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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 criteria. 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

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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 literature reviews performed in WP4 and WP1, WP2 and WP3 inputs 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-esspresso.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.

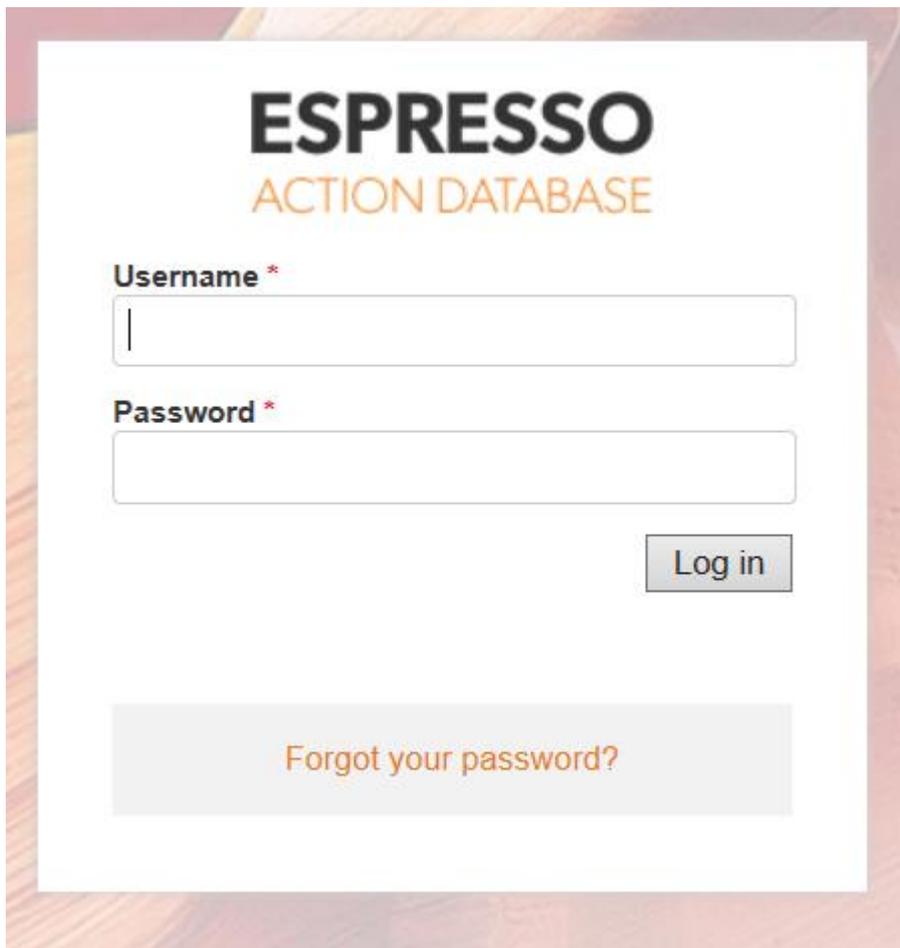


Figure 1: Access page of the ADB (<http://adb-esspresso.brgm.fr>)

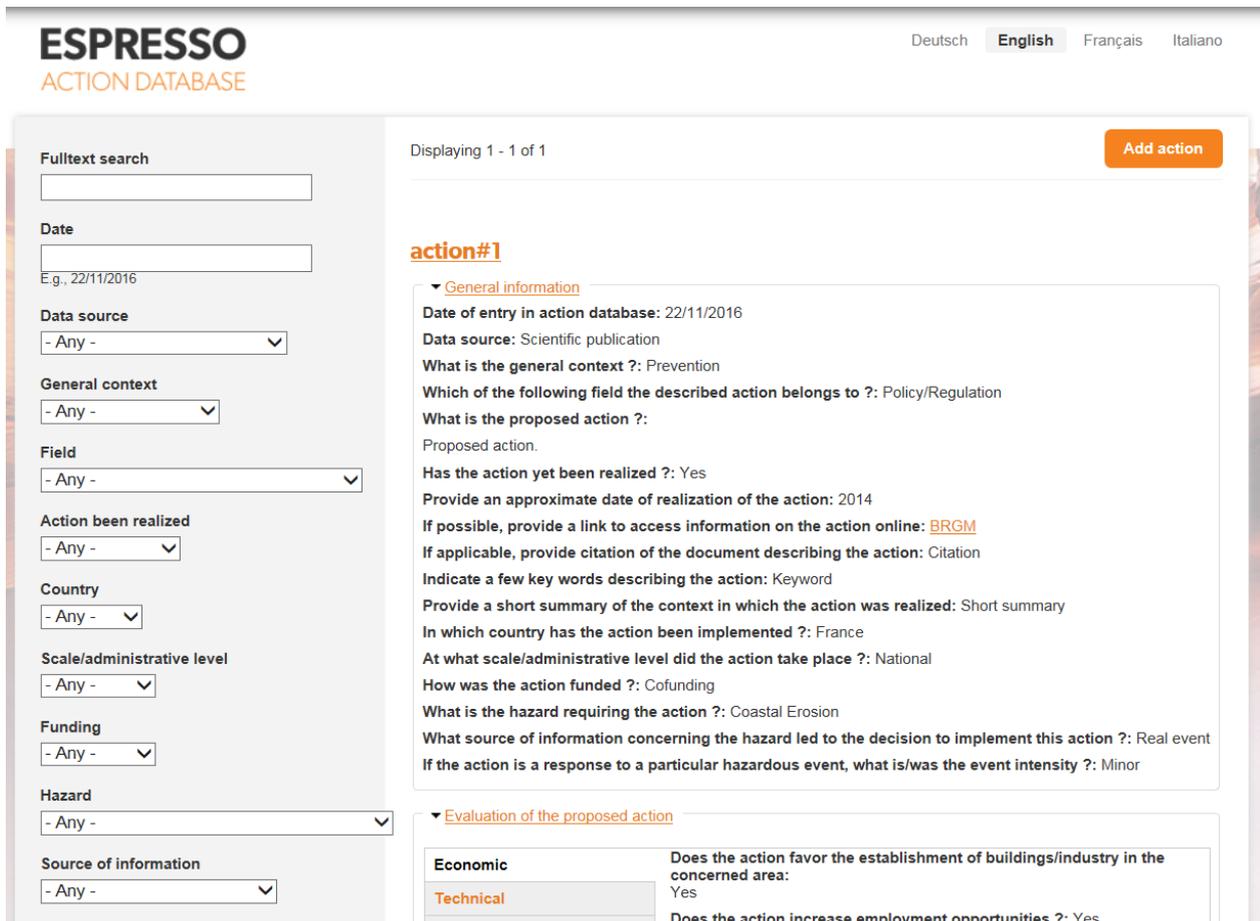
2.2 DRUPAL 7

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”.



ESPRESSO
ACTION DATABASE

Deutsch **English** Français Italiano

Displaying 1 - 1 of 1 Add action

action#1

▼ **General information**

Date of entry in action database: 22/11/2016
 Data source: Scientific publication
 What is the general context?: Prevention
 Which of the following field the described action belongs to?: Policy/Regulation
 What is the proposed action?:
 Proposed action.
 Has the action yet been realized?: Yes
 Provide an approximate date of realization of the action: 2014
 If possible, provide a link to access information on the action online: [BRGM](#)
 If applicable, provide citation of the document describing the action: Citation
 Indicate a few key words describing the action: Keyword
 Provide a short summary of the context in which the action was realized: Short summary
 In which country has the action been implemented?: France
 At what scale/administrative level did the action take place?: National
 How was the action funded?: Cofunding
 What is the hazard requiring the action?: Coastal Erosion
 What source of information concerning the hazard led to the decision to implement this action?: Real event
 If the action is a response to a particular hazardous event, what is/was the event intensity?: Minor

▼ **Evaluation of the proposed action**

Economic	Does the action favor the establishment of buildings/industry in the concerned area: Yes
Technical	Does the action increase employment opportunities?: Yes

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.

Fulltext search

Date

E.g., 22/11/2016

Data source

General context

Field

Action been realized

Country

Scale/administrative level

Funding

Hazard

Source of information

Event intensity

Figure 3: Search module of the ADB

3.2 ADD AN ACTION

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

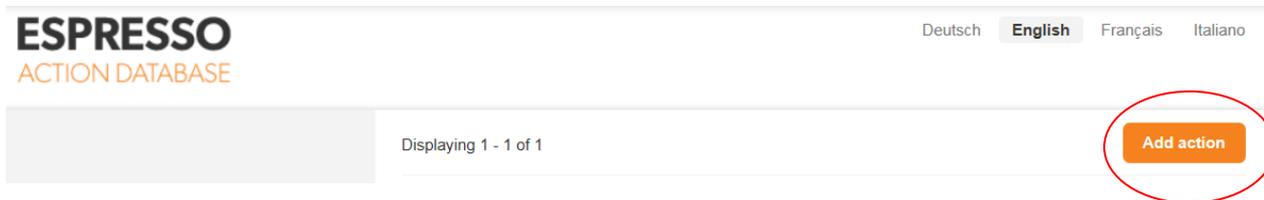


Figure 4: "Add action" button location

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

▼ **GENERAL INFORMATION**

Language

English ▼

▼ **DATE OF ENTRY IN ACTION DATABASE ***

Date

22/11/2016

E.g., 22/11/2016

Data source

Scientific publication ▼

What is the general context ?

Prevention ▼

Which of the following field the described action belongs to ?

Policy/Regulation ▼

What is the proposed action ?



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

▼ EVALUATION OF THE PROPOSED ACTION

Economic	Does the action favor the establishment of buildings/industry in the concerned area
Technical	Yes <input type="button" value="v"/>
Societal	Does the action increase employment opportunities ?
Environmental	Yes <input type="button" value="v"/>
	Does the action contribute to maintain property prices and reduce their fluctuations ?
	Yes <input type="button" value="v"/>
	What is the cost associated with the realization of the action ?
	Intermediate <input type="button" value="v"/>
	What is the cost of maintenance of the action ?
	Low <input type="button" value="v"/>
	Does the action imply potential loss for one or several stakeholders after implementation ?
	No <input type="button" value="v"/>

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

▼ EVALUATION OF THE PROPOSED ACTION

Economic	<p>What is the action conceived to protect ? Lives <input type="text"/></p>
Technical	<p>What is the time expected to pass before action shows results ? Immediate <input type="text"/></p>
Societal	<p>In order to be efficient, does the action have to be combined with other actions ? No <input type="text"/></p>
Environmental	<p>How does the implemented action perform when exposed to other hazards than the one it was conceived for ? Ok <input type="text"/></p>
	<p>Does the action take into account climate change ? Yes <input type="text"/></p>
	<p>What is the life-expectancy or period of validity of the action ? < 50 years <input type="text"/></p>
	<p>What is the degree of efficiency of the action in terms of risk reduction ? High <input type="text"/></p>
	<p>What is the degree of flexibility in terms of adjustment/reversibility of the action ? Intermediate <input type="text"/></p>

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?

▼ EVALUATION OF THE PROPOSED ACTION

Economic	What is the level of impact of the measure in terms of population awareness and preparedness ? Intermediate <input type="button" value="v"/>
Technical	
Societal	What is the local or regional acceptance of the action (if no assessment exists, provide rough estimate) High <input type="button" value="v"/>
Environmental	Does the action raise potential for conflict between different groups ? No <input type="button" value="v"/>
	Is the community involved in management decisions concerning the action ? Yes <input type="button" value="v"/>
	What is the degree of institutional commitment to realize the action ? High <input type="button" value="v"/>
	Is local knowledge used for the conception of the action/mitigation strategies ? Yes <input type="button" value="v"/>

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

▼ EVALUATION OF THE PROPOSED ACTION

Economic	Does the action imply the reduction of land occupied by human activity ? Yes <input type="button" value="v"/>
Technical	Does the action provoke disruption of local flora and fauna ? No <input type="button" value="v"/>
Societal	Does the action generate soil erosion ? No <input type="button" value="v"/>
Environmental	What is the degree of sustainability of the action ? High <input type="button" value="v"/>
	What is the degree of landscape degradation induced by the action ? Not applicable <input type="button" value="v"/>

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.