This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 700342.

Topic: DRS-10-2015: Disaster Resilience & Climate Change topic 2: Natural Hazards: Towards risk reduction science and innovation plans at national and European level

Project number: 700342

Project name: *Enhancing Synergies for disaster Prevention in the EurOpean Union*

Project acronym: ESPREssO

Start date: 01/05/2016 **Duration: 30 months**

Deliverable reference number and title:

D 4.1 – The Action DataBase in English

Version: Final

Due date of deliverable: 31.10.2016 Actual submission date: 13.12.2016

Dissemination Level		
PU	Public	X
CO	Confidential, only for members of the consortium (including the Commission Services)	
EU-RES	Classified Information: RESTREINT UE (Commission Decision 2005/444/EC)	
EU-CON	Classified Information: CONFIDENTIEL UE (Commission Decision 2005/444/EC)	
EU-SEC	Classified Information: SECRET UE (Commission Decision 2005/444/EC)	

Note about contributors

The following organisations contributed to the work described in this deliverable:

Lead partner responsible for the deliverable:

BRGM

Deliverable prepared by:

Audrey Baills

Susanne Ettinger

Nicolas Chauvin

WP leader responsible for the deliverable:

BRGM

Deliverable reviewed by:

Gilles Grandjean

Authorized by:

AMRA: Alfonso Rossi Filangieri

ABSTRACT

In order to identify solutions to overcome the three challenges of ESPREssO, an “action database” (ADB) with inter-related tables will be used to collect, sort and evaluate the actions. Each action discussed in the forum and the three Think Tanks will be detailed in this database. To ensure accessibility and facilitate team work, a website format was chosen which can be accessed at http://adb-espresso.brgm.fr. The ADB fields include general informations on the action and the evaluation criteia. The first version of the ADB presented in this deliverable provides a generic structure to collect and evaluate different kind of actions that will arise from the stakeholder forums, the Think Tanks, the questionnaire, etc. The actual structure will require being adapted as soon as feedbacks from WP1, WP2 and WP3 are available.

Keywords: database, web portal

Acknowledgements

The research leading to these results has received funding from the EC HORIZON2020 Programme under grant agreement n° 700342.

TABLE OF CONTENTS

1 Introduction 5

2 Technical options chosen 6

2.1 Accessibility 6

2.2 DRUPAL 7 6

3 The ADB structure 7

3.1 Search Module 7

3.2 Add an action 9

3.2.1 General information 9

3.2.2 Evaluation of the action 11

4 Conclusion 16

1 INTRODUCTION

In order to identify solutions to overcome the three challenges of ESPREssO, WP4 will use an “action database” (ADB) with inter-related tables. Each action discussed in the forum and the three Think Tanks will be detailed in the database and associated with at least one of the three ESPREssO challenges, and different criterias. The ADB will give the opportunity to formalise discussions during workshops and to store their content in a database. Once the information is classified using the different criteria, including the date of recording, it will be easy to know the progress state of all actions at any time. Version tracking of the databases will thus be implemented to trace evolutions during the project life. In particular, indicator analysis (origin, impact, evolution in time) will be easy to access and comment upon.

Due to early delivery date of D4.1, WP1, WP2 and WP3 couldn’t provide first analysis to WP4. This first version of the ADB has thus been elaborated thanks to litterature reviews performed in WP4 and WP1, WP2 and WP3 imputs will be taken into account as soon as they are available.

2 TECHNICAL OPTIONS CHOSEN

2.1 ACCESSIBILITY

To ensure accessibility and to avoid simultaneous multiple versions of the ADB, it was chosen to implement it on a website: http://adb-espresso.brgm.fr (Figure 1). Access to the website is restricted by password identification in order to check who can create new entries. In a first time, only project members will be allowed to create new entries and to access the ADB content. Further in the project, the possibility to open the ADB to stakeholders will be discussed.

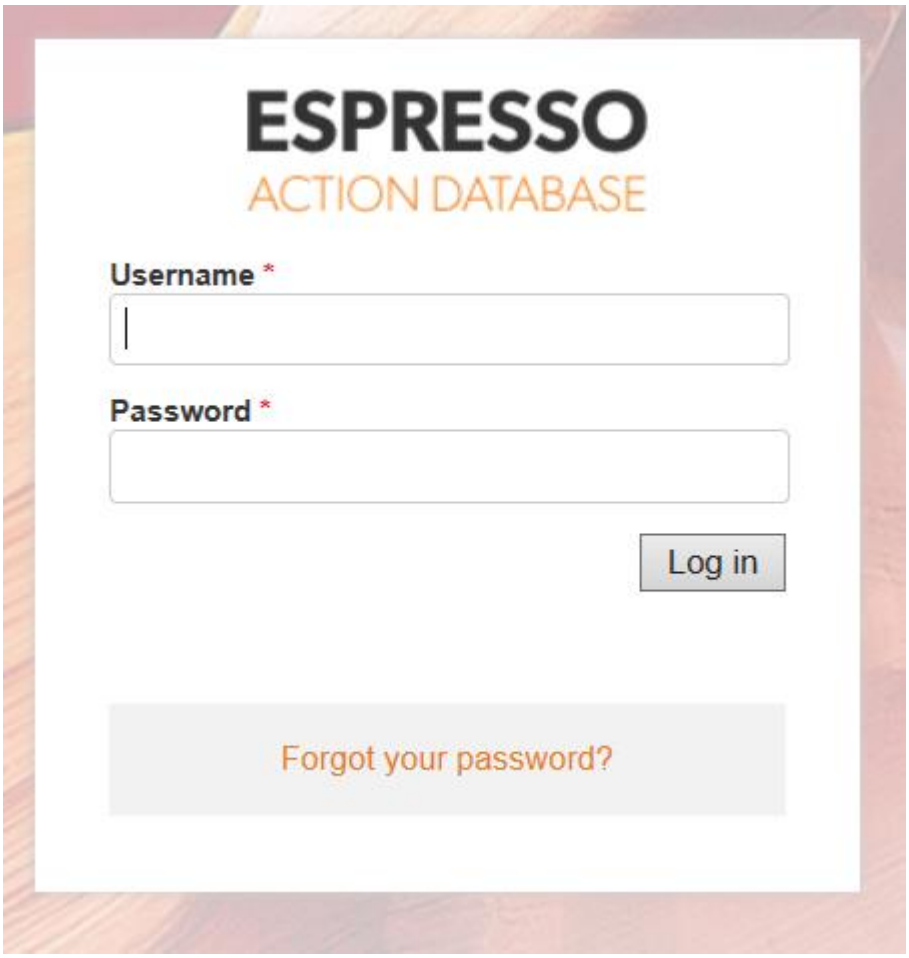

Figure 1: Access page of the ADB (http://adb-espresso.brgm.fr)

2.2 DRUPAL 7

After some discussions with IT services in BRGM, it was decided to choose Drupal 7 as the technical solution to implement the ADB. Indeed, Drupal is open-source content management software which is very flexible and modular. It will allow easy modification to the structure of the ADB to adapt the needs of the ESPREssO project all along its duration.

In addition, Drupal has a really performant search module which will be useful in ESPREssO to navigate within the ADB entries.

3 THE ADB STRUCTURE

When logged in to the ADB portal (Figure 2), three actions are possible: “add an action”, “consult last actions entered” and “browse through the ADB”.

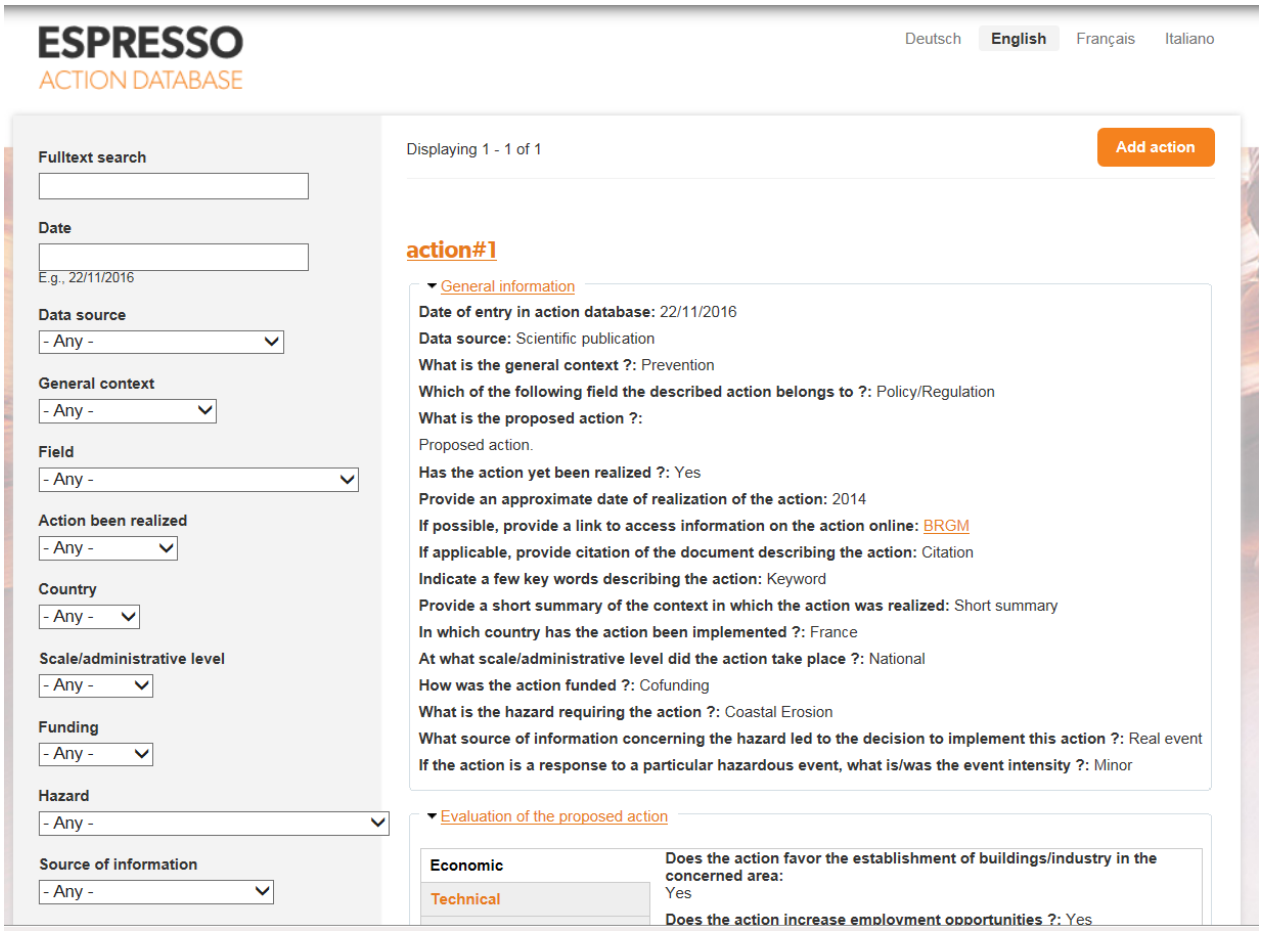

Figure 2: Home page of the ADB portal

3.1 SEARCH MODULE

The search module of the ADB (Figure 3) allows browsing through entered actions selecting different search criteria such as the scale or the administrative level of the action, the hazard related to the action, etc.

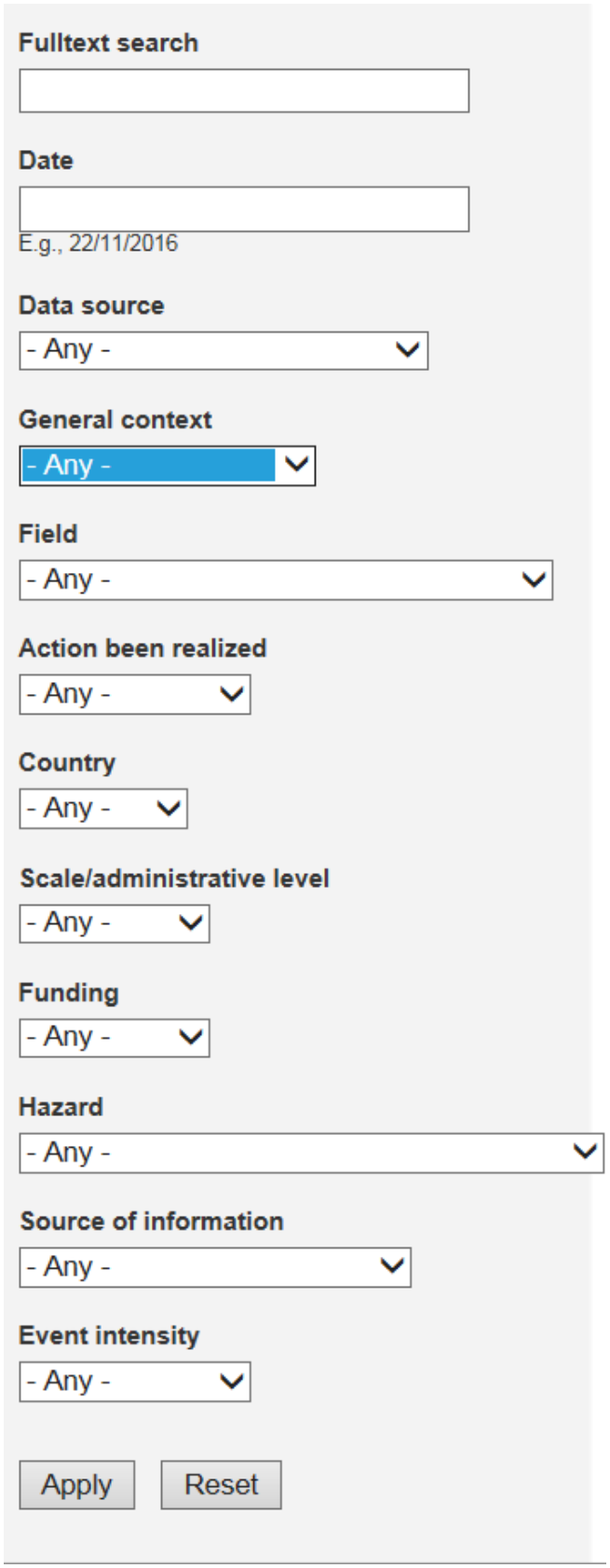

Figure 3: Search module of the ADB

3.2 ADD AN ACTION

The “Add an action” button is situation on the top right of your page (Figure 4) and will lead you to the action page.

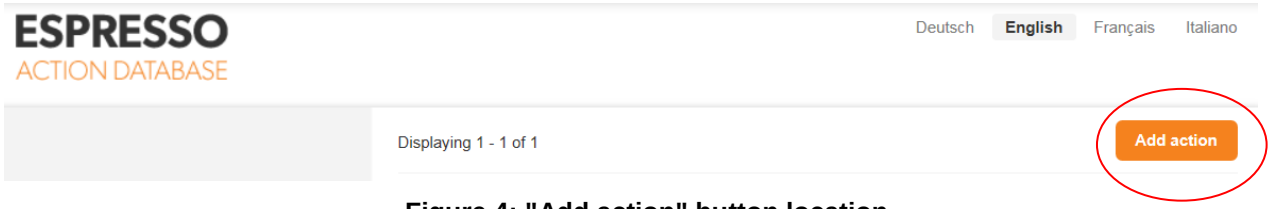

Figure 4: "Add action" button location

On the action page, the ADB fields have been divided into two main categories: the general information (Figure 5 and following section) on the action and the evaluation.

3.2.1 General information

The general information part integrates fields of information concerning the action itself and the person who enters it in the ADB.

Identity of the person adding the action to the database:

- Name / username
- Role/Expertise/Responsibility of the person

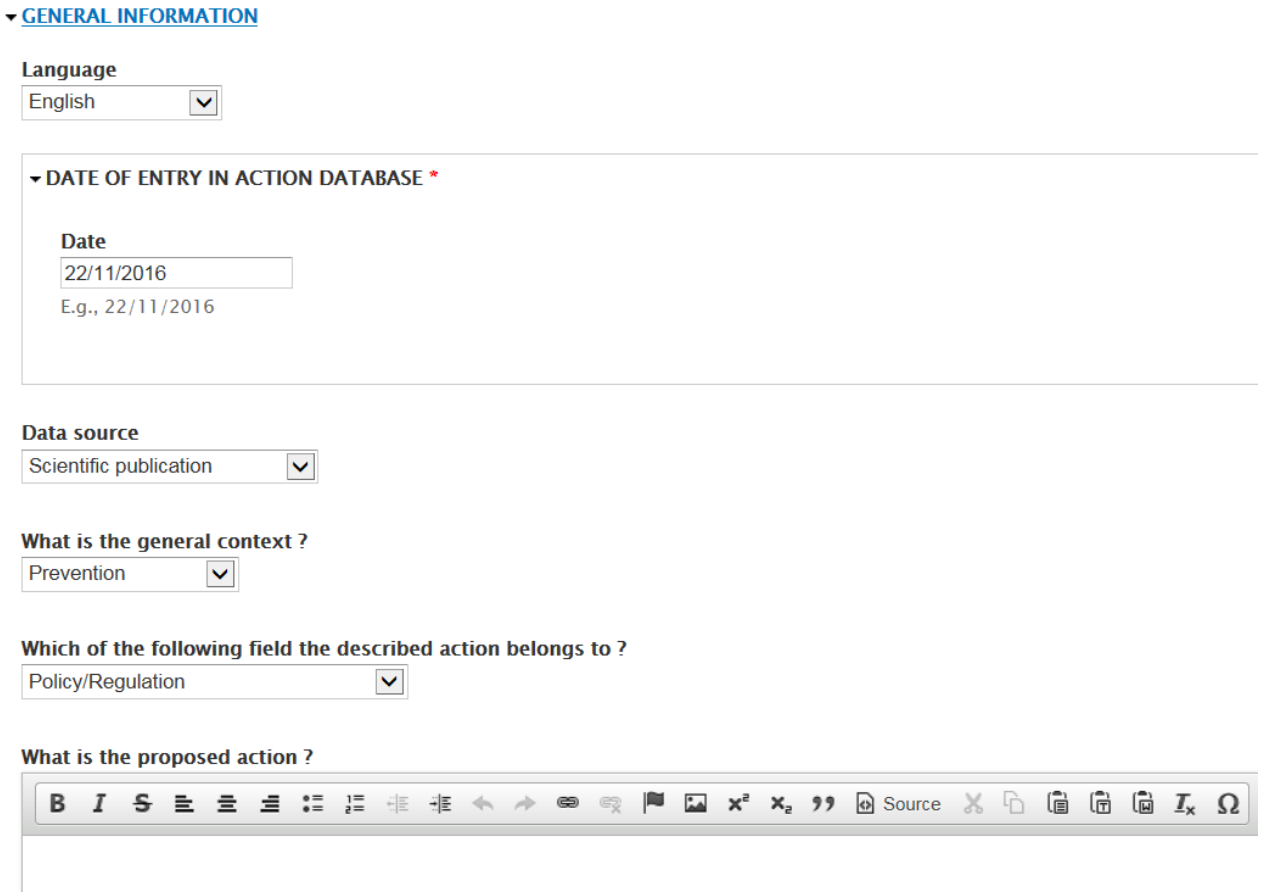

Figure 5: First part of the general information panel

About the action:

- Date of entry in the ADB
- General context (Prevention, Mitigation, Preparedness, Crisis management, Other)
- Field (Policy/Regulation, Structural, non-structural measures, Education/Information/Communication, Research/Data acquisition, Several, Other)
- Description of the action
- State of the action (Implemented, not implemented, in process, proposal, not applicable)
- If applicable, date of realisation
- If applicable, country/ies of implementation
- Web link
- Attached file
- Key words
- Scale or administrative level of action (National, Regional, Local, Several)

- If applicable, funding of the action (European, National, Regional, Local, Cofunding)
- Hazards addressed by the action (Multi, Earthquake, Landslide, River flood, Marine flooding due to storm or hurricanes, Tsunami, Coastal Erosion, Permafrost, Avalanche, Eruption, Forest fire, Drought, Rockfall, Windstorm, Other)
- If applicable, reason for the action implementation (Real event, Simulation exercise, Historical hazard analysis, Demand of population, Political initiative, Scientific expert judgement, Several)
- If the action is a response to a particular hazardous event, what is/was the event intensity: (Minor, Major, Extreme)

3.2.2 Evaluation of the action

To evaluate the action in the most effective way, it has been decided to integrate several criteria from economic, technical, environmental and societal points of view. It was also decided not to aggregate them in a single indicator in a systematic way in order to keep details.

Some criteria may not apply to all actions which will be entered in the ADB, this is why it will be possible to choose a "not applicable" answer, when the criteria is not appropriate to the action. Moreover, these criteria may need to be completed and adapted according to the content of the ADB.

3.2.2.1 Economic criteria

Within this category, we try to establish through 6 criteria (**Figure 6**) if the action:

- Favours the establishment of buildings/industry in the concerned area
- Increases employment opportunities
- Contribute to maintain property prices and reduce their fluctuations
- Is associated with a high/low cost of implementation
- Is associated with a high/low cost of maintenance
- Imply potential loss for one or several stakeholders after implementation

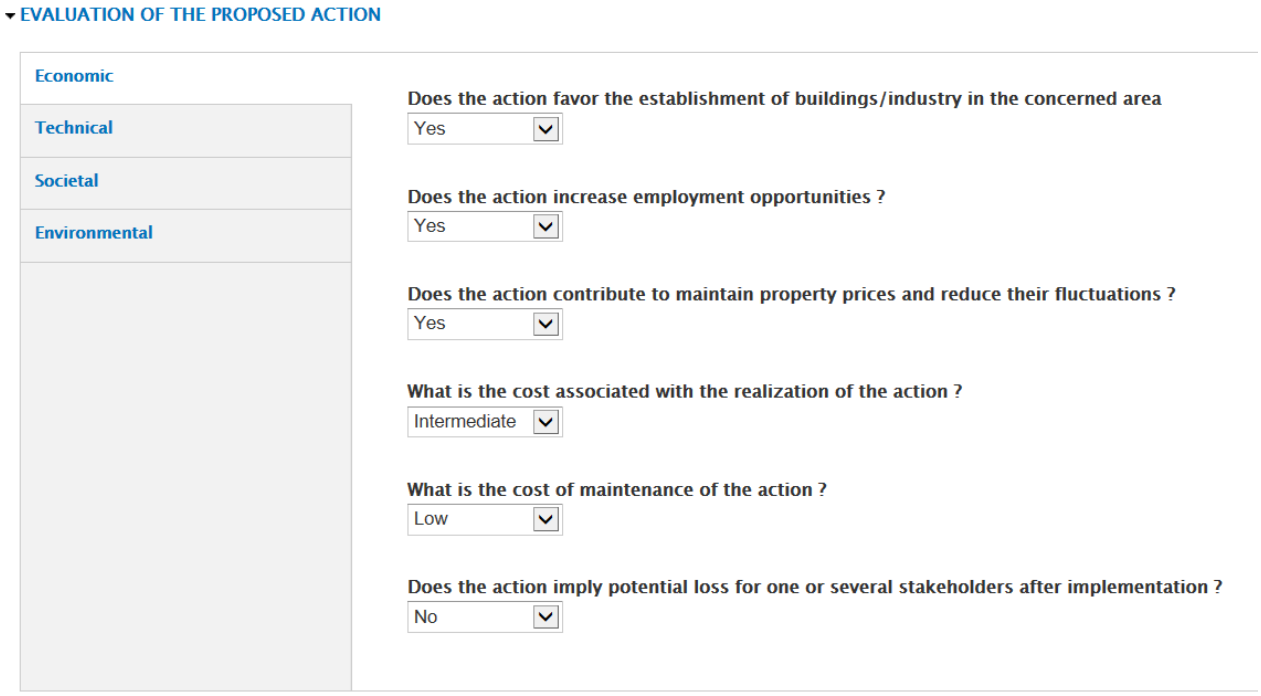

Figure 6: Example of economic criteria evaluation

3.2.2.2 Technical criteria

The evaluation of the action regarding technical criteria includes 8 criteria (Figure 7):

- Purpose of the action (protect: Lives, Infrastructure/Built environment, Natural reserves/parks/farmland, Several, Other)
- Time before results (Immediate, Short term, Long term, Don't know, Not applicable)
- Efficiency of the action by itself or necessity to have it combined with another action.
- Co-benefit regarding other hazards that the one(s) targeted.
- Climate change consideration
- Life-expectancy or period of validity of the action (< 10 years, < 50 years, > 50 years, Undetermined)
- Efficiency of the action in terms of risk reduction
- Degree of flexibility in terms of adjustment/reversibility of the action

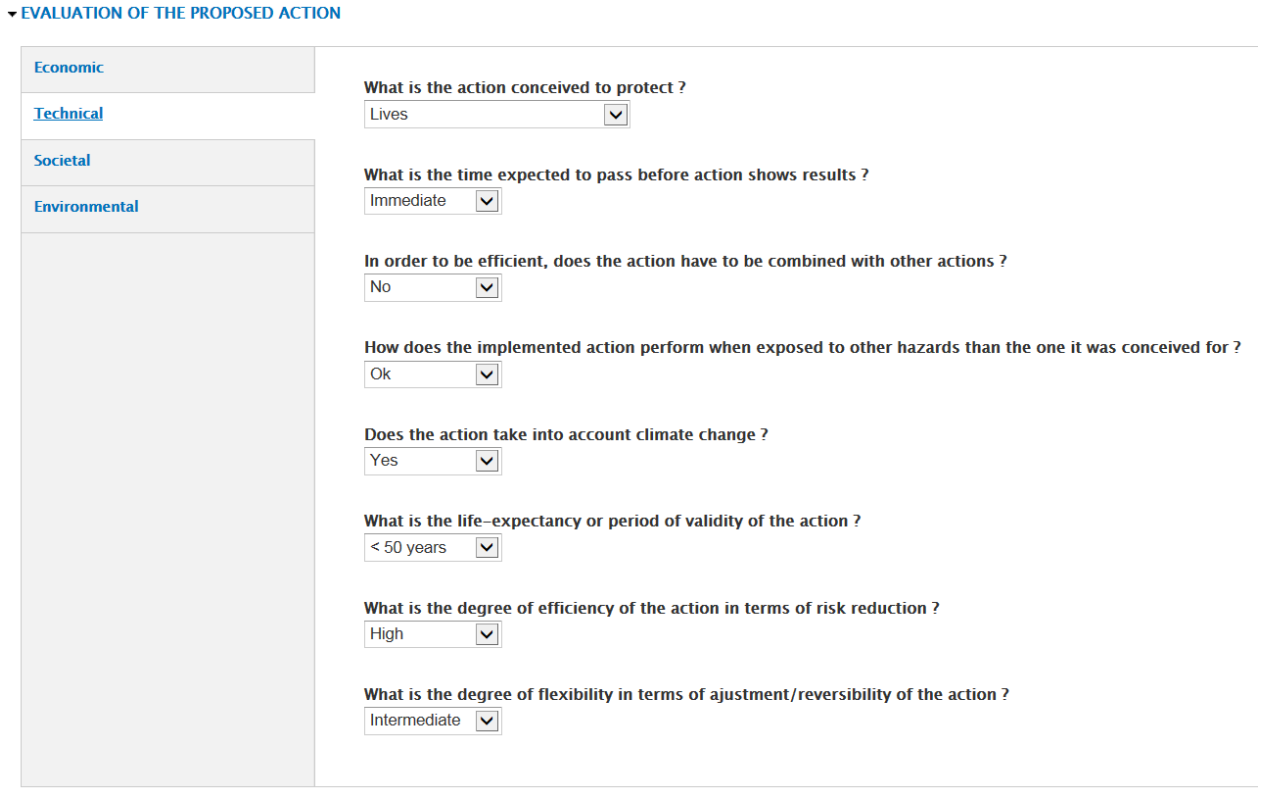

Figure 7: Example of technical criteria evaluation

3.2.2.3 Societal criteria

The evaluation of the action regarding societal criteria includes 6 criteria (Figure 8):

- Impact in terms of population awareness and preparedness
- Local or regional acceptance of the action
- Does the action raise potential for conflict between different groups?
- Is the local community involved in management decisions concerning the action?
- Degree of institutional commitment to realize the action
- Is local knowledge used for the conception of the action/mitigation strategies?

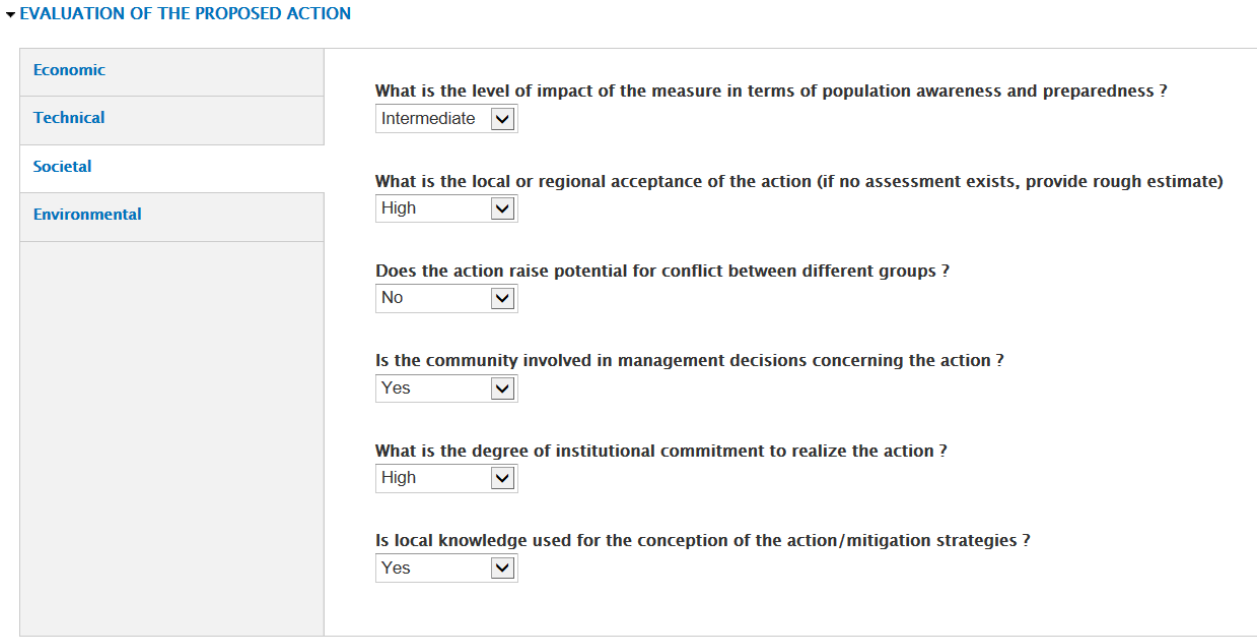

Figure 8: Example of societal criteria evaluation

3.2.2.4 Environmental criteria

The evaluation of the action regarding societal criteria includes 5 criteria (Figure 9):

- Does the action imply the reduction of land occupied by human activity?
- Does the action provoke disruption of local flora and fauna?
- Does the action generate soil erosion?
- Sustainability of the action
- Degree of landscape degradation induced by the action

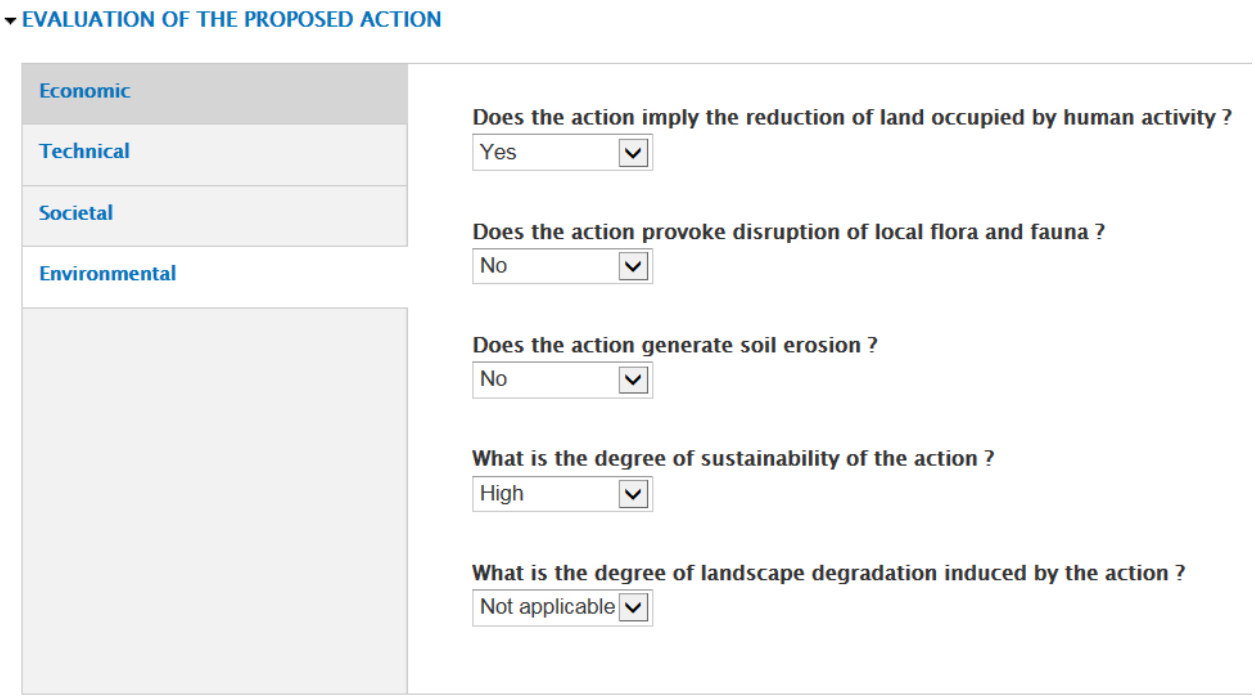

Figure 9: Example of environmental criteria evaluation

4 CONCLUSION

This first version of the ADB provides a generic structure to collect and evaluate different kind of actions that will arise from the stakeholder forums, the Think Tanks, the questionnaire, etc. The actual structure will require being adapted as soon as feedbacks from WP1, WP2 and WP3 are available. Thus the ADB will offer the most adapted structure to the material collected during the ESPREssO project.