ministry of the Environment information sharing

References

Glikman, J. A., Ciucci, P., Marino, A., Davis, E. O., Bath, A. J., & Boitani, L. (2019). Local attitudes toward Apennine brown bears: Insights for conservation issues. Conservation Science and Practice, 1(5), e25.

Sakurai, R., Jacobson, S. K., & Ueda, G. (2013). Public perceptions of risk and government performance regarding bear management in Japan. Ursus, 24(1), 70-82.

Social trust (Johansson, M., Flykt, A., Frank, J., & Støen, O. G. (2019). Controlled exposure reduces fear of brown bears. Human Dimensions of Wildlife, 24(4), 363-379.)

Appendix 1. Additional observations or comments regarding the questionnaire

Comments
1. Buon lavoro 2. Se può servire 3. Conoscere meglio in progetto, alcune domande sono malposte 4. Aggiungere una domanda tipo: "il tuo comune ha avuto negli anni benefici direttamente o indirettamente collegati alla presenza dell'orso in relazione all'apertura/gestione di strutture turistiche/ricettive da parte di soggetti privati e/o con il patrocinio dell'Ente Parco, che hanno permesso di trasformare la presenza del plantigrado in opportunità di sviluppo ed attrazione turistica?" avrebbe consentito di evidenziare la differenza tra comuni come Pescasseroli e Pizzone (per citare gli antipodi) l'uno culla, e l'altro" riserva moac" del Parco, stante la chiusura del Museo dell'orso ad oggi confinato in uno stretto scomodo e difficilmente raggiungibile locale e la presenza dell'eterna incompiuta e ormai fatiscente area faunistica dell'orso, monumento allo sperperio scriteriato di denaro pubblico 5. Questionario abbastanza ricco per cogliete le risposte per maggior tutela per l'orso 6. Domanda n. 8 risposte insufficienti. Essendo obbligatoria la risposta mana deve prevedere anche una risposta negativa. Se non ho sentito di incidenti con l'orso? 7. Chiarezza sul progetto 8. Dare maggiori informazioni ai cittadini 9. Bisogna comunicare alle popolazioni locali i dati dei programmi di conservazione dell'orso marsicano 10. Suggerimento: se si portassero avanti progetti di aiuto economico alla popolazione per creare recinzioni sugli orti, giardini, spazi pubblici ecc., probabilmente ci sarebbero minori danni lamentati dai singoli. Maggiore controllo del territorio da parte degli Enti preposti. 11. Buon lavoro! 12. Noi conviviamo con l'orso marsicano 13. Il Parco Nazionale d'Abruzzo non protegge gli Orsi anzi dal 1923 al oggi dopo 100 anni di tutela sono dimezzati, per proteggere l'orso bisogna collaborare con tutte le categorie che frequentano la montagna non vietando tutto. I divieti e i pregiudizi nei confronti di alcune categorie non hanno permesso la collaborazione e questo non fa bene alla tutela dell'orso, che tutti noi adoriamo

Appendix 2. Administered survey [ITA-ENG]

Gentile Partecipante,

il seguente questionario è stato sviluppato nell'ambito del progetto LIFE Bear-Smart Corridors (LIFE20 NAT/NL/001107), attuato in Italia e in Grecia. In Italia, il progetto mira a sostenere la conservazione dell'orso bruno marsicano (Ursus arctos marsicanus) attraverso lo sviluppo di corridoi per la sua coesistenza con le comunità umane che condividono il suo habitat. Maggiori dettagli sui partner e sulle azioni del progetto sono disponibili all'indirizzo: https://rewilding-apennines.com/life-bear-smart-corridors/.

Il leader del progetto è la fondazione Rewilding Europe, con sede a Nimega, nei Paesi Bassi.
In Italia i partner beneficiari del progetto sono: Parco Nazionale d'Abruzzo, Lazio e Molise, Parco Nazionale del Gran Sasso e Monti della Laga, Riserva Naturale Regionale Monte Genzana Alto Gizio, Associazione Rewilding Appennino ETS, Associazione Salviamo l'Orso e Parco Naturale Regionale Sirente Velino.
Nello specifico, i dati del questionario saranno raccolti e analizzati nell'ambito dell'Azione A4 "Indagine ex-ante sugli atteggiamenti del pubblico e sulle opinioni degli stakeholder" del progetto.

Ti invitiamo cortesemente a compilare il questionario rispondendo sinceramente a una serie di domande relative alla presenza dell'orso nella tua zona. Ricorda che non ci sono risposte giuste o sbagliate, l'unica cosa che ci interessa è raccogliere il tuo punto di vista.
Potrai interrompere la partecipazione in qualsiasi momento. Tuttavia, se lo farai, purtroppo non potremo utilizzare le tue risposte per lo studio.

A questo punto, vorremmo informarti sulla raccolta, la gestione e l'analisi dei dati, che saranno trattati in conformità alle leggi sulla privacy e al Regolamento generale sulla protezione dei dati (UE) 2016/679).

1. La compilazione del questionario è volontaria.
2. I dati del questionario saranno utilizzati per studiare le opinioni e gli atteggiamenti delle comunità locali e dei gruppi di interesse e per informare diverse altre azioni del progetto.
3. Il Coordinatore dell'Azione A4, Dott. Tasos Hovardas (hovardas@ucy.ac.cy), sarà responsabile della gestione dei dati. L'accesso a tali dati sarà consentito solo ai partner del progetto e solo per perseguire gli obiettivi del progetto (analisi dei dati per riportare i risultati del progetto e per le pubblicazioni scientifiche). Tutti i dati saranno cancellati tre anni dopo il completamento del progetto.
4. Potrai ritirare la tua partecipazione in qualsiasi momento inviando un messaggio di posta elettronica con la richiesta al Dott. Tasos Hovardas: hovardas@ucy.ac.cy.
5. I risultati dell'analisi dei dati, ma non i dati grezzi del questionario, saranno presentati nel report dell'Azione A4 e in eventuali pubblicazioni scientifiche presentate sulla base del report. La presentazione dei risultati si focalizzerà su tendenze generali e confronti e non sulle risposte dei singoli partecipanti.
6. Per ricevere i risultati dell'analisi dei dati si prega di farne richiesta via mail al Dott. Tasos Hovardas: hovardas@ucy.ac.cy.

L'**informativa privacy** ti fornirà una spiegazione più completa del trattamento dei vostri dati.

Cliccando su "accetto" dichiari di 1) aver acquisito le informazioni fornite nell'informativa sulla privacy; 2) accettare volontariamente di accedere al questionario e di fornire le proprie risposte; 3) esprimere il consenso al trattamento dei dati per le finalità indicate.

ACCETTO ❑ RIFIUTO ❑

Indica con quali delle seguenti affermazioni sei d'accordo (puoi selezionare più di un'affermazione)

Sono orgoglios* di avere/sarei orgoglios* di avere una popolazione di orsi nella zona dove vivo	
Anche se non mi capita di vedere orsi in natura, è importante per me sapere che esistono nella zona dove vivo	
Gli orsi sono una delle risorse più preziose dell'ambiente naturale della zona dove vivo.	

Indica la risposta che meglio descrive la tua opinione per ciascuna affermazione.

	Totalmente in disaccordo	In disaccordo	Né d'accordo né in disaccordo	D'accordo	Completamente d'accordo
2.1 I conflitti esseri umani-orso sono in aumento					
2.2 Sono preoccupat* per la sicurezza dei bambini					
2.3 Sono preoccupat* per i danni all'agricoltura					
2.4 Ho paura a passeggiare nel mio quartiere					

Indica la risposta che meglio descrive la tua opinione per ciascuna affermazione.

	Totalmente in disaccordo	In disaccordo	Né d'accordo né in disaccordo	D'accordo	Completamente d'accordo
3.1Gli orsi causano molti danni al bestiame					
3.2 Gli orsi causano molti danni agli alveari/apiari					
3.3 Gli orsi causano molti danni ai frutteti e alle colture agricole					

Sei a conoscenza delle modalità di indennizzo dei danni da orso? (Seleziona una solo risposta)

No, non ho mai sentito parlare di indennizzo dei danni da orso	
Ho sentito parlare di indennizzo dei danni da orso ma non ne conosco i dettagli	
Conosco alcuni aspetti delle modalità di indennizzo da danni da orso ma vorrei saperne di più	
Sì, conosco le modalità di indennizzo dei danni da orso nei dettagli	

Per favore, indica la risposta che meglio descrive la tua opinione.

	Sì	No	Non so
5.1 La **Regione** indennizza i danni da orso nella zona in cui vivo	❑	❑	❑
5.2 I **Parchi** indennizzano i danni da orso nella zona in cui vivo	❑	❑	❑

Le seguenti affermazioni riguardano la tua opinione in merito alle diverse possibilità di gestione dei danni provocati dagli orsi. Ti preghiamo di indicare se sei d'accordo o in disaccordo con ogni affermazione.

	D'accordo	In disaccordo	Forse
6.1 La popolazione locale/i produttori locali (agricoltori di sussistenza/allevatori di bestiame/apicoltori/agricoltori) dovrebbero ricevere un sussidio fisso per vivere in un'area in cui sono presenti gli orsi invece di ricevere un indennizzo per le perdite causate dagli orsi	❑	❑	❑
6.2 L'indennizzo per i danni causati dagli orsi dovrebbe essere pagato solo alle popolazioni locali/produttori locali (agricoltori di sussistenza/allevatori di bestiame/apicoltori/agricoltori) che utilizzano misure di prevenzione per ridurre l'attacco dell'orso (ad esempio recinzioni elettrificate, cani da guardia)	❑	❑	❑
6.3 La popolazione locale/i produttori locali (agricoltori di sussistenza/allevatori di bestiame/apicoltori/agricoltori) che perdono animali a causa di attacchi di orsi dovrebbero ricevere un indennizzo.	❑	❑	❑
6.4 Sarei d'accordo se una parte delle mie tasse servisse a indennizzare i danni causati dagli orsi.	❑	❑	❑

Quanto sono efficaci nel mitigare i conflitti uomo-orso le seguenti azioni? Segna la risposta che meglio descrive la tua opinione per ciascuna affermazione.

	Efficaci	Non efficaci	Non so
7.1 Uso dei cani da guardiania del bestiame			
7.2 Uso di recinzioni elettrificate			
7.3 Uso di bidoni della spazzatura a prova di orso			

7.4 Incremento della disponibilità di cibo per gli orsi che può essere trovato anche in natura			
7.5 Aumento delle disponibilità di cibo per gli orsi derivanti da colture			
7.6 Taglio della boscaglia a ridosso dei centri abitati			
7.7 Informare la popolazione locale su come comportarsi in caso di incontro inaspettato con gli orsi			
7.8 Traslocazione/trasferimento degli orsi "problematici"			

Hai mai sentito parlare di episodi di uccisione di orsi? Seleziona gli incidenti che ritieni più frequenti (puoi selezionare più di un elemento).

Difesa personale	
Incidenti durante la caccia	
Caccia al trofeo	
Protezione del bestiame o degli alveari o delle colture	
Ritorsioni per danni provocati dall'orso	

Per favore, indica la risposta che meglio descrive la tua opinione.

	Sì	**No**	**Non so**
9.1 Il mio Comune beneficia della presenza di orsi attraverso l'indotto coinvolto dai turisti che vengono a vederli	❑	❑	❑
9.2 Il mio comune beneficia della presenza di orsi attraverso posti di lavoro nel turismo o nella conservazione	❑	❑	❑
9.3 L'aspettativa di vedere gli orsi in natura influenza positivamente la decisione delle persone di visitare il mio comune	❑	❑	❑

Quale dei seguenti elementi dovrebbe essere maggiormente affrontato dal progetto LIFE Bear-Smart Corridors? (È possibile selezionare più di un elemento).

Aumentare la conoscenza sugli orsi	
Diminuire i danni causati dagli orsi	
Promuovere misure di prevenzione dei danni	
Migliorare l'indennizzo dei danni causati dagli orsi	

Promuovere cassonetti a prova di orso	
Affrontare le questioni relative alla sicurezza pubblica	
Migliorare la collaborazione tra i portatori di interesse	
Promuovere la certificazione di prodotti bear-friendly	
Promuovere forme di turismo alternative rispettose dell'orso	

Il tuo Comune promuove prodotti etichettati bear-friendly (amici dell'orso)?

a) Sì □ b) No □ c) Non so □

Di quanti prodotti etichettati bear-friendly nel tuo Comune sei a conoscenza?

❑ 0
❑ 1-3
❑ 4-6
❑ 7-10
❑ +10
❑ Non so / Non sono sicuro

Pensi che le persone sarebbero disposte a pagare soldi extra per i prodotti etichettati bear-friendly neltuo Comune?

a) Sì □ b) No □ c) Non so □

Con quale dei seguenti stakeholder ritieni di poter lavorare meglio quando si tratta di questioni riguardanti gli orsi? (È possibile selezionare più di una risposta)

Agricoltori	
Allevatori di bestiame	
Apicoltori	
Carabinieri Forestali	
Autorità di gestione delle aree protette	
Comuni	
Prefettura	
Cacciatori	

Veterinari	
Scienziati	
Organizzazioni non governative ambientaliste	
Agenzie di sviluppo	
Camere di Commercio	
Imprenditori/impiegati nel turismo	
Visitatori/turisti della regione	
Media locali/regionali	

Di quale dei seguenti stakeholder ti fidi maggiormente rispetto alle questioni riguardanti gli orsi? (Puoi selezionare più di una risposta)

Agricoltori	
Allevatori di bestiame	
Apicoltori	
Carabinieri Forestali	
Autorità di gestione delle aree protette	
Comuni	
Prefettura	
Cacciatori	
Veterinari	
Scienziati	
Organizzazioni non governative ambientaliste	
Agenzie di sviluppo	
Camere di Commercio	
Imprenditori/impiegati nel turismo	
Visitatori/turisti della regione	
Media locali/regionali	

Indica per favore la risposta che meglio descrive la tua opinione per ciascuna affermazione.

	Totalmente in disaccordo	In disaccordo	Né d'accordo né in disaccordo	D'accordo	Completamente d'accordo
16.1 Mi fido di come le **Regioni** gestiscono le situazioni problematiche che coinvolgono l'orso marsicano rispetto alle persone che vivono nelle zone in cui l'orso è presente					
16.2 Mi fido di come gli **Enti di gestione delle aree protette** gestiscono le situazioni problematiche che coinvolgono l'orso marsicano rispetto alle persone che vivono nelle zone in cui l'orso è presente					
16.3 Mi fido di come le **Associazioni** (ONG) ambientaliste gestiscono le situazioni problematiche che coinvolgono gli orsi marsicani rispetto alle persone che vivono nelle zone in cui l'orso è presente					
16.4 Mi fido di come il **Ministero dell'Ambiente** gestisce le situazioni problematiche che coinvolgono l'orso marsicano rispetto alle persone che vivono nelle zone in cui l'orso è presente					

Quale risposta caratterizza meglio le relazioni tra stakeholder nell'ultimo anno, quando si tratta di problemi legati alla presenza dell'orso? (Seleziona una sola risposta)

Predomina il conflitto	
Predomina la negoziazione	
Predomina la collaborazione	

Sei d'accordo o in disaccordo con la seguente affermazione?

a) La maggior parte degli stakeholdersarà disposta a cooperare nell'ambito del progetto LIFE Bear-Smart Corridors	Sì	No

b) Indipendentemente dalla tua risposta precedente, quale percentuale del tuo gruppo di stakeholder ritieni sarebbe **d'accordo** con la tua risposta?	Percentuale (0-100%)

Sei d'accordo o in disaccordo con la seguente affermazione?

c) Molte persone locali beneficeranno delle azioni intraprese nell'ambito del progetto LIFE Bear-Smart.	Sì	No

d) Indipendentemente dalla tua risposta precedente, quale percentuale del tuo gruppo di stakeholder ritieni sarebbe **d'accordo** con la tua risposta?	Percentuale (0-100%)

Per favore, indica la risposta che meglio descrive la tua opinione.

	Sì	**No**
1. La **Regione** fornisce informazioni adeguate sull'orso	❑	❑
2. Gli **Enti gestori delle Aree Protette** forniscono informazioni adeguate sull'orso	❑	❑
3. Le **Associazioni** (ONG) ambientaliste forniscono informazioni adeguate sull'orso	❑	❑
4. Il **Ministero dell'Ambiente** fornisce informazioni adeguate sull'orso	❑	❑

Genere: □ Femminile □ Maschile □ Altro □ Preferisco non rispondere

Età

≤30 anni	
31-40 anni	
41-50 anni	
51-60 anni	
>60 anni	

Comune di residenza: _____

Numero di abitanti del tuo Comune di residenza

Paese con 500 abitanti o meno	
Paese/cittadina con numero di residenti compreso tra 501 e 2500	
Paese/cittadina con più di 2500 abitanti	

Formazione

Scuola primaria	
Scuola secondaria di primo grado	
Scuola secondaria di secondo grado	
Università	
Studi post-laurea (Master, dottorato, corsi di specializzazione, ecc.)	

Esperienza come rappresentante comunale (anni) _____

Per favore indica se se fai parte di uno o più dei seguenti gruppi di stakeholder

Contadino	
Allevatore di bestiame	
Apicoltore	
Carabinieri Forestali	

Ente di Gestione delle Aree Protette	
Rappresentante della popolazione locale in un consiglio locale	
Rappresentante della popolazione locale a livello comunale	
Rappresentante della popolazione locale in Regione	
Cacciatore	
Veterinario	
Ricercatore/Scienziato	
Organizzazione Non Governativa Ambientale	
Enti di promozione turistica	
Camera di Commercio	
Imprenditore/impiegato nel settore turistico	

Se lo desideri, qui puoi fornirci ulteriori osservazioni o commenti riguardanti il questionario o il progetto LIFE Bear-Smart Corridors

Caro/a partecipante, grazie mille per la tua collaborazione. Siamo a tua disposizione per qualsiasi informazione riguardante il questionario o il progetto LIFE Bear-Smart Corridors. In caso di domande o commenti, puoi scrivere un'e-mail a: info@rewilding-apennines.com

Dear Madam or Sir,

this questionnaire was developed within the frame of the LIFE Bear-Smart Corridors project (LIFE20 NAT/NL/001107), which is implemented in Central Italy and Greece. In Italy, the project aims to support the viability of the Marsican brown bear (Ursus arctos marsicanus) through the development of corridors for its coexistence with the human communities that share its habitat. You can find more details for project partners and actions at: https://rewilding-apennines.com/life-bear-smart-corridors/.

The Project leader is the Rewilding Europe foundation, based in Nijmegen, the Netherlands. In Italy the beneficiary partners of the project are: The Abruzzo, Lazio and Molise National Park, The Gran Sasso and Monti della Laga National Park, The Monte Genzana Alto Gizio Regional Nature Reserve, The Rewilding Apennines ETS Association, The Save the Bear Association, and The Sirente Velino Regional Park.
Questionnaire data will be gathered and analysed in Action A4 "Ex-ante survey of public attitudes and stakeholder opinions" of the LIFE Bear-Smart Corridors project.
With this survey, we kindly invite you to complete the questionnaire and sincerely respond to a series of items related to bear presence in your area. Please remember that there are no right or wrong answers, the only thing we are interested in is gathering your point of view. You may stop participating in the research at any time; however, if you do so, unfortunately, we will not be able to use your responses for the study.
At this point, we would like to inform you on data collection, analysis and management, which will be processed in accordance with privacy laws and the General Data Protection Regulation (EU) 2016/679). Please read carefully all the following points:

1. The completion of the questionnaire is voluntary.
2. Questionnaire data will be used for studying opinions and attitudes of local communities and stakeholder groups and informing several other actions in the project.
3. The Coordinator of Action A4, Dr. Tasos Hovardas (hovardas@ucy.ac.cy), will be responsible for data management. Access to these data will be provided to project partners, only, and only for pursuing the objectives of the project (data analysis for the deliverables of the project and for scientific publications). All datasets will be deleted three years after the completion of the project.
4. You have the right to withdraw your participation at any time by sending an email message with your request to Dr. Tasos Hovardas: hovardas@ucy.ac.cy.
5. The results of data analysis, but not the raw data of the questionnaire, will be presented in the deliverable of Action A4 and in any scientific publication which will be submitted based on these deliverables. The presentation of results will focus on general trends and comparisons and not to responses of individual participants.
6. To receive the results of data analysis please send an email with your request to Dr. Tasos Hovardas: hovardas@ucy.ac.cy.

The extended **privacy policy** will give you a more comprehensive explanation of how your data is handled.

By clicking on “agree” you declare that 1) you have acquired the information provided in the privacy policy, 2) you voluntarily agree to access the questionnaire and provide your responses, and that 3) you express your consent to the processing of the data for the purposes indicated in the privacy policy.

AGREE ❑ DO NOT AGREE ❑

1) Please indicate which items you agree with (you may choose more than one item)

I am proud of having/ I would be proud of having a bear population in my area.	
Even if I never see a bear in the wild, it is important for me to know they exist in my area.	
Bears are one of the most valuable assets of the natural environment in my area.	

2) Please tick the response that best describes your opinion for each statement (Strongly Disagree; Disagree; Neither agree nor disagree; Agree; Strongly Agree).

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Human–bear conflicts are increasing					
I am concerned about the safety of children					
I am concerned about agricultural damage					
I am worried about walking outside in my neighbourhood					

3) Please tick the response that best describes your opinion for each statement (Strongly Disagree; Disagree; Neither agree nor disagree; Agree; Strongly Agree).

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Bears cause abundant damages to livestock					
Bears cause abundant damages to beehives					
Bears cause abundant damages to orchards and agriculture crops					

4) Are you aware about the compensation scheme for bear damages? (Choose one item)

No, I have never heard of such a compensation scheme	
I have heard about the scheme but I am not aware of any details	
I know some aspects of this scheme but I would like to know more	
Yes, in detail	

5) Please tick the answer that best corresponds to your opinion:

	Yes	No	I do not know
The Regional Authorities compensate bear damage in the area where I live	❑	❑	❑
The Park Authorities compensate bear damage in the area where I live	❑	❑	❑

6) The following statements concern your opinion regarding the different possibilities of managing the damage caused by bears. Please state if you agree with each statement or not by ticking the relevant box in each line.

	Do not agree	**Agree**	**Maybe**
Local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) should receive a subsidy for living in an area where there are bears instead of receiving compensation for losses that bears causes	❑	❑	❑
Compensation for the damage caused by bears should be paid only to local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) who use prevention measures to reduce bear attack (e.g. electric fences, guard dogs)	❑	❑	❑

Local people/local producers (subsistence farmers/livestock breeders/beekeepers/farmers) who lose animals because of bear attacks should receive compensation.	❑	❑	❑
I would agree if part of my taxes were used to pay compensation for the damages caused by bears.	❑	❑	❑

7) How effective in mitigating human-bear conflicts are the following actions? We are going to list a series of statements. Please mark the response that best describes your opinion for each of them:

	Effective	**Not effective**	**I do not know**
Use livestock guarding dogs			
Use electric fences			
Use bear-proof garbage bins			
Deliberately increase food availability for bears that can be also found in the wild			
Deliberately increase food availability for bears in the form of corn			
Clear vegetation around villages			
Inform local people of how to behave in an unexpected encounter with bears			
Relocate "problematic" bears			

8) Have you ever heard about any bear poaching incident? Please select the incidents that apply from the list of items shown below (You may select more than one item).

Self-defense	
Accident during hunting	

Trophy hunting	
Protection of livestock or beehives or crops	
Retaliation due to damage caused by the bear	

9) Please tick the answer that best corresponds to your opinion:

	Yes	No	I do not know
My municipality benefits from bears through money from tourists coming to see them.	❑	❑	❑
My municipality benefits from bears through jobs in tourism or conservation.	❑	❑	❑
The expectation of seeing bears in the wild influence people's decision to visit my municipality	❑	❑	❑

10) Which of the items below should be most supported by the LIFE Bear-Smart Corridors project? (You may select more than one item).

Increase knowledge about bears	
Decrease damages caused by bears	
Promote damage prevention measures	
Improve compensation of damage caused by bears	
Promote bear-proof constructions	
Address issues related to human safety	
Improve stakeholder collaboration	
Promote certification of bear-friendly products	

Promote alternative forms of tourism based on bear presence ☐

11) Does your Municipality promote bear-friendly labelled products?

a) Yes ☐ b) No ☐ c) I do not know ☐

12) How many bear-friendly labelled products are you aware of in your Municipality?

❑ 0
❑ 1-3
❑ 4-6
❑7-10
❑ +10
❑ I do not know / I am not sure

13) Do you think people would be willing to pay extra money for bear-friendly labelled products produced in the Municipality ?

a) Yes ☐ b) No ☐ c) I do not know ☐

14) Which of the following stakeholder groups can you best work with when it comes to issues concerning bears? (You can select more than one group)

Farmers ☐
Stock breeders ☐
Beekeepers ☐
Foresters ☐
Protected area management authority ☐
Municipalities ☐
Prefecture ☐
Hunters ☐
Veterinarians ☐

Scientists	
Environmental non-governmental organisations	
Developmental companies	
Chambers of commerce	
Entrepreneurs/employees in tourism	
Visitors/tourists in the region	
Local/regional media	

15) Which of the following stakeholder groups do you trust most on issues concerning bears? (You can select more than one group)

Farmers	
Stock breeders	
Beekeepers	
Foresters	
Protected area management authority	
Municipalities	
Prefecture	
Hunters	
Veterinarians	
Scientists	
Environmental non-governmental organisations	

Developmental companies	
Chambers of commerce	
Entrepreneurs/employees in tourism	
Visitors/tourists in the region	
Local/regional media	

16) Please tick the response that best describes your opinion for each statement (Strongly Disagree; Disagree; Neither agree nor disagree; Agree; Strongly Agree).

	Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
I trust the **Regional Authorities** to manage problematic situations involving brown bears with consideration for people who live in bear areas					
I trust the **Protected Areas Management Authorities** to manage problematic situations involving brown bears with consideration for people who live in bear areas					
I trust the environmental **Non-Governmental Organizations (NGOs)** to manage problematic situations involving brown bears with consideration for people who live in bear areas					
I trust the **Ministry of the Environment** to manage problematic situations involving brown bears with consideration for people who live in bear areas					

17) Which answer best characterizes relationships between stakeholders in the past year, when it comes to bear issues? (Please select only one response)

Conflict predominates	
Negotiation predominates	
Collaboration predominates	

18) Do you agree or disagree with the following statement:

a) Most stakeholders will be willing to cooperate in the frame of the LIFE Bear-Smart Corridors project	Agree	Disagree

b) Independently of your above response, what percentage of your own stakeholder group do you believe would AGREE with the above statement?	Percentage (0-100%)

19) Do you agree or disagree with the following statement:

a) Many local people will benefit from actions undertaken in the frame of the LIFE Bear-Smart project.	Agree	Disagree

b) Independently of your above response, what percentage of your own stakeholder group do you believe would AGREE with the above statement?	Percentage (0-100%)

20) Please tick the answer that best corresponds to your opinion:

	Yes	No
The **Regional Authorities** provides adequate information about bears	❑	❑
The **Protected Areas Management Authorities** provide adequate information about bears	❑	❑
Non-Governmental Organizations (NGOs) provide adequate information about bear	❑	❑
The **Ministry of the Environment** provides adequate information about bear	❑	❑

Personal information

21. Gender: ☐ Female ☐ Male ☐ Other ☐ Prefer not to say

22. Age

≤30 years	
31-40 years	
41-50 years	
51-60 years	
>60 years	

23. Municipality of residence: _____

24. Number of inhabitants of place of residence

Village with 500 inhabitants or less	
Village/town with number of residents in the range 501-2500	
City/town with more than 2500 inhabitants	

25. Education

Primary	
Secondary	
Technical school	
University	
Postgraduate studies after university degree	

26). Work experience as representative (years) _____

27) Please state if you are also part of some of this stakeholder group

Farmer	
Stock breeder	
Beekeeper	
Forester	
Protected Area Management Authority	
Representative of local people in a local village Council	
Representative of local people at the Municipality level	
Representative of local people at the Prefecture level	
Hunter	
Veterinarian	
Scientist	

Environmental Non-Governmental Organization	
Developmental Company	
Chamber of Commerce	
Entrepreneur/employee in Tourism	

28) Please provide in the space given further comments or remarks concerning the questionnaire, or the project LIFE Smart Corridors

Dear participant, thank you very much for your cooperation. We are at your disposal for any information regarding the questionnaire or the LIFE Bear-Smart Corridors project. If you have any comments, please write an email to: hovardas@ucy.ac.cy

LIFE BEAR-SMART COMMUNITIES ACTION A.4:

Report of the ex-ante survey (Sub-action A4.2)

4 September 2023

Dimitris Bormpoudakis[1], Dimitris Vavylis[2], Vaios Koutis[2], Giorgos Chatzinakos[1], Tasos Hovardas[2]

[1] Callisto Wildlife and Conservation Society (CALLISTO)

[2] Trikala Development Agency S.A. (KENAKAP)

Email: bormpd@gmail.com; hovardas@ucy.ac.cy

Contents

List of figures

List of figures

Summary - EN

The survey conducted in the Trikala-Kalambaka region in the context of *Life Bear Smart Corridors Sub-action A4.2: Ex-ante* survey of public attitudes and stakeholder opinions yielded valuable insights into the perceptions and experiences of local residents and stakeholders regarding human-bear coexistence. A majority of respondents (72%) expressed cooperative and negotiation-based approaches as the dominant modes of interaction between interested parties regarding human-bear coexistence. This suggests a willingness among residents to work collaboratively to address the challenges posed by bear presence. Respondents exhibited significant trust in certain organizations, notably the Forest Service, environmental NGOs, and scientists. These trusted entities can play pivotal roles in communication and awareness-building efforts. Education emerged as a central theme, with 77% of respondents favoring educational programs on proper bear encounter behavior. This highlights the importance of investing in educational initiatives to promote safe coexistence. Residents expressed support for various mitigation measures, including electric fences, bear-safe garbage bins, and the use of bear-repelling dogs. These preferences should inform targeted interventions. Concerns about bear-related risks to agriculture, particularly damages to bees, agriculture in general, orchards, and livestock, were prominent. Residents from smaller villages and those directly involved in the primary sector exhibited higher levels of concern. While many respondents reported experiencing bear-related damages, a significant portion (39%) had never heard of compensation mechanisms. This underscores the need for improved communication about available support. Based on these survey findings, several conclusions can be drawn. Prioritizing educational initiatives tailored to different demographics is crucial. These programs should emphasize safe bear encounter behavior and coexistence strategies. Collaborative efforts with trusted entities like the Forest Service and environmental NGOs can enhance the effectiveness of awareness campaigns and safety initiatives. The promotion of mitigation measures such as electric fences and bear-safe garbage bins aligns with residents' preferences and should be a key focus. Efforts should be made to inform residents, especially those in the primary sector, about compensation mechanisms available for bear-related damages. A sense of community involvement and shared responsibility in bear coexistence efforts should be fostered and residents should be encouraged to share their experiences and insights.

Summary - GR

Η έρευνα που διεξήχθη στην περιοχή Τρικάλων-Καλαμπάκας στο πλαίσιο της υποδράσης «A4.2 Life Bear Smart Corridors: έρευνα των στάσεων του κοινού και των απόψεων των ενδιαφερόμενων φορέων» απέδωσε πολύτιμες πληροφορίες σχετικά με τις αντιλήψεις και τις εμπειρίες των κατοίκων της περιοχής και των ενδιαφερόμενων φορέων όσον αφορά τη συνύπαρξη ανθρώπου-αρκούδας. Η πλειονότητα των ερωτηθέντων (72%) εξέφρασε την συνεργασία και την διαπραγμάτευση ως τους κυρίαρχους τρόπους αλληλεπίδρασης μεταξύ των ενδιαφερομένων μερών όσον αφορά τη συνύπαρξη ανθρώπου-αρκούδας. Αυτό υποδηλώνει την προθυμία των κατοίκων να συνεργαστούν για την αντιμετώπιση των προκλήσεων που θέτει η παρουσία της αρκούδας. Οι ερωτηθέντες επέδειξαν σημαντική εμπιστοσύνη σε ορισμένους οργανισμούς, ιδίως στη Δασική Υπηρεσία, στις περιβαλλοντικές ΜΚΟ και στους επιστήμονες. Αυτοί οι φορείς μπορούν να διαδραματίσουν καθοριστικό ρόλο στις προσπάθειες επικοινωνίας και ευαισθητοποίησης. Η εκπαίδευση αναδείχθηκε ως κεντρικό θέμα, με το 77% των ερωτηθέντων να τάσσεται υπέρ εκπαιδευτικών προγραμμάτων σχετικά με τη σωστή συμπεριφορά κατά τη συνάντηση με την αρκούδα. Αυτό υπογραμμίζει τη σημασία της επένδυσης σε εκπαιδευτικές πρωτοβουλίες για την προώθηση της ασφαλούς συνύπαρξης. Οι κάτοικοι εξέφρασαν την υποστήριξή τους σε διάφορα μέτρα μετριασμού, συμπεριλαμβανομένων των ηλεκτρικών φρακτών, των κάδων απορριμμάτων που είναι ασφαλείς για τις αρκούδες και της χρήσης σκύλων που απωθούν τις αρκούδες. Αυτές οι προτιμήσεις θα πρέπει να ενημερώσουν για στοχευμένες παρεμβάσεις. Οι ανησυχίες σχετικά με τους κινδύνους που σχετίζονται με την αρκούδα για τη γεωργία, ιδίως για τις ζημιές στις μέλισσες, τη γεωργία γενικά, τους οπωρώνες και τα ζώα, ήταν εξέχουσες. Οι κάτοικοι από μικρότερα χωριά και όσοι ασχολούνται άμεσα με τον πρωτογενή τομέα παρουσίασαν υψηλότερα επίπεδα ανησυχίας. Ενώ πολλοί ερωτηθέντες ανέφεραν ότι είχαν βιώσει ζημιές που σχετίζονται με αρκούδες, ένα σημαντικό ποσοστό (39%) δεν είχε ακούσει ποτέ για μηχανισμούς αποζημίωσης. Αυτό υπογραμμίζει την ανάγκη για καλύτερη επικοινωνία σχετικά με τη διαθέσιμη υποστήριξη. Με βάση αυτά τα ευρήματα της έρευνας, μπορούν να εξαχθούν διάφορα συμπεράσματα. Η ιεράρχηση εκπαιδευτικών πρωτοβουλιών προσαρμοσμένων σε διαφορετικές δημογραφικές ομάδες είναι ζωτικής σημασίας. Τα προγράμματα αυτά θα πρέπει να δίνουν έμφαση στη συμπεριφορά ασφαλούς συνάντησης με την αρκούδα και στις στρατηγικές συνύπαρξης. Οι προσπάθειες συνεργασίας με αξιόπιστους φορείς όπως η Δασική Υπηρεσία και οι περιβαλλοντικές ΜΚΟ μπορούν να ενισχύσουν την αποτελεσματικότητα των εκστρατειών ευαισθητοποίησης και των πρωτοβουλιών ασφάλειας. Η προώθηση μέτρων μετριασμού, όπως οι ηλεκτρικοί φράχτες και οι κάδοι απορριμμάτων που είναι ασφαλείς για τις αρκούδες, ευθυγραμμίζεται με τις προτιμήσεις των κατοίκων και θα πρέπει να αποτελέσει βασική εστίαση. Θα πρέπει να καταβληθούν προσπάθειες για την ενημέρωση των κατοίκων, ιδίως εκείνων του πρωτογενούς τομέα, σχετικά με τους μηχανισμούς αποζημίωσης που είναι διαθέσιμοι για ζημιές που σχετίζονται με αρκούδες. Θα πρέπει να ενισχυθεί το αίσθημα της συμμετοχής της κοινότητας και της κοινής ευθύνης στις προσπάθειες συνύπαρξης της αρκούδας και οι κάτοικοι θα πρέπει να ενθαρρύνονται να μοιράζονται τις εμπειρίες και τις γνώσεις τους.

Introduction

This report presents an analysis of the questionnaire data developed as a part of the LIFE Bear-Smart Corridors project (LIFE20 NAT/NL/001107), which focuses on conservation efforts in Central Italy and Greece in the context of **Action A** '**Preparatory actions, elaboration of management plans and/or of action plans**', '**Sub-action A4.2: Ex-ante survey of public attitudes and stakeholder opinions'**. The questionnaire aims to gather insights into public attitudes and stakeholder opinions concerning the brown bear (*Ursus arctos*) and the coexistence of bears with human communities in the project area. The project is led by the Rewilding Europe foundation, in collaboration with beneficiary partners, which in Greece are CALLISTO, ARCTUROS, KENAKAP, UTH and Municipality of Amyntaio. This report concerns the Bear Smart Community in Trikala-Meteora (BC2), and the Greek partners involved are CALLISTO and KENAKAP.

Survey instrument design

This study employed a survey to elicit targeted insights from participants concerning the overarching LIFE Bear-Smart Corridors project in the context of Action A 'Preparatory actions, elaboration of management plans and/or of action plans', 'Sub-action A4.2: Ex-ante survey of public attitudes and stakeholder opinions'. The survey encompassed 23 closed-ended and 1 open-ended question aimed at soliciting specific comments and remarks related to specific survey and project aspects. The survey instrument was initially drafted in the English language, building upon a preliminary qualitative phase involving in-depth interviews. These interviews were conducted to discern salient issues, their characteristics, and their significance as perceived by diverse interest groups. The identified insights were subsequently used to formulate the survey instrument. To ensure linguistic and conceptual precision, the questionnaire underwent a translation process from English to Greek and then a back-translation to English. The instrument was subsequently adapted to a digital format using Google Forms, necessary for administration and data collection. Adjustments were incorporated based on pre-test feedback to optimize the survey's clarity and effectiveness. The survey completion time was estimated to be approximately 10 minutes, enhancing participant engagement.

The questionnaire was completed by participants in the meeting and workshop held in the project area in the May 2023. Further, the questionnaire was administered by KENAKAP. The participation in data collection was voluntary and all participants were guaranteed anonymity. The core aim of sample selection and data collection was not to provide a representative account of all local residents within the Trikala-Meteora Bear Smart Community area. Rather, the main intention was to concentrate on respondents involved in bear conservation and management.

Data collection transpired during the months of May and June 2023, aligning with the project's timeline. Data from physical questionnaires were uploaded by the project's team on Google Forms and an integrated pipeline for data analysis and presentation (Google

Forms to MS Word) was implemented in R (version 4.3.1, R Core Team 2023), using RStudio (Allaire 2012) and RMarkdown (Allaire et al. 2023; see also Xie et al. 2018, 2020).

Sample

We collected 156 questionnaires, 74 online (on the Google Forms platform) and 82 physical copies. From them, after excluding questionnaires that were not fully completed, we obtained a final sample of 128 participants. 69 participants live in the Municipality of Trikala, and 59 in the Municipality of Meteora (**Q18**). The majority of participants (**Q19**) reside in the large town of Kalambaka or the city of Trikala (63%), followed by participants residing in small villages (26%) and medium sized towns and large villages (11%).

The sample is roughly evenly split along self-declared sex (**Q16**, 53.1% male, 45.3% female and 1.5% who declined to reveal their sex). In terms of self-identified social group (**Q21**), participants fall within six categories (Table 1). The sex split along social group roughly reflects the demographics of each group and there is no statistically significant difference between the groups (Chi square test > 0.15).

Table 1. Crosstabulation of sex with social group

	Male (N=68)	Female (N=58)	Prefer not to say (N=2)	**Total** (N=128)
Social group				
Primary sector	8 (11.8%)	3 (5.2%)	0 (0.0%)	11 (8.6%)
Scientist	11 (16.2%)	8 (13.8%)	0 (0.0%)	19 (14.8%)
Tourism sector	10 (14.7%)	4 (6.9%)	0 (0.0%)	14 (10.9%)
Resident-other	20 (29.4%)	34 (58.6%)	2 (100.0%)	56 (43.8%)
Environment-related worker	16 (23.5%)	8 (13.8%)	0 (0.0%)	24 (18.8%)
Representative-development agency	3 (4.4%)	1 (1.7%)	0 (0.0%)	4 (3.1%)

The same holds for the distribution of sex along age lines (**Q17**, Chi square test > 0.16). However, we do have some under-representation of participants younger than 30 years and women over the age of 60 (Table 2).

Table 2. Crosstabulation of sex with age.

	Male (N=68)	Female (N=58)	Prefer not to say (N=2)	**Total** (N=128)
Age				
≤30	5 (7.4%)	11 (19.0%)	1 (50.0%)	17 (13.3%)
31-40	20 (29.4%)	20 (34.5%)	1 (50.0%)	41 (32.0%)

	Male (N=68)	Female (N=58)	Prefer not to say (N=2)	**Total** (N=128)
41-50	15 (22.1%)	10 (17.2%)	0 (0.0%)	25 (19.5%)
51-60	20 (29.4%)	16 (27.6%)	0 (0.0%)	36 (28.1%)
>60	8 (11.8%)	1 (1.7%)	0 (0.0%)	9 (7.0%)

In terms of education (**Q20**), our sample over-represents graduate and post-graduate diploma holders (44.4% and 25.8% respectively), although it does contain 16.9% participants with secondary education schooling and 12.9% participants with technical education. The correlation with income (**Q22**) reflects that higher education usually results in higher income (Table 3).

Table 3. Crosstabulation of sex with education

	Lower than country average (N=40)	Country average (N=71)	Higher than country average (N=13)	Total (N=124)
Education				
Secondary education	8 (20.0%)	13 (18.3%)	0 (0.0%)	21 (16.9%)
Vocational higher education	7 (17.5%)	9 (12.7%)	0 (0.0%)	16 (12.9%)
University graduate	18 (45.0%)	30 (42.3%)	7 (53.8%)	55 (44.4%)
University post-graduate studies	7 (17.5%)	19 (26.8%)	6 (46.2%)	32 (25.8%)

Results

Interaction modalities

The majority of respondents (72%) believe that the interaction (**Q4**) between interested parties in the region regarding human-bear coexistence is characterised by cooperation (41%) or negotiation (31%). One third of the sample believes the interaction is characterised by conflict (28%). There are significant differences regarding interaction modalities in relation to education (Chi-squared = 21.3, p = 0.00) and social group (Chi-squared = 21.3, p = 0.00) (Tables 4 and 5). Participants with secondary and technical school education believe that cooperation is the main mode of interaction between interested parties (52% and 78% respectively) and negotiation the least prominent (10% and 6% respectively); participants with university graduate or post-graduate believe that negotiation is the most prominent mode of interaction.

Table 4. Interaction mode and education (% of group total).

	Secondary education	Vocation higher education	University graduate	University post-graduate studies
Dominant mode of interaction				
Conflict	38.10	16.67	25.45	32.35
Negotiation	9.52	5.56	41.82	41.18
Cooperation	52.38	77.78	32.73	26.47

In results that echo and parallel the relationship between interaction modes and education, different social groups view the modes of interaction in different lights (Table 5). Participants which work in the primary sector and environment-related workers, view that negotiation is least prominent mode of interaction between the interested parties. The same holds for representatives and workers in public local development agencies. Cooperation is by far the most prominent category for environment-related workers (75%), and conflict for representatives and public local development agencies employees (100%). Interestingly, almost half of the participants from the primary sector in our sample believe that conflict is the main mode of interaction. There were no significant differences related to sex (Chi-squared = 0.46, p = 0.8), income (Chi-squared = 2.77, p = 0.58), residence (Chi-squared = 2.5, p = 0.66) or whether the participant has been subject to damages from bears (Chi-squared = 3.9, p = 0.16) regarding the mode of interaction variable.

Table 5. Interaction mode and social group (% of group total).

	Primary sector	Scientist	Tourism sector	Resident-other	Environment-related worker	Representative-development
Dominant mode of interaction	9.09	63.16	35.71	35.71	8.33	0
Conflict	45.45	26.32	28.57	35.71	75.00	0
Negotiation	45.45	10.53	35.71	28.57	16.67	100
Cooperation	45.45	26.32	28.57	35.71	75.00	0

The high percentage of participants who believe that interaction is characterised by benign modes is reflected in the overwhelming majority of respondents who believe not only that interested parties would be willing to cooperate in the context of LBSC (**Q5**, 89%), but that LBSC, as a programme, would benefit the majority of residents in the area of Meteora-Trikala-Kalampaka (**Q6**, 95%).

The plural values of bears

Survey participants do seem to have a high level of physical interaction with bears (**Q14)**, with 44% stating that they have seen a bear in real life, 37% that they have seen bear tracks, and only 19% that have seen neither bear nor tracks. (Visual) Contact with bear or bear tacks does seem to be distributed unevenly along several axes (Table 6). Social group ($p = 0.005$), residence ($p = 0.018$), age ($p = 0.04$) and sex ($p = 0.001$) are all social and work-related characteristics that do seem to influence the change of seeing a bear in real life.

Table 6. Real life contact with bears or bear tracks along social axes.

	No (N=25)	Only seen bear tracks (N=48)	Yes (N=57)	Total (N=130)
Social group				
Primary sector	0 (0.0%)	1 (2.1%)	10 (17.5%)	11 (8.5%)
Scientist	4 (16.0%)	7 (14.6%)	8 (14.0%)	19 (14.6%)
Tourism sector	2 (8.0%)	6 (12.5%)	6 (10.5%)	14 (10.8%)
Resident-other	13 (52.0%)	30 (62.5%)	15 (26.3%)	58 (44.6%)
Environment-related worker	5 (20.0%)	3 (6.2%)	16 (28.1%)	24 (18.5%)
Representative-development	1 (4.0%)	1 (2.1%)	2 (3.5%)	4 (3.1%)
Residence				
Village	1 (4.0%)	12 (25.0%)	22 (38.6%)	35 (26.9%)
Mid-sized town/ big village	3 (12.0%)	4 (8.3%)	7 (12.3%)	14 (10.8%)
Large town/city	21 (84.0%)	32 (66.7%)	28 (49.1%)	81 (62.3%)
Age (years)				
≤30	2 (8.0%)	11 (22.9%)	4 (7.0%)	17 (13.1%)
31-40	4 (16.0%)	18 (37.5%)	19 (33.3%)	41 (31.5%)
41-50	8 (32.0%)	10 (20.8%)	9 (15.8%)	27 (20.8%)
51-60	9 (36.0%)	7 (14.6%)	20 (35.1%)	36 (27.7%)
>60	2 (8.0%)	2 (4.2%)	5 (8.8%)	9 (6.9%)
Sex				
Male	5 (20.0%)	23 (47.9%)	41 (71.9%)	69 (53.1%)
Female	20 (80.0%)	24 (50.0%)	15 (26.3%)	59 (45.4%)
Prefer not to say	0 (0.0%)	1 (2.1%)	1 (1.8%)	2 (1.5%)

The participants believe that bears hold intrinsic, relational and instrumental values (**Q13**), in roughly equal respects (56% - 66%). There are no significant differences between the three types of value and participants' sex (Chi-squared = 2.34, p = 0.31), education (Chi-squared = 1.9, p = 0.93), residence (Chi-squared = 3.23, p = 0.24), income (Chi-squared = 3.27, p = 0.21), social group (Chi-squared = 5.72, p = 0.87) or whether the participant has been subject to damages from bears (Chi-squared = 0.14, p = 0.96). In summary, the participants hold similar beliefs regarding the values of bears in Trikala-Kalambaka (Table 7).

Table 7. Bear values. No. of respondents and percentage of total sample.

	No. of respondents	Percentage
Bears are among the most valuable elements of nature here.	85	66
Even if I never see a bear, it is important to me to know that a bear lives here.	77	60
I am proud that a bear population lives here.	72	56

Despite the plurality of values hinted here, there seem to be few respondents who are aware of products that try to capture this value in the market (**Q15**), 85% of survey participants do not think that there are any bear-friendly products for sale in the Trikala and Kalambaka wider region.

Cooperation

For the majority of participants, who are in various ways involved and implicated in human-bear co-existence, the Forest Services is the interested party that is the easiest to cooperate with (**Q1**), as it was identified as such by 64% of participants (Table 8). The Forest Service, a public organisation with a long history of forest conservation and management in the country, was followed by scientists, including veterinarians, environmental NGOs and organisations and individuals involved in primary production with a percentage around 55%. Protected area authorities follow with 47%.

Table 8. Interested parties evaluated for cooperation smoothness. No. of respondents and % of total sample.

	No. of respondents	Percentage
Forest service	82	64.06
Primary sector	70	54.69
Veterinarians and/or scientists	69	53.91
Environmental NGOS	68	53.12
Protected area management authorities	60	46.88
Tourism sector (owner, workers)	31	24.22
Representative organizations	29	22.66
Local media	22	17.19

Similarly to the results from the interaction variable, cooperation behaviour is also dependent on social group (Chi-squared = 77.55, p = 0). Each social group seems to favour itself as the best cooperating group (Table 9). Interestingly, participants involved in the primary sector do not view the Forest Service as the best cooperating group. Furthermore, no group was mentioned by more than 46% of participants involved in the primary sector. The involvement of environmental NGOs seems to be well supported, as is the involvement of the primary sector. The least support across social groups seems to be offered to local media organisations, rural development agencies, and representative organisations. No significant differences along sex (Chi-squared = 10.22, p = 0.24), residence (Chi-squared = 12.21, p = 0.74), education (Chi-squared = 21.92, p = 0.58) and income (Chi-squared = 15.92, p = 0.44) groups were found.

Table 9. Interested parties evaluated for cooperation smoothness by different social groups (group %).

	Primary sector	Scientist	Tourism sector	Resident-other	Environment worker	Representative-development
Primary sector	72.73	52.63	57.14	44.64	75.00	25
Veterinarians and/or scientists	45.45	68.42	71.43	57.14	29.17	50
Environmental NGOS	45.45	52.63	64.29	53.57	41.67	100
Local media	0.00	5.26	28.57	25.00	8.33	25
Tourism sector (owner, workers)	18.18	15.79	64.29	26.79	8.33	0
Forest service	27.27	78.95	50.00	62.50	91.67	0
Protected area management authorities	36.36	63.16	42.86	50.00	29.17	75
Representative organizations	0.00	21.05	14.29	28.57	20.83	50
Development Agencies	0.00	5.26	0.00	3.57	4.17	75

Trust

Results regarding trust (**Q2**) and trust in emergency situations (**Q3**) reflect the results regarding cooperation (Table 10). The Forest Service appears to be the most trusted organisation (60%), but here closely followed by protected area authorities (58%), environmental NGOs and scientists (58%), including veterinarians (55%). As above, local media, representative organisations and the tourism sector (including businesses, workers and tourists) follow with <16% of participants trusting them.

Table 10. Interested parties evaluated for trustworthiness. No. of respondents and % of total sample.

	No. of respondents	Percentage
Forest service	77	60.16
Environmental NGOS	74	57.81
Protected area management authorities	74	57.81
Veterinarians and/or scientists	71	55.47
Primary sector	48	37.50
Representative organisations	20	15.62
Tourism sector (owner, workers)	18	14.06
Local media	8	6.25

Social group is a statistically significant mediator of trust between interested parties (Table 11, X-squared = 61.89, p = 0.02), while residence (Chi-squared = 11.5, p = 0.78), sex (Chi-squared = 9.84, p = 0.28), education (Chi-squared = 26.47, p = 0.35) and income (Chi-squared = 17.16, p = 0.39) are again not.

Table 11. Interested parties evaluated for trustworthiness by different social groups (% group).

	Primary sector	Scientist	Tourism sector	Resident-other	Environment-related worker	Representative-development
Primary sector	54.55	42.11	42.86	28.57	50.00	0
Veterinarians and/or scientists	54.55	73.68	71.43	58.93	33.33	0
Environmental NGOS	45.45	63.16	71.43	60.71	41.67	75
Local media	9.09	0.00	7.14	8.93	4.17	0
Forest Service	45.45	47.37	50.00	58.93	91.67	25
Protected area management authorities	54.55	68.42	64.29	58.93	41.67	75
Representative organisations	9.09	10.53	14.29	14.29	25.00	25
Tourism sector (owner, workers)	0.00	15.79	35.71	14.29	4.17	25
Development agencies	0.00	5.26	0.00	5.36	8.33	75

Emergency trust

Regarding trust in emergency situations (**Q3**), participants give their trust almost equally to environmental NGOs (66%), Forest Service (61%), and protected area authorities (61%)

(Table 12). These interested parties are followed by gamekeepers who have the trust of a bit less than half of the sample (45%). Representative organisations are again the least trusted (municipalities 12%, regional authority 5%). There seems to be no statistically significant disagreements along residence (Chi-squared = 8.6, p = 0.56), sex (Chi-squared = 9.01, p = 0.11), education (Chi-squared = 9.5, p = 0.85), social group (Chi-squared = 27.98, p = 0.31) and income (Chi-squared = 7.31, p = 0.71) regarding trust in emergency situations.

Table 12. Interested parties evaluated for trustworthiness in emergency situations. (No. of respondents and % of total sample).

	No. of respondents	Percentage
Environmental NGOs	84	65.62
Protected area authorities	78	60.94
Forest Service	78	60.94
Gamekeepers	58	45.31
Municipal authorities	15	11.72
Regional authorities	6	4.69

Ways to reduce human-bear conflict and what LBSC should do

According to survey participants (Table 13), the best way to reduce human-bear conflict (**Q10**) in Trikala-Kalambaka is to educate residents on the advised attitude when meeting a bear unexpectedly (77% of the sample). Roughly half of sample supports electric fences (50%), special bear-safe garbage bins (52%), and the use of dog breeds that can repell bears by livestock breeders (52%). The least supported means to reduce human-bear conflict seem to be tree cutting around villages (28%), the increase in food availability through corn crops planting (20%) and the transfer of so-called problematic bears, i.e. bears that frequent populated areas or repeatedly attack livestock (17%).

Table 13. Ways to reduce human-bear conflict (No. of respondents and % of total sample).

	No. of respondents	Percentage
Different ways to reduce human-bear conflict		
Education of residents about proper behaviour when faced with bears	98	76.56
Bear-sage garbage bins	66	51.56
Use of dog breeds that can repel bears	66	51.56
Electric fencing	63	49.22
Increase food availability by planting orchards	53	41.41
Clearing vegetation around villages	36	28.12
Increase food availability by planting corn	25	19.53
Transfer problematic bears	22	17.19

This opinion of the participants is directly reflected in what they think LBSC should do to help (**Q7**, Table 14). First among the actions LBSC should take according to participants is to try to increase knowledge about bears in the area (77%), followed by actions that drive bears away from populated areas or primary production (electric fences, dogs, increase of available food). Around 40% of participants believe that bear-safe bins (39%), better bear damage compensation (38%) and the promotion of alternative tourism modes that are related to bear presence (43%) would be beneficial. Finally, one fourth of the participants believe that bear conservation certification would also be beneficial (27%).

Table 14. Suitable actions by LBSC as recorded by the respondents (No. of respondents and % of total sample).

	No. of respondents	Percentage
Education regarding bears	98	76.56
Promote bear-repelling measures (electric fencing, dogs, etc.)	77	60.16
Promote alternative forms of bear-based tourism	55	42.97
Bear-safe garbage bins	50	39.06
Better compensation for bear-related damages	49	38.28
Create and promote products with bear-conservation certification	34	26.56

Women have statistically different opinions regarding ways to reduce human-bear conflict compared to men (Table 15, X-squared = 16.98, p = 0.02). They seem to give lesser support to electric fences (33% compared to 65% for men), while they are more in favour of educating residents (90% compared to 65%), increasing food availability (53% compared to 31% and 28% compared to 12%). There are no further statistically significant differences regarding ways to reduce human-bear conflict and LBSC actions in relation to sex, education, social group and income.

Table 15. Suitable actions by LBSC as recorded by the respondents and according to sex (% group). Ranked by largest absolute difference.

	Male	Female	Prefer not to say
Electric fencing	64.71	32.76	0.00
Education of residents about proper behaviour when faced with bears	64.71	89.66	100.00
Increase food availability by planting orchards	30.88	53.45	50.00
Increase food availability by planting corn	11.76	27.59	50.00
Bear-sage garbage bins	45.59	58.62	50.00
Transfer problematic bears	19.12	13.79	50.00
Clearing vegetation around villages	27.94	29.31	0.00
Use of dog breeds that can repell bears	52.94	51.72	0.00

Bear related risks and dangers

In ranking disagreement-agreement related to bear-related risks and dangers (**Q8** and **Q11**), survey participants place primary sector damages and risks at the top, with damages to bees (67% agreement), damages to agriculture in general (41%), damages to orchards (40%) and livestock depredation (32%) at the top (Fig. 1). Participants place neighbourhood fear (84% disagreement) and risks to child safety at the bottom (70%). Finally, 35% believe that bear-human conflict is increasing, while 23% does not think so.

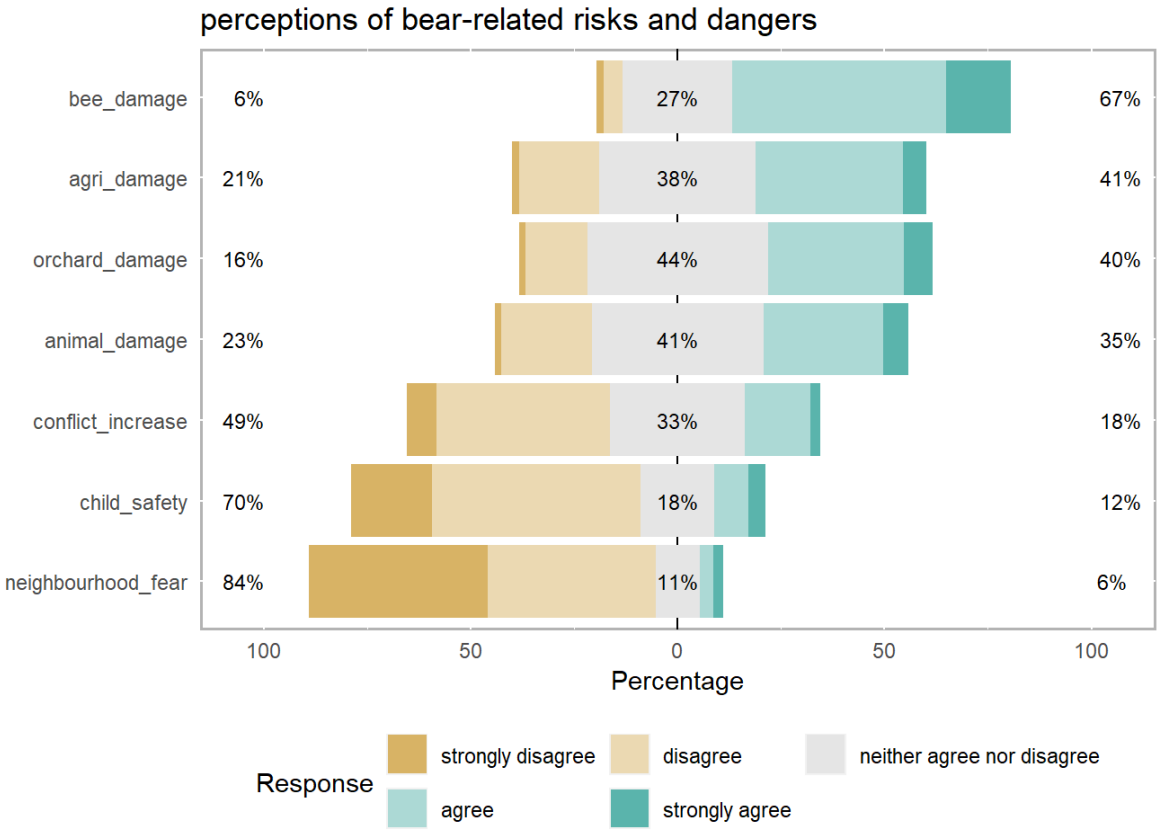


Figure 1. Perceptions of bear-related risks and danger from the whole sample.

Residence, social group, and bear damage victim status all have a role in how participants rank and evaluate bear-related risks and dangers to agriculture but not to other risks and dangers. Sex, education, and income do not appear to influence how participants evaluate bear-related risks and dangers. Specifically, bear related risks to agriculture are evaluated differently along bear-damages status (Fig. 2, Kruskal-Wallis chi-squared = 3.79, p = 0.05), residence (Fig. 3, Kruskal-Wallis chi-squared = 12.01, p = 0), and social group (Fig. 4, Kruskal-Wallis chi-squared = 10.07, p = 0.03), with residents in medium or small size villages, primary sector involved participants, and victims of bear-induced damages all agreeing more that bears pose a risk to agriculture.

In ranking disagreement-agreement related to bear-related risks and dangers, survey participants place primary sector damages and risks at the top, with damages to bees (67% agreement), damages to agriculture in general (41%), damages to orchards (40%) and livestock depredation (32%) at the top. Participants place neighborhood fear (84% disagreement) and risks to child safety at the bottom (70%). Finally, 35% believe that bear-human conflict is increasing, while 23% does not think so.

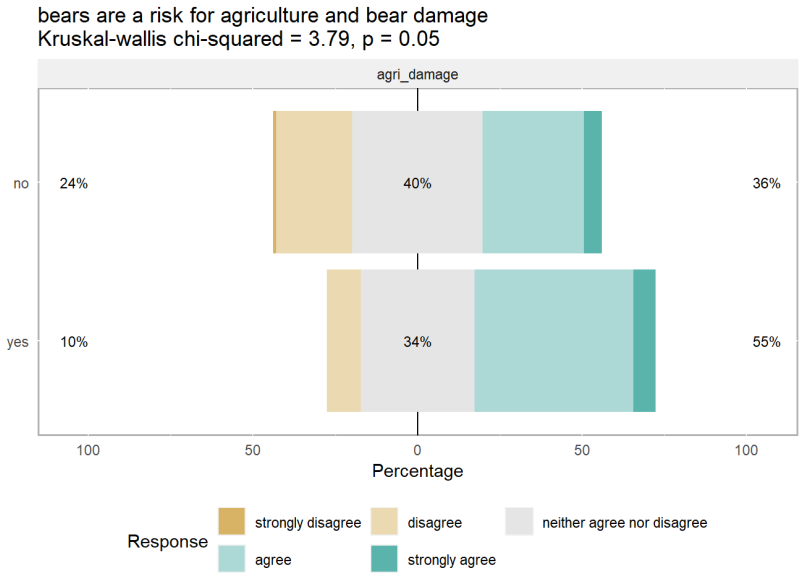


Figure 2. Perceptions of agricultural-related bear risk by respondents who have (yes) and respondents who have not (not) been victim of bear-related damages.

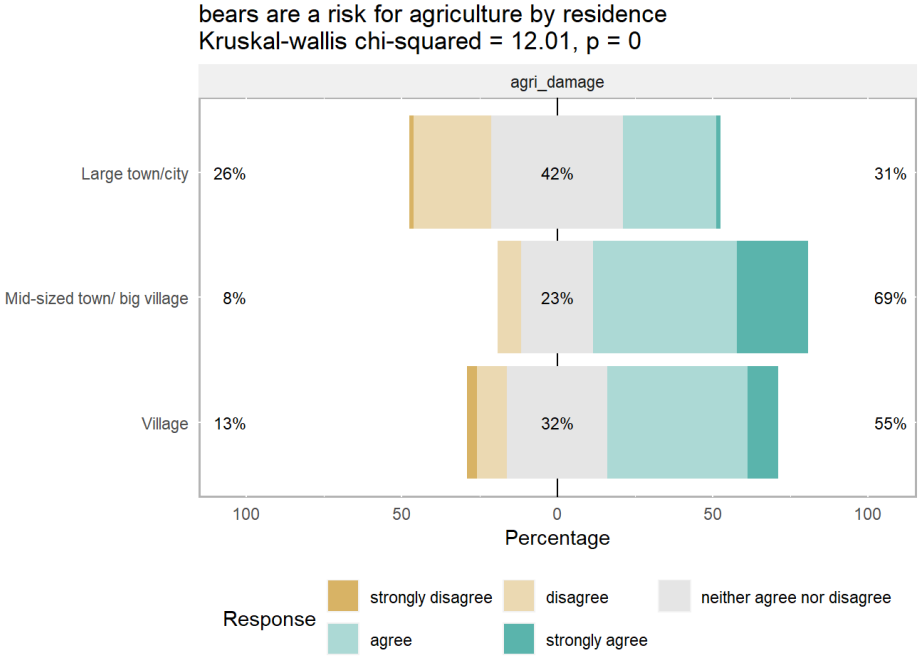


Figure 3. Perceptions of agricultural-related bear risk by respondents' residence.

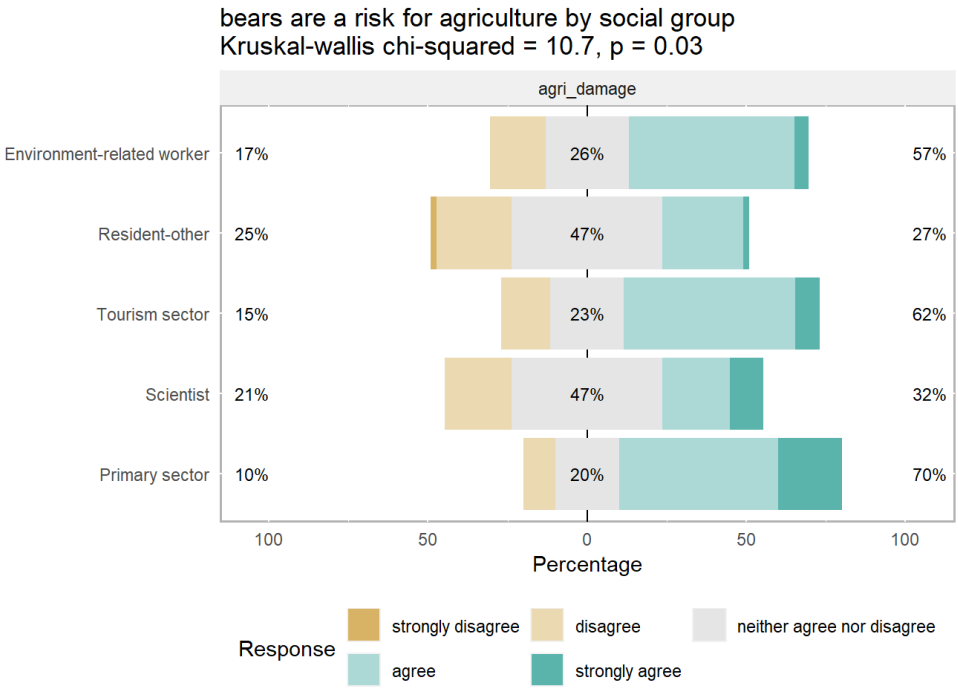


Figure 4. Perceptions of agricultural-related bear risk by respondents' social group.

While considerably large percentages of survey participants seem to have been victims of bear-related damages and, furthermore, to believe that bears are a risk to agriculture and livestock farming, it seems that they are not all knowledgeable about the compensation offered by the state (**Q9**), with only 9 (c. 7%) stating that they feel well informed and 50 (c. 39%) that they have never heard about compensation (Table 16).

Table 16. Knowledge levels regarding state compensation from bear-related damages (No. of respondents and sample percentage).

	No. of respondents	Percentage
I have never heard about compensation	50	38.46
I have heard about compensation but I am not familiar with details	38	29.23
I know some things but I would like to know more	33	25.38
I am very well informed	9	6.92

In common to questions above, residence ($p = 0.79$), sex ($p = 0.52$), past bear damages ($p = 0.65$), age ($p = 0.15$), education ($p = 0.16$) did not have significant effects regarding knowledge about compensation. Social group did have significant effect ($p = 0.03$), with seven out of 11 participants identifying with the primary sector, who are the main victims of bear-related damages, stating that they have never of compensation (Table 17).

Table 17. Knowledge levels regarding state compensation from bear-related damages and social group (No. of respondents and sample percentage).

	I have never heard about compensation (N=48)	I have heard about compensation but I am not familiar with details (N=38)	I know some things but I would like to know more (N=33)	I am very well informed (N=9)	Total (N=128)
Social group					
Primary sector	7 (14.0%)	0 (0.0%)	2 (6.1%)	2 (22.2%)	11 (8.5%)
Scientist	5 (10.0%)	8 (21.1%)	5 (15.2%)	1 (11.1%)	19 (14.6%)
Tourism sector	3 (6.0%)	6 (15.8%)	5 (15.2%)	0 (0.0%)	14 (10.8%)
Resident-other	27 (58.0%)	14 (36.8%)	14 (42.4%)	1 (11.1%)	56 (44.6%)
Environment-related worker	6 (12.0%)	9 (23.7%)	5 (15.2%)	4 (44.4%)	24 (18.5%)
Representative-development	0 (0.0%)	1 (2.6%)	2 (6.1%)	1 (11.1%)	4 (3.1%)

Conclusion

The findings of this study shed light on the complex dynamics of human-bear coexistence in the Trikala-Kalambaka region, providing valuable insights into the attitudes, perceptions, and concerns of local residents and stakeholders. The results presented here, along with results from the linked LIFE AMYBEAR project (LIFE15 NAT/GR/001108) (Hovardas 2020a; 2021b) can provide useful guidelines for the development and engagement of local communities and stakeholder groups in all C actions of the project, particularly action C1, determine strategy, content and style of the project communication and awareness building action E1 and E3, and provide baseline data or action D3, i.e., in monitoring the impacts on of the project on local communities and stakeholder groups (D1 and D3).

Participants in the survey exhibited a diverse range of opinions and priorities, emphasizing the multifaceted nature of bear conservation and management. The study revealed a general consensus on the plural values of bears, with participants recognizing their intrinsic, relational, and instrumental importance. While trust was primarily placed in institutions such as the Forest Service and environmental NGOs, cooperation preferences were influenced by social group affiliations. Additionally, participants expressed varying levels of concern regarding bear-related risks, with primary sector damages and risks emerging as a prominent concern. These results highlight the need for a comprehensive and context-specific approach to bear conservation efforts in Trikala-Kalambaka, considering the unique perspectives of different social groups and addressing concerns related to agriculture and coexistence.

The study's exploration of social differentiation in relation to bear conservation revealed significant variations across different social groups. These differences underscore the importance of recognizing and addressing the specific needs and perspectives of various community segments (Table 19). For instance, residents in medium or small-sized villages and primary sector-involved participants expressed greater concerns about bear-related risks to agriculture. Tailoring conservation initiatives to address these concerns, such as implementing bear-resistant measures in agricultural practices, can contribute to mitigating conflicts. Furthermore, understanding the cooperative preferences of different social groups can inform the selection of appropriate partners for bear conservation efforts. Inclusive and participatory approaches that engage diverse social groups are essential to building trust and achieving sustainable coexistence between humans and bears in the Trikala-Kalambaka region. By acknowledging and respecting these variations, conservation strategies can be more effective and socially equitable.

Table 18. Stakeholder and community engagement guidelines.

Guidelines for the development and engagement of local communities and stakeholder groups (action C1)
Customize educational programs based on the social group: for primary sector workers, focus on bear behavior and prevention of agricultural and livestock damages. For residents, emphasize safety measures in bear encounters. For scientists and environmental workers, provide information on conservation efforts. For example, collaborate with local schools to include bear education in the curriculum.
Given the high impact of bear-related damages, **focus should be placed on the primary sector**: engage farmers and beekeepers in discussions about mitigation measures and compensation programs. Involve them in decision-making processes regarding bear management.
Establish **open and transparent communication channels** between wildlife authorities and local communities. Regularly share updates on bear populations, conservation efforts, and mitigation measures.
Highlight the intrinsic, relational, and instrumental values of bears that align with the community's perspectives, as identified in the survey.
Establish a **dedicated hotline or reporting system** for bear sightings and conflicts. Ensure timely and effective responses to reports.
Increase awareness about state compensation programs for bear-related damages. Ensure that affected individuals understand the process for filing claims.
Offer counseling services to individuals and communities who have experienced bear-related incidents, addressing the psychological impact.
Promote responsible bear-watching tourism, focusing on safety measures for tourists and ethical wildlife viewing practices. Collaborate with local businesses to develop bear-related tourism experiences that contribute to the local economy.

Engage the community in discussions about research outcomes.

Effective communication can play a pivotal role in bridging gaps and fostering understanding. Based on the study's results, media and communication strategies should focus on promoting education and knowledge about bears in the region (Table 19). Highlighting the coexistence potential and emphasizing best practices when encountering bears can contribute to reducing fear and addressing concerns. Moreover, media campaigns should take into account the differentiated perspectives among social groups, tailoring messages to resonate with specific interests and priorities. Stories of successful cooperation between the primary sector and environmental organizations can serve as powerful narratives to build trust and encourage collaboration.

Table 19. Media communication suggestions.

Strategy, content and style of the project communication and awareness building (actions E1 and E3).
<u>Strategy</u> **Tailor communication efforts to different social groups and demographics** based on the survey findings. Recognize the varying perceptions and needs of these groups. Given the high importance placed on education by the respondents, **prioritize educational initiatives as a core strategy**. Develop targeted educational programs for residents, with a focus on proper behavior when encountering bears. **Leverage the trust respondents have in certain organizations**, such as the Forest Service and environmental NGOs. Collaborate with these entities to co-create and disseminate information. **Highlight findings regarding preferred ways to reduce human-bear conflict**. Develop campaigns that emphasize the use of electric fences, bear-safe bins, and bear-repelling dogs. **<u>Content</u>** **Organize workshops and seminars in collaboration with trusted organizations** (e.g., the Forest Service) to educate residents about bear behavior, safety and coexistence strategies. **Share local success stories**. Showcase examples of how specific actions and mitigation measures have effectively reduced human-bear conflicts in the region. Develop a comprehensive **FAQ section addressing common questions and concerns related to bears**. Include practical safety tips for encounters. **<u>Style</u>** Ensure that content is **easy to understand** for residents of varying educational backgrounds. Foster a **sense of community involvement by encouraging residents** to share their experiences and knowledge related to bear encounters and coexistence.

References

Allaire J (2012). RStudio: integrated development environment for R. RStudio, Boston, MA.

Allaire J, Xie Y, Dervieux C, McPherson J, Luraschi J, Ushey K, Atkins A, Wickham H, Cheng J, Chang W, Iannone R (2023). rmarkdown: Dynamic Documents for R. R package version 2.24, https://github.com/rstudio/rmarkdown.

Hovardas T (2020). Action C1. Stakeholder consultation and involvement. Questionnaire report. LIFE AMYBEAR project report.

Hovardas T (2021). Action D1. Follow-up surveys on stakeholder perceptions and behavior Questionnaire report. LIFE AMYBEAR project report.

Hovardas T, et al. (2023). Qualitative study of stakeholder attitudes towards bears and the project. Deliverable of Action A4, Sub-action A4.1. LIFE Bear-Smart Corridors (LIFE20 NAT/NL/001107).

R Core Team (2023). R: a language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria.

Xie Y, Allaire J, Grolemund G (2018). R Markdown: The Definitive Guide. Chapman and Hall/CRC, Boca Raton, Florida. ISBN 9781138359338, https://bookdown.org/yihui/rmarkdown.

Xie Y, Dervieux C, Riederer E (2020). R Markdown Cookbook. Chapman and Hall/CRC, Boca Raton, Florida. ISBN 9780367563837, https://bookdown.org/yihui/rmarkdown-cookbook.

Appendix 1 – English version of the questionnaire

Dear Madam or Sir,

This questionnaire is administered within the frame of the LIFE Bear-Smart Corridors project, which is implemented in Central Italy and Greece (area of Amyntaio; area of Trikala-Meteora). The project aims to decrease damages caused by the Brown bear, explore and transfer good practices for coexistence of bears with local communities, and facilitate environmentally compatible developmental options that feed-off bear presence. You can find more details at: https://rewilding-apennines.com/life-bear-smart-corridors/.

The questionnaire will be addressed to local communities and members of stakeholder groups in the project areas. Your contribution will be valuable for studying opinions and attitudes of local communities and stakeholder groups and informing several other actions in the project. Questionnaire data will be gathered and analysed in Action A4 "Ex-ante survey of public attitudes and stakeholder opinions" of the project. We kindly invite you to complete the questionnaire and respond to the questions that follow.

We would like to inform you in detail regarding questionnaire data management. All questionnaire processing will abide by the General Data Protection Regulation (EU) 2016/679) as well as relevant Greek laws. Please read carefully the following points:

1. The completion of the questionnaire is voluntary and anonymous.
2. Questionnaire data will be used for studying opinions and attitudes of local communities and stakeholder groups and informing several other actions in the project.
3. The coordinator of Action A4, Dr. Tasos Hovardas (chovardas.anastasios@ucy.ac.cy), will be responsible for data management. Access to these data will be provided to project partners, only, and only for pursuing the objectives of the project (deliverables of the project and relevant scientific publications). All datasets will be deleted three years after the completion of the project.
4. You have the right to withdraw your participation at any time by sending an email message with your request to Dr. Tasos Hovardas: chovardas.anastasios@ucy.ac.cy.
5. The results of data analysis, but not the raw data of the questionnaire, will be presented in the deliverable of Action A4 and in any scientific publication. The presentation of results will focus on general trends and comparisons and not to responses of individual participants.
6. To receive the results of data analysis please send an email with your request to Dr. Tasos Hovardas: chovardas.anastasios@ucy.ac.cy.

Please click on "Agree" to confirm that you agree with the six points listed above and data management:

☐ Agree

Thank you very much for your cooperation and we are at your disposal for any information regarding the questionnaire or the LIFE Bear-Smart Corridors project.

Sincerely,

Dr. Tasos Hovardas, Coordinator of Action A4 of LIFE Bear-Smart Corridors,
(chovardas.anastasios@ucy.ac.cy)

1) Which of the following stakeholder groups can you best work with when it comes to issues concerning bears? You can select more than one group.

Farmers	
Stock breeders	
Beekeepers	
Foresters	
Protected area management authority	
Municipalities	
Prefecture	
Hunters	
Veterinarians	
Scientists	
Environmental non-governmental organizations	
Development companies	
Chambers of commerce	
Entrepreneurs/employees in tourism	
Visitors/tourists in the region	
Local/regional media	

2) Which of the following stakeholder groups do you trust most on issues concerning bears? You can select more than one group.

Farmers	
Stock breeders	
Beekeepers	
Foresters	
Protected area management authority	
Municipalities	
Prefecture	
Hunters	
Veterinarians	
Scientists	
Environmental non-governmental organizations	
Development companies	
Chambers of commerce	
Entrepreneurs/employees in tourism	
Visitors/tourists in the region	
Local/regional media	

3) Which of the following stakeholder groups do you trust more to manage emergencies involving bears? You can select more than one group.

Municipalities	
Prefecture	
Forest service	
Protected area management authority	
Game wardens	
Environmental non-governmental organizations	

4) Which answer best characterizes relationships between stakeholders in the past year, when it comes to bear issues? Please select only one response.

Conflict predominates	
Negotiation predominates	
Collaboration predominates	

5) Please state if you agree or disagree with the following statement:

Most stakeholders will be willing to cooperate in the frame of the LIFE Bear-Smart Corridors project	Agree	Disagree

Independently of your above response, what percentage of your own stakeholder group do you believe would AGREE with the above statement?	Percentage (0-100%)

6) Please state if you agree or disagree with the following statement:

Many local people will benefit from actions undertaken in the frame of the LIFE Bear-Smart project.	Agree	Disagree

Independently of your above response, what percentage of your own stakeholder group do you believe would AGREE with the above statement?	Percentage (0-100%)

7) Which of the items below should be most supported by the LIFE Bear-Smart Corridors project? You may select more than one item.

Increase knowledge about bears	
Decrease damages caused by bears	
Promote damage prevention measures	
Improve compensation of damage caused by bears	
Promote bear-proof constructions	
Address issues related to human safety	
Improve stakeholder collaboration	
Promote certification of bear-friendly products	
Promote alternative forms of tourism based on bear presence	

8) How much do you agree or disagree with the following statements? Please select only one response for each statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Bears cause abundant damages to livestock					
Bears cause abundant damages to beehives					
Bears cause abundant damages to orchards and agriculture crops					

9) Are you aware about the compensation scheme for bear damages?

Yes, in detail	
I know some aspects of this scheme but I would like to know more	
I have heard about the scheme but I am not aware of any details	
No, I have never heard of such a compensation scheme	

10) Please select the options you consider to be effective for mitigating human-bear conflicts. You may choose more than one option.

Use livestock guarding dogs	
Use electric fences	
Use bear-proof garbage bins	
Deliberately increase food availability for bears with fruit trees	
Deliberately increase food availability for bears with corn	
Clear vegetation around villages	
Inform local people of how to behave in an unexpected encounter with bears	
Relocate "problematic" bears	

11) How much do you agree or disagree with the following statements? Please select only one response for each statement.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Human–bear conflicts are increasing					
I am concerned about the safety of children					
I am concerned about agricultural damage					
I am worried about walking outside in my neighbourhood					

12) Have you ever heard about any bear poaching incident in your area? If yes, please select the incidents that apply from the list of items shown below. You may select more than one item.

Self-defense	
Accident during hunting	
Trophy hunting	
Protection of livestock or beehives or crops	
Retaliation due to damage caused by the bear	

13) Please indicate which items you agree with. You may choose more than one item.

I feel proud having a bear population in my area.	
Even if I never see a bear in the wild, it is important for me to know they exist in my area.	
Bears are one of the most valuable assets of the natural environment in my area.	

14) Have you ever seen a bear with your own eyes in your area?

No	
I have only seen its signs	
Yes	

15) Is there is any bear-friendly product sold in your area?

No, there are no such products sold in my area	
Yes, there are such products sold in my area	

16) Gender

Male	
Female	
Other	
Prefer not to say	

17) Age

≤30 years	
31-40 years	
41-50 years	
51-60 years	
>60 years	

18) Municipality

Municipality of Trikala	
Municipality of Meteora	

19) Number of inhabitants of place of residence

Village with 500 inhabitants or less	
Village/town with number of residents in the range 501-2055	
City/town with more than 2500 inhabitants	
City of Trikala or City of Kalampaka	

20) Education

Primary	
Secondary	
Technical school	
University	
Postgraduate studies after university degree	

21) Please state your stakeholder group. Please select one response.

Farmer	
Stock breeder	
Beekeeper	
Forester	
Protected Area Management Authority	
Representative of local people in a local village Council	
Representative of local people at the Municipality level	
Representative of local people at the Prefecture level	
Hunter	
Veterinarian	
Scientist	
Environmental Non-Governmental Organization	
Developmental Company	
Chamber of Commerce	
Entrepreneur/employee in Tourism	
Resident in the Municipalities of Trikala or Meteora	

20) Income

Higher than the country average	
In the range of the country average	
Lower than the country average	

21) Please select any item relevant if you have ever suffered damage from bears

Chicken	
Sheep(s)	
Goat(s)	
Cow(s)	
Horse(s)	
Beehive(s)	
Tree(s)	
Crop(s)	

Other (please specify) _____

24) Please provide in the space given further comments or remarks concerning the questionnaire, or the project LIFE Smart Corridors.

Thank you very much for your cooperation. We are at your disposal for any information regarding the questionnaire or the LIFE Bear-Smart Corridors project. Please contact Dr. Tasos Hovardas: chovardas.anastasios@ucy.ac.cy.

Appendix 2 – Greek version of the questionnaire

Αξιότιμε Κύριε/Αξιότιμη Κυρία,

Το παρόν ερωτηματολόγιο διακινείται στο πλαίσιο του προγράμματος LIFE Bear-Smart Corridors που υλοποιείται στην Κεντρική Ιταλία και την Ελλάδα (Αμύνταιο, Τρίκαλα-Μετέωρα). Το πρόγραμμα αποσκοπεί στη μείωση των ζημιών που προκαλεί η καφέ αρκούδα, τη διερεύνηση και μεταφορά καλών πρακτικών για τη συνύπαρξη των αρκούδων με τις τοπικές κοινωνίες και την προώθηση περιβαλλοντικά συμβατών αναπτυξιακών επιλογών που συνδέονται με την παρουσία της αρκούδας. Μπορείτε να βρείτε περισσότερες λεπτομέρειες στον σύνδεσμο: https://rewilding-apennines.com/life-bear-smart-corridors/.

Το ερωτηματολόγιο απευθύνεται στις τοπικές κοινωνίες και τα ενδιαφερόμενα μέρη στις περιοχές του προγράμματος. Η συμβολή σας είναι πολύτιμη για τη μελέτη των απόψεων και στάσεων των τοπικών κοινωνιών και ενδιαφερόμενων μερών και την ενημέρωση των υπόλοιπων δράσεων του προγράμματος. Τα δεδομένα θα συλλεγούν και θα αναλυθούν στη Δράση Α4 – Έρευνα των στάσεων του κοινού και των απόψεων των ενδιαφερομένων μερών πριν την έναρξη των δράσεων του έργου. Σας παρακαλούμε να συμπληρώσετε το ερωτηματολόγιο και να απαντήσετε τις ερωτήσεις που ακολουθούν.

Θα θέλαμε να σας πληροφορήσουμε λεπτομερώς για τη διαχείριση των δεδομένων, όπου θα τηρηθούν ο Γενικός Κανονισμός για την Προστασία των Δεδομένων (ΕΕ) 2016/679 και οι σχετικοί νόμοι της Ελλάδας. Παρακαλούμε διαβάστε προσεκτικά τα ακόλουθα σημεία:

7. Η συμπλήρωση του ερωτηματολογίου είναι εθελοντική και ανώνυμη.
8. Τα δεδομένα θα χρησιμοποιηθούν για τη μελέτη των απόψεων και στάσεων τοπικών κοινωνιών και ενδιαφερόμενων μερών και την ενημέρωση των υπόλοιπων δράσεων.
9. Υπεύθυνος για τη διαχείριση των δεδομένων είναι ο συντονιστής της Δράσης Α4, Δρ. Τάσος Χοβαρδάς (chovardas.anastasios@ucy.ac.cy). Πρόσβαση στα δεδομένα θα έχουν οι εταίροι του προγράμματος μόνον και μόνο για την υλοποίηση των στόχων του προγράμματος (παραδοτέα του προγράμματος και σχετικές επιστημονικές δημοσιεύσεις). Όλες οι βάσεις δεδομένων θα διαγραφούν τρία χρόνια μετά την ολοκλήρωση του προγράμματος.
10. Έχετε το δικαίωμα να αποσύρετε τη συμμετοχή σας ανά πάσα στιγμή με την αποστολή ενός σχετικού ηλεκτρονικού μηνύματος στον Δρ. Τάσο Χοβαρδά: chovardas.anastasios@ucy.ac.cy.
11. Τα αποτελέσματα της ανάλυσης, όχι όμως τα πρωτογενή δεδομένα του ερωτηματολογίου, θα παρουσιαστούν στο παραδοτέο της Δράσης Α4 και σε σχετικές επιστημονικές δημοσιεύσεις. Η παρουσίαση των αποτελεσμάτων θα εστιαστεί σε γενικές τάσεις και συγκρίσεις και όχι σε μεμονωμένες αποκρίσεις ερωτώμενων.
12. Για την παραλαβή των αποτελεσμάτων της ανάλυσης παρακαλούμε αποστείλετε ένα σχετικό ηλεκτρονικό μήνυμα στον Δρ. Τάσο Χοβαρδά: chovardas.anastasios@ucy.ac.cy.

Παρακαλούμε σημειώστε "Συμφωνώ" για να επαληθεύσετε τη συμφωνία σας με τα παραπάνω έξι σημεία και για τη διαχείριση των δεδομένων:

☐ Συμφωνώ

Σας ευχαριστούμε για τη συνεργασία σας και είμαστε στη διάθεσή σας για κάθε σχετική πληροφορία αναφορικά με το ερωτηματολόγιο ή το πρόγραμμα LIFE Bear-Smart Corridors.

Με εκτίμηση,

Δρ. Τάσος Χοβαρδάς, Συντονιστής της Δράσης Α4 του προγράμματος LIFE Bear-Smart Corridors (chovardas.anastasios@ucy.ac.cy)

1) Με ποια από τα παρακάτω ενδιαφερόμενα μέρη μπορείτε να συνεργαστείτε καλύτερα σε θέματα που σχετίζονται με την αρκούδα; Μπορείτε να επιλέξετε περισσότερα από ένα ενδιαφερόμενα μέρη.

Αγρότες	
Κτηνοτρόφοι	
Μελισσοκόμοι	
Δασική υπηρεσία	
Μονάδες διαχείρισης προστατευόμενων περιοχών	
Δήμοι	
Περιφέρεια	
Κυνηγοί	
Κτηνίατροι	
Επιστήμονες	
Περιβαλλοντικές μη κυβερνητικές οργανώσεις	
Αναπτυξιακές εταιρείες	
Επιμελητήρια	
Επιχειρηματίες/εργαζόμενοι στον τουρισμό	
Επισκέπτες/τουρίστες στην περιοχή	
Τοπικά/περιφερειακά μέσα επικοινωνίας	

2) Ποια από τα παρακάτω ενδιαφερόμενα μέρη εμπιστεύεστε περισσότερο για θέματα που σχετίζονται με την αρκούδα; Μπορείτε να επιλέξετε περισσότερα από ένα ενδιαφερόμενα μέρη.

Αγρότες	
Κτηνοτρόφοι	
Μελισσοκόμοι	
Δασική υπηρεσία	
Μονάδες διαχείρισης προστατευόμενων περιοχών	
Δήμοι	
Περιφέρεια	
Κυνηγοί	
Κτηνίατροι	
Επιστήμονες	
Περιβαλλοντικές μη κυβερνητικές οργανώσεις	
Αναπτυξιακές εταιρείες	
Επιμελητήρια	
Επιχειρηματίες/εργαζόμενοι στον τουρισμό	
Επισκέπτες/τουρίστες στην περιοχή	
Τοπικά/περιφερειακά μέσα επικοινωνίας/ενημέρωσης	

3) Ποια από τα παρακάτω ενδιαφερόμενα μέρη εμπιστεύεστε περισσότερο για τη διαχείριση επειγόντων περιστατικών που περιλαμβάνουν αρκούδες; Μπορείτε να επιλέξετε περισσότερα από ένα ενδιαφερόμενα μέρη.

Δήμοι	
Περιφέρεια	
Δασική υπηρεσία	
Μονάδες διαχείρισης προστατευόμενων περιοχών	
Θηροφύλακες	
Περιβαλλοντικές μη κυβερνητικές οργανώσεις	

4) Ποια απάντηση περιγράφει καλύτερα την αλληλεπίδραση μεταξύ των ενδιαφερόμενων μερών κατά τη διάρκεια του περασμένου χρόνου αναφορικά με θέματα που σχετίζονται με την αρκούδα; Παρακαλούμε επιλέξτε μία απάντηση.

Υπερισχύει η σύγκρουση μεταξύ των ενδιαφερόμενων μερών	
Υπερισχύει η διαπραγμάτευση μεταξύ των ενδιαφερόμενων μερών	
Υπερισχύει η συνεργασία μεταξύ των ενδιαφερόμενων μερών	

5) Παρακαλούμε δηλώστε αν συμφωνείτε ή διαφωνείτε με την ακόλουθη δήλωση:

"Τα περισσότερα ενδιαφερόμενα μέρη θα είναι πρόθυμα να συνεργαστούν στο πλαίσιο του προγράμματος LIFE Bear-Smart Corridors"	Συμφωνώ	Διαφωνώ

Ανεξάρτητα από την απάντησή σας, τι ποσοστό της δικής σας κοινωνικής ομάδας αναφοράς πιστεύετε ότι θα ΣΥΜΦΩΝΟΥΣΕ με την παραπάνω δήλωση;	Ποσοστό (0-100%)

6) Παρακαλούμε δηλώστε αν συμφωνείτε ή διαφωνείτε με την ακόλουθη δήλωση:

"Πολλοί κάτοικοι της περιοχής θα επωφεληθούν από τις δράσεις του προγράμματος LIFE Bear-Smart Corridors"	Συμφωνώ	Διαφωνώ

Ανεξάρτητα από την απάντησή σας, τι ποσοστό της δικής σας κοινωνικής ομάδας αναφοράς πιστεύετε ότι θα ΣΥΜΦΩΝΟΥΣΕ με την παραπάνω δήλωση;	Ποσοστό (0-100%)

7) Ποια από τα παρακάτω πρέπει να υποστηριχθούν περισσότερο από το πρόγραμμα LIFE Bear-Smart Corridors? Μπορείτε να επιλέξετε περισσότερα από ένα στοιχεία.

Αύξηση γνώσεων για την αρκούδα	
Μείωση ζημιών που προκαλεί η αρκούδα	
Προώθηση μέσων αποτροπής ζημιών από την αρκούδα	
Βελτίωση αποζημιώσεων για ζημιές που προκαλεί η αρκούδα	
Προώθηση κατασκευών που δεν παραβιάζονται από την αρκούδα	
Αντιμετώπιση θεμάτων σχετικών με ανθρώπινη ασφάλεια	
Βελτίωση συνεργασίας μεταξύ ενδιαφερόμενων μερών	
Προώθηση πιστοποίησης προϊόντων φιλικών προς την αρκούδα	
Προώθηση εναλλακτικών μορφών τουρισμού που βασίζονται στην παρουσία της αρκούδας	

8) Παρακαλούμε δηλώστε κατά πόσο συμφωνείτε ή διαφωνείτε με τις παρακάτω δηλώσεις. (Παρακαλούμε επιλέξτε μία μόνο απάντηση για κάθε δήλωση): "Οι αρκούδες προκαλούν πολλές ζημιές…"

	Διαφωνώ ριζικά	Διαφωνώ	Ούτε διαφωνώ ούτε συμφωνώ	Συμφωνώ	Συμφωνώ απόλυτα
…σε κτηνοτροφικά ζώα					
…στα μελίσσια					
…σε καλλιέργειες/ οπωρώνες					

9) Γνωρίζετε σχετικά με τις αποζημιώσεις για τις ζημιές από αρκούδα;

Γνωρίζω λεπτομερώς	
Γνωρίζω μερικά πράγματα αλλά θέλω να μάθω περισσότερα	
Άκουσα για τις αποζημιώσεις αλλά δε γνωρίζω λεπτομέρειες	
Δεν έχω ακόυσει για τις αποζημιώσεις αυτές	

10) Παρακαλούμε επιλέξτε όσα θεωρείτε αποτελεσματικά για τη μείωση των συγκρούσεων ανθρώπου-αρκούδας. Μπορείτε να επιλέξετε περισσότερα από ένα στοιχεία.

Χρήση σκύλων φύλαξης κοπαδιών	
Χρήση ηλεκτροφόρων περιφράξεων	
Χρήση κάδων απορριμμάτων μη ανοιγόμενων από αρκούδα	
Αύξηση της διαθεσιμότητας τροφής για την αρκούδα με οπωροφόρα δέντρα	
Αύξηση της διαθεσιμότητας τροφής για την αρκούδα με σπορά καλαμποκιού	
Καθαρισμός βλάστησης γύρω από χωριά	
Ενημέρωση κατοίκων για την ενδεδειγμένη συμπεριφορά σε μη αναμενόμενη συνάντηση με αρκούδα	
Μεταφορά "προβληματικών" αρκούδων	

11) Παρακαλούμε δηλώστε κατά πόσο συμφωνείτε ή διαφωνείτε με τις παρακάτω δηλώσεις. Παρακαλούμε επιλέξτε μία μόνο απάντηση για κάθε δήλωση.

	Διαφωνώ ριζικά	Διαφωνώ	Ούτε διαφωνώ ούτε συμφωνώ	Συμφωνώ	Συμφωνώ απόλυτα
Οι συγκρούσεις ανθρώπου-αρκούδας αυξάνονται					
Ανησυχώ για την ασφάλεια των παιδιών					
Ανησυχώ για τις ζημιές στην αγροτική παραγωγή					
Σκέφτομαι αν θα βγω να περπατήσω έξω στη γειτονιά μου					

12) Έχετε ακούσει ποτέ για περιστατικά θανάτωσης αρκούδας στην περιοχή σας; Αν έχετε ακούσει, παρακαλούμε επιλέξτε την περίπτωση που αντιστοιχεί στα περιστατικά αυτά. Μπορείτε να επιλέξετε περισσότερα από ένα στοιχεία.

Αυτοάμυνα	
Ατύχημα κατά τη διάρκεια κυνηγιού	
Κυνήγι τροπαίων	
Προστασία κτηνοτροφικών ζώων/μελισσιών/καλλιεργειών	
Αντίποινα λόγω ζημιάς που προκάλεσε η αρκούδα	

13) Παρακαλούμε επιλέξτε τις δηλώσεις με τις οποίες συμφωνείτε. Μπορείτε να επιλέξετε περισσότερες από μία δηλώσεις.

Έμαι περήφανος/η που στην περιοχή μου υπάρχει πληθυσμός αρκούδας	☐
Ακόμη κι αν δεν δω ποτέ αρκούδα, είναι σημαντικό για εμένα να ξέρω ότι υπάρχει αρκούδα στην περιοχή μου	☐
Η αρκούδα είναι ένα από τα πιο πολύτιμα στοιχεία του φυσικού περιβάλλοντος στην περιοχή μου	☐

14) Έχετε δει ποτέ αρκούδα στην περιοχή;

Όχι	☐
Έχω παρατηρήσει μόνο ίχνη αρκούδας	☐
Ναι	☐

15) Πωλείται κάποιο προϊόν φιλικό προς την αρκούδα στην περιοχή;

Όχι, δεν πωλούνται τέτοια προϊόντα στην περιοχή μου	☐
Ναι, πωλούνται τέτοια προϊόντα στην περιοχή μου	☐

16) Φύλο

Άντρας	☐
Γυναίκα	☐
Άλλο	☐
Προτιμώ να μην δηλώσω το φύλο μου	☐

17) Ηλικία

≤30 έτη	☐
31-40 έτη	☐
41-50 έτη	☐
51-60 έτη	☐
>60 έτη	☐

18) Δήμος

Δήμος Τρικκαίων	☐
Δήμος Μετεώρων	☐

19) Αριθμός κατοίκων στην περιοχή διαμονής

Χωριό με 500 κατοίκους ή λιγότερους	☐
Χωριό/μικρή πόλη με 501-2055 κατοίκους	☐
Πόλη με περισσότερους από 2500 κατοίκους	☐
Πόλη Τρικάλων ή πόλη Καλαμπάκας	☐

20) Εκπαίδευση

Δημοτικό	
Γυμνάσιο/Λύκειο	
Τεχνική σχολή	
Πανεπιστήμιο	
Μεταπτυχιακές σπουδές	

21) Παρακαλούμε δηλώστε την κοινωνική ομάδα αναφοράς στην οποία ανήκετε. Παρακαλούμε επιλέξτε μία ομάδα αναφοράς.

Αγρότης	
Κτηνοτρόφος	
Μελλισσοκόμος	
Στέλεχος δασικής υπηρεσίας	
Στέλεχος μονάδας διαχείρισης προστατευόμενων περιοχών	
Μέλος Τοπικού Συμβουλίου	
Δημοτικός Σύμβουλος	
Περιφερειακός Σύμβουλος	
Κυνηγός	
Κτηνίατρος	
Επιστήμονας	
Μέλος περιβαλλοντικής μη κυβερνητικής οργάνωσης	
Στέλεχος αναπτυξιακής εταιρείας	
Στέλεχος επιμελητηρίου	
Επιχειρηματίας/εργαζόμενος στον τουρισμό	
Κάτοικος του Δήμου Τρικκαίων ή του Δήμου Μετεώρων	

22) Εισόδημα

Υψηλότερο από τον μέσο όρο της χώρας	
Περίπου στον μέσο όρο της χώρας	
Χαμηλότερο από τον μέσο όρο της χώρας	

23) Παρακαλούμε σημειώστε αν είχατε ποτέ ζημιά από αρκούδα σε:

Κότες	
Πρόβατα	
Κατσίκες	
Αγελάδες	
Άλογα	
Μελίσσια	
Δέντρα	
Καλλιέργειες	

Άλλο (παρακαλούμε διευκρινίστε) _____

24) Παρακαλούμε γράψτε στον χώρο που δίνεται οποιαδήποτε σχόλια ή παρατηρήσεις σας σχετικά με το ερωτηματολόγιο ή το πρόγραμμα LIFE Smart Corridors.

Σας ευχαριστούμε θερμά για τη συνεργασία σας. Είμαστε στη διάθεσή σας για κάθε πληροφορία σχετική με το ερωτηματολόγιο ή το πρόγραμμα LIFE Bear-Smart Corridors. Παρακαλούμε επικοινωνήστε με τον Δρ.Τάσο Χοβαρδά: chovardas.anastasios@ucy.ac.cy.